PUBLIC VERSION

BEFORE THE
SURFACE TRANSPORTATION BOARD

E.I. DUPONT DE NEMOURS & COMPANY	)	
Complainant,	)	
v.	)	**Docket No. NOR 42125**
NORFOLK SOUTHERN RAILWAY COMPANY	)	
Defendant.	)	

REPLY EVIDENCE OF NORFOLK SOUTHERN RAILWAY COMPANY

NARRATIVE SECTIONS I THROUGH III-B

(Volume 1 of 5)

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SHORT FORMS FOR FREQUENTLY CITED CASES

The following short form case citations are used herein:

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AEPCO 2002	*Arizona Electric Power Cooperative, Inc. v. Burlington Northern & Santa Fe Railroad Co. & Union Pacific Railroad Co.*, 6 S.T.B. 322 (2002).
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WP&L	*Wisconsin Power & Light v. Union Pac. R.R. Co.*, 5 S.T.B. 955 (2001)
Xcel	*Public Service Co. of Colorado d/b/a Xcel Energy v. Burlington Northern & Santa Fe Railway Co.*, 7 S.T.B. 589 (2004)

ACRONYMS

AAR	Association of American Railroads
ABC	Algorithmic Blocking and Classification
AEI	Automatic Equipment Identification
AEO	Annual Energy Outlook
AFE	Authorizations for Expenditure
APA	Administrative Procedure Act
AREMA	American Railway Engineering and Maintenance-of-Way Association
ARIL	Arrival at Intransit Location
ATC	Average Total Cost
B&B	Bridge & Building
BCFD	Billion Cubic Feet per Day
BCY	Bank Cubic Yard
BMP	Best Management Practices
BNSF	Burlington Northern Santa Fe Railway Company
BRC	Belt Railway of Chicago
C&S	Communications and Signals
CAGR	Compound Annual Growth Rate
CAPP	Central Appalachian
CBG	Coal Business Group
CDL	Commercial Driver's License
CFS	Commodity Flow Survey
CMA	Chemical Manufacturers Association
CMP	Aluminized Corrugated Metal Pipe

CRE	Counselors of Real Estate
CSAPR	Cross-State Air Pollution Rule
CSXT	CSX Transportation, Inc.
CTC	Centralized Traffic Control
CWA	Clean Water Act
CWR	Continuous Welded Rail
DCF	Discounted Cash Flow
DFLC	Departed From Location
DME	Dimethyl Ether
DMF	Dimethyl Formamide
DMI	Digital Mapping Index
DOT	Department of Transportation
DP	Distributed Power
DRR	DuPont Railroad
EAP	Employee Assistance Program
ECY	Embankment Cubic Yard
EIA	Energy Information Administration
EMT	Elizabeth Marine Terminal
ENS	Emergency Notification Signs
EOS	End of Siding
EPA	Environmental Protection Agency
ERP	Enterprise Resource Planning
EVA	Energy Ventures Analysis, Inc.
FAS	Financial Accounting Standards
FASB	Federal Accounting Standards Board

FED	Failed Equipment Detector
FELA	Federal Employers Liability Act
FMLA	Family and Medical Leave Act
FRA	Federal Railroad Administration
FRICS	Fellow of the Royal Institute of Chartered Surveyors
FSC	Fuel Surcharges
G&A	General & Administrative
GAO	Government Accountability Office
GDP	Gross Domestic Product
GVW	Gross Vehicle Weight
HM-1	United States Hazardous Materials Instructions for Rail
HTUA	High Threat Urban Area
ICC	Interstate Commerce Commission
ICHD	Interchange Delivery
IHB	Indiana Harbor Belt Railway
ISA	Intercarrier Service Agreement
ITMS	Integrated Transportation Management System
KCS	Kansas City Southern Railway
LARS	Locomotive Assignment and Routing System
LCY	Loose Cubic Yard
LNW	Louisiana and North West Railroad
LUM	Locomotive Unit Mile
MAI	Member of the Appraiser Institute
MATS	Mercury and Air Toxics Standards
MGT	Million Gross Ton

MMBtu	million British Thermal Units
MOW	Maintenance-of-Way
MRE	Market Research and Economics Group
MSE	Mississippi Export Railroad
MSP	Modified Straight-Mileage Prorate
N&W	Norfolk and Western
NAPP	Northern Appalachian
NARS	Non-accident Releases
NERC	North American Electric Reliability Corporation
NMC	Natural Moisture Content
NPRM	Notice of Proposed Rule Making
NRCS	Natural Resource Conservation Service
NROI	Net Railway Operating Income
NS	Norfolk Southern Railway Company
NYMEX	New York Mercantile Exchange
O/D	Origin/Destination
OMC	Optimum Moisture Content
PACT	Placed at Customer Facility
PFPS	Pulled from Patron Siding
PHMSA	Pipeline and Hazardous Safety Administration
PIH	Poisonous-by-Inhalation
PRB	Powder River Basin
PTC	Positive Train Control
R/VC	Revenue to Variable Cost
RCAF	Rail Coal Adjustment Factor

RCP	Reinforced Concrete Pipe
RCRA	Resource Conservation and Recovery Act
ROW	Right-of-Way
RPMS	Real Property Management System
RSAM	Revenue Shortfall Allocation Method
RSC	Rail Security Coordinator
RTA	Railroad Tie Association
RTC	Rail Traffic Controller
SAC	Stand-Alone Cost
SARR	Stand-Alone Railroad
SCAN	Soil Climate Analyst Network
SCTG	Standard Classification of Transportation Goods
SFAS	Statement of Financial Accounting Standards
SIP	State Implementation Plans
SPLC	Standard Point Location Code
SSA	Shared Asset Area
SSI	Sensitive Security Information
STB	Surface Transportation Board
STCC	Standard Transportation Commodity Code
SWPPP	Stormwater Pollution Prevention Plan
T&E	Train & Engine
TBT	Thoroughbred Bulk Terminal
TCS	Triple Crown Services
TDIS	Thoroughbred Direct Intermodal Services
TIH	Toxic-by-Inhalation

TKMV	Track Move/Inventory Move
TMS	Transportation Management Services
TRANSCAER	Transportation Community Awareness and Emergency Response
TRRA	Terminal Railroad Association of St. Louis
TSA	Transportation Security Administration
TYES	Thoroughbred Yard Enterprise System
USDOT	U.S. Department of Transportation
USPAP	Uniform Standards of Professional Appraisal Practice
WQMP	Water Quality Management Plan
WSS	Web Soil Survey
WTI	West Texas Intermediate

Table of Contents

Page

I. COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE I-1

A. OVERVIEW I-1
B. SUMMARY OF NS'S REPLY EVIDENCE I-14

II. MARKET DOMINANCE I-15

A. Quantitative Market Dominance I-15
B. Qualitative Market Dominance I-18

III. STAND ALONE COST I-25

A. Traffic Group I-25
B. Stand Alone Railroad System I-40
C. Operating Plan I-46
D. Operating Expenses I-57
E. Non-Road Property Investment I-62
F. Road Property Investment I-62
G. Discounted Cash Flow Analysis I-70
H. Results of SAC Analysis I-71

C. CONCLUSION I-71

II. MARKET DOMINANCE II-A-1

A. QUANTITATIVE EVIDENCE II-A-1

1. Traffic and Operating Characteristics II-A-2

a. Loaded Miles II-A-2
b. Tons per Car II-A-9

2. Variable Costs II-A-10

II. MARKET DOMINANCE II-B-1

B. QUALITATIVE MARKET DOMINANCE II-B-1

1. Intramodal Rail Competition II-B-8
2. Intermodal Rail Competition II-B-10

a. Motor Carriers Are Effective Competitors for the Transportation of Chemicals II-B-13

i. Board and ICC Precedent Recognizes the Effectiveness of Truck Competition. II-B-13
ii. Trucks Are Vigorous Competitors with Rail Carriers for Transportation of the Trucked Commodities. II-B-21
iii. NS's Experiences in the Marketplace Demonstrate That Trucks Effectively Compete With Railroads for Transportation of the Trucked Commodities. II-B-31

b. DuPont Is Well-Positioned To Take Advantage of Its Market Options. II-B-34
c. The Board's "Limit Price" Proposal Is Legally Flawed and Economically Meaningless, and It Should Not Be Applied In This Case. II-B-40

i. The Limit Price Approach Violates the Interstate Commerce Act. II-B-43
ii. Adoption of the "Limit Price" Test in This Case Would Violate the Administrative Procedure Act. II-B-46
iii. The "Limit Price" Test Is Arbitrary and Economically Meaningless. II-B-49

(a) The Limit Price Test Ignores Relevant Market Information. II-B-50
(b) The Proposed Limit Price Test Uses Information Irrelevant to the Existence of Competition. ... II-B-52
(c) The Proposed Methodology Does Not Overcome the Acknowledged Weakness of R/VC Ratios as an Indicator of Market Power Abuse. II-B-55
(d) The Limit Price Approach Does Not Simplify Market Dominance Determinations. II-B-56

d. DuPont's Arguments That NS is Market Dominant Despite The Existence of Cost-Competitive Truck Alternatives Should Be Rejected II-B-57

i. DuPont's Argument that The Board Cannot Consider Whole-Route Intermodal Alternatives Should Be Rejected II-B-58

(a) DuPont's Narrow Interpretation of "Intermodal Competition" Would Have Radical and Illogical Consequences II-B-62
(b) The Statute Requires the Board to Consider Direct Intermodal Competition. II-B-67
(c) DuPont's Claim That the Statute Prohibits Consideration of Whole-Route Intermodal Competition Is Wrong II-B-72

(d) ICC and Board Precedent Support Treating Direct Whole Route Competition as Intermodal Competition, Not Geographic Competition...II-B-75
(e) DuPont's Reliance on DMIR is Misplaced....II-B-81

(i) DMIR Did Not Provide Any Justification for the Board's Departure from Dayton Power.II-B-83
(ii) DMIR's Dicta Could Not Change the Regulatory Definition of Geographic Competition Without Notice and Comment.....II-B-84
(iii) The DMIR Dicta Misinterprets the Statute. II-B-87

ii. NS's Rates Are In Line With the Market And Do Not Show Market Dominance.....II-B-92
iii. DuPont's Contracts With Customers and Suppliers Do Not Establish Market Dominance.....II-B-98
iv. DuPont's Other Alleged Rationales for Market Dominance Should Be Rejected.....II-B-100

e. Effective Trucking Competition Exists for Ninety-Nine of the Issue Lanes.....II-B-102

i. Overview of NS Approach to Identifying Competitive Alternatives.....II-B-102
ii. There is Effective Trucking and Truck-Transload Competition for Twenty-Three Sulfuric Acid Lanes.....II-B-108

(a) Sulfuric Acid Shipments From Red Lion.....II-B-111
(b) Sulfuric Acid Shipments from Bellwood.....II-B-123
(c) Sulfuric Acid Shipments from Morses Mill.....II-B-126
(d) Sulfuric Acid Shipments From Miami Fort.....II-B-127

iii. There is Effective Truck Competition for Eighteen Titanium Dioxide Lanes. II-B-128
iv. There is Effective Truck Competition for Sixteen Methylamine Anhydrous Lanes.....II-B-142
v. There is Effective Truck Competition for Eight Sodium Caustic Lanes.....II-B-151
vi. There is Effective Trucking Competition for Five Lanes of Dimethyl Ether.....II-B-157

vii. There is Effective Competition from Trucks for Five Petroleum Coke Lanes. II-B-161
viii. There is Effective Trucking Competition for Four Aniline Oil Lanes. II-B-164
ix. There is Effective Truck Competition for Three Methylamine Aqueous Lanes. II-B-166
x. There is Effective Trucking Competition for Three Lanes of Polyethylene. II-B-169
xi. There is Effective Competition for Two Muriatic Acid Lanes. II-B-173
xii. There is Effective Truck Competition for Two Oleum Lanes. II-B-175
xiii. There is Effective Trucking Competition for the Two Zircon Sand Lanes. II-B-177
xiv. There is Effective Trucking Competition for One Dimethyl Formamide Lane. II-B-178
xv. There is Effective Trucking Competition for One Lane of Dimethyl Sulfate. II-B-179
xvi. There is Effective Competition from Trucks for the Lime Lane II-B-181
xvii. There is Effective Competition for One Potassium Hydroxide Lane. II-B-183
xviii. There is Effective Competition for the Sodium Methylate Lane. II-B-184
xix. There is Effective Competition for the Spent Sulfuric Acid Lane II-B-186
xx. There is Effective Trucking Competition for One Sulfur Trioxide Lane. II-B-187
xxi. There is Effective Trucking Competition for One Waste Liquids Lane. II-B-189

III. STAND ALONE COST III-A-1

A. TRAFFIC GROUP III-A-1

1. Stand-Alone Railroad Traffic. III-A-1
2. Volumes (historical and projected). III-A-2

a. Coal. III-A-4

i. The 2010 NS Forecast III-A-6
ii. Dramatic and Unforeseen Changes in U.S. Coal Demand in 2011 and 2012. ..... III-A-11

(a) The Natural Gas "Revolution"—Abundant, Low-Cost Natural Gas. III-A-13
(b) Environmental Regulations. III-A-24
(c) Mild Weather in 2011-2012 Has Further Reduced Utility Coal Demand. III-A-30

iii. Effects of Lower Utility Coal Demand. III-A-32

(a) Effects on NS Coal Customers. III-A-32
(b) Effects on NS Transportation of Coal. III-A-34

iv. Application of Up-to-Date Authoritative EIA 2012 AEO to Calculate DRR Coal Volumes. III-A-36

(a) The DRR Coal Volume Overstatement Caused by Use of the Outdated NS Forecast for 2011 Alone is Substantial. III-A-37
(b) DuPont's Unprecedented Use of a CAGR for Longer Term Coal Volumes Further Overstates DRR Coal Traffic Volumes. III-A-38

v. Because NS's 2010 Coal Forecast is Outdated and Inaccurate, the Board Should Use EIA 2012 Forecasts. III-A-41
vi. NS's Coal Region-Specific Application of 2012 AEO Projections is More Accurate than DuPont's Use of a Single, Undifferentiated Aggregated Growth Rate for All Coal Traffic. III-A-43
vii. Projecting DRR Coke and Iron Ore Volumes. III-A-50

b. Non-Coal Traffic Volumes. III-A-51

i. TCS Traffic. III-A-52
ii. Projected Traffic Volumes in 2016-2019. ..... III-A-52
iii. Leapfrog Cross-Over Traffic. III-A-53

3. Revenues (historical and projected). III-A-59

a. Single-Line. III-A-59

i. Coal III-A-59
ii. Intermodal. III-A-61

(a) Because the DRR Does Not Account For the Cost III-A-s of Certain Services Provided by TCS and TDIS, It May Not Claim the Revenues Generated by Those Services. III-A-61

(b) Attributing to the DRR Revenues from Traffic that Use Facilities that are not Shared by the Issue Traffic Would Create an Impermissible Cross-Subsidy..... III-A-64
(c) TCS Traffic Having No NS Rail Revenue..... III-A-66
(d) DuPont Also Miscalculated TCS Revenue Growth from 2010 through 2011. ..... III-A-67

iii. Fuel Surcharge. III-A-69

b. Divisions—Existing Interchanges. III-A-73

i. Handling Carrier Payments..... III-A-73
ii. Switching Carrier Payments. III-A-76

c. Divisions—Cross-Over Traffic..... III-A-77

i. DuPont's Significant Mileage Errors..... III-A-79
ii. The Board Must Apply the "Average Total Cost" Rule and Methodology to Allocate Crossover Traffic Revenues in this Case. III-A-83

(a) Background III-A-85
(b) The Board Must Apply the ATC Rule Because at All Times Relevant to this Case, ATC Has Been the Only Legally Valid Rule and Methodology Governing Cross-over Traffic Revenue Allocation..... III-A-86
(c) As a Matter of Administrative Law, the Board Must Apply the ATC Rule in All SAC Cases Unless and Until it Has Completed a Full Notice-and-Comment Rulemaking that Adopts a Different Rule. .. III-A-90

(i) The APA Requires that Legislative (Substantive) Rules Be Adopted, Amended, and Repealed in Notice-and-Comment Rulemakings. III-A-91
(ii) ATC is a Legislative Rule that May Be Amended Only Through Notice-and-Comment Rulemaking. III-A-93
(iii) Modified ATC—Which Sought to Amend the ATC Rule—May Not Be Applied to this Case, Because it Was Not Adopted in a Notice-and-Comment Rulemaking and Thus is Not a Valid Substantive Rule..... III-A-103

(1) Exceptions to the APA Rulemaking Requirement Must Be Construed and Applied Very Narrowly III-A-105

(2) The Board Intended to Make a Substantive Amendment to the ATC Rule in Western Fuels..... III-A-106

(3) The Changes Made to the ATC Rule by "Modified" ATC Further Demonstrate it Was a Substantive Amendment, Subject to Notice-and-Comment Rulemaking Requirements. III-A-108

(4) "Modified ATC" was an Amendment to the ATC Rule that Modified that Rule. III-A-112

(iv) An Agency May Not Avoid Notice-and-Comment Requirements by Acting in an Adjudication..... III-A-113

(d) Equal Application of ATC to all Cross-over Traffic is Logical, Fair and Fully Consistent With SAC Rules and Theory. III-A-116

(i) Application of ATC to Low R/VC Movements is Not "Illogical," and the Concern that Led the Board to Modify the ATC Rule is Not Present Here..... III-A-118

(ii) Application of ATC to Low-Rated Cross-over Traffic Selected by a Complainant is Not Unfair. III-A-120

(e) Recent Events Have Further Undermined the Amended/Modified ATC Rule the Board Created and Applied in Western Fuels..... III-A-122

III. STAND-ALONE RAILROAD SYSTEM..... III-B-1

B. STAND-ALONE RAILROAD SYSTEM..... III-B-1

1. Routes and Mileage..... III-B-1

a. Main Line..... III-B-1

b. Branch Lines III-B-3
c. Interchange Points III-B-4
d. Total Route Mileage III-B-5

2. Track Miles and Weight of Track III-B-7

a. Main Lines III-B-11
b. Branch Lines. III-B-11
c. Sidings III-B-11
d. Other Tracks III-B-12

3. Yards III-B-13

a. Miles and Weight of Yard Track III-B-14

4. Other III-B-15

a. Joint Facilities III-B-15
b. Intermodal Facilities III-B-15
c. Automotive Facilities III-B-15
d. Transload Facilities III-B-16
e. Signal/Communications System III-B-16
f. Turnouts, FEDs and AEI Scanners III-B-17
g. RTC Model Simulation of DRR Configuration III-B-18

III. STAND-ALONE COST III-C-1

C. OPERATING PLAN III-C-1

INTRODUCTION III-C-1

A. DuPont Did Not Present A Feasible Operating Plan For Its SARR. III-C-8

1. DuPont's "Automated" Operating Plan Methodologies Are Fatally Flawed And Should Be Rejected. III-C-8

a. DuPont's Automated Operating Plan Is Not Tethered to the Traffic That It Selected. III-C-9
b. DuPont's "Automated" Train Service Plan Failed To Capture Tens Of Thousands Of Trains That Are Necessary To Provide Complete On-SARR Service III-C-10

c. DuPont's Operating Plan Fails To Provide Uninterrupted Train Service For "Rerouted" Traffic. III-C-22
d. DuPont Had All The Data Necessary To Develop The Detailed Operating Plan Required By The Board's Regulations. III-C-24
e. DuPont's Yard Service Plan Is Based Upon Mathematical Calculations That Produce Absurd Results. III-C-36
f. DuPont's Reliance Upon "Mathematics" Leaves DRR Woefully Short of Yard Crews And Locomotives. III-C-44

2. DuPont Has Failed To Present A Feasible Operating Plan For General Freight Traffic. III-C-52
3. DuPont's Operating Plan Fails To Account For The DRR's Reciprocal Obligations To Connecting Carriers. III-C-68

a. DuPont's Operating Plan Makes No Provision For Pre-Blocking Cars Interchanged By The DRR To Connecting Carriers. III-C-72
b. DuPont Improperly Assumes That Locomotives Will Run Through On All Trains Interchanged By DRR With Other Railroads. III-C-74
c. DuPont's Assumption That Connecting Railroads Will Adopt Distributed Power Locomotive Configurations Is Inconsistent With Real World Operating Practices In The Territory Served By The DRR. III-C-77
d. DuPont's Allocation Of Responsibility For Fueling And Inspecting Locomotives Is Inconsistent With Both NS's Intercarrier Agreements And Real World Operating Practices. III-C-82
e. DuPont Makes No Provision For Running Repairs To Foreign Railcars On The DRR Network. III-C-87

4. DuPont's Operating Plan Does Not Comply With Regulations And Best Practices Relating To The Transportation Of TIH Shipments. III-C-91

a. DuPont's Operating Plan Does Not Track TIH Traffic. III-C-93
b. DuPont's Assumed Train Speeds Exceed Those Allowed For Trains Carrying TIH Traffic. III-C-96

c. DuPont's Operating Plan Fails To Provide The Personnel That The DRR Would Need To Safely Handle TIH Commodities..... III-C-97

5. The Board Should Not Permit DuPont's Attempt To Rely Upon "Internal Cross-Over" Movements ("Leapfrog Trains"). III-C-102

B. DuPont's RTC Model Simulation Is Meaningless..... III-C-117

1. DuPont's RTC Simulation Is Based Upon A Fatally Deficient Train Service Plan..... III-C-118
2. DuPont's RTC Model Contains Incorrect Grade Information. III-C-129
3. DuPont's RTC Model Does Not Properly Account For Random Outages And Train Delays. III-C-130
5. DuPont's RTC Model Does Not Account For Delays To DRR Trains Operating On Amtrak's Northeast Corridor..... III-C-140
6. DuPont Failed To Input Foreign Railroad Crossings Into Its RTC Model. III-C-142
7. DuPont's RTC Simulation Fails To Model Accurately The DRR's Operations In The Chicago Area..... III-C-143
8. DuPont's RTC Simulation Fails To Give effect To The Impact Of Light Engine Movements And Hi-Rail Vehicles..... III-C-148

1. General Parameters and Methodology..... III-C-153

a. DRR Car Blocking and Train Service Plan III-C-156

i. Carload Traffic..... III-C-157
ii. Intermodal Traffic..... III-C-167
iii. Unit Train Traffic..... III-C-169
iv. Development Of DRR Yard Facilities..... III-C-170
v. Hump Yards..... III-C-176
vi. Flat Switching Yards..... III-C-180
vii. Track Allocation For Ancillary Functions..... III-C-183

b. Traffic Flow and Interchange Points..... III-C-184
c. Joint Use and Interchange Agreements..... III-C-187
d. Track and Yard Facilities..... III-C-188

i. Main Line Track III-C-188
ii. Side Tracks and Spurs..... III-C-189
iii. Yards..... III-C-189
iv. Intermodal Facilities III-C-195

v. Automotive Facilities III-C-197
vi. Transloading Facilities III-C-200

e. Crew-Change Location/Times III-C-203

i. Road Crews III-C-203

f. Switching and Yard Activity III-C-204

i. Locomotive inspections and fueling III-C-204
ii. Railcar inspections III-C-205

(a) Inspection procedures III-C-205
(b) Trains requiring inspection III-C-208

g. Trains and Equipment III-C-209

i. Train Sizes III-C-209
ii. Locomotives III-C-209

(a) Road Locomotives III-C-210
(b) Helper Locomotives III-C-214
(c) Switch/Work Train Locomotives III-C-216

iii. Railcars III-C-219

h. Crew Districts and Crew Requirements III-C-220

i. Road Crews III-C-221
ii. Yard Crews III-C-221
iii. Helper Crews III-C-224

2. Other III-C-225

a. Car Repair Facilities III-C-225
b. Train Control and Communication III-C-226

3. NS's RTC Model Simulation III-C-227

a. Train Size and Weight III-C-228
b. Maximum Train Speeds III-C-229
c. Road Locomotive Consists III-C-230
d. Helper Locomotives III-C-231
e. Dwell Times At Origins And Destinations III-C-231

i. General Freight Traffic III-C-231
ii. Unit Train Coal Traffic III-C-233
iii. Intermodal Traffic III-C-236

f. Dwell Times at Yards III-C-236
g. Time Required to Interchange Trains With Other Railroads. III-C-238
h. Crew Change Locations/Times III-C-239
i. Time Required to Attach/Detach Helper Locomotives III-C-239
j. Track Inspections/Maintenance Windows III-C-239
k. Time for Random Failures/Line Outages III-C-240

III. STAND-ALONE COST III-D-1

D. OPERATING EXPENSES III-D-1

1. Locomotives III-D-4

a. Locomotive Acquisition III-D-5

i. DuPont Understates the Number of Locomotives III-D-5
ii. DuPont Understates the Locomotive Lease Cost III-D-20

b. Locomotive Maintenance III-D-23
c. Locomotive Servicing (Fuel, Sand, and Lubrication) III-D-24

i. Fuel Cost III-D-24
ii. Fuel Consumption III-D-25
iii. Locomotive Servicing III-D-27

2. Railcars III-D-28

a. Acquisition III-D-28
b. Maintenance III-D-33
c. Private Car Allowances III-D-34

3. Operating Personnel III-D-34

a. Train/Switch Crew Personnel III-D-34

i. Compensation III-D-41
ii. Fringe Benefits III-D-42
iii. Taxi and Hotel Expense III-D-46

b. Non-Train Operating Personnel III-D-47
c. General & Administrative III-D-47

i. DuPont's Justifications For Its Extraordinarily Low G&A Staffing and Spending Levels Are Meritless. III-D-52

(a) DuPont's Evidence is Not "Consistent With" G&A Levels Approved in Previous SAC Cases.... III-D-52
(b) DuPont's Other Claimed Reasons For the DRR's Low G&A Spending and Staffing Are Not Credible.... III-D-60

(i) The DRR's IT Systems are Unexceptional and Do Not Offer Substantial Savings.... III-D-61
(ii) The DRR's Reliance on Outsourcing.... III-D-67
(iii) The DRR's Reliance on Cross-Over Traffic Does Not Justify Inadequate G&A Spending.... III-D-70
(iv) DRR's Use of Non-Union Personnel Has a Minimal Impact on G&A Spending.... III-D-71
(v) Being a Privately Held Company Has a Minor Impact on G&A Needs.... III-D-72

ii. Staffing Requirements III-D-73

(a) Executive Department.... III-D-77
(b) Board of Directors.... III-D-85
(c) Marketing and Customer Service.... III-D-85

(i) Marketing.... III-D-89
(ii) Customer Service.... III-D-99

(d) Finance and Accounting III-D-102

(i) Vice President and Assistant Vice Presidents.... III-D-106
(ii) Treasury.... III-D-107
(iii) Internal Audit.... III-D-109
(iv) Revenue Accounting.... III-D-111
(v) Disbursements.... III-D-115
(vi) Tax Function.... III-D-118
(vii) Financial Reporting.... III-D-122
(viii) Purchasing and Materials Management.... III-D-124
(ix) Cost and Economic Analysis III-D-126
(x) Car and Equipment Accounting.... III-D-126
(xi) Budgeting.... III-D-127

(e) Law and Administrative.... III-D-128

(i) Legal III-D-129

(ii) Claims III-D-133
(iii) Real Estate III-D-136
(iv) Police III-D-137
(v) Environmental III-D-142
(vi) Human Resources III-D-151

(f) Information Technology III-D-160

iii. Compensation III-D-162

(a) Salaries for Non-Executives III-D-162
(b) Executive Compensation III-D-163
(c) Outside Director Compensation III-D-170
(d) Fringe Benefits III-D-172

iv. Materials, Supplies and Equipment III-D-172
v. Other III-D-172

(a) IT Systems III-D-172

(i) RMI III-D-173
(ii) Oracle III-D-174
(iii) Email III-D-176
(iv) Hardware III-D-176
(v) Miscellaneous III-D-177

(b) Other Out-Sourced Functions III-D-178

(i) Tax Preparation III-D-179
(ii) Payroll Processing III-D-179
(iii) Audit and Internal Review III-D-179
(iv) Claims Handling III-D-180
(v) Outside Counsel III-D-180

(c) Start-Up and Training Costs III-D-181

(i) Training III-D-181
(ii) Recruitment III-D-182

(d) Travel Expense III-D-185
(e) Bad Debt III-D-190

vi. Benchmarking to Other Railroads Shows that NS's Proposed G&A Staffing Would Make the DRR a Best-in-Class Efficient Railroad III-D-191

4. Maintenance-of-Way III-D-195

a. DRR Operating Staff III-D-200
b. General Office Organization III-D-202
c. Track Department III-D-207

i. General Office Staff III-D-209
ii. Field Staff III-D-210

(a) Roadmasters and Assistant Roadmasters ... III-D-210
(b) Track Crews III-D-212
(c) Roadway Machine Operators III-D-215
(d) Welder/Helper/Grinders III-D-217
(e) Rail Lubricator Repairmen III-D-218
(f) Roadway Equipment Mechanics III-D-219
(g) Ditching Crews III-D-220
(h) Smoothing Crews III-D-223

d. Communications and Signals III-D-223

i. General Office Staff III-D-226
ii. Field Staff III-D-226
iii. Signal Maintainers, Inspectors and Technicians III-D-227
iv. Hump Yards III-D-230
v. Dispatch Center III-D-231
vi. Communications Technicians III-D-232

e. Bridge & Building Department III-D-233

i. General Office Staff III-D-234
ii. Field Staff III-D-235

(a) B&B Supervisors III-D-235
(b) Bridge Inspectors and Other Field B&B Employees III-D-236

f. Miscellaneous Administrative/Support Personnel III-D-237

i. Engineer of Programs and Contracts III-D-240
ii. Public Project Engineers III-D-241
iii. Manager of Administration & Budgets III-D-242
iv. Managers Environmental/Safety/Training III-D-242
v. Manager Mechanical Operations III-D-243
vi. Water Plant and Fuel Technicians III-D-244
vii. Other Administrative / Support Personnel III-D-244
viii. Allocation of MOW Personnel to Operations and Maintenance Expense III-D-244

g. Non-Program MOW Work Performed by Contractors III-D-247
h. Planned Contract Maintenance III-D-248

i. Track Geometry Testing III-D-248
ii. Ultrasonic Rail Testing III-D-249
iii. Rail Grinding III-D-250
iv. Yard Cleaning III-D-251
v. Vegetation Control III-D-252
vi. Crossing Repaving III-D-254
vii. Shoulder Ballast Cleaning III-D-254
viii. Equipment Maintenance III-D-257
ix. Communications System Inspection and Repair III-D-257
x. Bridge Inspections III-D-257
xi. Building Maintenance III-D-259

i. Unplanned Contracted Maintenance III-D-259

i. Snow Removal III-D-259
ii. Storm Debris Removal III-D-259
iii. Building Repairs III-D-260

j. Large Magnitude Unplanned Maintenance III-D-260

i. Derailments III-D-260
ii. Washouts III-D-262
iii. Environmental Cleanups III-D-263

k. Program Maintenance III-D-263

i. Rail Grinding III-D-264
ii. Bridge Substructure and Superstructure Repair -- III-D-264
iii. Equipment III-D-264

5. Leased Facilities III-D-268
6. Loss & Damage III-D-276
7. Insurance III-D-276
8. Ad Valorem Tax III-D-279

a. Unit Valuation Is the Basis for Ad Valorem Taxation In Fifteen of the DRR States. III-D-281
b. Railroad Income Value Is the Primary Factor Considered By the DRR Unit Value States. III-D-284
c. A NROI Adjustment Should Be Made to Account for the DRR's Relative Income Value III-D-286

9. Other III-D-288

a. Intermodal Lift and Ramp Cost III-D-288
b. Automotive Handling Cost III-D-292

c. Costs Incurred By Residual NS For New DRR-NS Interchanges III-D-293
d. Calculation of Annual Operating Expenses III-D-293

III. STAND-ALONE COST III-E-1

E. NON-ROAD PROPERTY INVESTMENT III-E-1

III. STAND-ALONE COST III-F-1

F. ROAD PROPERTY INVESTMENT III-F-1

1. Land III-F-1

a. The DRR's Land Must Be Valued As of the Date the DRR Would Need to Acquire It. III-F-4
b. NS's Approach to its Appraisal of the ROW Produced More Accurate Results. III-F-9

i. Identification of Land Valuation Units along the ROW. III-F-13

(a) Land Physically Inspected. III-F-13
(b) Land Not Physically Inspected III-F-20

ii. Collection and Analysis of Comparable Sales Data. III-F-20

(a) Comparable Sales Must Have a Known Land Use And Be Unimproved Land. III-F-21
(b) Comparable Sales Should Be Aggregated Using a Stratified Mean Methodology to Preserve the Accuracy of the Valuation. III-F-24

iii. Calculation of Total Value of Land to be Acquired by the DRR. III-F-27

(a) Concluded Values Must Be Logically Connected to the Comparable Sales Relied Upon. III-F-28
(b) The DuPont Appraiser Provided No Justification for Its Valuation of Rural Towns III-F-31
(c) The DuPont Appraiser's Valuation of Easements is Contrary to Board Precedent III-F-31
(d) The DuPont Appraiser Failed to Value Land in which the DRR Has a Partial Ownership Interest III-F-33

c. Appraisal of Land for Yards and Communications Facilities III-F-33
d. Conclusion III-F-34

2. Roadbed Preparation III-F-36

a. DuPont's Fabricated Rationale III-F-44
b. Clearing and Grubbing III-F-51

i. Clearing and Grubbing Quantities III-F-52
ii. Acres Requiring Both Clearing and Grubbing III-F-54

c. Acres Requiring Only Clearing III-F-54
d. Earthwork III-F-56

i. Earthwork Quantities from ICC Engineering Reports III-F-56
ii. Other DRR Earthwork Quantities and Earthwork Costs III-F-57

(a) DRR Yards III-F-57
(b) Segments with Partial NS Ownership III-F-58
(c) Total Earthwork Quantities III-F-59
(d) Earthwork Unit Costs III-F-59

(i) Haul Distance Assumptions III-F-60
(ii) Common Excavation III-F-61
(iii) Adjustment for Adverse Terrain III-F-62
(iv) Adverse Terrain Unit Costs III-F-64
(v) Loose Rock Excavation III-F-68
(vi) Adverse Loose Rock III-F-70
(vii) Solid Rock Excavation III-F-71
(viii) Adverse Solid Rock Excavation III-F-73
(ix) Embankment/Borrow III-F-74

(e) Other Earthwork Quantities & Unit Costs III-F-74

(i) Land for Waste Excavation III-F-74
(ii) Stripping III-F-77
(iii) Undercutting III-F-79
(iv) Over-Excavation III-F-81
(v) Fine Grading III-F-81
(vi) Swell III-F-84

(f) Subgrade Preparation III-F-87
(g) Total Earthwork Cost III-F-93

e. Drainage III-F-94

i. Lateral Drainage III-F-94
ii. Yard Drainage III-F-94

f. Culverts III-F-95

i. Culvert Unit Costs III-F-95
ii. Culvert Installation Plans III-F-97
iii. Culvert Quantities III-F-100
iv. Total Culvert Costs III-F-107

g. Other III-F-107

i. Sideslopes III-F-107
ii. Ditches III-F-107
iii. Retaining Walls III-F-108
iv. Rip Rap III-F-114
v. Relocating and Protecting Utilities III-F-114
vi. Seeding/Topsoil Placement III-F-115
vii. Water for Compaction III-F-115
viii. Surfacing for Detour Roads III-F-115
ix. Environmental Compliance III-F-115
x. Lighting for Night Work III-F-115
xi. Dust Control Work III-F-116

3. Track Construction III-F-117

a. Geotextile Fabric III-F-118
b. Ballast III-F-119

i. Ballast Quantities III-F-120
ii. Ballast Pricing III-F-123
iii. Ballast Material Transportation to the DRR Railheads III-F-125
iv. Ballast Material Distribution Along the DRR Right-of-Way III-F-128
v. Material Transportation Cost for Ballast III-F-129
vi. Subballast III-F-131

(a) Subballast Quantities III-F-131
(b) Subballast Material Costs III-F-133
(c) Subballast Material Placement Costs III-F-135

c. Ties III-F-135
d. Rail III-F-139

i. Main Line and Yards and Siding III-F-139
ii. Rail Pricing III-F-139
iii. Rail Unloading Costs III-F-141

iv. Field Welds III-F-144
v. Insulated Joints III-F-144

e. Switches III-F-144
f. Other III-F-148

i. Rail Lubricators III-F-148
ii. Plates Spikes and Anchors III-F-150
iii. Derails and Wheel Stops III-F-150

(a) Derails III-F-150
(b) Wheel Stops III-F-153

iv. Crossing Diamonds III-F-153

(a) Materials Transportation III-F-156
(b) Track Construction Labor III-F-156

4. Tunnels III-F-156

a. Tunnel Cost Components III-F-159
b. DRR Tunnels III-F-160
c. Tunnel Classification Description III-F-161

i. Length Classification Category III-F-161
ii. Number of Tracks Sub-Category III-F-163
iii. Lining Sub-Category III-F-163
iv. Development of Tunnel Costs III-F-164

5. Bridges III-F-167

a. Bridge Inventory III-F-171
b. Bridge Design and Cost Overview III-F-182

i. Cost Overview III-F-183
ii. Bridge Design III-F-186

(a) Superstructure Design (Spans) III-F-186
(b) Substructure Design (Piers and Abutments) III-F-189

iii. Type I Bridges III-F-192
iv. Type II Bridges III-F-195
v. Type III Bridges III-F-195
vi. Type IV Bridges III-F-199
vii. Bridges with Multiple Span Types III-F-201
viii. Special Bridges III-F-203

(a) Movable Bridges III-F-203
(b) Exceptionally Tall Bridges III-F-213
(c) Non-Movable Bridges over Navigable Waters III-F-214

c. Highway Overpasses III-F-218

6. Signals and Communications III-F-219

a. Centralized Traffic Control III-F-220

i. The DRR Could Not Install PTC In 2009 ..... III-F-220
ii. DuPont's Inventory of Signals Components Is Unreliable III-F-226
iii. DuPont's Unit Costs For Signals Components Are Incorrect. III-F-232

b. PTC III-F-236

i. PTC Wayside System III-F-236
ii. PTC IT Costs III-F-237
iii. PTC Locomotive Costs III-F-239
iv. PTC Development Costs III-F-239
v. PTC Expenditure Schedule III-F-246

c. Detectors III-F-246
d. Crossing Signal Equipment III-F-248
e. Communication System III-F-253
f. Hump Yard Equipment III-F-253

7. Buildings and Facilities III-F-253

a. Headquarters Building III-F-255
b. Fueling Facilities III-F-258

i. Fueling Platforms III-F-258

c. Locomotive Repair Facilities III-F-259
d. Car Repair III-F-263

i. Major Car Repair Facility III-F-263
ii. Freight Car Repair Tracks III-F-264

e. Crew Change Facilities III-F-265
f. Yard Offices III-F-266
g. MOW Buildings III-F-267
h. Wastewater Treatment III-F-271

i. Other Facilities/Site Costs....III-F-271
ii. Guard Booths....III-F-275
iii. Mechanic Repair Shops....III-F-276
iv. Observation/Yard Master Tower....III-F-277
v. Storage & Warehouse Buildings....III-F-278
vi. Foundation Designs....III-F-279
vii. Two-Person Signal Maintainers Building....III-F-279

8. Public Improvements....III-F-280

a. Fences....III-F-280
b. Signs and Road Crossing Devices....III-F-280

i. Advance Warning Signs and Crossbucks....III-F-281
ii. ENS....III-F-281

c. Grade-Separated and At-Grade Crossings....III-F-282

i. Grade Separations....III-F-282
ii. At-grade Crossings....III-F-282
iii. At-grade Crossing Detours....III-F-283
iv. At-grade Crossing Vegetation Removal....III-F-284

9. Mobilization....III-F-285
10. Engineering....III-F-290
11. Contingencies....III-F-290
12. Construction Schedule....III-F-290

a. Additive to Compensate for Lost Productivity During Winter Construction....III-F-295
b. Additive to Compensate for Days Lost to Rain Events....III-F-297

13. DuPont Cannot Avoid Construction Costs On Joint Facilities Partially-Owned By NS....III-F-298

a. SAC Principles Require the DRR to Account for NS's Ownership Interests in the Partially Owned Lines....III-F-301

i. Because the DRR may step into NS's shoes only on the same terms that NS enjoys, it cannot use NS operating rights on jointly-owned facilities without replicating NS's ownership interests on those facilities....III-F-302
ii. DuPont Cannot Ignore NS Ownership Interests Because They Are An Essential Element of the Fully Allocated Costs of NS Rail Service....III-F-303

b. DuPont Must Replicate NS's Ownership Interest in Each of the Partially Owned Lines Used By The DRR....III-F-308

i. Conrail Shared Assets III-F-308
ii. Indiana Harbor Belt Railroad Company III-F-310
iii. Belt Railway of Chicago III-F-312
iv. Terminal Railroad Association of St. Louis III-F-314

III. STAND-ALONE COST III-G-1

G. DISCOUNTED CASH FLOW ANALYSIS III-G-1

1. Cost of Capital III-G-1
2. Inflation Indices III-G-6
3. Tax Liability III-G-7
4. Capital Cost Recovery III-G-7

III. STAND-ALONE COST III-H-1

H. Results of SAC DCF Analysis III-H-1

1. Results of SAC DCF Analysis III-H-1

a. Cost of Capital III-H-1
b. Road Property Investment Values III-H-2
c. Interest During Construction III-H-2
d. Amortization Schedule of Assets Purchased with Debt Capital III-H-2
e. Present Value of Replacement Cost III-H-5
f. Tax Depreciation Schedules III-H-5
g. Average Annual Inflation in Asset Prices III-H-8
h. Discounted Cash Flow III-H-8
i. Computation of Tax Liability – Taxable Income III-H-11
j. Operating Expenses III-H-11
k. Summary of SAC Analysis III-H-12

2. Maximum Rate Calculations III-H-12

a. Any MMM Analysis Conducted in this Case Should Properly Allocate Unique Costs of TIH Traffic Solely to that Traffic III-H-13
b. If it Applied MMM, the Board Would Also Need to Correct DuPont's Two Other Clear Implementation Errors. III-H-18

3. The Board Should Recognize the Unique Costs and Risks of Transporting TIH Commodities, and Take Them Into Account Fully in its Rate Reasonableness Analyses III-H-19

a. The Board and the DRR Must Account for the Risks that Arise from NS' Required Transportation of the Inherently Dangerous Commodity – Chlorine. III-H-19

i. Chlorine Is Inherently Dangerous. III-H-20
ii. All Railroads, Including the DRR, Face the Risks Inherent in the Transportation of Chlorine III-H-23

b. Sound Public Policy Demands that the Board Account for the Inherent Risk of Transporting Chlorine in This Rate Case. III-H-26

c. NS Bears the Externalities of Regulatory Policy, and Therefore the Maximum Rate Permissible Under that Regulatory Policy Must Also Reflect the Fact that the Railroad Bears the Externalities. III-H-29

IV. WITNESS QUALIFICATIONS AND VERIFICATION IV-1
James D. Bagley 1
Michael R. Baranowski 12
Willie Benton III 23
F. Douglas Bess 26
Paul E. Bobby 31
Charlie Brenner 43
Richard Brown 45
Patrick J. Bryant 50
Mark L. Burton 61
Kaustuv Chakrabarti 70
Xingang Clark Cheng 73
Kelly Eakin 77
Benton V. Fisher 88
Rob Fisher 99
Randall G. Frederick 102
Roberto J. Guardia 107
Michael P. Hedden 116
Gordon R. Heisler 124
Donald E. Hilton 128
David Hughes 135
Ronnie D. Johnson 141
David A. Magistro 143
Michael Matelis 151
Mark D. Mathewson 154
Mark Meitzen 158
Joseph C. Osborne, Jr. 168
Mark A. Peterson 173
Robert C. Phillips 185
Michael K. Quinn 192

Richard Ray 194
Stefano Rieppi 198
Dale A. Schaub 204
Seth Schwartz 206
Alan Shaw 212
Dewey D. Smith 214
Kathleen C. Smith 216
Richard L. Smith 218
Gerhard Thelen 222
David R. Wheeler 225
Michael K. Williams 229
Robert Willig 232
George T. Zimmerman 267

Table of Contents

Page

I. COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE I-1

A. OVERVIEW I-1

B. SUMMARY OF NS'S REPLY EVIDENCE I-14

II. MARKET DOMINANCE I-15
A. Quantitative Market Dominance I-15
B. Qualitative Market Dominance I-18

III. STAND ALONE COST I-25
A. Traffic Group I-25
B. Stand Alone Railroad System I-40
C. Operating Plan I-46
D. Operating Expenses I-57
E. Non-Road Property Investment I-62
F. Road Property Investment I-62
G. Discounted Cash Flow Analysis I-70
H. Results of SAC Analysis I-71

C. CONCLUSION I-71

I. COUNSEL'S ARGUMENT AND SUMMARY OF EVIDENCE

A. OVERVIEW

Norfolk Southern's ("NS's") Reply Evidence conclusively demonstrates that the rates challenged by DuPont in this proceeding are reasonable by a significant margin when judged by the Stand-Alone Cost ("SAC") test as properly implemented and when the myriad errors, false assumptions, and violations of SAC rules in DuPont's Opening Evidence are exposed and corrected. In addition, the market dominance portion of NS's Reply Evidence also demonstrates that the challenged rates in 99 of the 138 separate origin-destination pairs, or traffic lanes, covered by DuPont's Amended Complaint are effectively constrained by intermodal transportation alternatives to NS's rail service, and the Complaint should therefore be dismissed as to those traffic lanes on that jurisdictional basis alone.

DuPont's Opening Evidence proposed the largest Stand Alone Railroad ("SARR") that the Board has ever considered. According to DuPont's Opening Evidence, the hypothetical DuPont Railroad ("DRR") would operate over nearly 8,000 route miles, would handle nearly 6.2 million annual carloads of traffic and earn $6.6 billion in revenue in its first full calendar year of operations, and would immediately take NS's place as the fourth largest Class I railroad in the United States.[1] The DRR would handle all or some of the linehaul for 92% of NS's current traffic base and, according to DuPont, would claim 74% of NS's overall revenues.[2] Whether one measures the DRR's size by mileage or revenues, it is more than twice the size of any previous

[1] *See* DuPont Opening III-A-3 to III-A-4 & III-A-18.

[2] *See* NS Reply WP "DRR Percentages of Total NS Traffic and Revenues."

SARR considered by the Board.[3] Indeed, on a revenue basis the DRR is ten times the size of the SARRs in seven out of the last eight decided SAC cases.[4]

Moreover, the traffic mix selected by DuPont is unusually complex and diverse for a SARR. The DRR handles significant volumes of intermodal, general freight, and automotive traffic, and as Table I-1 illustrates, it has far more non-coal traffic than any prior SARR.

Table I-1
Comparison of DRR Traffic Mix to Traffic Mix In Past Cases[5]

	DuPont	*AEPCO*	*AEP Texas*	*WFA*	*Otter Tail*	*Xcel*	*CP&L*	*Duke/ CSXT*	*Duke/ NS*	*TMPA*
Coal	**37.9%**	53.3%	95.6%	100%	90.3%	100%	95%	98%	95%	100%
Non-Coal	**62.1%**	46.7%	4.4%	0%	9.7%	0%	5%	2%	5%	0%
Total	**100%**	100%	100%	100%	100%	100%	100%	100%	100%	100%

While DuPont's assumption that the DRR would serve 92% of NS's traffic allows DuPont to posit unprecedentedly high (but inaccurate) SARR revenues, DuPont has utterly failed to account for the costs of serving the diverse carload traffic group it has selected. Indeed, the DRR proposed by DuPont would have a ludicrously low operating ratio of just 42.4% in 2009.[6] To compare, in 2009 the United States operations of the seven current Class I railroads all had operating ratios between 76.3% and 81.6%. *See* ASSOCIATION OF AMERICAN RAILROADS, RAILROAD FACTS at 67 (2010 ed.). DuPont therefore claims that the DRR would be almost twice as efficient as any comparably-sized real-world railroad. But it provides no justification for

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[3] On a route-mile and revenue basis, the largest SARR the Board has considered is that from *FMC*. *See FMC*, 4 S.T.B. at 786 (3,037.89 route miles); *id.* at 848 ($2.489 billion revenues in first calendar year of operations).

[4] Specifically, the DRR has more than ten times the revenue of the SARRs in *WFA*, *AEP Texas*, *Otter Tail*, *Xcel*, *CP&L*, *Duke/NS*, and *Duke/CSXT*. *See infra* at III-D-56.

[5] *See infra* at III-D-59 for support.

[6] *See* NS Reply WP "DRR Operating Ratio.xls."

those assumed efficiencies, other than vague verbal hand-waving about the effects of using "modern railroad practices" and "efficiencies of scope and scale."[7] DuPont identifies virtually no "practices" or "efficiencies" that are not being pursued by Class I railroads today—let alone any that would make the DRR twice as efficient as other, larger railroads.

While the size of the DRR is unprecedented, the principles that govern this case are not. The Stand Alone Cost ("SAC") principles that the Board has recognized and reaffirmed in multiple decisions—such as the requirements that a complainant's assumptions be consistent with the realities of real-world railroading and that a complainant present a detailed operating plan that would serve the selected traffic—apply here just as much as they apply to smaller SAC cases. While DuPont pays lip service to the Board's precedents, its evidence repeatedly ignores and fundamentally distorts them. A few examples of the SAC principles disregarded by DuPont's Opening Evidence are listed below.

SAC Principle #1: A Complainant Must Develop a Feasible and Detailed Operating Plan. SAC complainants are required to "design[] a SARR specifically tailored to serve an identified traffic group" and to develop "a detailed operating plan" that accounts for "the traffic group to be served, the level of services to be provided, and the terrain to be traversed." *e.g.*, *AEPCO 2011*, STB Docket No. 42113, at 4. DuPont utterly failed to meet this basic requirement—indeed, it did not even attempt to develop an operating plan tailored to its traffic group. Instead, it used an automated process to "adopt" historical NS train records and claimed that those trains would carry the DRR's traffic. *See infra* at III-C-3. This methodology was so deeply flawed that DuPont's train selection process failed to provide uninterrupted on-SARR train service for 725,661 cars of selected traffic—including the vast majority of DuPont's issue

[7] *E.g.*, DuPont Opening I-57.

traffic! *See FMC*, 4 S.T.B. at 737 nn.88 & 89 (discussing similar problems with operating plan predicated on "arithmetic calculations" and rejecting plan). As described below in III-C, DuPont failed to include thousands of local trains necessary to transport its selected traffic and thus it effectively would strand many of these cars at yards in the middle of the DRR. DuPont's failure to provide sufficient trains to transport hundreds of thousands of carloads of selected traffic (many of which are DuPont's own traffic) is an obvious failure of proof, and its operating plan is plainly deficient. Moreover, DuPont's operating plan contains no car or blocking plan for the 3 million carloads of general freight traffic in its traffic group, *see infra* at III-C-52 to III-C-58; it provides no support for its proposed yard configurations, yard locomotives, and yard crews, *see infra* at III-C-36 to III-C-44; and it posits operations that blatantly violate intercarrier agreements and standard operating practices. *See infra* at III-C-68 to III-C-90. In short, DuPont does not even come close to providing a realistic and viable operating plan. In addition to being based on this deficient "operating plan," DuPont's RTC model fails to properly account for grades, random outages, and program maintenance, each of which has doomed complainants' operating plans in the past. *See Xcel*, 7 S.T.B. at 612-13 (rejecting complainant's operating plan in part for flawed grades and curves); *AEPCO 2011*, STB Docket No. 42113, at 28 & 30 (rejecting complainant's operating plan in part for failure to properly account for program maintenance and random outages). Such a sweeping failure constitutes a massive failure of proof, and DuPont's Complaint should accordingly be dismissed. *See SAC Procedures*, 5 S.T.B. at 445 (2001) ("the party with the burden of proof on a particular issue must present its entire case-in-chief in its opening evidence").

SAC Principle #2: Assumptions Used in SAC Analysis Must Be Consistent With Real World Railroading. One of the most essential SAC principles ignored by DuPont is that

"the assumptions used in the SAC analysis, including the operating plan, must be realistic, *i.e.*, consistent with the underlying realities of real-world railroading." e.g., *WFA I*, STB Docket No. 42088, at 15. DuPont's assumptions are anything but consistent with "real-world railroading." To take a few examples, DuPont assumes that the DRR can construct and operate a PTC system in 2009—years before necessary technology is available. *See infra* at III-F-220 to III-F-225. Indeed, DuPont assumes the use in 2009 of technology that does not yet exist today. A recent FRA report to Congress confirmed that "significant technical and programmatic issues" remain even today.[8] DuPont further makes the completely inconsistent and clearly self-serving assumptions that fuel prices will remain relatively level for purposes of the DRR's fuel purchases, but that fuel prices will skyrocket for purposes of its fuel surcharge revenues. *See infra* at III-A-69. It assumes that the DRR can acquire the property it needs to begin construction of its lines and facilities in mid-2007 (in a robust real estate market) for the prices prevailing in 2009 (in a collapsed recession-era market). *See infra* at III-F-4 to III-F-9. It assumes that no DRR train will ever be delayed by locomotive failures, foreign train crossings, Amtrak interference (when operating via trackage rights on Amtrak's own tracks!), light engine movements, or hi-rail vehicles. *See infra* at III-C-130 to III-C-152. DuPont assumes hypothetical heights for the DRR's bridges that ignore the real-world data NS produced in discovery and produce ludicrously infeasible bridge clearances. *See infra* at III-F-168 to III-F-176. These are only a few of the outlandish assumptions that DuPont makes in its Opening Evidence, the sum total of which is a SAC presentation utterly unmoored from reality.

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[8] Federal Railroad Administration, Report to Congress on Positive Train Control Implementation Status, Issues, and Impacts at 1 (August 2012) (included as NS Reply WP "2012 FRA PTC Report"); *see also* GAO Report: Rail Safety: Federal Railroad Administration Should Report on Risks to the Successful Implementation of Mandated Safety Technology (December 2010).

SAC Principle #3: The SARR Must Provide Service For The Traffic Group That Is Equal or Better Than Existing Service. A complainant need not replicate precisely the operations of the incumbent railroad, but it must demonstrate that the operating plan it proposes is "capable of providing the service required by the SARR's customers." *Duke/NS*, 7 S.T.B. at 99.[9] DuPont repeatedly violates this principle as well, whether by failing to provide service for hundreds of thousands of cars of its selected traffic, *see infra* at III-C-10 to III-C-22; failing to include spur and industry tracks necessary to access customer facilities, *see infra* at III-C-65; failing to include costs for transloading and switching (while claiming revenue for those services), *see infra* at III-C-66 to III-C-68; or by failing to account for the increased security and environmental needs created by DuPont's decision to select over 15,000 carloads of TIH traffic and 397,000 carloads of hazmat traffic, *see infra* at III-D-137 to III-D-151.

SAC Principle #4: A SARR Stepping Into the Incumbent's Shoes As to An Agreement Cannot Assume That It Would Receive More Favorable Terms Than The Incumbent. While a complainant may assume that its SARR would "step into the shoes" of the incumbent carrier as to its existing agreements, the complainant may not assume that the SARR would enjoy more favorable terms than the incumbent carrier under those agreements. *See AEPCO 2002*, 6 S.T.B. at 328-329. In the same vein, a complainant may not hypothesize that its SARR could secure agreements that are not available to the defendant. *See id.* DuPont ignores this requirement as well, and repeatedly assumes that the DRR would receive better terms than those obtained by NS. For example, DuPont's operating plan is predicated on assuming that the

[9] *See also Rate Regulation Reforms*, STB Ex Parte No. 715 at 5 (July 25, 2012); *Xcel*, 7 S.T.B. at 610 ("The operating plan must be able to meet the transportation needs of the traffic the SARR proposes to serve."); *TMPA I*, 6 S.T.B. at 589 ("[T]he SARR must meet the transportation needs of the traffic in the group by providing service that is equal to (or better than) the existing service for that traffic.").

DRR would have remarkably one-sided arrangements with all connecting carriers. DuPont assumes that connecting carriers would block cars for the DRR, fuel and inspect DRR locomotives, and perform minor car repairs for the DRR, but that the DRR would not do the same for the other railroads. *See infra* at III-C-68 to III-C-90. It defies common sense and Board precedent to think that other railroads would accept such an unfavorable arrangement. *See CP&L*, 7 S.T.B. at 255 (noting that operating plan cannot change service without evidence the "connecting carriers . . . would not object" (citing *West Texas*, 1 S.T.B. at 667)); *Xcel*, 7 S.T.B. at 610 (same). Similarly, DuPont's claim that the DRR would operate with run-through distributed power requires it to hypothesize nonexistent intercarrier agreements that are irreconcilable with real-world operating practices in the Eastern United States. *See infra* at III-C-77 to III-C-82. Yet another example of DuPont's disregard of this fundamental SAC principle is its assumption that the DRR could use NS's operating rights on partially-owned NS lines such as Conrail Shared Asset Areas without accounting for the ownership interests that NS acquired in order to gain those operating rights. *See infra* at III-F-298 to III-F-316. NS paid valuable consideration to obtain operating rights on partially-owned lines like the Shared Asset Areas, and DuPont's claim that the DRR could operate on these lines without paying a cent for an ownership interest gives the DRR far more favorable terms than NS enjoys in the real world. *See AEPCO 2005*, STB Docket No. 42058, at 11 (rejecting trackage rights where the "tenant carrier's fee does not reflect the full cost of ownership").

SAC Principle #5: Parties Must Provide Appropriate Documentation to Support Estimates. The Board has made clear that "[t]he parties must provide appropriate documentation to support their [operating plan and expense] estimates." *See Rate Regulation Reforms*, STB Ex Parte 715, at 6; *AEPCO 2011* at 4-5. DuPont has not followed that instruction.

The insufficient documentation problem pervades DuPont's evidence. For example, DuPont's evidence of general and administrative costs for the DRR does not contain even one attempt to benchmark its proposed G&A structure to staffing or spending at NS, another railroad, or any other real-world entity. *See infra* at III-D-191. Indeed, many of the cost estimates in DuPont's G&A evidence—such as estimates of legal spending, director salaries, and software implementation costs—have no support anywhere in the record. *See infra* at III-D-129 to III-D-130, III-D-170 to III-D-171, III-D-173. In the same vein, DuPont's only evidence of the costs of the trackage rights that it claims that the DRR would use for 818 route miles of its system consists of two narrative sentences and a hopelessly garbled workpaper.[10] DuPont's lack of documentation is particularly striking in areas where it proposes that the DRR would realize vast efficiencies. For example, DuPont claims that the DRR's maintenance-of-way ("MOW") workforce would be approximately twice as efficient on a track-mile basis as workforces accepted by the Board in past cases. But DuPont has provided absolutely no evidence documenting how the DRR would realize those efficiencies. *See infra* at III-D-198 to III-D-199. While it is unlikely that DuPont could conjure up any evidence that would support its ludicrously low MOW staffing and spending, its failure to even attempt to provide appropriate documentation requires that its evidence be rejected out of hand. And of course as the Board has repeatedly warned complainants, "[i]t is the duty of the complainant to make its best case on opening. . . A complainant may not significantly modify the foundation of its case after it and the defendant carrier have put forward their initial evidence and arguments." *IPA,* STB Docket No. 42127, at 3. Indeed, the Board put DuPont on notice months ago that evidentiary "shortcuts" would not be tolerated. *See DuPont v. NS*, STB Docket No. 42125, at 2 (Jan. 13 2012) (granting

[10] *See* DuPont Opening III-D-23 & DuPont Opening WP "DuPont Joint facility charges.xlsx."

DuPont a second extension of time to ensure that the complainant "has enough time, after assembling a full set of information, to develop its evidence *without shortcuts*" (emphasis added).

These are just a few of the SAC principles that DuPont disregards in its Opening Evidence; others are detailed in the Reply Evidence below. DuPont did not ignore these principles because it did not understand them—on the contrary, the Board's principles are well-established. And DuPont did not fail to present a proper SAC presentation because it lacked the data to do so. While DuPont alleges "data sufficiency" problems, these claims are grossly exaggerated and often merely repeat complaints that DuPont already made in a successful effort to gain more time to file its Opening Evidence. *See infra* at Ex. III-C-7. In fact, NS responded to more than 800 different discovery requests (including subparts) and DuPont's own workpapers demonstrate that it had a full and complete set of carload event data from which it could have built a viable operating plan had it wished to do so. *See id.* Indeed, the detailed, feasible, and supported operating plan NS presents herein was developed entirely from data that NS produced to DuPont in discovery.

Nor did DuPont lack sufficient time to develop a proper SAC presentation. DuPont had an unprecedented amount of time to prepare evidence in this case. DuPont's final Opening Evidence (as modified by its substantial "Errata" filing) was not submitted until May 17, 2012—nineteen months after DuPont filed its initial Complaint, sixteen months after NS began producing documents in discovery,[11] ten months after NS completed production of discovery data that was not Sensitive Security Information ("SSI"),[12] more than seven months (225 days)

[11] NS began producing documents and data to DuPont on January 14, 2011.

[12] NS produced nearly all responsive non-SSI data to DuPont before the close of discovery on June 30, 2011. Production of SSI data was delayed pending consideration by the Federal

after NS produced complete traffic files,[13] and nearly six months (178 days) after the date on which NS responded to DuPont's last remaining follow-up discovery requests.[14]

Nor did DuPont lack for resources or motivation. DuPont is seeking unprecedented relief on rates in 138 separate traffic lanes. And DuPont—as a Fortune 100 company with annual earnings of over $3.4 billion—has ample resources to have developed a proper and fully-supported SAC presentation.[15] In short, DuPont knew or should have known the SAC principles that the Board has established, and it had every incentive to prepare a well-supported evidence that conformed with those principles. But it instead presented a blatantly deficient SAC analysis with no real operating plan, numerous unsupportable assumptions, and little efforts to engage with "the underlying realities of real-world railroading."

The only viable explanation for the deficiencies in DuPont's evidence is that it recognized that it could not prevail with a proper SAC analysis. The simple fact of the matter is that when DuPont's revenue distortions are corrected, when all appropriate operating expenses are accounted for, and when realistic road property investment expenses are assumed, this case is not even close. Even after making repeated conservative assumptions that the SARR would be as efficient as realistically possible, NS's Reply Evidence shows that the costs to construct and operate the DRR would exceed the properly attributable DRR revenues by over $8 billion over the 10-year DCF period. NS's rates have been and are reasonable.

Railroad Administration and Transportation Security Administration of the appropriate ground rules for SSI production.

[13] As detailed in NS's Reply to DuPont's Second Motion to Modify Procedural Schedule, NS produced complete and corrected traffic files to DuPont on October 5, 2011. *See* NS's Reply to DuPont's Second Motion to Amend Procedural Schedule at 7-9 (filed Dec. 20, 2011).

[14] As DuPont acknowledged in its Second Motion to Amend Procedural Schedule, NS's production to DuPont was complete on November 21, 2011. *See DuPont's Motion to Modify Procedural Schedule* at 7 (Dec. 12, 2011).

[15] *See* DuPont 2011 10-K at 20 (available in NS Reply Workpapers).

The result of the SAC analysis is not surprising, for 97 of the challenged rates are constrained by effective competition from trucks and rail-truck alternatives. DuPont uses trucks to transport {{ }} of truckloads of the issue commodities annually, and it has active motor carrier contracts that it could use to replace NS's rail service. NS expert Gordon Heisler, a chemical logistics expert with over thirty-five years of experience in logistics and surface transportation, has identified feasible direct truck alternatives (*i.e.*, alternatives where commodities could be transported between origin and destination by truck) for eighty-three of the issue lanes. He has also identified rail-truck transload alternatives (*i.e.*, alternatives where commodities could be transported between origin and destination by a combination of truck and non-NS rail service) for thirty-four of the issue lanes.[16] As demonstrated below, these competitive options are an effective constraint on NS's rail rates. The Board lacks jurisdiction over these rates, and they should be dismissed for that reason alone.

* * *

The Stand Alone Cost test is a rigorous methodology based on established economic principles. It is a methodology that gives shippers substantial freedom to design cases and to optimize their evidence by selecting an ideal mix of traffic and designing their own networks. But what shippers are not allowed to do is to propose SARRs that are inconsistent with "the underlying realities of real-world railroading." *Xcel*, STB Docket No. 42057, at 12 (Jan. 19, 2005). When DuPont selects—and claims SARR revenue for—hundreds of thousands of carloads of traffic for which it does not make provision for moving each carload from its specific origin, through the processes of being put into a block and a train and of being classified and reclassified in various yards, and to its specific destination, its evidence is not consistent with

[16] Eighteen lanes are subject to competition from both direct truck and rail-truck alternatives.

real-world railroading. When it selects highly-rated TIH and hazmat traffic without making any allowance for the operational restrictions, security expenses, and environmental and regulatory costs associated with such traffic, its evidence is not consistent with real world railroading. And when DuPont claims that the DRR would use a nonexistent PTC system in 2009; that its trains would never have to pause to account for a locomotive failure, a passenger train, or a track inspection; and that other railroads would willingly perform blocking, fueling, inspections, and car repair for the DRR without demanding reciprocal treatment, DuPont is plainly not making assumptions that are consistent with the real world.

Indeed, the deficiencies in DuPont's SAC presentation are so severe as to constitute a failure by DuPont to tender a *prima facie* case on opening. The Board has repeatedly held that "[i]n SAC cases, the complaining shipper has the responsibility for designing the stand-alone railroad and has the initial burden of supporting the feasibility of all components of its design and cost estimates." *FMC*, 4 S.T.B. at 723.[17] At the most basic level, a complaining shipper is required to design a SARR that actually provides full on-SARR transportation for the selected traffic. DuPont has failed at this elementary level by not including sufficient trains to transport over 725,000 carloads of its selected traffic—including the majority of DuPont's own issue traffic! A SAC presentation that does not even include the trains required to transport all the issue traffic from origin to destination is manifestly incomplete and deficient. Because DuPont's SAC analysis utterly fails to carry its threshold burden of proof, DuPont's case fails as a matter of law.

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[17] *See also Agrico Chem. Co. v. Seaboard Coast Line R.R. Co.*, 361 I.C.C. 333 (1979) (dismissing rate complaint because complainant's evidence failed to meet its burden of proof); *Potomac Elec. Power Co. v. Penn Cent. Transp. Co.*, 356 I.C.C. 815 (1977) (same).

It may be that the extraordinary gaps and deficiencies in DuPont's SAC presentation are the function of a strategic decision to save more detailed arguments for rebuttal. Such tactics are strictly prohibited by the Board's rules, and they should not be allowed here. *See SAC Procedures*, 5 S.T.B. at 445-46 ("Rebuttal may not be used as an opportunity to introduce new evidence that could and should have been submitted on opening."). As the Board recently held in *M&G*, "Board rules clearly direct complainants to put forth their best and most complete case on opening. . . . [and therefore] [t]he shipper must 'submit its best, least-cost, fully supported case on opening' and 'may not hold back to see the railroad's reply evidence before finalizing or supporting its own case.'" *M&G*, STB Docket No. 42123, at 9 (quoting *Duke/NS*, 7 S.T.B. at 101). And similarly in *IPA* the Board recognized that:

> It is the duty of the complainant to make its best case on opening. The complainant cannot claim that a technical error, brought on by the complainant's own mistake, is grounds for it to modify a core part of its evidence after the defendant carrier has already filed a reply to that evidence.

IPA, STB Docket No. 42127, at 3.[18] Here, DuPont cannot claim that its failure to present complete SAC evidence gives it an opportunity to modify its SAC presentation on rebuttal with evidence that "could have been presented on opening." *M&G*, STB Docket No. 42123, at 9 n.24. And DuPont is certainly not entitled "to redesign its SARR on rebuttal" or present a new operating plan simply because NS's Reply Evidence proves the massive deficiencies in DuPont's

[18] *See also Xcel*, STB Docket 42057 at 2 (served April 4, 2003) ("We are increasingly troubled by the submission of incomplete or erroneous evidence on opening in a SAC case and a complainant's reliance upon an opportunity to address deficiencies through later evidentiary submissions, to which the defendant has no opportunity to respond.").

proposed operating plan and the utter infeasibility of DuPont's proposed SARR (as the following Reply Evidence will do).[19]

The SAC test is a hypothetical one, but it depends upon a rigorous, well-supported analysis—not magical or wishful thinking. DuPont's systematic failure to produce a complete, well-documented, and credible SAC presentation requires rejection of its arguments, and this case should be dismissed. But even if it is not dismissed, NS shows that under a proper stand-alone cost analysis—indeed one that often uses conservative assumptions—NS's rates are a long way from being unreasonable.

B. SUMMARY OF NS'S REPLY EVIDENCE

Below NS summarizes some of the significant evidence and arguments that support the conclusions that (1) the Board lacks jurisdiction over 96 lanes in the Complaint because DuPont has failed to prove a lack of effective competition; and (2) that all the challenged rates are reasonable under the SAC test. NS's Reply Evidence is characterized by three basic principles:

First, NS's Reply Evidence is consistent with SAC precedents and principles, including the key principles outlined above. DuPont's evidence, on the other hand, blatantly violates and systematically ignores the Board's clearly established principles for developing SAC evidence.[20]

Second, NS's Reply Evidence is well-documented. While DuPont provided little to no documentary support for many assertions in its evidence, NS has provided the Board with

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[19] *IPA*, STB Docket No. 42127, at 3 (rejecting argument that "every time a railroad challenges an argument of the shipper that has implications for the operations of the SARR . . . the shipper may redesign its SARR on rebuttal").

[20] In some instances NS proposes refinements to or a departure from an approach taken in a previous SAC case, either because the distinct features of the DRR make a past approach inapplicable or because a previous approach does not fully accord with Board precedent. In each of these instances NS conforms to the Board's instruction that requests to take a new approach be accompanied by "new evidence or different arguments." *SAC Procedures*, 5 S.T.B. at 446. In contrast, on several occasions DuPont simply ignores SAC precedents that it does not like. *See, e.g.*, NS Reply at III-D-87.

extensive discussion of the relevant issues in its narrative, exhibits, and workpapers, and with detailed support for its positions. NS's Reply Evidence is therefore the best evidence of record on every contested issue in this case because DuPont cannot provide on Rebuttal the case it should have presented on Opening.

Third, NS's Reply Evidence is conservative. In keeping with SAC principles that a SARR operates with the minimum feasible costs and at maximum feasible efficiencies, NS and its experts repeatedly assume that the DRR would achieve the best possible efficiencies and would obtain services for the lowest available costs. While it is unlikely that any real-world railroad could achieve these efficiencies at these costs, NS has taken this conservative approach to demonstrate definitively that the challenged rates are reasonable under a proper SAC analysis. A mark of the conservative assumptions used in NS's Reply Evidence is the fact that the DRR would be measurably more efficient than any existing Class I railroad, including NS itself. The NS Reply DRR has an operating ratio of 69.9% in 2009—significantly superior to NS and all other Class I railroads.[21]

II. MARKET DOMINANCE

A. Quantitative Market Dominance

NS does not contest that, using the challenged rates and URCS system average variable costs, each of the issue movements generates revenue-to-variable-cost ("R/VC") ratios in excess of the 180% jurisdictional threshold specified by 49 U.S.C. § 10707(d)(1). However, a number of DuPont's R/VC calculations have been significantly inflated by DuPont's errors and improper

[21] *See* NS Reply WP "DRR Operating Ratios.xls."

assumptions. Because the R/VC ratio of the issue movements is an important factor in the MMM calculations, NS's evidence addresses and corrects DuPont' s errors.[22]

While the parties have reached agreement as to most of the operating characteristics for the issue movements, DuPont's approach to calculating mileages rests on fundamentally flawed assumptions about how a carload network operates. *See infra* at II-A-3 to II-A-4. In real-world railroading, shipments on a carload network often travel different routes at different times between the same origins and destinations. There are multiple reasons for these varied movements, such as the needs to classify and block trains, ensure maximal efficiency for the overall network, and comply with track configuration limitations. And in real-world carload railroading, carloads do not move in direct lines between origin and destination. Rather they move in multiple trains and sometimes must be moved to one or more classification yards to be switched onto the appropriate train. *See* NS Reply Ex. III-C-1 (video illustrating carload network operations).

DuPont's first error is its use of the discredited "predominant route" approach for determining mileages of the issue movements. The "predominant route" approach selects one routing for each lane and ignores the others, on the theory that mileage variations within historical traffic data were data anomalies. But the fact that a carload movement takes different routes at different times is not presumptively a "data anomaly"—it is a simple fact of real-world railroading on a carload network. *See infra* at II-A-3 to II-A-7. Moreover, the "predominant route" approach was rejected by the Board's recent decision in *M&G*. *See M&G*, STB Docket No. 42123, at 23 (holding that "particular circumstances and network demands may make it more efficient for M&G's traffic to be moved via one route at one time and over other routes at

[22] These variable cost issues are moot because the Board will not need to apply MMM, but NS is addressing them to ensure a complete record.

other times, and it makes little sense to exclude certain routes from our mileage calculations because one route may be used slightly less often than another").

NS instead uses an actual mileage approach which incorporates real-world traffic data for a much greater percentage of the issue movements and weighs those records to reflect the relative frequency of different routings used by DuPont's shipments. *See infra* at II-A-4 to II-A-5. NS's approach is the same as the weighted average approach used by the Board to determine mileages in *M&G* and accounts for the mix of routes used to transport the issue traffic, and the Board should likewise accept it here. *See M&G*, STB Docket No. 42123, at 23.

Even more unreasonable than DuPont's use of a "predominant route" approach is its attempt to ignore the results of that approach on 20 lanes where it decided that its traffic could have been routed more directly. DuPont calls these "extraordinary long back-haul movements," but NS's evidence shows that each of these supposedly problematic movements was a reasonable—and in many cases essential —routing to a yard necessary to serve the issue traffic. *See infra* at II-A-7 to II-A-8 & NS Reply Ex. II-A-1. But whether such movements are "extraordinary" or not, it is clear that DuPont is not entitled to make movement-specific adjustments to the URCS mileage input whenever DuPont asserts that the real-world routing is insufficiently direct. *See infra* at II-A-7; *Major Issues*, STB Ex Parte No. 657 (Sub-No. 1) at 60. The Board should reject DuPont's "backhaul" adjustment and use NS's weighted average approach to determine mileages for all the issue movements.

NS's II-A evidence also corrects DuPont's evidence as to lading weights. *See infra* at II-A-9 to II-A-10. Specifically, for lanes where there were no NS movements in 2009 or 2010, DuPont applied a proxy lading weight based on car type, an approach that ignores the simple reality that lading weight can vary depending on the type of commodity in the car. NS corrects

DuPont's error by applying a proxy lading weight that incorporates relative commodity weights to the lanes where actual lading weight data is unavailable. *See id.*

B. Qualitative Market Dominance

NS's Reply Evidence demonstrates that the bulk of the rates that DuPont has challenged should be dismissed because DuPont has failed to prove that those rates are not subject to effective competition from trucks and truck-rail alternatives. *See E.I. du Pont de Nemours & Co. v. CSX Transp., Inc.*, STB Docket No. 42100, at 2 (June 30, 2008) (complainant has burden of proving lack of effective competition). The Board has jurisdiction to determine the reasonableness of a transportation rate only if there is "an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies." 49 U.S.C. § 10707(a). This jurisdictional requirement is the function of an explicit congressional judgment that "competition [should] be recognized as the best control on the ability of railroads to raise rates." H. Rep. 96-1430, at 89 (1980).[23] A rail shipper that has a transportation alternative therefore is not entitled to pursue a rate case to see if it can obtain a better rate through regulatory prescription than it can in the open market. As the D.C. Circuit has observed, in many situations shippers would rather attempt to reduce rates through regulation than use alternatives to rail service, because they "consider regulators' hands to be friendlier than invisible ones." *AAR v. STB*, 306 F.3d 1108, 1111 (D.C. Cir. 2002). Only shippers that truly have no choice but to use the challenged rate are permitted to ask the agency to determine whether that rate is reasonable.

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[23] *See Consolidated Papers, Inc. v. Chicago & N.W. Transp. Co.*, 7 I.C.C.2d 330, 336 (1991) ("Congress has decided that, to the greatest extent possible, railroad rates should be governed by competitive forces."); *Potomac Elec. Power Co. v. Consolidated Rail Corp.*, 367 I.C.C. 532, 536 (1983) (recognizing that Congress intended to "allow[] the forces of the marketplace to regulate railroad rates wherever possible" and discussing strong congressional intent that market dominance test limit ICC's rate reasonableness jurisdiction).

DuPont's past and present use of trucking companies and the detailed analysis presented by NS expert Gordon Heisler below demonstrate that DuPont is a shipper that has choices in at least 99 of the challenged lanes. *See infra* at II-B-102 to II-B-190. NS's Reply Evidence demonstrates that DuPont uses trucks to transport {{ }} of truckloads of the Issue Commodities annually.[24] *See id.* at II-B-22 to II-B-25. It has many active and highly favorable contracts with motor carriers to transport the Issue Commodities. *See id.* at II-B-34 to II-B-36. Indeed, DuPont controls its own private trucking fleet with specialized trucks and trained drivers equipped for transporting chemicals like the Issue Commodities. *See id.* at II-B-37 to II-B-40. Truck and rail-truck transportation is unquestionably a practically feasible option on each of the lanes for which NS contests DuPont's evidence of market dominance.

This reality is underscored by the fact that for {{ }} lanes, DuPont has already used one of the transportation alternatives identified by Mr. Heisler to transport the issue commodity between the complaint origin and the complaint destination. *See infra* at II-B-24 & Ex. II-B-1. And for {{ }} lanes, DuPont has a point-to-point motor carrier contract rate for shipments over the lane, indicating that it considers trucking to be a significant enough alternative for that particular lane to have negotiated a point-to-point rate for the lane. *See* NS Reply WP "DuPont Point to Point Contract Rates.xls." For many other lanes, DuPont has demonstrated the feasibility of a transportation alternative by trucking the issue commodity from the origin or to the destination. *See infra* at II-B-24. And in almost every instance, DuPont already has trucking

[24] The "Issue Commodities" are the twenty-six commodities that are subject to the challenged rates. Certain of the most dangerous Issue Commodities like chlorine are rarely transported by truck. NS does not contest market dominance on any of the chlorine rates that DuPont has challenged. *See* NS Reply Ex. II-B-1 for a summary of the lanes for which NS is contesting DuPont's evidence of market dominance.

protocols in place, necessary infrastructure for loading and unloading, and access to trucks with the capacity to safely transport the commodity in question.

These truck and rail-truck options are competitive with the cost of rail service. Mr. Heisler used current DuPont contracts with motor carriers, other rail carriers, and transload facilities to calculate the full cost of each transportation option. *See infra* at II-B-106 to II-B-107. In ninety instances, the cost of the transportation alternative is less than or within 10% of the cost of NS rail service—the threshold that DuPont itself uses to identify cost-competitive transportation options. *See id.* at II-B-4; DuPont Opening I-16. In another nine instances Mr. Heisler identified a transportation alternative costing between 10% and 20% above the cost of NS rail service. *See infra* at II-B-4. In Mr. Heisler's expert opinion, the existence of cost-competitive truck and transload options for these lanes effectively constrains NS's rail rates.

Section II-B includes detailed descriptions of the competitive alternatives for the issue lanes, and the exhibits and workpapers to that section have been designed to further illustrate the competitive alternatives and enable the Board to expeditiously resolve these important jurisdictional issues.[25]

Section II-B also addresses the "limit price" approach to qualitative market dominance that the Board announced in *M&G*. *See M&G*, STB Docket No. 42123. The limit price approach should not be applied to this or any other case because it is not a lawful or reasonable means of determining whether competition is effective. *See infra* at II-B-40 to II-B-57. The

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[25] In particular, NS Reply Exhibit II-B-1 is a matrix setting forth key information about each case lane and the competitive transportation alternatives for that lane. Reply Exhibit II-B-2 sets forth the basis for Mr. Heisler's calculations for the total costs of each direct truck alternative presented herein, and Reply Exhibit II-B-3 does the same for each transloading alternative. Reply Exhibit II-B-4 contains maps illustrating the routes for each competitive alternative. Finally, Reply Exhibit II-B-5 consists of detailed information on traffic volumes for each issue lane.

limit price approach is at odds with Congress's expressed opposition to the use of rebuttable presumptions based on variable costs for qualitative market dominance purposes. 49 U.S.C. § 10707(d)(2). *See id.* at II-B-43 to II-B-45. It is also an unjustified departure from the agency's established notice-and-comment rules for making market dominance determinations, which specifically rejected the use of rebuttable presumptions in the qualitative market dominance analysis. *See Market Dominance Determinations*, 365 I.C.C. 118 (1981). Using a new "limit-price approach," which amends the Board's long-standing market dominance rules, in this proceeding without full notice-and-comment rulemaking would violate the Administrative Procedures Act.[26] *See id.* at II-B-46 to II-B-49. And it is an irrational and economically meaningless methodology that has no relationship to the characteristics of the market at issue and has no useful information about the effectiveness of competition in that market. *See id.* at II-B-49 to II-B-57. Expert witnesses Drs. Kelly Eakin and Mark Meitzen of Christensen Associates and Professor Robert Willig of Princeton University have analyzed the limit price approach and detail its serious economic flaws in NS Reply Exhibits II-B-7 and II-B-8. The Board should not use this flawed approach in this or any other case.

In addition, Section II-B contains detailed replies to each of the arguments that DuPont raises in an attempt to demonstrate market dominance. First, DuPont incorrectly argues that the Board may not consider intermodal competition for a challenged NS Rule 11 rate used in combination with another carrier's contract rate unless the intermodal alternative is designed to

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[26] *See e.g., Am. Mining Congress v. Mine Safety & Health Admin.*, 995 F.2d 1106, 1109 (D.C. Cir. 1993); *Marseilles Land and Water Co. v. FERC*, 345 F.3d 916, 920 (D.C. Cir. 2003) (holding that "an administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a *de facto* amendment to its regulation through adjudication"); *Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 100 (1995) (an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must follow APA notice-and-comment procedures).

replace only the NS segment of the move, on the theory that intermodal alternatives that would replace the entire joint-line movement would be "geographic competition." *See* DuPont Opening I-12 to I-14. By redefining geographic competition to include movements between the actual origin and actual destination of joint line movements, DuPont would radically limit the statutory meaning of intermodal competition in a way that is irreconcilable with the language of the Interstate Commerce Act. *See infra* at II-B-67 to II-B-75. The Act expressly commands that the Board "shall" consider the effectiveness of intermodal competition before entertaining a challenge to the reasonableness of any rate. 49 U.S.C. § 10707(b). DuPont would negate this statutory requirement that the Board consider the effectiveness of non-rail modes of transportation, for according to DuPont the Board may not consider any intermodal alternative to a Rule 11 rate that does not contemplate that the traffic would be delivered in a rail car to the precise interchange point that would have been used in joint-rail service. The Board cannot lawfully adopt an interpretation of the Interstate Commerce Act that would negate the congressional requirement that the effectiveness of intermodal competition be considered in every rate case, including challenges to Rule 11 rates.

Moreover, DuPont's reliance on language from *Minnesota Power, Inc. v. Duluth, Missabe & Iron Range Ry. Co.*, 4 S.T.B. 64 (*"DMIR I"*), *petitions for reconsideration denied*, 4 S.T.B. 288 (1999) (*"DMIR II"*) (collectively, *"DMIR"*), ignores the fact that the language DuPont cites directly conflicts both with other ICC and STB decisions holding that direct whole-route alternatives are intermodal competition (not geographic competition) and with definitions of intermodal and geographic competition that were adopted and reaffirmed in multiple agency rulemakings. *See infra* at II-B-75 to II-B-80. NS submits that *DMIR* did not adopt such a radical

redefinition of the meaning of intermodal competition, but if it did, it constituted an arbitrary and capricious misinterpretation of the statute that would not withstand appellate review.

Furthermore, DuPont's *DMIR* argument has no relationship to how competition works in the real world. *See infra* at II-B-62 to II-B-67. As expert transportation economist Dr. Mark Burton explains, the interest of a purchaser of transportation services is in obtaining economical and efficient transportation to move product from the origin to the destination. *See* NS Reply Ex. II-B-6 (Statement of Dr. Mark Burton). A whole-route alternative unquestionably exerts pressure on Rule 11 segment rates as a matter of simple economics. Indeed, DuPont routinely uses whole-route truck alternatives in lieu of joint-line rail movements. And it has a number of contracts for truck shipments from the issue origin to the issue destination. DuPont's argument boils down to the absurd claim that the Board is precluded from considering "the most efficient [and] lowest cost alternative" for many issue movements even though those are the alternatives that DuPont itself considers. *See* DuPont Opening I-14. Ignoring this real-world intermodal competition would be utterly inconsistent with Congress's directive that the Board carefully consider the effectiveness of direct competition before assessing the reasonableness of any rate.

Second, DuPont improperly claims that NS rate increases constitute evidence of market dominance. The argument completely ignores the many reasons for those rate increases, including {

} And DuPont's related argument that the absolute level of NS's rates demonstrates market dominance is conclusory and impossibly inconsistent. *See infra* at II-B-94 to II-B-98. In DuPont's view, where the cost of alternative

transportation is more than 10% above NS's rail rates, that is supposed "conclusive" proof that NS is market dominant. *See, e.g.*, DuPont Opening I-14 to I-16. But when NS's rail rates are equivalent to or higher than truck rates, that supposedly proves market dominance too. *See id.* at II-B-148 (declaring that lanes where direct trucking costs less than 10% more than the cost of rail transportation must be lanes where "NS has priced up to the higher cost truck alternative"). This illogical heads I win, tails you lose style of argumentation lacks any merit.

Instead, the Board should use the common sense rule that when the cost of alternative transportation is less than or reasonably comparable to the cost of rail transportation, the alternative transportation is effective competition unless the complainant presents evidence that some non-cost-related factor prevents it from being so. *See infra* at II-B-94 to II-B-98. *See DuPont v. CSXT (Chlorine)*, Docket No. NOR 42100 at 2 (2008) (burden of proof of market dominance is on the complainant, not on the defendant railroad to prove it is not market dominant). This accords with Congress's expressed belief that a logistically feasible transportation alternative would constitute effective competition if it were available at a comparable cost:

> If a shipper can rely on a transportation alternative, which could include another railroad, a barge, or a truck, at a transportation cost which is not substantially greater than the rail transportation cost, then competition is present. Competition will serve to hold down rates, and the railroad involved would not have market power.

H. Rep. 96-1035, at 39 (1980). In this case, therefore, the only lanes that can be disqualified on cost grounds alone are those lanes where alternative transportation is substantially more expensive than all-rail transportation. As detailed in Section II, Mr. Heisler did not consider any alternative transportation to be competitive unless its costs were no more than 20% higher than the cost of rail transportation. Indeed, the vast majority of the options presented herein are less

expensive than the cost of rail transportation. And all but a handful fall within the 10% threshold that DuPont wrongly asserts is the upper boundary of cost-competiveness.

Third, Section II-B rebuts DuPont's claim that its customers and suppliers have contractually bound DuPont to use NS rail service. These contracts are largely short-term in nature and give DuPont ample flexibility to renegotiate. *See infra* at II-B-98 to II-B-100. Moreover, a number of the contracts that supposedly bind DuPont explicitly contemplate truck shipments, and a number of the customers who supposedly demand rail service in fact have received truck shipments from DuPont. *See infra* at II-B-100.

Fourth, Section II-B responds to DuPont's hodgepodge of arguments that market dominance on individual lanes is demonstrated by alleged storage needs, infrastructure limitations, and product quality concerns. *See infra* at II-B-101 to II-B-102. These arguments are commodity-specific and sometimes lane-specific, and therefore are addressed in the individual lane discussions in Section II.

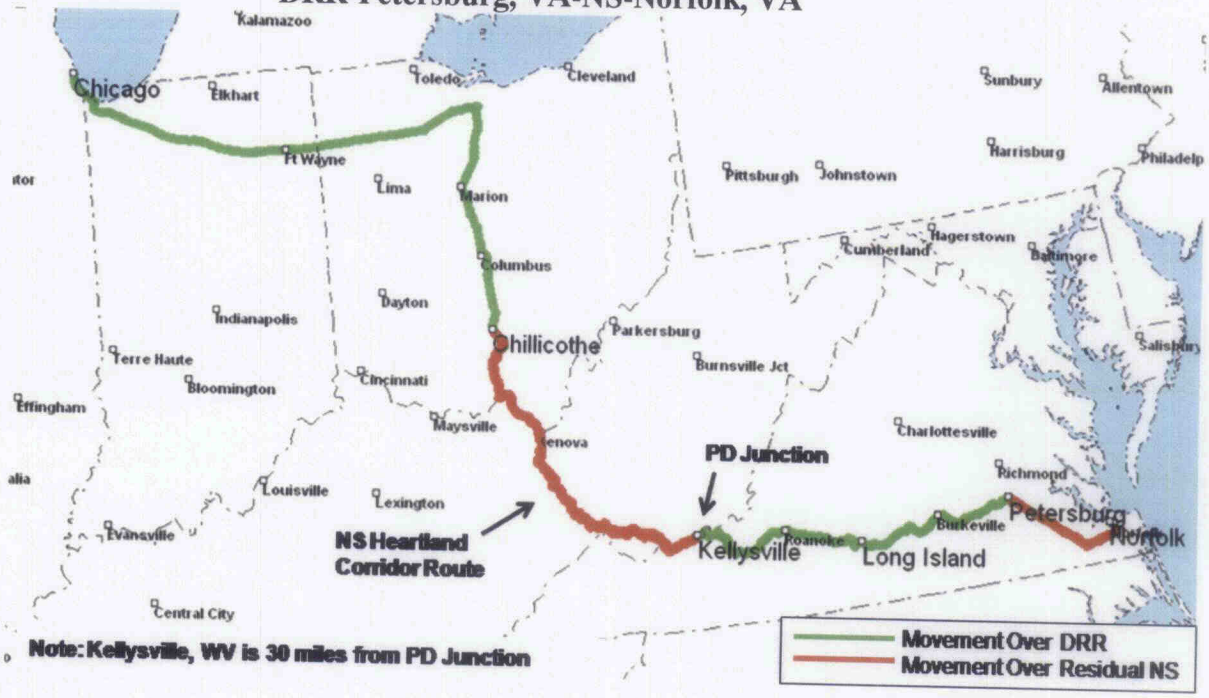
III. STAND ALONE COST

A. Traffic Group

Section III-A of NS's Reply Evidence responds to DuPont's evidence of the DRR's traffic group. As mentioned above, DuPont selected an extremely large traffic group for the DRR, which consists of 92% of all of NS's traffic volume. With some limited exceptions, NS accepts DuPont's traffic selection. However, DuPont's volume growth projections for coal are unrealistic and plainly at odds with what is happening in the coal industry today. And DuPont's revenue projections are inflated by several unjustified assumptions and significant errors in its application of the Average Total Cost ("ATC") approach. The major arguments and evidence presented in Section III-A are described below.

Traffic Group Selection. NS generally accepts DuPont's selected traffic group for purposes of determining SARR traffic volumes and revenues, with two exceptions. NS rejects DuPont's selection of certain Triple Crown Services ("TCS") movements, because NS does not collect any rail linehaul revenues for these movements. *See infra* at III-A-1; III-A-66. NS also rejects DuPont's attempt to expand the cross-over traffic device to include a new category of "Leapfrog Traffic": cross-over traffic involving multiple alternating segments of a movement handled by the SARR and by the residual incumbent in succession. *See infra* at III-A-1 to III-A-2; III-A-53 to III-A-59. In many instances the hypothesis of "leap-frog" trains that repeatedly enter and exit lines operated by DRR and NS as they move across the SARR is an obvious gambit to avoid substantial construction costs, such as the tunnels along the Heartland Corridor (such as in the case of Train 234 depicted below), or to avoid re-routing traffic in ways that would be impermissible pursuant to Board precedent.

Illustration I-1
Leapfrog Train #234 Example: Chicago, IL-DRR-Chillicothe, OH-NS-PD Junction, WV-DRR-Petersburg, VA-NS-Norfolk, VA



DuPont's Leapfrog Traffic proposal is an unprecedented contortion of the cross-over device, which is intended to be a simplifying measure that replicates the results of a fully modeled SARR and SAC analysis without introducing bias to the analysis. *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657, at 24. DuPont's proposed approach does exactly the opposite: it complicates the SAC analysis while simultaneously introducing bias and distorting the analysis, in part by allowing the SARR to avoid high-cost, low-contribution, and operationally difficult internal segments of SARR routes. Moreover, these are routes used by DuPont's selected traffic in their entirety and not in selected segments. Accordingly, SAC principles require that the entire routes be constructed, not just portions that a Complainant's counsel and cost consultants think will help their case. The Board should flatly reject this unprecedented tactic, remove all Leapfrog Traffic movements from the DRR traffic group, and make clear that such internal cross-over traffic is not permissible in this or any future case.

Volume Growth Projections. NS accepts DuPont's traffic volumes and projections for the DRR, with two exceptions. First, and most importantly, DuPont's projections of coal traffic volumes are not consistent with events in the coal market today. DuPont uses an internal NS forecast from 2010 that projected steady and significant growth in coal traffic volumes. But significant unforeseen developments and coal market changes occurring since 2010 have rendered the NS 2010 forecast outdated, inaccurate, and unreliable. *See infra* at III-A-4 to III-A-10. NS's 2010 projections for volumes of coal shipments did not anticipate the precipitous decline in coal shipments that has occurred over the course of 2011 and 2012, due to the confluence of several factors affecting coal usage, including historically low natural gas prices, accelerated substitution of gas for coal at many electric generating facilities, new environmental regulations, retirement of coal-fired power plants, and unusual weather. *See infra* at III-A-11 to

III-A-36. Consistent with Board precedent, NS therefore adjusts DuPont's SARR traffic projections using the most recent federal Energy Information Administration ("EIA") actual and projected coal volumes, substituting the EIA data for NS's outdated 2010 coal volume forecast. *See infra* at III-A-36 to III-A-. The Board has long recognized that "the forecasts developed by EIA, a neutral governmental source, [are] more reliable than forecasts developed by private parties for litigation, which are inherently subject to manipulation,"[27] and it has substituted EIA forecasts where a carrier's internal forecast was inaccurate.[28] Here, too, the Board should substitute the neutral EIA forecast for DuPont's unrealistic assumptions.

NS also rejects DuPont's approach to projecting DRR traffic volumes for non-coal commodity groups for the period 2016-2019. *See infra* at III-A-52 to III-A-53. DuPont's unprecedented approach of applying a compound annual growth rate based upon a mixture of historical volume and projected volume growth from 2009-2015 dramatically overstates DRR traffic volumes for the last four years of the SAC analysis period. *See infra id.*[29] NS's Reply Evidence has corrected that overstatement by applying an approach that is consistent with Board precedent and produces a more reasonable and realistic growth rate for non-coal traffic for the 2016 to 2019 period. *See infra* at III-A-53.

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[27] *TMPA II*, 7 S.T.B. at 821-822 (confirming on reconsideration that the Board's use of EIA projections was correct); *see AEPCO 2011*, STB Docket No. 42113, at 22 (taking official notice of updated EIA forecasts); *Duke/NS*, 7 S.T.B. at 145 (reaffirming general preference for reliance on forecasts not prepared for litigation and prepared "by an independent, neutral source.").

[28] *See, e.g., CP&L,* 7 S.T.B. at 250-51 (substituting EIA forecast for inaccurate carrier forecast); *Duke/NS*, 7 S.T.B. at 398 (Feb. 3, 2004) ("The 2003 and 2004 traffic levels are also measured using EIA forecasts, rather than NS's internal business forecasts, in view of the demonstrated inaccuracy of the NS forecasts and the general preference for reliance on official, neutral governmental forecasts.").

[29] *See Xcel*, 7 S.T.B. at 639 (rejecting complainant forecast developed based on average escalation factors from BNSF contracts, which the Board described as a composite of historical escalation factors, because, as explained in *TMPA* and *Duke/NS*, "forecasts developed by EIA are more reliable and less subject to manipulation by litigants than forecasts by private parties").

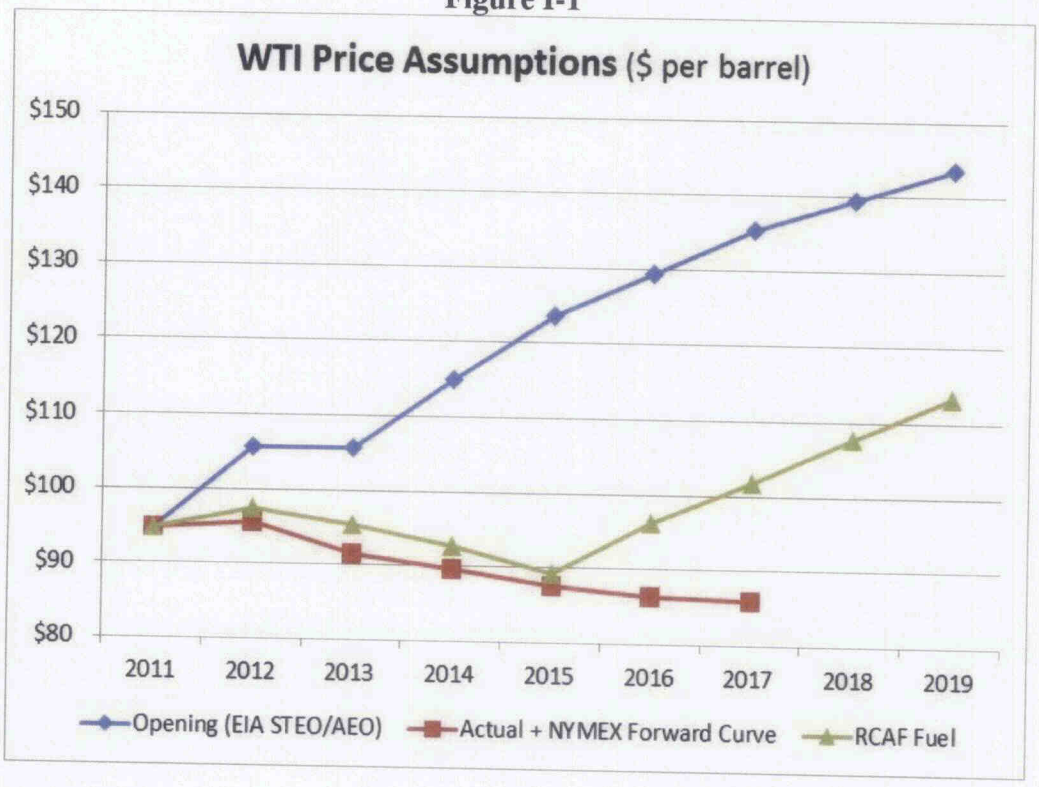
Revenues. NS's Reply Evidence describes and corrects numerous errors that DuPont made in its calculation of revenues for the DRR. First, NS adjusts DuPont's coal revenue calculations by correcting a DuPont spreadsheet error that led it to assign a 100% fuel surcharge to certain coal traffic and by applying the final EIA AEO transportation rate escalator to update proposed rate increases for coal traffic. *See infra* at III-A-59.

Second, DuPont's attempt to claim non-rail revenues from Triple Crown Services ("TCS") and Thoroughbred Direct Intermodal Services ("TDIS") as part of the DRR's intermodal revenues is not permissible. *See infra* at III-A-61 to III-A-III-68. TCS and TDIS are providers of intermodal and logistics services that—while technically subsidiaries of NS—function as customers of NS that purchase rail transportation services from NS. Rather than treating TCS and TDIS as customers of NS and accepting the revenues that TCS and TDIS pay to NS, DuPont replaced the revenue NS collects from these customers (*i.e.*, the line haul revenue) with the total revenue collected by TCS and TDIS for the various services they provide to third parties (including, for example, trucking services from origin to the intermodal facility, revenues for rail line-haul services provided by NS as well as rail carriers other than NS, intermodal lifts, trucking services from the intermodal facility to the final destination, etc.). *See* DuPont Opening Ex. III-A-2 at 14-15. But DuPont does not propose that the DRR perform any of the services from which TCS and TDIS earn those revenues. Ignoring these costs while incorporating TCS's and TDIS's total revenues violates fundamental SAC principles, Board precedent, and basic economic principles, and must be rejected. *See infra* at III-A-63; *see, e.g. AEPCO 2011*, STB Docket No. 42113, at 4-5 (SAC analysis must develop and present "investment requirements and operating expense requirements (including such expenses as . . . personnel, material and supplies, and administrative and overhead costs) in order to generate the

revenue requirements of the SARR). Moreover, DuPont's attempt to claim non-rail TCS and TDIS revenues is an impermissible cross-subsidy, for attribution of any net revenue generated by TDIS or TCS trucking services to the DRR would constitute a subsidy of the issue traffic by the trucking and supply chain management services provided by TCS and TDIS. *See infra* at III-A-64; *PPL Montana v. BNSF Ry.*, 6 S.T.B. 286, 293-95; *Otter Tail*, STB Docket No. 42071, at 23-30.

Third, DuPont significantly overinflates DRR fuel surcharge revenues by using two different indices to project changes in the price of diesel fuel. *See infra* at III-A-69. To minimize DRR fuel *costs*, DuPont used an index that predicts that the price of diesel fuel will be flat or decreasing over the relevant time period. But to maximize DRR fuel surcharge *revenues*, DuPont uses an index that predicts that the price of that very same diesel fuel will increase significantly over the identical time period. *See infra* at *id.* The below figure illustrates DuPont's blatant gamesmanship: DuPont uses the blue line to project fuel surcharges and the red line to project fuel costs.

Figure I-1[30]



DuPont thus seeks to have it both ways by assuming that rising fuel prices would allow the DRR to generate additional DRR fuel surcharge revenues, but that the prices the DRR actually would pay for fuel would remain flat. A proper SAC analysis must make consistent and realistic price escalation assumptions, including for the SARR's own fuel costs and for its fuel surcharge revenues. NS's Reply Evidence corrects the mismatch in DuPont's projections by using the same fuel price index for both fuel surcharge revenue and fuel expenses. *See infra* at III-A-71.

Fourth, NS corrects a methodological error in DuPont's opening evidence that caused it to understate substantially the payments that the DRR would have to make to handling and switching carriers for the DRR's selected traffic. *See infra* at III-A-73.

[30] *See infra* at III-A-70 for sources and further explanations.

Cross-Over Traffic Divisions. DuPont's evidence contains two major errors in its allocation of revenues for cross-over traffic. First, DuPont significantly understates the off-SARR miles for many cross-over movements, which resulted in over allocation of cross-over revenues to the DRR regardless of which revenue allocation methodology is applied. *See infra* at III-A-77 to III-A-78. NS's Reply Evidence illustrates these errors, and NS's workpapers systematically correct them. *See infra* at III-A-79 to III-A83. Second, DuPont erroneously applied the so-called "Modified ATC" revenue allocation approach that the Board created as an *ad hoc* method in a single individual case. *See infra* at III-A-78. That amended method was rejected and remanded to the Board by the United States Court of Appeals for the D.C. Circuit *before* DuPont filed this case, and the Board's decision attempting to resurrect that amended approach and re-apply it was issued *after* DuPont filed the final version of its opening evidence. The Board's decision seeking to re-apply the method previously rejected by the D.C. Circuit is again pending on appeal to that Court. *See BNSF v. STB,* D.C. Circuit No. 12-1327 (July 23, 2012) (appealing Decision, *WFA v. BNSF,* STB Docket No. 42088 (June 15, 2012)). Thus, at all times relevant to DuPont's filing of its evidence, the only properly adopted and judicially approved revenue allocation methodology was the original ATC method adopted in *Major Issues*. *See infra* at III-A-86 to III-A-90. Moreover, even if the modified cross-over revenue allocation rule the Board sought to apply in *Western Fuels* were substantively adequate and reasonable, the Board's independent failure to conduct notice-and-comment rulemaking to promulgate a substantive amendment to the ATC rule adopted in such a rulemaking would render that amendment invalid under the Administrative Procedure Act.[31] *See infra* at III-A-91 to III-A-115.

[31] *See e.g., Am. Mining Congress v. Mine Safety & Health Admin.*, 995 F.2d 1106, 1109 (D.C.

While the specific, full legal arguments demonstrating that the Board may not apply the new revenue allocation rule it announced in *Western Fuels* are somewhat involved and detailed, the general argument may be summarized relatively succinctly.[32] In an extensive notice-and-comment rulemaking proceeding, the Board adopted a substantive rule providing a method for allocating cross-over traffic revenues that fully and adequately accounted for both a carrier's relative average costs of providing service over on-SARR and off-SARR segments and economies of density. *See Major Issues*, STB Ex Parte No. 657 (Sub-No. 1), at 24-36. The Board's clear intention in proceeding by notice-and-comment rulemaking was to avoid continuing re-litigation of the issue of cross-over traffic revenue allocation in each individual rate case. *See Major Issues,* STB Ex Parte 657 (Sub-No. 1), at 3. The agency's attempt to apply a new rule in the individual *Western Fuels* case flouted the Board's own stated goal of resolving the revenue allocation methodology in a full rulemaking and not to continue to relitigate the issue in individual cases.

As a matter of law, once an agency like the Board adopts a substantive rule like ATC, the Administrative Procedure Act requires that any amendment or modification of that rule be considered and adopted only in a notice-and-comment rulemaking. *See, e.g.*, 5 U.S.C. § 551(5). In disregard of this statutory requirement, the Board attempted to amend the ATC revenue allocation rule in an individual rate case. *See WFA I*, STB Docket No. 42088, at 14. Tellingly,

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Cir. 1993); *Marseilles Land and Water Co. v. FERC,* 345 F.3d 916, 920 (D.C. Cir. 2003) (holding that "an administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a *de facto* amendment to its regulation through adjudication"); *Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 100 (1995) (an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must follow APA notice-and-comment procedures).

[32] A more detailed legal argument demonstrating that Modified ATC may not be applied in this case and that the only presently valid cross-over revenue allocation method is ATC is set forth in Section III-A. *See infra* at III-A-3-c-ii.

the Board referred to the new methodology it created and applied in that individual adjudication as "Modified ATC." Courts reviewing the question of whether an agency rule requires notice-and-comment rulemaking frequently admonish that any agency action that *modifies* or amends an existing substantive rule may be accomplished only through notice-and-comment rulemaking. *See, e.g., Air Transport Ass'n of America v. FAA,* 291 F.3d 49, 56 (D.C. Cir. 2002) ("'*Rulemaking*,' as defined in the APA, *includes* not only the agency's formulation, but also its *modification of a rule*") (emphasis added); *Paralyzed Veterans of America v. D.C. Arena,* 117 F.3d 579, 586 (D.C. Cir. 1997).

Here, there is no real question that the Board's *ad hoc* modification of the ATC rule in *Western Fuels* effected an amendment and substantive change to that rule. ATC allocated all cross-over revenues based upon average total cost of the movements and the carrier's "relative average [total] costs of providing service over the two segments." *Major Issues,* STB Ex Parte No. 657 (Sub-No. 1), at 31. The ATC rule used average total cost to properly allocate all cross-over revenues in a manner that properly accounts for "the defining characteristic of the railroad industry—economies of scale, scope, and density." *Id.* at 25. As the Board explained, allocating revenues based upon variable costs fails to take into account the critical role of economies of density. *See id.* The ATC rule also implemented the Board's primary goal in allowing the use of cross-over traffic—to "make the analysis more manageable without introducing bias." *Id.* at 24.

The amended "modified ATC" sought to materially change each of the above-described parameters of the ATC rule and methodology. *First,* the Board created an entirely new substantive element for cross-over revenue allocation: the amount of revenue allocated to the SARR segment of the movement must be greater than or equal to *the incumbent carrier's URCS variable costs. See Western Fuels I,* STB Docket No. 42088, at 14. Moreover, that new

substantive requirement was deemed so important that it must be satisfied *before*—and in some cases in lieu of—the ATC criteria. *See id.*[33] *Second,* instead of allocating *all* cross-over revenues in accordance with the relative average total costs of the on-SARR and off-SARR segments, the new method used ATC to allocate *only* those *revenues left over* after sufficient revenues had been allocated to the on-SARR segment to cover its variable costs. Under the new rule, the primary allocation of revenues had nothing to do with average total costs or with relative costs of the two segments, but instead allocated revenues based on URCS *variable costs* of the on-SARR segment only. *See id. Third,* the new rule's allocation of revenues to cover the URCS variable costs attributed to the on-SARR segment failed to take into account economies of density— "the defining characteristic of the railroad industry." *Compare Major Issues*, STB Ex Parte No. 657 (Sub-No. 1), at 25 *with WFA* I, STB Docket No. 42088, at 14. This was a major departure from the ATC rule, whose primary feature was that it allocated all cross-over revenues in a manner that accounted for economies of density. *See, e.g., BNSF et al v. STB,* 526 F.3d 770, 782-83. *Fourth,* the new rule "introduced bias" to the analysis by allocating to the SARR revenue sufficient to cover the variable costs of its segment regardless of the resulting under-allocation of revenue to the off-SARR segment and the fact that the complainant alone had chosen to include as cross-over traffic movements that generated revenue-to-URCS-variable-cost-ratios of 100 percent or less. The Board's new rule thus introduced bias to a method whose goal was to simplify the analysis without introducing bias.

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[33] This substantive requirement was so novel and outside the existing ATC rule that no party to the case contemplated it. The parties raised several other issues concerning the proper application of the ATC rule, but none sought a threshold requirement that the revenue allocation must first cover the variable costs of the movement over the segment the complainant chose to include as part of its SARR network. *See Western Fuels I,* at 12-13. The Board created this entirely new substantive requirement *sua sponte. Id.* at 14.

Because the Board's new cross-over revenue allocation rule and substantively modified the ATC rule adopted in the *Major Issues* rulemaking, that amendment could only be adopted in a notice-and-comment rulemaking. *See, e.g., American Mining Congress*, 995 F.2d at 1112 (reconciling cases and distilling four circumstances in which a rule is "legislative" or substantive, meaning that the APA requires notice-and-comment rulemaking for its adoption, including where "the rule effectively amends a prior legislative rule."). However, the Board created its new rule in an individual adjudication, *not* in a rulemaking. Courts have consistently held that an agency may not avoid notice-and-comment rulemaking requirements by adopting a *de facto* amendment to a substantive "legislative" rule in an individual adjudication. *See, e.g., Marseilles Land and Water Co. v. FERC,* 345 F.3d 916, 920 (D.C. Cir. 2003). Accordingly, the so-called "Modified ATC" rule is invalid because it violated the rulemaking requirement of the APA. Application of that invalid rule to this case would render any decision issued in this case invalid and subject to reversal.

The Board now recognizes that a substantive change to its cross-over revenue allocation rule should be undertaken in a rulemaking and not in the limited context of an individual rulemaking. In the *Western Fuel's* remand decision, the Board stated that it planned to commence a rulemaking to consider alternative cross-over revenue allocation rules. *See Western Fuels v. BNSF*, STB Docket No. 42088, Decision at 12 (June 13, 2012). Then, in July, the Board initiated a notice-and-comment rulemaking to consider, *inter alia*, a new cross-over traffic revenue allocation rule. *See Rate Regulation Reforms*, STB Ex Parte 715, at 7-8, 17-18 (served July 25, 2012). Plainly, the Board has now recognized that a notice-and-comment rulemaking is the necessary and appropriate way to change its ATC revenue allocation rule.

In sum, the only cross-over revenue allocation rule that lawfully may be applied to this case at the present time is "original" ATC. Unless and until the Board adopts a new or amended rule in a rulemaking proceeding, it must apply the original ATC revenue allocation rule to this case. Application of any method or approach that is substantively different from the ATC rule (such as the "Modified ATC" the Board applied in *Western Fuels*), without first conducting a rulemaking proceeding and promulgating a new rule, would be unlawful.

At all times relevant to this proceeding, the only lawful cross-over revenue allocation method was the ATC method adopted in *Major Issues.* Accordingly, application of the ATC methodology in this case would not be unfair and would violate no reasonable reliance or expectation of DuPont. *Cf. Rate Regulation Reforms,* STB Ex Parte 715, at 17, n.11 (expressing concern that applying proposed new limits on use of cross-over traffic to pending cases may be unfair to litigants who relied on existing limits on such traffic).[34] Application of the ATC rule to this case is both proper and fair.

DuPont filed this case well *after* the D.C. Circuit had rejected that approach on appeal and remanded it to the Board, and there can be no question that DuPont knew of the decision rejecting Amended ATC when it filed this case. After the Board attempted to amend the ATC

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[34] It is doubtful that the Board will apply to any future cases the *ad hoc* revenue allocation approach it applied in *Western Fuels*. The Board adopted the "Average Total Cost" revenue allocation methodology in an extensive notice-and-comment rulemaking. *See generally, Major Issues*, STB Ex Parte No. 657 (Sub-No. 1). A number of shippers and rail carriers sought judicial review of the rules adopted in *Major Issues.* The Court of Appeals for the District of Columbia Circuit denied the petitions for review and upheld those final rules—including the ATC revenue allocation rule—in their entirety. *See BNSF Railway Co. v. STB*, 526 F.3d 770 (D.C. Cir. 2008). Today, the ATC methodology remains the only cross-over traffic revenue allocation methodology properly adopted in notice-and-comment rulemaking and judicially affirmed. And, the Board is now in the middle of an appropriate rulemaking to consider alternative revenue-allocation approaches. *See Rate Regulation Reforms,* STB Ex Parte 715 (July 25, 2012). Thus, either ATC or a new methodology adopted in Ex Parte 715 will likely apply in future rate case decisions.

rule in an individual adjudication (*see Western Fuels I*, STB Docket No. 42088, at 14 *Western Fuels II*, STB Docket No. 42088, at 12-13), defendant BNSF sought judicial review of the Board's decision. The D.C. Circuit granted BNSF's petition for review with respect to the Board's amendment of its ATC rule, rejecting the new methodology and remanding the case to the Board. *See BNSF Railway Co. v. Surface Transp. Board*, 604 F.3d 602, 613 (D.C. Cir. 2010). Where a new agency rule (including a modified or amended rule) is rejected and remanded on judicial review, the effect is to "*reinstat[e] the rules previously in force.*" *Action on Smoking and Health v. C.A.B.,* 713 F.2d 795, 797 (D.C. Cir. 1983) (emphasis added); *see Georgetown University Hosp. v. Bowen,* 821 F.2d 750, 757 (D.C. Cir. 1987) (same). Thus, after the D.C. Circuit remanded the Board's Amended ATC methodology in May 2010, the ATC rule was reinstated as the only lawful cross-over traffic revenue allocation rule.

Five months later, DuPont filed the present rate case against Norfolk Southern. *See* Complaint, *DuPont v. NS*, STB Docket No. 42125 (Oct. 7, 2010). At that point, *Western Fuels* was still pending on remand, and ATC was necessarily the governing cross-over traffic revenue allocation rule. DuPont conducted all discovery and developed and filed its opening evidence and case-in-chief well *before* the Board issued its remand decision seeking to justify and explain Amended ATC and re-apply it to the *Western Fuels* case. *See WFA v. BNSF Railway*, STB Docket No. 42088 (served June 15, 2012).[35]

Thus, at all times relevant to DuPont's development of its case—including its pre-complaint investigation; its filing of the Complaint; during extensive discovery; at the time of its

[35] After extensive discovery, and after DuPont sought and obtained two substantial extensions of the procedural schedule, DuPont filed its opening evidence on April 30, 2012. It was not until mid-June 2012—six weeks *after* DuPont filed its Opening Evidence, and well over two years after the D.C. Circuit had remanded the *Western Fuels* decision to the Board—that the Board issued a remand decision attempting to justify Amended ATC and its application in *Western Fuels. See WFA v. BNSF Rwy.,* STB Docket No. 42088 (served June 15, 2012).

selection of its SARR traffic group and design of the DRR to include large volumes of cross-over traffic; when it selected interchange points between the DRR and the residual NS; and at the time it prepared and filed its opening evidence and case-in-chief;—DuPont *could not have* reasonably *relied* on Amended ATC being an applicable, valid method of allocating cross-over traffic revenue. In light of this clear history and law, DuPont should not be heard to claim it would be unduly prejudiced by the application of the ATC rule to allocate cross-over traffic revenues. To the contrary, it would be NS that would be unfairly and unlawfully prejudiced if the Board were to apply Amended ATC, which the Board created *suq sponte* in an individual adjudication in which NS had no opportunity to participate and which was rejected on judicial review.

Moreover, when the Board proposed to revise its cross-over revenue allocation rule in the *Rate Regulation Reforms* rulemaking, NS recognized, based on the *Major Issues* rulemaking, that the Board might find it appropriate to allow the parties to submit new evidence based upon any new revenue allocation rule it might adopt in the pending rulemaking. Accordingly, to avoid duplicative effort and potential waste of the parties' resources, NS proposed that the Board hold this case in abeyance during the pendency of the rulemaking. *See* NS Motion to Hold Case in Abeyance Pending Completion of Rulemaking (Aug. 6, 2012). DuPont strongly opposed that motion. *See* Reply of DuPont to NS Motion to Hold Case in Abeyance Pending Completion of Rulemaking at 2, 4-5 (Aug. 27, 2012).

DuPont gambled by applying rules that the D.C. Circuit had already rejected when it filed the case, and which were undeniably invalid at the time it filed its case-in-chief. Moreover, DuPont's refusal to agree to suspension of this case while the Board develops new rules means the only lawful revenue allocation rule available is ATC. In opposing NS's Motion, DuPont also asserted that the application of one cross-over revenue allocation method or another was

immaterial to this case and its outcome. s*ee Id.* at 30.[36] Having taken that position in this very case, DuPont cannot now claim that application of ATC—the only valid revenue allocation methodology extant at the time it developed and filed its evidence—would cause it undue material prejudice.[37]

B. Stand Alone Railroad System

DuPont posits a stand alone railroad totaling 8,095.8 miles, including 7,276.94 miles of DRR owned and constructed track and 818.89 miles of track over which the DRR will operate under trackage rights and joint facilities agreements. The DRR system includes 23 main line segments and 36 branch lines, traversing 20 states. The DRR is the largest SARR ever posited in a rate case and it replicates most of the current NS system, extending from Chicago, IL, Detroit, MI, and Buffalo, NY, in the north to New Orleans, LA, and Mobile, AL, in the south, and from Oak Island, NJ, and Baltimore, MD, in the east to Memphis, TN, and Kansas City, MO, in the west.

Although DuPont proposes to route certain traffic differently than NS does today, NS accepts the general scope and configuration of the DRR posited by DuPont. However, DuPont's configuration is flawed in numerous ways. First, the DuPont "Leapfrog Traffic" proposal discussed *supra* at I-26 to I-27 violates SAC principles and the Board's prior pronouncements

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[36] NS disagrees with DuPont's position that application of a different revenue allocation rule would have no material effect on this case, but because DuPont has taken that position, it is estopped from taking the opposite position at this juncture.

[37] The Board has proposed a new cross-over traffic revenue allocation methodology in a pending rulemaking. *See Rate Regulation Reforms*, STB Ex Parte No. 715, at 17-18 (July 27, 2012). Because the Board may determine it is appropriate to apply that methodology, NS has developed revenue allocations applying that method as well. *See* NS Reply WP "DRR_2010_TRAFFIC _ATC_OPENING_v1_041412 Reply.xlsx." And, NS has also provided revenue allocation calculations using the so-called "Modified ATC" approach that could be applied in the unlikely event that the Board were to apply that invalid and discredited approach in this case. *See id.*

regarding the proper use of cross-over traffic, and should be rejected. *See* NS Reply III-C-102 to III-C-116.

Second, DuPont failed to include certain main line tracks that are partially-owned by NS, including the Conrail Shared Asset Areas, the Indiana Harbor Belt Railroad, the Belt Railway Company of Chicago, and the Terminal Railroad Association of St. Louis. DuPont's Opening Evidence fails to account for the cost of building those main line segments. *See* NS Reply III-B-3; III-F-298 to III-F-316. Board precedent allows DRR to step into NS's shoes, but not put itself in a better position. *AEPCO 2005*, STB Docket No. 42058, at 11 (rejecting trackage rights where the "tenant carrier's fee does not reflect the full cost of ownership"). Accordingly, NS's Reply Evidence allocates to the DRR a percentage of the costs of building those main line segments—all of which the DRR would need to serve its selected traffic, including the issue traffic—based on NS's ownership stake in those facilities. Third, NS's proposed DRR configuration also includes NS's existing main line segment between Ashland Avenue Yard and Ogden Junction in Chicago, IL. As NS demonstrates in Section III-C, the DRR would need to construct that line in order to interchange traffic with UP and BNSF in the Chicago area in a manner consistent with the operating practices of those railroads. *See* NS Reply III-C-143 to III-C-148.

DuPont assumes that the DRR would require a total of 11,390.91 miles of main line, interchange, helper pocket setouts, and yard tracks. *See* DuPont Opening III-B-5, Table III-B-2. As NS demonstrates in Section III-C, the track capacity and configuration posited by DuPont are based upon a fatally deficient operating plan and RTC simulation from which the outputs are meaningless. An operating plan for a carload network must account for each carload being picked up at its specific origin, its movement through the network where the car is classified in

various yards, and dropped off at its specific destination. However, the most glaring deficiency in DuPont's RTC simulation is its failure to include 1,191 "peak period" trains—or 19% of the trains that the DRR would operate during the peak period. *See* NS Reply III-C-117 to III-C-152. In addition, DuPont's yard service plan ignored entirely the need to classify and switch the nearly 3 million cars of general freight carload traffic that DuPont selected for the DRR. *See* NS Reply III-C-36 to III-C-44. Similarly, DuPont's track configuration does not include tracks that would be required to implement DuPont's new proposed interchange of traffic with the residual NS at branch line junctions that DuPont elected not to build, but along which DRR customer facilities exist. *See* NS Reply III-B-4. The result of those evidentiary failures was a massive understatement of the main line and secondary tracks, interchange tracks, and yard tracks required to support the DRR's train operations.

NS's Reply Evidence provides the additional main line, secondary track, interchange tracks, and yard tracks that the DRR would need to serve its selected traffic group. At the same time, NS eliminates waste and inefficiency in DuPont's spreadsheet-based operating plan by eliminating 45 small yards posited by DuPont, and instead building "industrial support tracks" at locations where such lesser facilities would be sufficient to support the DRR's operations.

With the additions and modifications posited by NS, the DRR would have a total of 12,904.92 miles of track, consisting of 7,293.78 miles of main line track, 3,345.59 miles of second main line track, 249.11 miles of interchange track, 203.84 miles of set out track, 1,538.16 miles of yard track, and 191.2 miles of customer access track.

Figure I-2 compares the track miles to be constructed and owned by the DRR based upon DuPont's Opening Evidence and the revised number of track miles resulting from NS's correction of the errors and omissions in DuPont's evidence.

Figure I-2
DRR Constructed Track Miles

Track Category	DuPont	NS	Difference
Main line track – Single first main track	7,276.94	7,293.78	16.84
- Second and other main line track[1/]	3,185.41	3,345.59	160.18
Total main line track	10,462.35	10,639.37	83.22
Helper pocket and setout tracks	75.46	203.84	128.38
Yard tracks (including interchange tracks)[2/]	853.1	1,787.28	934.18
Customer Access Tracks	0	191.21	191.21
Total track miles	**11,390.91**	**12,904.92**	**1,514.01**

[1/] Equals total miles for constructed second main tracks and passing sidings.
[2/] Includes all tracks in yards, such as locomotive inspection tracks and MOW equipment storage tracks.

While NS largely accepts DuPont's posited specifications for its main lines, branch lines, sidings, and other track, NS also includes industry sidings and spur tracks at customer locations served by the DRR that are required for the DRR to provide service comparable to that provided by NS in the real world. *See* NS Reply III-B-13 to III-B-14. Stick diagrams depicting all of the track included in NS's proposed DRR configuration are set forth in NS Reply Exhibit III-B-1.

NS's configuration also addresses DuPont's failure to include appropriate yards and facilities necessary to provide complete service to its customers. The location, sizing, and configuration of the DRR yards posited by DuPont were based entirely upon a series of unsupported mathematical calculations that are untethered to the workload that the DRR actually would have to perform at each facility. *See FMC*, 4 S.T.B. at 737 nn.88 & 89 (discussing similar problems with operating plan predicated on "arithmetic calculations" and rejecting plan). In particular, the configuration of DuPont's yards is totally insufficient to account for the

classification and blocking required to handle the 3 million "carload" shipments that it selected for the DRR's traffic group. In particular, DuPont's yard configuration fails to provide any hump yards—which are essential for efficient classification of large amounts of carload traffic—and virtually all of its major yards and other yards are woefully undersized to support the DRR's train operations. *See* NS Reply III-B-14 to III-B-15.

In addition, DuPont failed to provide any intermodal or transload facilities necessary to provide complete service to its customers. *See CP&L,* 7 S.T.B. at 256 (rejecting complainant's evidence in part for failure to account for all facilities such as staging and gathering yards needed to serve origins). Intermodal traffic constitutes 47% of all of DuPont's selected traffic, yet DuPont's SARR configuration did not include any intermodal terminals. Further, DuPont's selected traffic group includes commodities that move through the 14 "Thoroughbred Bulk Terminal" facilities that NS operates in the territory replicated by the DRR, yet DuPont did not construct a single one of those facilities. Similarly, DuPont failed to properly equip its automotive facilities to handle automotive traffic in a manner consistent with customer requirements. *See* NS Reply III-B-16 to III-B-17. NS's configuration of the DRR accounts for all of these facilities, which are required to handle the traffic selected by DuPont for the DRR's traffic group.

At a minimum, DuPont would be required to build the following facilities in order to provide complete service to its customers:

Figure I-3
DRR Facilities

Hump Yards	8
Large Flat Yards	5
Medium Flat Yards	13
Small Flat Yards	45
Industrial Support Tracks	70
Intermodal Facilities	30
Automotive Facilities	8
Transload Facilities	14

[1] Source: NS Reply WPs "DRR Yard List Reply.xls;" "DRR Facilities List Reply.xls."

NS's configuration of the DRR includes a Centralized Traffic Control ("CTC") system, reflecting the technology available for the beginning of DRR operations in 2009. *See* NS Reply III-B-18; III-F-220 to III-F-226. The CTC system must be overlaid by a Positive Train Control ("PTC") system in 2015. Unlike DuPont's Failed Equipment Detectors ("FEDs"), which are placed at 30-mile increments, NS's configuration spaces FEDs according to the configuration of the current NS—approximately every 15 miles—reflecting the safety standards expected of a Class I railroad in the real world. *See* NS Reply III-B-19.

NS conducted a simulation of the DRR's peak year operations utilizing the Rail Traffic Controller ("RTC") Model, based upon the physical infrastructure provided for in Section III-B. The specific inputs to the RTC Model used by NS, and the results of that simulation, are discussed in Section III-C. NS's RTC simulation demonstrates that the track capacity and configuration posited by NS are both necessary and adequate to provide the services required to meet the needs of the DRR's customers and that the track capacity and configuration posited by DuPont are not.

C. Operating Plan

The burden of presenting a "feasible" operating plan is the complainant's. *See CP&L*, 7 S.T.B. at 259 ("[complainant] carries the burden of demonstrating that its operating plan would meet the needs of the traffic group selected"). As discussed above, the Board's SAC decisions articulate several well-established requirements a complainant must meet to provide a "feasible" operating plan. *See e.g., CP&L*, 7 S.T.B. at 259. A complainant must "design[] a SARR specifically tailored to serve an identified traffic group" selected for its SARR. *AEPCO 2011*, S.T.B. Docket No. 42113, at 4. "Based on the traffic group to be served, the level of services to be provided, and the terrain to be traversed, a detailed operating plan must be developed for the SARR." *Id.* (emphasis added). A complainant need not replicate precisely the operations of the incumbent railroad, but it must demonstrate that the operating plan it proposes is "capable of providing the service required by the SARR's customers." *Duke/NS*, 7 S.T.B. at 99. Moreover, "the assumptions used in the SAC analysis, including the operating plan, must be realistic, *i.e.*, consistent with the underlying realities of real-world railroading." *WFA I*, STB Docket No. 42088, at 15. While a SARR may choose to "step into the shoes" of the incumbent carrier under existing trackage rights, joint facility, interchange, run-through power, and other intercarrier agreements, a complainant may not assume that the SARR would enjoy more favorable terms than the incumbent carrier under those agreements. *See AEPCO 2002*, 6 S.T.B. at 328. Nor may a complainant "hypothesize" that the SARR could secure rights or agreements that are not available to the defendant carrier. *Id.* Finally, the Board has made clear that "[t]he parties must provide appropriate documentation to support their [operating plan and expense] estimates." *See Rate Regulation Reforms*, STB Ex Parte 715, at 6; *AEPCO 2011*, STB Docket No. 42113, at 4-5. The operating plan set forth in DuPont's Opening Evidence fails to satisfy these fundamental requirements and should be rejected in its entirety.

The SARR posited by DuPont is unprecedented, both in geographic scope and with respect to the volume and mix of traffic that it proposes to transport. The SARRs presented in prior SAC cases have, for the most part, handled a relatively limited mix of traffic over regional rail networks, primarily in unit train service. By contrast, DuPont posits that the DRR would handle nearly 10 million rail shipments annually—including approximately 3 million carloads of general freight traffic (encompassing a wide variety of commodities), 1.6 million carloads of coal, and more than 5 million intermodal units—over an 8,100-mile rail network.

DuPont's operating plan for this unprecedentedly large SARR is riddled with deficiencies that render it utterly infeasible and without merit. The most glaring deficiencies in DuPont's Operating Plan include the following:

First, the methodology that DuPont used to develop its train service plan for the DRR failed to capture tens of thousands of NS trains in which DuPont's selected traffic moved during the Base Year. As a result, DuPont's Operating Plan fails to provide complete on-SARR train service for 725,661 cars of selected traffic—including 76% of DuPont's own "issue" traffic. *See* NS Reply III-C-10 to III-C-22; *FMC*, 4 S.T.B. at 736-38 (rejecting complainant's operating plan in part for understating the number of trains). In developing its traffic and revenue evidence, DuPont performed a multi-step analysis using the data sources provided by NS in discovery. That process involved, among other things, identifying waybill information for cars that DuPont considered for selection as part of the DRR's traffic group, linking that waybill information to NS's car event data (to determine where and how those cars moved on the DRR network), and identifying the NS trains associated with those car events. During that process, DuPont developed a highly detailed database that linked each NS waybill with the NS trains and car events that defined the movement of each car over the DRR system. While DuPont relied upon

this database (which NS refers to as the "DuPont Car/Train Database"[38]) for purposes of traffic and revenue evidence, in the process of developing the final DRR train list for purposes of the Operating Plan, DuPont eliminated 61,610 trains that are clearly visible in that DuPont Car/Train Database. The failure to capture these tens of thousands of trains is an overriding flaw that undermines all of DuPont's operating evidence. *See* NS Reply III-C-10 to III-C-22.

Second, DuPont's train service plan contains major "gaps" in on-SARR train service for 725,661 cars of selected traffic that DuPont rerouted from their actual route of movement over NS. For example, DuPont rerouted general freight and coal traffic that NS handles via Chillicothe, OH, and Kenova, WV, (on NS's Heartland Corridor) to an alternate route via Dickinson, WV, and Elmore, WV. An "automated" search of NS's historical train event file — which is how DuPont "designed" the DRR's train service—obviously would not identify any train to handle this traffic via Dickinson, WV, and Elmore, WV, because NS did not actually move the traffic over that segment during the Base Year. Thus, DuPont did not model a train to handle any of the traffic between those two locations. That failure, by definition, makes it impossible for the DRR to provide service for rerouted traffic that is equal to or better than NS service. *See* NS Reply III-C-3; *TMPA II*, 7 S.T.B. at 591 (any reroute must "meet the shipper's transportation needs").

Third, the traffic group selected by DuPont includes approximately 3 million carloads of general freight traffic. DuPont Opening III-C- 3, Table III-C-1. DuPont's Opening Evidence contains no classification or "blocking" plan for handling that massive volume of carload traffic through the DRR network. Instead, DuPont's Operating Plan and RTC simulation assume (contrary to reality) that merchandise traffic would move in trainload service similar to unit train

[38] *See* NS Reply WP "DuPont Car/Train Database."

coal and intermodal shipments. DuPont's failure to account for all of the necessary elements of carload service renders its Operating Plan for general freight traffic infeasible, and its operating expense estimates invalid. *See* NS Reply III-C-52 to III-C-68.

In comparison, NS's Operating Plan is specifically tailored to address the requirements of the carload freight that DuPont actually selected. Starting with DuPont's selected DRR traffic file, NS built a plan for that traffic "from the ground up" rather than relying (as DuPont did) upon historical train movement data as a surrogate for the DRR's operations. NS's Operating Plan is designed to accommodate the volume of carload traffic that the DRR would handle in the peak year (June 1, 2018 to May 31, 2019). In developing the DRR's carload blocking and train service plan, NS utilized a program called "MultiRail." MultiRail is a commercially available modeling tool that integrates information regarding a railroad's traffic, network configuration, and train service design to generate blocking plans and train schedules that are optimized to serve an identified traffic group. The MultiRail program facilitated the task of analyzing and determining the specific services required by the nearly 3 million carloads of general freight traffic that DuPont selected for the DRR.[39] NS's analysis produced a comprehensive operating plan that meets the needs of the DRR's customers.

Fourth, the DRR's peak year traffic group includes 632,591 carloads of general freight traffic that is local to, or interline forwarded or received by, the DRR. DuPont Opening III-C- 3, Table III-C-1. However, the DRR track configuration posited by DuPont does not include the

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[39] MultiRail was developed by Oliver Wyman, and is commercially available. *See* MultiRail Software Products, *available at* http://rail.railplanning.com/multi-rail/; NS Reply WP "MultiRail Freight Edition.doc." MultiRail has been used by parties to create blocking plans and train schedules in a number of prior STB proceedings. *See, e.g.*, CSXT Reply, *Seminole*, STB Docket No. 42110 (Jan. 19, 2010) (MultiRail used in CSXT Reply Evidence); *Canadian Nat'l Ry. Co. et al.—Control—Illinois Cent. Corp. et al.*, 4 S.T.B. 122 (1999). NS has arranged with Oliver Wyman for both DuPont and the Board to be permitted limited access to MultiRail for purposes of this case.

spur tracks or industry tracks required to perform pick-ups or set-offs at the over 6,000 customer facilities that the DRR would be required to serve. *See CP&L*, 7 S.T.B. at 256 (rejecting complainant's operating plan in part for failure to account for all elements of service to origins). In other words, it is physically impossible for the DRR (as constructed by DuPont) to pick up or set off cars at customer facilities. *See* NS Reply III-C-67. NS accounts for the spur tracks and industry tracks that the DRR would need. *Id.*

Fifth, the DRR's selected traffic group contains 5.2 million units of intermodal traffic. DuPont's Operating Plan asserts that "[t]he DRR serves . . . . intermodal ramps." DuPont Opening III-C-3. Yet, DuPont did not construct a single intermodal facility anywhere along the DRR's 7,300-mile proprietary rail system. *See CP&L*, 7 S.T.B. at 256 (rejecting complainant's operating plan in part for failure to account for all elements of service to origins). NS addresses this glaring deficiency in DuPont's evidence by including in its DRR configuration the 31 intermodal facilities that the DRR would need to meet the needs of its customers. *See* NS Reply III-C-172 to III-C-174.

Sixth, the DRR yard configurations, yard locomotive fleet, and yard crew staffing posited by DuPont are based upon nothing more than mathematical calculations that are unsupported by credible evidence and utterly divorced from the requirements of the traffic group that DuPont selected for the DRR. *See FMC*, 4 S.T.B. at 737 nn.88 & 89 (discussing similar problems with operating plan predicated on "arithmetic calculations" and rejecting plan). Nowhere in its Opening Evidence or workpapers does DuPont identify—much less account for—the number of general freight cars that the DRR would have to classify and switch at intermediate yards every day. The result is an operating plan that undersizes almost every "major" and "medium" yard on the DRR network, and (conversely) calls for numerous smaller yards at locations where a yard is

not needed to serve the DRR's traffic. *See* NS Reply III-C-36 to III-C-44. The most serious deficiency in DuPont's yard service plan is its failure to provide a single "hump" yard anywhere on the DRR network. "Hump" yards enable a railroad to process large volumes of railcars far more efficiently than is possible at a "flat switching" yard. The absence of a hump yard anywhere along the DRR's 7,300-mile proprietary network is a fatal deficiency that renders DuPont's Operating Plan for carload traffic infeasible. *See infra* at III-B-14.

In comparison, NS conducted a detailed analysis of the track capacity and configuration requirements at each individual DRR yard location. Based upon the volume of cars classified per day, NS determined the size of yard necessary. NS's Operating Plan contemplates 71 yards, including 8 hump yards at locations where hump yards currently exist on the NS system, 5 large yards, 13 medium yards, and 45 small yards. In addition, NS's Operating Plan accordingly includes "industrial support" tracks at 70 locations, which are used to pick up and set off small numbers of cars. Each of the yards posited by NS is optimally configured to address the track capacity required at each location, based upon the number of cars that would be present in a yard during the "peak" hour of each day and the time that those cars would dwell in the yard. In some cases, this analysis even results in yards that were smaller than those proposed by DuPont. NS allocated the required track capacity among the classification, arrival, and departure tracks based upon a more detailed analysis of the number and size of the blocks of cars that would need to be accommodated at each facility. The result of this detailed analysis is a network of yards that is optimized to handle the specific traffic group selected by DuPont for the DRR. *See* NS Reply at III-C-170 to III-C-182.

Seventh, the DRR does not have any car repair personnel or facilities. DuPont assumes that, because the DRR would acquire cars under full-service leases, its car fleet would be

maintained by the lessor, making proprietary facilities and personnel unnecessary. *See* DuPont Opening III-D-8. This assumption makes it physically impossible for the DRR to perform running repairs to foreign line cars, as required by both the AAR Car Interchange Rules and the terms of NS's intercarrier agreements (which the DRR purports to adopt). *See* NS Reply III-C-91 to III-C-95.

Eighth, the traffic group selected by DuPont includes 16,156 Base Year carloads of Toxic-by-Inhalation ("TIH") commodities, including some issue traffic as well as other hazardous shipments. Yet, nowhere in its Opening Evidence or workpapers does DuPont mention—much less account for—compliance with the myriad safety laws, regulations, and best practices that apply to the transportation of hazardous commodities. *See* NS Reply III-C-91 to III-C-101. DuPont's Operating Plan provides no mechanism for tracking the movement and location of individual TIH cars, as required by federal law and industry best practices. Because DuPont posits a trainload—as opposed to a carload—system, it has no way of knowing which cars are on which trains at any given time—much less where those cars are located on a particular train. DuPont violates federal regulations by operating "Key Trains"—that is, trains carrying certain quantities of TIH materials—at 60 MPH. NS's RTC model runs these trains at 35 MPH, in compliance with federal regulations and industry best practices. In addition, DuPont has not provided the personnel required to comply with the rules and best practices associated with the movement of TIH commodities, such as a Rail Security Coordinator as required by federal regulation.

DuPont's failure to submit an operating plan that incorporates the resources, processes, and personnel that all railroads must devote to handing TIH commodities safely is particularly glaring, given DuPont's "real world" role as an industry leader that demands both safe handling

of its hazardous material shipments and full compliance with government rules and regulations by rail carriers that serve it. DuPont cannot credibly profess ignorance of those rules and best practices, which are part of the fabric of DuPont's everyday operations. DuPont has vast experience in manufacturing and shipping hazardous substances, and touts its strong institutional commitment to safety.[40] Given DuPont's focus on safety in its own handling of TIH and hazardous commodities, and its real world insistence that rail carriers do likewise, the failure of DuPont's Operating Plan and RTC simulation to address the unique requirements of hazardous commodities transportation is stunning.

NS's Operating Plan corrects these deficiencies and provides for the handling of the DRR's hazardous shipments in a manner that complies with all applicable federal regulations and industry best practices.

Ninth, DuPont asserts that the DRR's interline relationships with connecting carriers "are based on NS's joint use and interchange agreements with such carriers; the DRR steps into NS's shoes under these agreements." DuPont Opening III-C- 4-5. Yet, DuPont's Operating Plan is replete with assumptions that violate the terms of NS's intercarrier agreements. DuPont assumes that the DRR would enjoy the benefit of those agreements (including pre-blocking of cars prior to interchange, and fueling and inspection of locomotives) without any obligation to provide "reciprocal" services to connecting carriers. DuPont also posits future agreements—including arrangements that would require that all trains be interchanged as run-through trains with locomotives in a 1/1 DP configuration—that not only do not exist today, but are fundamentally

[40] Indeed, DuPont's website lists "Safety and Health" as its first core value, noting that "[w]e adhere to the highest standards to ensure the safety and health of our employees, our customers and the people of the communities in which we operate." *See* DuPont, Our Core Values, *available at* http://www2.dupont.com/corp/en-us/our-company/core-values.html (last accessed 9/14/2012).

inconsistent with prevailing operating practices in the territory the DRR proposes to serve. *See* NS Reply III-C-77 to III-C-82.

SAC precedent permits a SARR to "step into the shoes" of the defendant railroad, as DuPont proposes. However, in doing so, complainant must "assume that the SARR would have the benefit of the same opportunities under the same terms" as the incumbent carrier. *See AEPCO 2002*, 6 S.T.B. at 328 (emphasis added). In other words, while a complainant may adopt the incumbent carrier's existing trackage rights and joint facility agreements, interchange arrangements, and run-through and power sharing agreements as part of its SARR Operating Plan, it may not assume that the SARR would enjoy more favorable terms than the incumbent carrier under those agreements. *See id.* at 328-29; *see also CP&L*, 7 S.T.B. at 255 (noting that operating plan cannot change service without evidence the "connecting carriers . . . would not object" (citing *West Texas*, 1 S.T.B. at 667)).

DuPont's Operating Plan is replete with assumptions that violate these basic tenets of the stand-alone test. While the DRR purports to "step into NS's shoes" under NS's intercarrier arrangements, the relationships between the DRR and connecting railroads portrayed in DuPont's Operating Plan are patently inconsistent with the terms of NS's existing agreements. DuPont also posits the existence of intercarrier arrangements that not only do not exist today, but are inconsistent with real world operating practices in the territory that the DRR would serve.

DuPont's Operating Plan assumes that the DRR would enjoy the benefits available to NS under its existing intercarrier agreements, but makes no provision for the DRR to take on reciprocal obligations for the benefit of the other parties to those arrangements. More importantly, DuPont makes a variety of operating assumptions that contradict the unequivocal language of the NS agreements that it purports to adopt, and posits intercarrier arrangements

between the DRR and connecting railroads of a type that do not exist today. As a result, DuPont fails to account for the full stand-alone costs of serving the DRR's selected traffic. *See Coal Rate Guidelines*, 1 I.C.C. 2d 520, 542-43 (1985). DuPont's failure to take into account the "reciprocal" nature of interline rail operations results in a substantial understatement of the costs (in time and resources) required to serve the DRR's selected traffic group.

Tenth, DuPont's RTC simulation—upon which DuPont explicitly relies to "confirm that the DRR's configuration, facilities and operating plan are feasible" (DuPont Opening III-C-17)—is based upon DuPont's fatally flawed Operating Plan. DuPont's Model does not even attempt to measure the capacity requirements for 1,191 "peak period" trains that the DRR would have to operate in order to provide complete train service to customers— including DuPont itself. For that reason alone, any conclusions drawn from DuPont's RTC simulation regarding the adequacy of the DRR's physical plant, locomotive and car fleets, and personnel are meaningless.

In addition to this fatal error, the RTC Model constructed by DuPont contains numerous modeling errors, including incorrect grade information; failure to account for delays caused by random failures and maintenance windows; failure to account for the time required for foreign trains to cross the DRR's lines; and failure to model train movements completely and accurately (thereby vastly understating the time and resources required to perform pick-ups and set-offs at customer facilities).[41] Those glaring errors, and DuPont's reliance upon an infeasible operating plan in developing its RTC simulation, result in an RTC simulation that is utterly inconsistent

[41] *See e.g. AEPCO 2011*, STB Docket No. 42113, at 30 (rejecting complainants operating plan in part for failure to properly account for random outages); *id.* at 28 (rejecting complainants operating plan in part for failure to account for program maintenance); *Xcel*, 7 S.T.B. at 611-12 (rejecting complainants operating plan in part for flawed grades and curves).

with the realities of real world railroading, and its outputs are not supported by credible evidence. Accordingly, the Board should disregard them. *See* NS Reply III-C-117 to III-C-152.

By contrast, NS conducted an RTC simulation of the DRR's peak operations based upon an operating plan that accounts for all of the road and local train services that the DRR would have to provide; incorporates a detailed car classification and blocking plan that tracks the transfer of general freight cars between trains as they move along the DRR network; a local train service plan based on realistic estimates of the time required to serve customer facilities; and a physical plant (including main line and secondary track, yards, and intermodal, automotive, and transload facilities) that are optimally sized to accommodate the DRR's operations. Unlike DuPont's "automated" operating evidence, NS's Operating Plan and RTC simulation are supported by thorough, location-specific analyses of the DRR's operating requirements. NS's operating and RTC evidence are well-documented, and are fully consistent with applicable laws, real world operating practices, and the requirements of the DRR's customers. Based upon that evidence, NS presents accurate estimates of the time, facilities, locomotives and cars, and crews and support personnel that a least cost, most efficient railroad would need to serve DuPont's selected traffic group. *See* NS Reply at III-C-227 to III-C-240.

Finally, DuPont's failure to account for the activities, facilities, equipment, and time required to serve the DRR's general freight traffic cannot be attributed— as DuPont seeks to do —to any deficiencies in the data produced by NS in response to DuPont's discovery requests. Rather, as NS demonstrates, the fatal deficiencies in DuPont's Operating Plan are the direct result of methodological choices that DuPont made in utilizing various "shortcuts" to develop its operating evidence. *See* NS Reply Ex. III-C-7.

In sum, DuPont's operating evidence is based on flawed methodologies, fails to address essential elements of an operating plan for carload traffic, and contains other glaring errors. Any one of these deficiencies renders DuPont's Operating Plan "infeasible"—collectively, they constitute a failure to present a *prima facie* case and warrant dismissal of DuPont's complaint.

D. Operating Expenses

DuPont's posited locomotive, railcar, and operating personnel expenses are derived from an operating plan and RTC simulation that are fatally flawed. As explained in Section III-C, DuPont's Operating Plan and RTC simulation failed to capture tens of thousands of trains necessary to transport DuPont's selected traffic group and had many other flaws such as incorrect grades. As such, its operating plan and the outputs of the RTC simulation upon which it relies for some of its operating expenses are wholly inadequate and understated, with the result that the locomotive, railcars, and operating personnel proposed by DuPont are entirely insufficient. *See infra* at III-D-4 to III-D-40. In addition to failing to craft a feasible operating plan, DuPont did not adequately account for the unprecedented size and scope of its SARR and the complexities of operating a carload network in proposing its operating personnel. *See infra* at III-D-34 to III-D-40. NS corrects those errors in Sections III-D-1, III-D-2, and III-D-3, matching operating expenses to a feasible operating plan.

In addition, DuPont substantially understates the general and administrative ("G&A") costs that the DRR actually would incur to serve DuPont's selected traffic group. *See infra* at III-D-47 to III-D-194. DuPont claims that the DRR would spend less than one percent of its revenue on G&A—despite the fact that the average Class I railroad spends over 8% of revenues on G&A and no Class I railroad spends less than 4.5% of revenues on G&A. *See* NS Reply Ex. III-D-47 to III-D-48. DuPont thus assumes that the DRR would be *eight times* as efficient as

the average Class I railroad—that is, that the DRR could function effectively with one-eighth the G&A spending that a real-world railroad would need to perform the same functions.

In fact, in past SAC cases, the Board has accepted SARR G&A spending ranging between 2.5% and 5% of SARR revenues; the average percentage from the last eight decided cases is just over 3%. But as Table I-2 illustrates, DuPont claims that the DRR's G&A expenses would be a third of the level the Board has accepted in recent cases— even though the size, diversity of traffic, and complexity of the DRR suggests that its level of G&A spending should be higher than that of previous, simpler SARRs:

Table I-2
Comparison of DuPont G&A Spending to Board-Approved G&A Spending In Past Cases[42]

Case	G&A Spending (in millions)	Revenue (in millions)	G&A Spending as Percentage of Revenue
Duke/NS	$13.0	$487.1	2.7%
CP&L	$13.0	$453.7	2.9%
Duke/CSXT	$12.6	$496.8	2.5%
Xcel	$10.4	$341.5	3.0%
Otter Tail	$13.3	$581.7	2.3%
AEP Texas	$12.5	$384.2	3.3%
WFA	$11.0	$218.4	5.0%
AEPCO	$58.3	$2,075.8	2.8%
DuPont Opening	**$57.6**	**$6,642**	**0.87%**

DuPont makes these assumptions without providing any coherent explanation of how the DRR would achieve such massive efficiency gains—let alone factual support for such a theory. DuPont's evidence is devoid of references to neutral third-party benchmarks, detailed explanations of job functions, or any concrete evidence showing that the DRR could realize vast G&A efficiency improvements over NS (and all other real-world railroads). *See infra* at III-D-

[42] *See* sources at III-D-57

60 to III-D-72. DuPont's disregard of the Board's clear instruction that parties must explain why their proposed G&A staffing would be sufficient to carry out all necessary G&A functions requires rejection of its evidence.[43] In addition, DuPont assumes it can largely outsource its marketing and customer service for overhead traffic despite the fact that the Board has rejected that notion. *See AEPCO 2011*, STB Docket No. 42113, at 56-57.

NS's G&A evidence is firmly grounded on real-world experience and industry standards, which demonstrate that a least-cost estimate of G&A expenses for the DRR would be $173 million annually for 820 G&A employees, or approximately 3.8% of the DRR's gross revenue. *See infra* at III-D-50. These figures assume that the DRR is optimally efficient and capable of achieving high levels of economic efficiency in every area. But these figures also assume that the DRR will comply with the minimum legal, regulatory, commercial, and administrative requirements that would apply to it. Just like NS or any other railroad, the DRR must comply with applicable federal and state laws and regulations in the various jurisdictions in which it operates, and it must perform standard G&A functions like billing, collecting, and responding to customer requests. Ensuring that the DRR has the resources necessary to satisfy these requirements is an essential element of demonstrating its feasibility. DuPont's evidence fails this test because its inadequate G&A staff is not capable of performing the functions that the DRR would have to perform in the real-world. NS's evidence corrects those deficiencies by assigning the minimum G&A expenses that would be necessary for the DRR to operate given its network's significant size, scale and complexity.

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[43] *See, e.g., AEPCO 2011*, STB Docket No. 42113, at 58 (criticizing parties for not providing benchmark analyses or any other sufficient explanation for staffing levels chosen); *FMC*, 4 S.T.B. at 835-36 (rejecting complainant's G&A evidence because it "made no attempt to show that [its proposed G&A] staff could feasibly perform the required work, by either explaining the amount and type of G&A work that the [SARR] staff would need to perform or relating the size of the staff to operations of existing firms").

DuPont's evidence on maintenance-of-way operating costs suffers from similar flaws and unrealistic assumptions. *See infra* at III-D-195 to III-D-267. For instance, DuPont adopts a "one-size-fits-all" approach to track maintenance, assuming that each Roadmaster territory will consist of approximately 200 route miles and that each four-person track maintenance crew will be responsible for 118 route miles—regardless of either the amount of track to be maintained on those route miles or the real-world factors that affect maintenance needs like traffic density, terrain, and weather conditions. *See infra* at III-D-210 to III-D-214. The result of this one-size-fits-all approach is a wholly unrealistic maintenance-of-way plan in which many Roadmasters and track maintenance crews would have maintenance responsibilities far greater than they could manage in the real world. On a MOW-employee-to-track-mile basis, DuPont provides far lower MOW staffing than the levels that Board has found to be sufficient in recent SAC decisions. *See infra* at III-D-199.

Table I-3
MOW Staffing in Recent SAC Cases[44]

	AEPCO 2011	***WFA***	***AEP Texas***	***Otter Tail***	***Xcel***	**DuPont Proposal For DRR**	**NS Proposal For DRR**
MOW Staff	559	97	452	437	166	1,006	2,133
Track Miles	3,326	391	1,664.1	1,485	552.77	10,462	10,639
MOW Staff-to-Track Miles	**5.9**	**4.0**	**3.7**	**3.4**	**3.3**	**10.4**	**4.7**

DuPont fails to provide any explanation for why the DRR's MOW staff would be vastly more productive than the MOW staffs in those cases—let alone MOW workers in the real world. DuPont's staffing for other areas is similarly unrealistic. For example, DuPont proposes that the DRR's Communications and Signals field employees would each be responsible for maintaining

[44] *See* sources cited at III-D-199.

an amount of equipment far above common experience and nearly double the amount per maintainer found in past Board decisions. *See infra* at III-D-227 to III-D-230.

NS's Reply Evidence both demonstrates the flaws in DuPont's approach and presents a MOW plan that is based on a methodical and detailed assessment of the DRR's MOW needs, including a route-by-route analysis that accounts for the specific factors affecting each route such as traffic density, train frequency, extent and severity of curvature, terrain, and weather. *See infra* at III-D-199 to III-D-200. NS then assigned the appropriate number of track and bridge maintenance crews and signal maintenance employees to each segment, grouping them under an appropriate number of Roadmasters, Signal Supervisors, and Bridge Supervisors and giving them appropriate management, commercial, and technical organizations at the Divisional and Headquarters level.

NS's Reply Evidence corrects several additional errors in DuPont's calculation of DRR operating expenses. For example, DuPont's evidence of the costs of the DRR's trackage and operating rights is riddled with unwarranted assumptions and obvious misreadings of the applicable agreements—once again in a deliberate effort to understate the operating costs that the DRR would incur were it actually to step into NS's shoes on the relevant agreements. The errors in DuPont's trackage rights calculations are explained and corrected below in Section III-D-6. In addition, DuPont's estimate of the DRR's insurance costs is based on a cherry-picked selection of the single lowest year of NS insurance expenses over the last decade. *See infra* at III-D-276 to III-D-278. This assumption produces an unrealistically low estimate of insurance costs over the life of the DRR. Rather than rely on the single, lowest year of NS insurance expenses to select an insurance ratio for the DRR, the best evidence is to take a multi-year average of NS's insurance costs. *See infra* at III-D-278. And DuPont substantially understates the amount of ad

valorem taxes that the DRR would be required to pay by using a methodology that completely ignores how most of the states through which the DRR operates actually calculate ad valorem taxes for railroads. *See infra* at III-D-279 to III-D-287. Most states tax railroad property as a function of a railroad's overall profitability as an enterprise—its "unit value"—and a SARR that is more profitable than the incumbent railroad will pay more taxes as a result. NS's Reply Evidence adjusts DuPont's ad valorem tax calculations to account for the higher ad valorem taxes that the DRR would incur in "unit value" states by virtue of being a least-cost, most-efficient SARR with a high income value.

E. Non-Road Property Investment

Non-road property investment costs, including costs for locomotives, railcars, and other equipment, are addressed in other sections of NS's Reply Evidence, in particular Section III-D.

F. Road Property Investment

DuPont's road property investment evidence is plagued by numerous significant errors that cause DuPont to understate the DRR's road property investment costs by over $10 billion. The flaws in DuPont's approach and the corrections made by NS's real estate and engineering experts are described in detail in Section III-F and accompanying exhibits and workpapers. Some of DuPont's most significant errors are detailed below.

Land. The most significant flaw in DuPont's Opening Evidence on real estate costs for the DRR is a blatant manipulation of the valuation date for the land that must be acquired for the right-of-way tracks and other facilities of the DRR that is transparently intended to take advantage of recession-depressed land prices even though the DRR would need to purchase land in a booming 2007 real estate market. *See infra* at III-F-4 to III-F-9. DuPont's construction schedule proposes that the DRR would acquire land for its right of way between April and

October 2007 to enable construction to start in August 2007.[45] But its real estate evidence values the DRR's land as of June 1, 2009—the date that the DRR is supposed to commence operations. DuPont offers no justification for this valuation date, which appears to be nothing more than a blatant attempt to game the SAC result by valuing property as though it were acquired in the depths of the 2009 recession and real estate crash. Indeed, the Board has in prior cases adjusted land valuations which were made in an incorrect time frame.[46] The DuPont appraiser's reliance upon the June 1, 2009, valuation date is unsupportable, and its land valuation evidence should be rejected for that reason alone. *See infra* at III-F-4 to III-F-9.

This manipulation of the real estate valuation date, however, is not the only flaw in DuPont's real estate evidence. Section III-F-1 explains that the DuPont appraiser significantly undervalued the land that DuPont physically inspected; selected inappropriate comparable sales; used a flawed "global mean" approach to aggregate sales data in a way that artificially depressed per-acre prices; and valued easements in a way that is directly contrary to Board precedent. *See infra* at III-F-13 to III-F-33. NS's expert witness Michael Hedden details the oversights, distortions, and improper methodologies used by the DuPont appraiser in his Rebuttal Report, which is attached as NS Reply Exhibit III-F-2. Mr. Hedden has also performed an independent valuation analysis of the cost of land needed to acquire the ROW for the DRR, which is appended as NS Reply Exhibit III-F-3. The Board should reject DuPont's flawed and slanted real estate evidence, and it should accept Mr. Hedden's detailed and well-supported valuation.

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[45] *See* DuPont Opening WP "Complete Construction Schedule.xls"; DuPont Opening III-F-50.

[46] *See McCarty* Farms, 2 S.T.B. at 525 & n.132 (adjusting the land valuation date back to the beginning of the construction period); *Arizona Pub. Serv. Co. v. The Atchison, Topeka & Santa Fe Railroad Co.*, 2 S.T.B. 367, 387 & n.55 (1997) (valuing land at 1993 values so as to provide for a 1-year construction period prior to the initiation of service in 1994).

Roadbed Preparation. Much of the difference in the parties' earthwork costs is driven by the fact that, contrary to well-established Board precedent favoring the use of R.S. Means costs for common earthwork excavation, clearing and grubbing, seeding, and subballast, DuPont instead proposes to extrapolate all of these costs from a single 1.3 mile railroad line relocation project for a short line in rural Tennessee and apply them to the entire 7,300 route-mile DRR. *See infra* at III-F-44 to III-F-51.

The Board has long accepted R.S. Means as the appropriate, authoritative source for earthwork costs.[47] DuPont erroneously cites the Board's 2007 decision in *WFA I* and the 2011 decision in *AEPCO* as supporting its unprecedented approach of using a small, short-line project that is untethered to any track owned by NS as the basis for earthwork unit costs for construction of a far larger SARR.[48] But *WFA I* and *AEPCO 2011* both involved projects conducted by the defendant itself on a Class I railroad system that were near the route being replicated by the SARR, and for those reasons the defendant railroads in those cases accepted the use of their own experience and costs for common excavation for estimating SARR common excavation costs. Neither *WFA I* nor *AEPCO 2011* provides precedent for using the costs of a small project on a foreign short-line as the basis for the costs of constructing a SARR that purports to replicate the core of a Class I carrier.

Moreover, the minor line relocation project on which DuPont relies is an utterly inapt substitute for well-established R.S. Means costs. NS's Reply Evidence demonstrates that this "Trestle Hollow" project was small and atypical, and that its unit costs cannot be reliably extrapolated to a large project, let alone a 7,300 mile SARR. *See infra* at III-F-44 to III-F-51.

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[47] *See, e.g.*, *FMC*, 4 S.T.B. at 800; *WP&L*, 5 S.T.B. at 1020, n.147; *Duke/NS*, 7 S.T.B. at 171; *CP&L*, 7 S.T.B. at 310; *Xcel*, 7 S.T.B. at 616; *Otter Tail*, STB Docket No. 42071 at D-11.

[48] *See WFA I*, S.T.B. Docket No. 42088, at 86; *AEPCO 2011*, STB Docket No. 42113, at 83-84.

The size, scope, and geographic and topographic diversity of the DRR make it much more amenable to use of R.S. Means average costs than to extrapolation from any single project.

NS makes multiple other corrections to DuPont's roadbed preparation costs; these corrections are justified and explained at NS Reply III-F-36 to III-F-116 and the workpapers cited therein.

Track Construction. DuPont's opening submission on track construction included a number of conceptual and implementation flaws that understated the DRR's track construction costs. Most significantly, DuPont substantially overlooked and understated transportation costs for nearly all forms of track material: including, ballast, subballast, rail, and ties. *See infra* at III-F-117 to III-F-156. DuPont also completely ignored the need for crossing diamonds in locations where existing non-DRR railroad traffic would need to cross the DRR's lines. *See infra* at III-F-153 to III-F-156. NS's track engineering experts have corrected these errors on Reply. In addition, as described in Section III-B-12 to III-B-15, the DRR as configured by DuPont does not have sufficient running, siding, and yard tracks to serve the DRR customers. NS therefore increases track construction quantities to account for all the necessary additional track mileage.

Tunnels. DuPont's tunnels evidence relies on unreasonable assumptions about tunnel costs that the Board has repeatedly rejected. Rather than develop a cost per linear foot tailored to the varying characteristics of the DRR tunnels, DuPont used a tunnel construction cost per foot derived from a 1980 Interstate Commerce Commission decision in *Coal Trading*. *See* DuPont Opening III-F-33 n.89. But DuPont has not even attempted to show that the tunnels upon which the 1980 cost was based resemble those of the DRR. Indeed, the Board has recognized that *Coal Trading* dealt with costs for timber-lined tunnels that are inapplicable to the steel and concrete-lined tunnels that would be required for most DRR tunnels, and that it is not a reasonable proxy

for tunnels costs. *See AEPCO 2011*, STB Docket No. 42113, at 110-11. DuPont does not provide any evidence or argument that justifies reconsideration of this discredited *Coal Trading* approach. NS's tunnel engineering experts reject the use of this outdated and unsupported tunnel construction cost, and have developed detailed estimates of the construction costs for the specific types of tunnels the DRR would be required to build. *See infra* at III-F-156 to III-F-167.

Bridges. DuPont's proposed bridges for the DRR are plagued with fundamental flaws, many of which are caused by DuPont's failure to consider how its proposed DRR bridges would accord with the real world topography and required functionality. Most significantly, DuPont chose to ignore the bridge height data that NS produced in discovery and instead developed its own estimates of bridge heights, which grossly understated the required height for thousands of bridge locations. *See infra* at III-F-168 to III-F-176. In many cases NS bridges with actual bridge heights ranging from 100 feet to up to 308 feet are purportedly "replicated" by DRR bridges with heights between 11 feet and 16.5 feet. For example, in Kentucky, NS has a bridge called High Bridge that stands 308 feet over the Kentucky River, as shown in the picture below.

Illustration I-2
High Bridge



The height of the aptly named "High Bridge" is illustrated by considering the height of the intermodal containers on the train passing over the bridge, which stand 8 to 9 feet tall (excluding the height of the flatcar on which they sit). But DuPont replicates that bridge at the topographically impossible height of only 16 feet. *See infra* at III-F-158 to III-F-166 and Ex. III-F-5 for other examples and illustrations. Clearly, these hypothetical bridges are not tall enough to connect the track they purport to connect. *See Xcel*, 7 S.T.B. at 689 (rejecting bridge plans that are not "feasible and capable of supporting the needs of the SARR"). In this Reply evidence, NS's bridge experts have accounted for actual bridge heights by using the data furnished by NS in response to DuPont's discovery requests. *See infra* at III-F-182 to III-F-219.

DuPont's errors do not end there. It improperly calculates the length of many bridges, overlooks the need to construct several critical bridges, including moveable bridges, and unreasonably chooses to substitute culverts for many existing bridges (including highway

bridges for which a culvert is plainly no substitute). *See id.* NS corrects these and other errors below in Section III-F-5.

Signals. DuPont's evidence of the cost of DRR signals and communications systems is fraught with both conceptual problems and implementation errors. DuPont's most fundamental error is its assumption that the DRR could begin operations with a Positive Train Control ("PTC") system in June 2009—even though all of the components to operate a PTC system still have not yet been developed today, over three years after the DRR would begin operations. *See infra* at III-F-220 to III-F-226. This plainly impossible assumption is just the beginning of DuPont's errors. For example, DuPont's inventory of signals equipment for the DRR is irreconcilable with its proposed DRR track configuration and undercounts the total amount of signals that the DRR would need to operate. *See infra* at III-F-226 to III-F-232. Its calculations of signal unit costs flatly misstate the unit cost quotes included in its own workpapers and omit many necessary signal components, such as foundations, battery/charger sets, and grounding equipment. *See infra* at III-F-232 to III-F-236. And its estimates of PTC and crossing signal costs substantially understate the total costs that the DRR would incur. *See infra* at III-F-236 to III-F-253. NS's engineering experts explain the errors in DuPont's signals and communications evidence and detail their estimate of the DRR's signals and communications costs at NS Reply Section III-F-6.

Other Investment Costs. NS also makes a number of corrections to DuPont's estimates of the costs of DRR buildings and facilities and public improvements. *See infra* at III-F-253 to III-F-284.

Partially Owned Lines. One of the faulty devices DuPont uses to game the SAC analysis is to assume that the DRR could use "trackage rights" to operate over facilities partially-owned

by NS, without accounting for NS's ownership interest. For example, DuPont claims that the DRR would be able to use "trackage rights" to operate over 89 miles of Conrail Shared Asset Areas ("SAAs") without paying to construct the tracks and related facilities in those SAAs or otherwise accounting for the NS ownership rights that allow NS to operate within them. *See infra* at III-F-298 to III-F-316. DuPont similarly assumes that the DRR could use "trackage rights" to operate on the Indiana Harbor Belt Railway ("IHB") (in which NS holds a 29.58% ownership interest); the Belt Railway of Chicago ("BRC") (in which NS holds a 25% ownership interest); and the Terminal Railroad Association of St. Louis ("TRRA") (in which NS holds a 14.29% ownership interest)—all without spending a dollar on the fixed costs of those facilities. Simply put, DuPont asserts that its SARR should have the benefit of NS's operating rights on partially-owned lines without paying for the ownership rights that are part and parcel of those operating rights. This is transparent gaming that violates Board precedent and fundamental SAC principles, and it must be rejected. *AEPCO 2005*, STB Docket No. 42058, at 11 (rejecting trackage rights where the "tenant carrier's fee does not reflect the full cost of ownership"); *see AEPCO 2002*, 6 S.T.B. at 329 ("[T]he SARR may be assumed to have the same cost-sharing arrangements as the defendant carriers have on each segment, so long as the terms of those arrangements (including operational provisions and terms of compensation) are the same as those applicable to the defendant carriers.").

The "trackage rights" payments that DuPont hypothesizes for DRR operating rights on the Partially Owned Lines do not come close to covering the costs of NS's ownership interests in those lines. *See infra* at III-F-303 to III-F-308. Indeed, DuPont does not claim that they do—rather its approach is to completely ignore NS's ownership interest in the Partially Owned Lines.

DuPont's approach fails to recognize that NS is a co-owner of these lines and that the fees NS pays to operate over the Partially Owned Lines reflect those partial ownership interests.

DuPont's erroneous assumption must be corrected by requiring the DRR to account for the full cost of NS's ownership interest on any lines over which the DRR operates. *See infra* at III-F-308 to III-F-316. If the DRR is to step into NS's shoes on a line where NS has both an ownership interest and a shared operating rights arrangement, the DRR cannot step into the operating shoe and ignore the ownership shoe. To extend the "stepping into the shoes" metaphor, the DRR has to wear either both of NS's shoes or neither of them.

To be clear, NS is not proposing that the DRR must account for the full construction costs of joint facilities that NS partially owns. Rather, NS assumes that the DRR could step into NS's shoes as a joint owner of the Partially Owned Lines and thus would be responsible only for the replacement cost for the NS-owned interest. NS's engineering experts have estimated this cost by calculating the full construction costs of the Partially Owned Lines and then assigning the DRR a pro rata share of those costs equivalent to the NS ownership share. *See infra* at III-F-308. NS's approach is consistent with Board precedent and SAC theory. *See AEPCO 2002*, 6 S.T.B. at 328-29.

G. Discounted Cash Flow Analysis

DuPont's discounted cash flow model excludes equity flotation costs, the cost for fees charged by investment banks when a company raises external equity capital. The Board has previously found it necessary for parties to include equity flotation costs, particularly when they are not included in the cost-of-capital computation. Because railroads have not recently incurred costs to raise new equity, there are no equity flotation costs in the Board's cost of capital determinations since 2006. Therefore, equity flotation costs are not included in the cost-of-capital applied in the DCF model and applying a separate cost is necessary. Capital raising

efforts anywhere near the size of what is necessary here, approximately $17.2 billion in equity, are rare. NS applies the 2.1% of capital raise cost incurred by Facebook in its May 2012 $3.8 billion Initial Public Offering, the best comparison available, despite providing evidence that even this percentage is on the low side.

NS makes other necessary changes to the DCF model such as including the 2011 Board cost-of-capital findings, appropriately weighing the 2006 cost-of-equity calculations used by DuPont because they only applied for one month of the DRR's construction, and updating inflation indices where new index and forecast values have become available. NS further explains and makes these and other changes in DuPont's DCF model in Section III-G.

H. Results of SAC Analysis

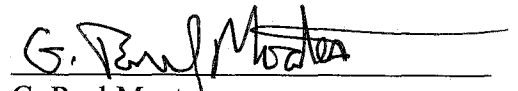
In Section III-H, NS identifies errors in DuPont's SAC analysis, and makes appropriate modifications. These modifications include corrections to DuPont's erroneous assumption that the DRR could use bonus depreciation to write off a staggering $6.3 billion of its road property investment in the first year of DRR's operations and to DuPont's use of incorrect tax depreciation lives for certain specified DRR road property assets. NS's properly developed and supported SAC analysis shows that the DRR's stand alone costs exceed stand alone revenues by a significant margin in each year in which the DRR operates during the 10-year analysis period. The cumulative present-value of the revenue shortfall over the entire 10-year DCF analysis period is nearly $18 billion. Therefore, NS's SAC presentation demonstrates that the challenged rates do not exceed a reasonable maximum and no rate reductions or reparations are warranted.

C. CONCLUSION

For the reasons summarized below and detailed in the following Reply Narrative, Exhibits, and Workpapers, the Board should find that DuPont has failed to establish that NS possesses market dominance over the transportation covered by the challenged rates in 99

Complaint traffic lanes, and therefore that those lanes must be dismissed for lack of jurisdiction. The Board further should find that DuPont's SAC presentation is so fundamentally deficient that it constitutes a failure of proof, and the Board should dismiss DuPont's complaint on that basis alone. Even if the Board chooses not to summarily dismiss the complaint, NS's Reply Evidence convincingly demonstrates that the rates DuPont has challenged are well below maximum reasonable levels. When the errors in DuPont's evidence are corrected and its unsupported and unrealistic assumptions are replaced with the conservative, well-documented assumptions set forth in NS's Reply Evidence, the stand-alone costs of the DRR well exceed its revenues. Each of the challenged rates is therefore reasonable under the SAC test, and DuPont is entitled to no relief whatsoever.

Respectfully submitted,



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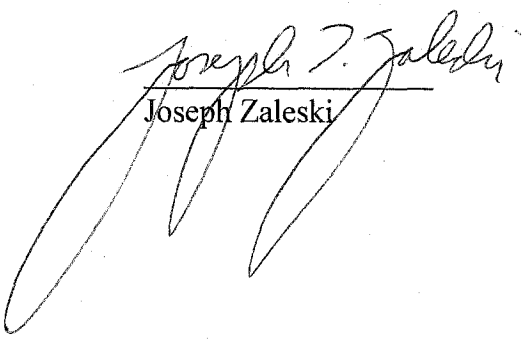
Counsel to Norfolk Southern Railway Company

Dated: November 30, 2012

CERTIFICATE OF SERVICE

I hereby certify that on this 30th day of November, 2012, I caused a copy of the foregoing Reply Evidence of Norfolk Southern Railway Company, including Narrative, Exhibits, and electronic workpapers, to be served by hand delivery upon:

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Joseph Zaleski

Table of Contents

Page

II. MARKET DOMINANCE II-A-1

A. QUANTITATIVE EVIDENCE II-A-1

1. Traffic and Operating Characteristics II-A-2

a. Loaded Miles II-A-2

b. Tons per Car II-A-9

2. Variable Costs II-A-10

II. MARKET DOMINANCE

A. QUANTITATIVE EVIDENCE

NS does not contest that, using the challenged rates and URCS system-average variable costs, each of the movements generates revenue-to-variable-cost ("R/VC") ratios in excess of the 180% jurisdictional threshold specified by 49 U.S.C. § 10707(d)(1). However, a number of DuPont's R/VC calculations have been significantly inflated by errors DuPont made and shortcuts it took in analyzing the issue traffic. Most significantly, DuPont's decision to ignore NS's use of different routes to handle DuPont's traffic and instead select a so-called "predominant route"—and, in some cases, arbitrarily alter real world routes that it claimed contained "extraordinary back-haul"—is not analytically sound or consistent with real-world operations. The Board recognized the flaw in the "predominant" route approach and rejected its application in *M&G*, STB Docket No. 42123.[1] The logic applied to the "predominant route" method applies equally to DuPont's "extraordinary back-haul" argument, because in both cases DuPont calculates mileages for the issue movements in a way that ignores real-world operations. By systematically understating mileages and thereby underestimating variable costs, DuPont has manufactured many of the allegedly high R/VC ratios about which it complains. Because DuPont's qualitative market dominance evidence relies in part on these allegedly excessive

[1] See *M&G*, STB Docket No. 42123, M&G Proposed Public Version of Appendix, at 23 (Nov. 13, 2012). NS cites to the proposed Public Version of the Highly Confidential Appendix to the *M&G* decision that the parties to *M&G* submitted on November 13, 2012. While the Board has not issued an order formally adopting the parties' proposal as its official public version, the proposed public version is publically available on the Board's docket and has been marked by the Board's Office of Proceedings as "Part of [the] Public Record." *Id.* at 1.

R/VC ratios, and in order to ensure a complete and accurate record, NS addresses these errors below.[2]

1. Traffic and Operating Characteristics

The Board established in *Major Issues* that the system-average variable costs of the issue movements are to be calculated by using the unadjusted URCS Phase III movement costing program. *See Major Issues*, STB Ex Parte 657 (Sub-No. 1), at 60 ("The variable costs used in rate reasonableness proceedings will be the system-average variable cost generated by URCS, using the nine movement-specific factors inputted into Phase III of URCS."). The nine operating characteristics required for the URCS variable cost calculation are (1) railroad; (2) loaded miles; (3) shipment type; (4) cars per train; (5) car type; (6) car ownership; (7) tons per car; (8) commodity; and (9) movement type. *See Kansas City Power & Light v. Union Pac. R.R. Co.*, STB Docket No. 42095, at 6 (May 16, 2008).

Here, the parties previously reached agreement on six of the nine operating characteristics. The Joint Submission of Operating Characteristics the parties filed on December 22, 2011 reflected agreement on all characteristics except loaded miles, tons per car, and car type for three issue movements. DuPont subsequently agreed with NS's position on car type. *See* DuPont Opening II-A-4.

a. Loaded Miles

DuPont's primary error in calculating operating characteristics is its adoption of an improper methodology for dealing with the real-world fact that shipments on a carload network often travel different routes between the same origins and destinations. DuPont's choice of a "predominant route" approach that picks one routing and ignores the others is not consistent with

[2] The evidence in Part II-A is sponsored by Mr. Benton Fisher of FTI Consulting. His experience and qualifications are detailed in Part IV.

Board precedent and does not reflect the actual mileage of the issue movements. And DuPont's decision to ignore the results of its own predominant route analysis whenever it subjectively determined that an issue movement had an insufficiently direct routing reveals a fundamental misunderstanding of how carload networks operate in real world railroading.

NS produced traffic records to DuPont in discovery that include detailed information about all DuPont shipments handled by NS, including specific information about routing, mileages, and lading weights. These real-world traffic data naturally reflect some variations. Carload traffic travels over different routes, railcars are loaded to different weights, and shipments between the same origin and destinations otherwise will not precisely mirror each other. Further, real world railroads operating a carload network rarely move cars in a straight line directly from origin to destination. Cars must be classified and blocked, and often are transported on multiple trains to ensure maximal efficiency for the overall network.[3] Track configuration may have limitations requiring special routing. In some cases, government regulation requires traffic to be routed in a particular fashion. These realities are particularly true for carload traffic like the DuPont movements at issue here, which often must be transported to one or more classification yards to be blocked and assembled into the appropriate trains for delivery to destination. Changing network dynamics may dictate different routings. For example, in 2009 due to low traffic volumes, NS closed Buckeye Yard (OH) in the spring and closed Sheffield Yard (AL) in June. Thus, DuPont cars would have been routed differently before and after this operational change.[4] NS has thousands of customers besides DuPont, and it

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[3] *See* NS Reply Ex. III-C-1 "Carload Operations Overview" (video exhibit illustrating carload network operations).

[4] This description of yard closures is sponsored by NS witness Dewey Smith. His experience and qualifications are detailed in Section IV.

has designed its network to balance the needs of all those customers and deliver traffic as efficiently as possible.[5] Moreover, NS's network is dynamic, which means that traffic between the same origin and destination ("O-D pair") may be routed differently at different times. This is particularly true for low-volume carload movements like those making up a majority of DuPont's traffic, which do not move in dedicated unit trains and instead must be combined with other shippers' traffic to build a train. Particular circumstances and network demands may make it more efficient for DuPont's traffic to be moved via one route at one time and over another route at another time and even on a less direct route than one might expect.

Because DuPont's traffic often moves via different trains and different routes, the most reliable way to determine what mileage should be used in the URCS Phase III model for a particular movement is not to select the lowest mileage move that has traveled between that O-D pair. Nor is it to select the highest mileage move. Nor would it be reliable to select the most commonly-used routing and discard other routings. And it certainly makes little sense to completely disregard movements a complainant subjectively determines are insufficiently direct. The most reliable and representative approach is to take a weighted average of mileages that reflect all the real world routings of DuPont's traffic between a particular origin and destination pair. That is the approach NS has taken to calculating this operating characteristic. To account for the fact that some routings are used more than others, NS has calculated a weighted average that reflects the relative frequency of each routing.[6]

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[5] *See* NS Reply WP "Statement of Steve Tobias, EP 658.pdf" at 7-8.

[6] An example may help to illustrate the difference between simple averages and weighted averages. If there are ten movements between a particular origin and destination, seven of which moved over a 400-mile route and three of which moved over a 1000-mile route, a simple average of the two routings would be 700 miles. A weighted average (accounting both for the greater frequency of the 400-mile route and for the fact that some moves took the longer route) would be

NS's approach is supported by both logic and Board precedent. For example, in *FMC*, the evidence showed that 83% of the FMC cars at issue traveled on a route that was 48.7 miles longer than the other 17%. 4 S.T.B. at 748-49. Faced with this evidence that the cars at issue regularly traveled on two routes with different mileages, the Board did not pick the shorter route for purposes of determining variable costs, nor did it use only the longer "predominant route." Instead, the Board used a weighted average that recognized that 83% of the movements took the longer route and 17% did not. *See id.* at 749 ("we accept [a] 48.7-mile additive for 83% of FMC's traffic"). Here, too, a weighted average that accounts for both the different routings of DuPont traffic and their relative frequency is the most reliable and accurate way to determine mileage characteristics for the issue movements.

The Board recognized the flaws in the "predominant route" methodology in *M&G*. There, the Board agreed with the weighted average approach "because such an approach is more consistent with real-world operations than [the] predominant route approach," particularly where carload rather than unit traffic is concerned and the railroad uses a dynamic network. *M&G*, STB Docket No. 42123, M&G Proposed Public Version of Appendix, at 23 (Nov. 13, 2012). The Board acknowledged, citing *FMC*, that "particular circumstances and network demands may make it more efficient for . . . traffic to be moved via out route at one time and over other routes at other times, and it makes little sense to exclude certain routes from our mileage calculations because one route may be used slightly less often than another." *Id.* The same facts are present here and the Board should rule similarly.

DuPont's complaint that NS's historical traffic data "contained so many . . . mileage variations and other data anomalies" does not justify use of a predominant route approach.

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580 miles. DuPont's simplistic predominant route approach would ignore the three 1000-mile moves and instead assume that the O-D pair had a mileage of 400.

DuPont Opening II-A-3. DuPont states that "the most logical selection process for any given lane had to utilize a methodology that eliminated these problems." *Id.* But the fact that a carload movement takes different routes at different times is not presumptively a "data anomaly"—it is a simple fact of real-world railroading on a carload network. DuPont's claims that any movements not using its so-called predominant route must be anomalies is particularly absurd in light of the fact that 26 of its "predominant routes"—approximately 20% of the issue movements—were used for 50% or less[7] of the DuPont traffic moving between the specified O-D pair. Indeed, for one of the issue movements, DuPont's "predominant" route was used for less than one quarter of the traffic.[8] The result of DuPont's predominant route approach is that a large percentage of the actual traffic records for issue movements are completely ignored by DuPont for purposes of calculating the mileages for those movements. This approach is plainly inferior to NS's actual-mileage approach, which both incorporates data for a much greater percentage of the issue movements[9] and weights those records to reflect the relative frequency of different routings that are used by DuPont's shipments.

If there were any doubt that DuPont adopted the predominant route approach as a tool to artificially depress actual mileage and drive up R/VC ratios, that doubt is removed by considering DuPont's treatment of lanes where two routes were used an equal number of times. NS has identified two lanes where DuPont's so-called predominant route was determined based

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[7] This excludes lanes where there were no movements in 2009 and 2010 and, therefore, no predominant routes applied.

[8] *See* DuPont Opening Ex. II-A-14 {(Lane B27)}.

[9] A very small fraction of the traffic records may contain data errors. NS has excluded these data anomalies from its mileage calculations by requiring a route to account for at least 10% of a lane's traffic. Under NS's approach, the mileage calculations incorporate an average of 87% of the traffic across the Complaint lanes, contrasted with 70% for DuPont. This approach was accepted by the Board in *M&G*.

solely on having lower mileage than another route that was used an equal amount of times. In { } NS's data shows that five carloads traveled 957 miles and five carloads traveled 1,159, with each route comprising 45% of the total trips.[10] Inexplicably, DuPont selected 957 miles for the operating characteristic. In { }, four carloads traveled 514 miles and four carloads traveled 569 miles.[11] Once again, DuPont selected the shorter route.

DuPont also includes what it describes as an "exception" to the predominant route approach due to "extraordinary long back-haul movements." DuPont Opening II-A-3. When DuPont deems a routing to contain "back-haul," DuPont says the Board should ignore the actual routing and eliminate portions of the actual movement to reflect DuPont's (supposedly superior) alternative route. DuPont is thus effectively asking the Board to make a movement-specific adjustment to the URCS mileage input whenever DuPont claims that the real-world routing of an issue movement is insufficiently direct. This is plainly forbidden by *Major Issues*, and DuPont's "back-haul" argument must be rejected. *See Major Issues*, STB Ex Parte 657 (Sub-No. 1), at 60.

Moreover, DuPont's argument betrays a fundamental misunderstanding of how carload networks operate.[12] Carload shipments can originate anywhere in North America, making development of the optimal train plan a complex undertaking. The focus of an optimal operating plan is on finding the best solution for the majority of traffic resulting in fewer overall car miles and car handlings network-wide, and a railroad cannot effectively operate a carload network by individually optimizing service for particular customers. For example, an improvement to the

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[10] *See* DuPont Opening WP "DuPont Issue Lead Unit Waybills_2009 & 2010 Data for T&O Final.xlsx."

[11] *Id.*

[12] This misunderstanding becomes even more apparent in DuPont's operating evidence. *See infra* at Section III-C.

overall network may result, in some circumstances, in a longer-distance haul for some subset of traffic.

When DuPont asks NS to ship a half-dozen cars between two points, NS does not fulfill that request by assigning a dedicated local train to directly transport those cars between origin and destination on the most direct route. Attempting to do so would produce a network that would grind to a halt. Instead, DuPont's cars typically are transported on a combination of local and road trains, and often must be transported to one or more classification yards to be blocked and assembled into the appropriate trains for movement across the NS system for delivery to the destination.[13] This classification process—which is the centerpiece of any effective carload network—often means that a single car does not move along the most direct line from origin to its destination. It also means that a car might traverse a given segment twice; for example, a car might move on one train over a line to a classification yard to be blocked onto another train that returns over the very same line. DuPont's claim that any such movement is an inappropriate "back-haul" that requires a movement-specific URCS adjustment is utterly unfounded.

NS Reply Exhibit II-A-1 addresses each of the 20 lanes for which DuPont asserted an improper back-haul. As the Exhibit demonstrates, there are legitimate justifications for each of the real-world routing that DuPont identifies as "back-hauls." But of course these justifications are irrelevant to the Board's quantitative market dominance inquiry. The only question here is the unadjusted variable costs of the issue movements, and the relevant mileages for such cost calculations are the mileages over which the issue movements are transported in the real world. The Board therefore should disregard the alternative calculations DuPont has constructed and not ignore reasonable, real world back-hauls that occur.

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[13] *See* NS Reply Ex. III-C-1 "Carload Operations Overview" (video exhibit illustrating carload network operations).

NS Reply Exhibit II-A-2 sets forth the loaded mileage that NS calculated as described above and compares them to DuPont's proposed mileages.

b. Tons per Car

DuPont also errs in calculating tons per car, primarily because of its decision to ignore the effect that commodity weight can have on tons per car. DuPont employed two different approaches to calculate tons per car based on the availability of recent data. For lanes where moves occurred within the past two years, DuPont used records from the entire two-year period 2009 to 2010. For purposes of this case, NS adopts DuPont's approach to tons per car.[14]

For lanes where there were no movements in 2009 or 2010, NS and DuPont used different proxies to determine weight. DuPont calculated an average lading weight for each car type only: covered hopper; small tank cars of less than 22,000 gallons; and large tank cars.[15] By comparison, NS calculated the average based not only on the car type, but also on the commodity being transported. DuPont's approach ignores the simple reality that lading weight can vary depending on the type of commodity in the car. For example, Dimethyalmine, Dimethylsulfate, and Dimethyl Formamide are all shipped in tank cars greater than 22,000 gallons. Although their lading weights vary widely, averaging 75, 87, and 97 tons respectively—DuPont simply used the overall average for all shipments in large tank cars, which was 83 tons, for all three commodities.[16] Table II-A-1 shows where DuPont applied more generic lading weights by

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[14] DuPont claims that it used its predominant route analysis for tonnage calculations. *See* DuPont Opening II-A-4. But that is not the case. In fact, DuPont based its tonnage calculations on all available shipment records, including records it ignored for purposes of mileage calculations.

[15] *See* DuPont Opening WP "DuPont Issue Lead Unit Waybills_2009 & 2010 Data for T&O Final.xlsx."

[16] *See* DuPont Opening Ex. II-A-15.

commodity. In most cases, DuPont's shortcut of failing to calculate weight based on car type *and* commodity serves to understate the variable costs in that lane.

Table II-A-1
Lanes Where DuPont Incorrectly Calculated Lading Weight

STCC	Description	Average Lading Weight	Car-Type Average Used by DuPont	Difference	Lanes for which DuPont Used Average
Tank Cars, <22,000 Gallons					
2816130	Titanium Dioxide	100.2	93.4	(6.8)	B52
2819315	Sulfuric Acid	98.9	93.4	(5.5)	A23, A24, A25, B126, B127, B128, B129, B130, B131, B132, B134, B135, B136, B137, B138, B139, B140, B141, B142
Tank Cars, >22,000 Gallons					
2813934	Dimethylamine	74.7	83.2	8.5	B19
2818131	Dimethyl sulfate	86.7	83.2	(3.6)	B22
2818221	Dimethyl Formamide	96.8	83.2	(13.6)	B4, B9, B21

2. Variable Costs

NS calculates URCS variable costs for DuPont's issue traffic movements based on the corrected mileage and weight inputs as described above, the other agreed operating characteristics, and the STB's 2009 and 2010 URCS datasets. NS Reply Exhibit II-A-3 presents NS's indexed URCS variable costs and resulting R/VC ratios for the first quarter of 2012 and compares NS's results to DuPont's corresponding calculations from DuPont Opening Exhibit II-A-12.[17]

[17] NS Reply WP "Reply Issue Traffic RVC.xls" includes NS's variable cost and R/VC calculations for 2Q 2009 through 1Q 2012.

TABLE OF CONTENTS

Page

II. MARKET DOMINANCE II-B-1

B. QUALITATIVE MARKET DOMINANCE II-B-1

1. Intramodal Rail Competition II-B-8

2. Intermodal Rail Competition II-B-10

a. Motor Carriers Are Effective Competitors for the Transportation of Chemicals II-B-13

i. Board and ICC Precedent Recognizes the Effectiveness of Truck Competition. II-B-13

ii. Trucks Are Vigorous Competitors with Rail Carriers for Transportation of the Trucked Commodities. II-B-21

iii. NS's Experiences in the Marketplace Demonstrate That Trucks Effectively Compete With Railroads for Transportation of the Trucked Commodities. II-B-31

b. DuPont Is Well-Positioned To Take Advantage of Its Market Options. II-B-34

c. The Board's "Limit Price" Proposal Is Legally Flawed and Economically Meaningless, and It Should Not Be Applied In This Case. II-B-40

i. The Limit Price Approach Violates the Interstate Commerce Act. II-B-43

ii. Adoption of the "Limit Price" Test in This Case Would Violate the Administrative Procedure Act. II-B-46

iii. The "Limit Price" Test Is Arbitrary and Economically Meaningless. II-B-49

(a) The Limit Price Test Ignores Relevant Market Information. II-B-50

(b) The Proposed Limit Price Test Uses Information Irrelevant to the Existence of Competition. .. II-B-52

(c) The Proposed Methodology Does Not Overcome the Acknowledged Weakness of R/VC Ratios as an Indicator of Market Power Abuse..... II-B-55

(d) The Limit Price Approach Does Not Simplify Market Dominance Determinations..... II-B-56

d. DuPont's Arguments That NS is Market Dominant Despite The Existence of Cost-Competitive Truck Alternatives Should Be Rejected..... II-B-57

i. DuPont's Argument that The Board Cannot Consider Whole-Route Intermodal Alternatives Should Be Rejected..... II-B-58

(a) DuPont's Narrow Interpretation of "Intermodal Competition" Would Have Radical and Illogical Consequences..... II-B-62

(b) The Statute Requires the Board to Consider Direct Intermodal Competition..... II-B-67

(c) DuPont's Claim That the Statute Prohibits Consideration of Whole-Route Intermodal Competition Is Wrong..... II-B-72

(d) ICC and Board Precedent Support Treating Direct Whole Route Competition as Intermodal Competition, Not Geographic Competition.. II-B-75

(e) DuPont's Reliance on DMIR is Misplaced... II-B-81

(i) DMIR Did Not Provide Any Justification for the Board's Departure from Dayton Power. II-B-83

(ii) DMIR's Dicta Could Not Change the Regulatory Definition of Geographic Competition Without Notice and Comment..... II-B-84

(iii) The DMIR Dicta Misinterprets the Statute. II-B-87

ii. NS's Rates Are In Line With the Market And Do Not Show Market Dominance..... II-B-92

iii. DuPont's Contracts With Customers and Suppliers Do Not Establish Market Dominance. II-B-98

iv. DuPont's Other Alleged Rationales for Market Dominance Should Be Rejected. II-B-100

e. Effective Trucking Competition Exists for Ninety-Nine of the Issue Lanes II-B-102

i. Overview of NS Approach to Identifying Competitive Alternatives II-B-102

ii. There is Effective Trucking and Truck-Transload Competition for Twenty-Three Sulfuric Acid Lanes. II-B-108

(a) Sulfuric Acid Shipments From Red Lion. II-B-111

(b) Sulfuric Acid Shipments from Bellwood. II-B-123

(c) Sulfuric Acid Shipments from Morses Mill II-B-126

(d) Sulfuric Acid Shipments From Miami Fort II-B-127

iii. There is Effective Truck Competition for Eighteen Titanium Dioxide Lanes. II-B-128

iv. There is Effective Truck Competition for Sixteen Methylamine Anhydrous Lanes. II-B-142

v. There is Effective Truck Competition for Eight Sodium Caustic Lanes. II-B-151

vi. There is Effective Trucking Competition for Five Lanes of Dimethyl Ether. II-B-157

vii. There is Effective Competition from Trucks for Five Petroleum Coke Lanes. II-B-161

viii. There is Effective Trucking Competition for Four Aniline Oil Lanes. II-B-164

ix. There is Effective Truck Competition for Three Methylamine Aqueous Lanes. II-B-166

x. There is Effective Trucking Competition for Three Lanes of Polyethylene. II-B-169

xi. There is Effective Competition for Two Muriatic Acid Lanes. II-B-173

xii. There is Effective Truck Competition for Two Oleum Lanes. II-B-175

xiii. There is Effective Trucking Competition for the Two Zircon Sand Lanes. II-B-177

xiv. There is Effective Trucking Competition for One Dimethyl Formamide Lane. II-B-178

xv. There is Effective Trucking Competition for One Lane of Dimethyl Sulfate. II-B-179

xvi. There is Effective Competition from Trucks for the Lime Lane....II-B-181

xvii. There is Effective Competition for One Potassium Hydroxide Lane. II-B-183

xviii. There is Effective Competition for the Sodium Methylate Lane. II-B-184

xix. There is Effective Competition for the Spent Sulfuric Acid Lane....II-B-186

xx. There is Effective Trucking Competition for One Sulfur Trioxide Lane....II-B-187

xxi. There is Effective Trucking Competition for One Waste Liquids Lane. II-B-189

II. MARKET DOMINANCE

B. QUALITATIVE MARKET DOMINANCE

For at least ninety-nine of the NS tariff rates it has challenged, DuPont is not required to use the challenged rates. On these lanes DuPont has a choice. Instead of NS rail service DuPont could transport the commodities moved in those lanes by trucks or in rail-truck transload service.[1] NS expert Gordon Heisler, a chemical logistics expert with over thirty-five years of experience in logistics and surface transportation, has identified feasible direct truck alternatives (*i.e.*, alternatives where commodities could be transported between origin and destination by truck) for eighty-three of the issue lanes.[2] He has also identified rail-truck transload alternatives (*i.e.*, alternatives where commodities could be transported between origin and destination by a combination of truck and non-NS rail service) for thirty-four of the issue lanes.[3] These alternatives are not hypothetical—on the contrary, DuPont regularly transports the issue commodities by truck and has standing contracts with multiple trucking companies that could be and are being used to transport the issue commodities all across the country.

The Board has jurisdiction to determine the reasonableness of a transportation rate only if there is "an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies." 49 U.S.C. § 10707(a). When Congress enacted section 10707(a) in the Railroad Revitalization and Regulatory Reform Act of 1976, it made a

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[1] NS does not contend that barge transportation is an effective competitive alternative for any of the issue movements.

[2] Mr. Heisler is sponsoring Part II-B of NS's Reply Evidence and supporting exhibits and workpapers related to qualitative market dominance. His curriculum vitae and qualifications are set forth in Part IV.

[3] Eighteen of the issue lanes are subject to effective competition from both a direct truck alternative and a transload alternative. Two lanes subject to truck competition are also subject to intramodal competition from a reciprocal switching option. *See infra* at II-B-8 to II-B-9.

deliberate legislative choice to restrict the agency's rate reasonableness jurisdiction to those rates for which the shipper has no effective transportation alternative from either other railroads or other modes of transportation such as trucks, barges, and vessels.[4] Where there is more than one effective competitive option for transportation of traffic at issue, Congress concluded that "competition [should] be recognized as the best control on the ability of railroads to raise rates." H. REP. 96-1430, at 89 (1980); *see Consolidated Papers, Inc. v. Chicago & N.W. Transp. Co.*, 7 I.C.C.2d 330, 336 (1991) ("Congress has decided that, to the greatest extent possible, railroad rates should be governed by competitive forces.").[5]

A shipper that has a transportation alternative therefore is not entitled to pursue a rate case to see if it can obtain a better rate through regulatory prescription than it can in the open market. As the D.C. Circuit has observed, in many situations shippers would rather attempt to reduce rates through regulation than use alternatives to rail service, because they "consider regulators' hands to be friendlier than invisible ones." *AAR v. STB*, 306 F.3d 1108, 1111 (D.C. Cir. 2002). Only shippers that truly have no choice but to use the challenged rate are permitted

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[4] *See* 49 U.S.C. § 10707(a), *adopted in* Railroad Revitalization and Regulatory Reform Act of 1976, Pub. L. No. 94-210, § 202(b), (c), 90 Stat. 31, 35 (1976); *see also* Senate Report No. 94-499, at 2 (1976) (report on Railroad Revitalization and Regulatory Reform Act of 1976 finding that "[t]he cumbersome, slow process of making rates" was one of the ICC regulations that "has drastically slowed change needed in the industry and discouraged innovation and investment in the industry").

[5] *See also Midtec Paper Corp. v. United States*, 857 F.2d 1487, 1506 (D.C. Cir. 1988) (market dominance test was key part of congressional policy "to preclude the Commission from scrutinizing rates where 'effective competition' exists"); *Potomac Elec. Power Co. v. Consolidated Rail Corp.*, 367 I.C.C. 532, 536 (1983) (recognizing that Congress intended to "allow[] the forces of the marketplace to regulate railroad rates wherever possible" and discussing strong congressional intent that market dominance test limit ICC's rate reasonableness jurisdiction).

to ask the agency to determine whether that rate is reasonable.[6] DuPont's past and present use of trucking companies and the detailed analysis presented by Mr. Heisler below both demonstrate that DuPont is a shipper that has choices in at least 99 of the challenged lanes.

When identifying these transportation options, Mr. Heisler was guided by both his experience in the industry and the substantial evidence that DuPont is using the same or similar transportation alternatives today. DuPont uses trucks to transport {{ }} of truckloads of the issue commodities annually. (The issue commodities that DuPont transports via trucks today are described herein as the "Trucked Commodities.") Every commodity for which Mr. Heisler proposes a trucking option is one of these Trucked Commodities. And, with one exception, each of the commodities for which Mr. Heisler identified a transload option is transloaded by DuPont today.[7] Indeed, for {{ }} lanes, DuPont has already used one of the transportation alternatives identified by Mr. Heisler to transport the issue commodity between the complaint origin and the complaint destination. *See* NS Reply Ex. II-B-1. And for {{ }} lanes, DuPont has a point-to-point motor carrier contract rate for shipments over the lane, indicating that it considers trucking to be a significant enough alternative for that specific lane to have negotiated a point-to-point rate for the lane.[8] *See* NS Reply WP "DuPont Point to Point Contract Rates.xls." For many other lanes, DuPont has demonstrated the feasibility of a

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[6] *Cf. Mr. Sprout, Inc. v. United States*, 8 F.3d 118, 122 (2d Cir. 1993) ("Congress directed the ICC to reduce its supervision of the railroad industry so that carrier rates and practices would be disciplined by market forces rather than government regulation.").

[7] Mr. Heisler's competitive alternatives include transload options for twenty sulfuric acid lanes, two polyethylene lanes, five petroleum coke lanes, and seven titanium dioxide lanes. {{

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[8] DuPont also has mileage scale rates that can be used in the absence of a point-to-point rate.

transportation alternative by trucking the issue commodity from the origin or to the destination. And in almost every instance, DuPont already has trucking protocols in place, necessary infrastructure for loading and unloading, and access to trucks with the capacity to safely transport the commodity in question.

Moreover, these intermodal options are competitive with the cost of rail service. Mr. Heisler used current DuPont contracts with motor carriers, other rail carriers, and transload facilities to calculate the full cost of each transportation option. In ninety instances, the cost of the transportation alternative is less than or within 10% of the cost of NS rail service—the threshold that DuPont itself uses to identify cost-competitive transportation options. *See* NS Reply Ex. II-B-1; DuPont Opening I-16. In another nine instances Mr. Heisler identified a transportation alternative costing between 10% and 20% above the cost of NS rail service. *See* NS Reply Ex. II-B-1. In Mr. Heisler's expert opinion, the existence of cost-competitive truck and transload options for these lanes effectively constrains NS's rail rates.

As detailed below, the "limit price" approach suggested by the Board in *M&G Polymers USA LLC v. CSX Transp., Inc.*, STB Docket No. 42123 (Sept 27, 2012) ("*M&G*") is not a lawful or reasonable means of determining whether competition is effective. *See infra* at II-B-40 to II-B-57. The limit price approach directly contradicts the statute's language and is at odds with Congress's expressed opposition to the use of rebuttable presumptions based on variable costs for qualitative market dominance purposes. *See infra* at II-B-43 to II-B-48. Moreover, the Board's approach of presuming market dominance whenever a "limit price R/VC" is higher than the carrier's RSAM is economically meaningless and leads to absurd and arbitrary results. *See infra* at II-B-49 to II-B-57.

While DuPont spends many pages of evidence reciting alleged arguments for NS's market dominance on the issue lanes,[9] those arguments do not withstand scrutiny for the ninety-nine lanes with effective truck and truck-transload alternatives. First, DuPont's arguments cannot change the fact that it extensively uses truck transportation today, has active contracts with dozens of motor carriers, and even controls an affiliate motor carrier with an ample supply of specialized trucks and trained drivers. *See infra* at II-B-22 to II-B-24; II-B-34 to II-B-40.

Second, for many lanes DuPont seeks to establish market dominance on a technicality, by claiming that the Board is not permitted to consider intermodal competition for a Rule 11 rate unless that competition begins and terminates at the precise points where the challenged rail service begins and terminates. *See infra* at II-B-58 to II-B-92. DuPont's argument distorts the statute, which requires that the Board consider the effectiveness of intermodal competition for every rate challenge. DuPont's interpretation of the statute would make it impossible for the Board to consider intermodal competition for a Rule 11 rate and would contradict Congress's plainly-expressed desire that the Board consider a shipper's intermodal alternatives in every rate case. *See infra* at II-B-67 to II-B-75. And DuPont's position ignores longstanding STB and ICC precedent holding that transportation alternatives that replicate the entire route of a movement are intermodal competition, not geographic competition. *See id.* at II-B-75 to II-B-80. Indeed, DuPont's assertion that the Board is required to ignore evidence of the whole-route transportation options that DuPont actually uses in the course of business would utterly subvert

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[9] Indeed, DuPont devoted more narrative pages to its qualitative market dominance evidence than it did to the entirety of its SAC presentation. *See* DuPont Opening Evidence (50 pages in Section I and 172 pages in Section II-B discussing qualitative market dominance; 29 pages in Section I and 156 pages in Section III presenting SAC evidence).

the purpose of the market dominance inquiry: to assess whether the shipper faces effective competition from another method of transportation.

Third, DuPont claims that recent NS rate increases constitute evidence of NS's market dominance. But DuPont ignores the many reasons for those rate increases, including most importantly { } *See infra* at II-B-92 to II-B-94. DuPont's decision to continue using NS's rail service after rate increases rather than shifting volume to alternative modes is not evidence of market dominance; it is just evidence that DuPont decided to try its luck in a rate case instead of using available alternatives in the marketplace. The fact that DuPont apparently "consider[s] regulators' hands to be friendlier than invisible ones" does not prove that it lacks competitive alternatives. *AAR v. STB*, 306 F.3d at 1111.

Fourth, and relatedly, DuPont claims that the Board can draw no conclusions about market dominance from the fact that the cost of trucking alternatives is often comparable or lower than the challenged rate, for "similar rates are in fact evidence that NS is setting prices to match those of much higher cost alternatives." DuPont Opening I-22. But DuPont is trying to have it both ways. If truck prices for a movement are higher than NS's rail rate, DuPont claims that fact "alone is sufficient" to prove market dominance. *See id.* at I-14. But if truck prices are lower than or comparable to NS's rail rate, that supposedly only shows that NS is pricing up to higher cost alternatives. DuPont's argument is both self-contradictory and unsupported, for DuPont has produced no evidence that trucking is a "higher cost alternative" to the challenged rail rates. More importantly, DuPont's claim that the Board should not treat competitively priced alternative transportation as evidence of a lack of market dominance is at odds with the statutory scheme and the Board's settled rules for assessing market dominance. *Market Dominance*

Determinations provides that "the transportation costs of the rail and motor carrier alternatives" is an important part of ascertaining the existence of effective competition. 365 I.C.C. at 133. And, the agency has always found the price of competitive alternatives to be highly significant in finding the existence of effective competition[10] and the lack of it.[11] *See infra* at II-B-94 to II-B-98.

Fifth, DuPont claims that various customers and suppliers have contractually bound DuPont to supply them by rail. But this claim collapses upon examination. Many of the contracts explicitly contemplate truck shipments, and many of the customers with alleged rail "requirements" have received truck shipments. *See infra* at II-B-98 to II-B-100. {{

}} DuPont has presented no evidence that the contracts represent an actual customer constraint on its ability to ship via modes other than rail, let alone evidence that they represent a requirement that is insensitive to the relative cost of rail and truck shipments.

Sixth, DuPont alleges that its ability to use alternatives to rail over various lanes is constrained by a lack of sufficient infrastructure, an alleged need to use railcars for storage, or product integrity concerns. Many of these objections are completely irrelevant, for they relate to movements for which NS is not challenging DuPont's market dominance evidence or to barge or transloading options that NS is not arguing constitute effective competitive alternatives for the issue movements. *See infra* at II-B-100 to II-B-102. And the objections that are relevant to the market dominance issues here are exaggerated and do not satisfy DuPont's burden to prove that

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[10] *See, e.g., FMC*, 4 S.T.B. at 712 (finding lack of market dominance in part because "FMC . . . has obtained trucking rate quotations that are comparable to UP's current rail rate").

[11] *See, e.g., DuPont (Nitrobenzene)* at 5 (finding market dominance in part because of "evidence that trucking rates are significantly higher than the challenged rates").

NS is market dominant over each issue movement. In essence, DuPont's argument boils down to assertions that it has the power to make choices that would render NS market dominant.

In the face of these facts, DuPont cannot carry its burden of demonstrating that it lacks any effective competitive alternative to NS rail service on these lanes. Competition from truck and truck-transload options for the Trucked Commodities is robust and pervasive, and DuPont is well-positioned to negotiate favorable motor carrier rates for the Trucked Commodities. Indeed, as shown by DuPont's own contracts with trucking companies, DuPont has access to a private truck fleet, relationships with multiple other motor carriers, and ample ability to take advantage of competitive alternatives to rail service for the 99 lanes and the commodities shipped in those lanes. DuPont is not entitled to a regulatory determination of the reasonableness of NS's rates simply because it alleges that those rates are too high. Rather, DuPont has the burden of proving that it does not have any choice but to pay these rates because it has no effective competitive alternatives. For ninety-nine lanes, it cannot make that showing, and these lanes must be dismissed from the case for lack of jurisdiction.

1. Intramodal Rail Competition

For all but two of the lanes in the complaint, NS does not contest DuPont's claim that NS does not face any direct rail-to-rail competition over its portion of any of the issue movements. But DuPont decidedly does have an intramodal rail alternative for Lanes A18 and A19, each of which is subject to head-to-head competition between CSXT and NS. This intramodal competition is feasible, cost-competitive, and an effective competitive alternative to NS rail service. Therefore the Board does not have jurisdiction over either of these lanes.[12]

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[12] As demonstrated below, each of these lanes is also subject to intermodal competition from direct truck shipments. *See infra* at II-B-174 to II-B-175. Both the intramodal competition

The NS rates challenged on lanes A18 and A19 are both for shipments of hydrochloric acid from DuPont's Louisville, KY, plant to customers in Decatur, IL (A18) and Lafayette, IN (A19). DuPont' s assertion that it "is captive to NS at both the origin and destination" of these lanes is not true. DuPont Opening II-B-37. On the contrary, CSXT has access to DuPont's Louisville, KY, plant through reciprocal switching, as is demonstrated by NS Reply workpaper "NS 8001 Switching Tariff.pdf" at 149. CSXT similarly has reciprocal switching access to the destinations in Decatur and Lafayette. *See id.* at 124, 145. DuPont thus plainly has the ability to use CSXT service on these lanes as an alternative to NS rail service.

The direct rail alternative options that DuPont has on Lanes A18 and A19 are quintessential examples of the sort of competition that proves a lack of market dominance. Indeed, the Board's past decisions assume as a matter of course that a complainant who had access to more than one railroad would not be able to demonstrate market dominance. *See, e.g. Arizona Pub. Serv. Co. v. Atchison, Topeka & Santa Fe Ry. Co.*, 2 S.T.B. 367, 374 (1997) (intramodal competition did not exist because it would not be feasible to construct connecting track to another rail carrier). And DuPont has surely not carried its burden of proof, because it did not even mention in its Opening Evidence that it had the option of using two railroads on these two lanes—on the contrary, all its objections to alternative transportation for these lanes are objections to trucking or transloading. *See* DuPont Opening II-B-36 to 38. For these reasons, both Lanes A18 and A19 are subject to effective intramodal competition, and these lanes should be dismissed for want of jurisdiction.

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discussed here and the intermodal competition discussed below are independently sufficient reasons that preclude a finding of market dominance over these lanes.

2. Intermodal Rail Competition

NS faces effective intermodal competition from truck and rail-truck transload alternatives for at least ninety-nine of the issue movements.

The Board's rules require it to assess whether intermodal competition can constitute "effective competition" under § 10707(a) on a case-by-case basis. *See Market Dominance Determinations*, 365 I.C.C. 118, 129-30 (1981) ("The effectiveness of [competition] depends on the specific circumstances involved and this cannot be determined until each case is investigated."). While the ICC initially attempted to make market dominance determinations with the aid of rebuttable presumptions, it abandoned that effort in the *Market Dominance Determinations* rulemaking, finding that such presumptions "placed too much emphasis on quantitative evidence which did not fully reflect the circumstances of any given movement" and that "flexibility is necessary because of substantial differences among cases that preclude simple universally applicable rules." *Id.* at 120-21.

Pursuant to this case-by-case approach, the Board typically weighs multiple factors when determining whether a railroad is market dominant over a shipment. For example, in *FMC*, 4 S.T.B. at 711-13, the Board found that the defendant lacked market dominance over coke shipments after considering a variety of evidence including total shipment volume, past use of motor carriers, storage costs, the costs of necessary motor carrier infrastructure, potential environmental impacts, the use of motor carriers by other coke shippers, and the complainant's use of the threat of truck conversion during negotiations. This flexible, fact-specific approach is particularly well-suited to market dominance determinations, where "substantial differences among cases . . . preclude universally applicable rules" and the agency must use its expertise and

judgment to assess the effectiveness of potential competitive alternatives. *Market Dominance Determinations*, 365 I.C.C. at 121.

The Board's rules for assessing the effectiveness of truck competition, which were adopted in a notice-and-comment rulemaking conducted by the ICC in the wake of the Staggers Act, identify several key types of evidence from which "[e]ffective competition from motor carriage may be deduced":

(1) the amount of the product in question that is transported by motor carrier where rail alternatives are available;

(2) the amount of the product that is transported by motor carrier under transportation circumstances (e.g., shipment size and distance) similar to rail;

(3) the amount of the product that is transported using motor carrier by shippers with similar needs (distributional, inventory, et cetera) as the shipper protesting the rate;

(4) physical characteristics of the product in question that may preclude transportation by motor carrier; and

(5) the transportation costs of the rail and motor carrier alternatives.

Market Dominance Determinations, 365 I.C.C. at 133. The agency's rules emphasize that this list is not exclusive: "Other types of evidence on the feasibility or nonfeasibility of motor carriage as an alternative to rail will also be considered." *Id.*

As the Complainant, DuPont has the burden to prove that intermodal competition is not an effective alternative to NS rail service. *E.I. du Pont de Nemours & Co. v. CSX Transp., Inc.*, STB Docket No. 42100, at 2 (June 30, 2008).

Section II-B-2-a discusses the vigorous marketplace competition between trucks and railroads, the ICC and STB precedents recognizing the effectiveness of truck competition, and DuPont's own use of competitive trucking options to transport the issue commodities. Section II-B-2-b describes DuPont's ability to take advantage of market alternatives to rail

service, in part through the private trucking fleet of its subsidiary Sentinel Transportation, LLC ("Sentinel") and in part through its relationships with other motor carriers. Section II-B-2-c. addresses the "limit price" approach to market dominance proposed in the *M&G* decision and explains both why the Board may not lawfully apply that approach in this proceeding and why the approach is economically meaningless and arbitrary. Section II-B-2-d. responds to each of DuPont's major arguments in support of its claim that trucking and rail-truck transloading do not constitute effective competition for the issue movements. Section II-B-2-e. details the alternative transportation options that are available to DuPont for ninety-nine of the issue lanes.

NS has prepared a number of detailed exhibits to assist the Board in its evaluation of qualitative market dominance for the issue lanes. NS Reply Exhibit II-B-1 is a matrix setting forth key information about each case lane and the competitive transportation alternatives for that lane. Reply Exhibit II-B-2 sets forth the basis for Mr. Heisler's calculations for the total costs of each direct truck alternative presented herein, and Reply Exhibit II-B-3 does the same for each transloading alternative. Reply Exhibit II-B-4 contains maps illustrating the routes for each competitive alternative, and Reply Exhibit II-B-5 consists of detailed information on traffic volumes for each issue lane. Reply Exhibit II-B-6 is a statement from expert economist Mark Burton detailing the economic invalidity of DuPont's *DMIR* argument that the Board may not consider whole-route competitive alternatives for the NS Rule 11 rates that DuPont has challenged. Finally, Reply Exhibits II-B-7 and II-B-8 are statements from Drs. B. Kelly Eakin and Mark Meitzen of Christiansen Associates and Professor Robert Willig of Princeton University that discuss the many serious economic flaws in the limit price methodology proposed in *M&G*.

a. Motor Carriers Are Effective Competitors for the Transportation of Chemicals.

i. Board and ICC Precedent Recognizes the Effectiveness of Truck Competition.

The Board and the ICC before it have long recognized that truck transportation can be an effective competitive alternative to rail transportation. For example, in *Aluminum Association v. Akron, Canton & Youngstown Railroad Company*, 367 I.C.C. 475 (1983), the ICC found that truck transportation constituted an effective competitive alternative to the rail transportation of aluminum, even though over 90% of the subject aluminum movements were transported via rail and despite the complainants' arguments that it would be impractical to move all aluminum by truck. *See id.* at 483-84 ("not all aluminum has to move by truck for motor carriage to exert competitive pressures on the railroads").[13] In another decision the ICC found that trucks could provide effective competition to rail service for iron shipments even if trucks had not been widely used over the issue route. *See Platnick Bros., Inc. v. Norfolk & Western Ry. Co.*, 367 I.C.C. 782, 786 (1983). The fact that the consignee in *Platnick Brothers* had received substantial truck shipments from other sources sufficiently demonstrated the feasibility of truck transportation to preclude a finding of market dominance. *See id.* Likewise, in *Amstar Corp. v. Atchison, Topeka & Santa Fe Ry. Co.*, ICC Docket No. 37478 (Nov. 23, 1987), the ICC found that trucks provided effective intermodal competition for several issue movements where 98.5% of the total issue movement volume had been by rail and the only truck movements had been in response to emergency situations. Because Amstar regularly used trucks to ship to other

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[13] The Board's decision in *DuPont (Chlorine)* correctly cited *Aluminum Association* as a decision "finding effective competition where motor carriage accounted for 1/3 of nationwide aluminum shipments." *DuPont (Chlorine)*, STB Docket No. 42100, at 4 n.9. But rail transportation occupied an even larger share of the issue traffic. *Aluminum Ass'n*, 367 I.C.C. at 483 ("railroads currently transport just in excess of 90 percent as opposed to 95 percent of the subject traffic").

customers, the ICC concluded that Amstar's decision to use rail for certain issue movements was the result of "Amstar's own preferences," not an absence of effective competition. *Id.*

Truck transportation can constitute effective competition even where it would require significant shipper investment in additional facilities. *See FMC*, 4 S.T.B. at 712-14. In *FMC*, the Board found that the potential of the shipper to convert its facilities to accommodate large-scale truck deliveries constituted effective competition that precluded a finding of market dominance. In *FMC*, the evidence showed that the shipper had relied on rail for a substantial majority of its coke shipments; the only actual truck usage noted by the Board was FMC's use of trucks for 12% of its coke needs in 1983 (seventeen years before the Board's decision). *See id.* at 712. And it was undisputed that FMC would need to "convert[] its facilities to accommodate large-scale trucking operations—which would include significant investment [in new equipment and structures]."[14] *Id.* Nonetheless, the Board found that FMC's "potential for conversion to motor carriage is sufficient to discipline UP's rail rates" and that FMC therefore failed to demonstrate market dominance. *Id.* at 713.

More recently, the Board concluded in a plastics case that a complainant had viable motor carrier alternatives for most of the challenged movements, rejecting the complainant's arguments that customer preference, product integrity concerns, and infrastructure constraints created market dominance. *See M&G*, STB Docket No. 42123, at 12-13. While the Board ultimately applied a newly-devised "limit price" test to hold that the railroad was nevertheless

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[14] While the precise cost of necessary truck investment was not disclosed in the *FMC* decision, the Board's decision suggested that the amortized cost of a new facility would be "roughly comparable" to $1 million per year. *FMC*, 4 S.T.B. at 713.

market dominant over many of the lanes,[15] it held in the first instance that "feasible truck or truck/rail alternatives to CSXT's service exist for most of the challenged movements." *Id.* at 13. And the Board expedited consideration of market dominance evidence in another case where the record suggested that the complainant has trucking options. *See Total Petrochemicals USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (Apr. 4, 2011) (expediting schedule for submission of market dominance evidence because evidence of truck alternatives "raise[d] considerable doubt that [CSXT] possesses market dominance over some of the traffic at issue").

In addition, the Board and the ICC before it have regularly recognized the effectiveness of truck and rail-truck transload competition in the context of merger proceedings[16] and exemption proceedings.[17]

In short, the Board has long recognized that intermodal competition from trucks is often an effective competitive option to rail transportation. The only exceptions are situations where

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[15] The significant legal and economic flaws with this proposed approach are addressed below in Section II-B-2-c.

[16] *See, e.g., Union Pac. Corp. et al.—Control and Merger—Southern Pacific Rail Corp. et al.*, 1 S.T.B. 233, 393 (1996) (imposing condition allowing BNSF to serve newly constructed transload facilities as effective remedy to loss of 2-to-1 rail competition); *Rio Grande Indus., Inc.—Control—Southern Pac. Transp. Co.*, 4 I.C.C.2d 834, 920-23 (1988) (finding that transload facilities provided "strong competition" to all-rail service and rejecting claim that transload facilities could not provide "the competitive equivalent of direct rail service for high-volume end users of 190,000-pound loads of plastics moving in covered hopper cars"); *see also Norfolk Southern Corp.—Control & Consolidation Exemption—Algers, Winslow & W. Ry. Co.*, STB Fin. Docket No. 34839 (Feb. 15, 2007) (finding that trucks can provide a competitive alternative to coal utilities in area of line to be acquired).

[17] *See, e.g., Rail General Exemption Authority—Nonferrous Recyclables*, 3 S.T.B. 62, 65 (1998) (finding that motor carriers "play a significant role in the transportation of these commodity groups" and thus that there is "no evidence that rail carriers possess sufficient market power to abuse shippers and, indeed, must operate efficiently to compete for this traffic"); *Rail General Exemption Authority—Exemption of Grease or Inedible Tallow*, ICC Ex Parte No. 346 (Sub-No. 31) (served Dec. 9, 1994) (finding exemption where "[s]hippers have access to bulk trucking operations").

the volumes involved make truck transportation infeasible,[18] where there are "technical and practical problems" with truck service,[19] or where there is a significant cost differential between rail and truck transportation.[20] Indeed, most of the Board's decisions finding that trucks were not an effective competitive alternative have been based on findings of a confluence of factors demonstrating that motor carrier competition was both logistically infeasible and cost-prohibitive.[21] In the absence of this sort of evidence that trucks are clearly disadvantaged vis-à-vis rail deliveries, the Board has held consistently that trucks offer effective competition to rail transportation. *See FMC*, 4 S.T.B. at 713 (holding that "potential for conversion to motor carriage is sufficient to discipline UP's rail rates"). In so holding the agency has acted in accordance with Congress's command to "allow[] the forces of the marketplace to regulate

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[18] *See, e.g., West Texas*, 1 S.T.B. at 652 (trucking not an option where coal volumes would require 200 truck shipments each day of the year and where trucking would face "environmental concerns, noise, community opposition, [and] increased inefficiencies"); *Metropolitan Edison Co. v. Conrail*, 5 I.C.C.2d 385, 412 (1989) ("[s]imply impractical" to move a million tons of coal by truck).

[19] *See, e.g., Westinghouse Elec. Corp. v. Alton & So. Ry. Co.*, I.C.C. Docket No. 38188S (Jan. 25, 1988) ("The technical and practical problems [with truck transportation of heavy electric machinery] are evident," largely because trucks would exceed maximum weight limits and evidence showed that states would not grant permit exceptions to allow truck transportation); *McGraw Edison Co. v. Alton & So. Ry. Co.*, 2 I.C.C.2d 102, 108 (1986) (truck competition for transportation of "electric transformers weighing from 150,000 to 740,000 pounds" not effective because of "genuine and substantial transportation and routing obstacles confronting transportation of heavy electrical machinery by motor carrier").

[20] *See, e.g., Westmoreland Coal Sales Co. v. Denver & Rio Grande W. R.R. Co.*, 5 I.C.C.2d 1067, 1092 (1988) (truck rates more than triple rail rates); *McCarty Farms v. Burlington Northern*, 3 I.C.C. 2d 822, 831 (1987) (truck costs 50% to 85% higher than rail costs); *Arizona Pub. Serv. Co. v. Atchison, Topeka & Santa Fe Ry. Co.*, ICC Docket No. 38088S (Apr. 15, 1987) (truck costs 54% higher, not counting additional handling costs).

[21] *See, e.g., DuPont (Nitrobenzene)*, STB Docket No. 42101, at 6 (citing both evidence of "decidedly higher rates" for motor carriage and an unrebutted claim that the complainant could "incur[] breach of contract liability" by shipping via truck as evidence of market dominance); *see also infra* at II-12 through 13 (discussing multiple factors considered in market dominance determinations in *DuPont (Plastics)* case).

railroad rates wherever possible." H. REP. 96-1430, at 89 (1980). The House Report on the Staggers Act made clear that Congress believed that feasible and cost-competitive motor carrier alternatives are effective competition precluding a finding of market dominance:

> If a shipper can rely on a transportation alternative, which could include another railroad, a barge, or a truck, at a transportation cost which is not substantially greater than the rail transportation cost, then competition is present. Competition will serve to hold down rates, and the railroad involved would not have market power.

Id. at 39.[22]

In the face of this precedent clearly establishing that trucks effectively compete with railroads in a variety of circumstances, DuPont's evidence systematically mischaracterizes the Board's market dominance jurisprudence. First, DuPont completely ignores the Board's practice of considering multiple factors before each market dominance determination and making a decision based on the record as a whole. Instead, DuPont pretends that any piece of evidence cited in a previous decision finding that a railroad possessed market dominance is individually sufficient to support a market dominance finding here. For example, in DuPont's 2008 Three Benchmark case challenging CSXT rates for shipments of certain plastics and plasticizers, the Board found market dominance over the plastics shipments only after "consider[ing] a number of factors" in combination, including the infrequency of truck shipments, "the physical characteristics of the plastic powder," "customer preference," and the fact that "truck service is at least 10% more expensive than rail service." *DuPont (Plastics)*, STB Docket No. 42099 at 7 (Jun. 30, 2008). But DuPont cites *DuPont (Plastics)* as though each of the multiple factors

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[22] As detailed below, the Board's ill-conceived proposal to institute a "limit price" test creating a rebuttable presumption of market dominance if a competitive alternative has a "limit price R/VC" exceeding the carrier's RSAM is a sharp departure from the statute's command and from any coherent economic principles, and it should be rejected.

considered by the Board is alone enough to prove market dominance. *See, e.g.*, DuPont Opening I-15 (falsely claiming that *DuPont (Plastics)* "concluded that a 10% rate disparity after a substantial rail rate increase was sufficient to demonstrate a lack of effective competition"); *id.* at I-47 (claiming misleadingly that *DuPont (Plastics)* held that "[a] customer requirement for rail transportation demonstrates the infeasibility of alternative modes").[23] DuPont's attempt to reduce the Board's precedents to simplistic formulas whereby DuPont can establish jurisdiction by presenting one or two facts that were considered in a previous case should be rejected. Indeed, the Board recently criticized a rate complainant for a similarly cherry-picked reading of *DuPont (Plastics)* that ignored "the many factors which led the Board to conclude that trucking did not provide effective competition for the relevant movement in that case." *M&G*, STB Docket No. 42123, at 27.[24]

Second, DuPont misstates the very definition of effective competition when it claims that "'[e]ffective competition' means that, 'if a carrier raises the rate for such traffic, then some or all of that traffic will be lost to other carriers or modes.'" DuPont Opening I-3. DuPont uses this alleged definition in an attempt to make market dominance a *fait accompli*. Because DuPont chose not to shift the issue traffic to alternative modes after NS raised its rates, says DuPont, the Board is required to find that NS is market dominant, for effective competition supposedly

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[23] *See also id.* at I-38 (claiming misleadingly that *DuPont (Plastics)* held that "truck competition [for plasticizer movements] was not effective due to product contamination concerns"). In fact, the Board's decision was based on multiple factors, including a finding that truck shipments were not "economical" due to evidence that the costs of trucking or transloading plasticizers "would far exceed" total rail costs. *DuPont (Plastics)* at 3, 5.

[24] NS cites to the proposed Public Version of the Highly Confidential appendix to the *M&G* decision that the parties to *M&G* submitted on November 13, 2012. While the Board has not issued an order formally adopting the parties' proposal as its official public version, the proposed public version is publically available on the Board's docket and has been marked by the Board's Office of Proceedings as "Part of [the] Public Record." Proposed Public Version of Appendix, *M&G*, STB Docket No. 42123, at 1 (filed Nov 13, 2012).

means that traffic must be lost after any rate increase. DuPont Opening I-29. Under DuPont's formulation, all a shipper needs to do to establish market dominance is to continue using rail service after a rate increase. This interpretation would make Congress's command that the Board consider market dominance a dead letter, because it would give a shipper unilateral power to "game the system" to create market dominance whenever the customer decided to challenge increased rail rates. The Board has firmly rejected interpretations of the market dominance standard that would give one party the power to unilaterally create or preclude market dominance.[25]

More importantly, the language DuPont cites is not the Board's recognized definition of effective competition. DuPont derives its "definition" from a discussion illustrating the relevance of geographic competition in *Market Dominance Determinations*, 365 I.C.C. 118, 129 (1981). But the ICC plainly never intended the cramped language that DuPont cites to be read as the authoritative definition of "effective competition," because the ICC went on to define "effective competition" on the very same page of *Market Dominance Determinations* from which DuPont's "definition" is derived. The actual definition of "effective competition" provided in *Market Dominance Determinations* was as follows: "Effective competition for a firm providing a good or service means that there must be pressures on that firm to perform up to standards and at reasonable prices, or lose desirable business." *See id.* The Board has repeatedly

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[25] *See, e.g., DuPont (Nitrobenzene)*, STB Docket No. 42101, at 4 (refusing to find lack of market dominance "solely [based] on the fact that a carrier responded to a threat of competition," because with such a holding "carriers would be able to insulate themselves from rate challenges" simply by offering a small rate reduction).

adopted this definition,[26] but neither it nor the ICC have ever relied on DuPont's supposed "definition."[27]

Finally, DuPont flatly mischaracterizes the law when it claims that "the Board has also noted" that competition cannot be effective unless shippers are "able to respond quickly to changes in transportation charges." DuPont Opening I-7 (citing *Special Procedures for Making Findings of Market Dominance*, 353 I.C.C. 874, 929 (1976)). This quotation from a 36-year-old ICC decision is not something that "the Board has . . . noted," and it does not accurately represent current law. On the contrary, the Board has made clear that a shipper does not need the ability "to respond quickly" in order to have an effective competitive alternative. "The fact that it may take some time for a shipper to exercise its competitive alternatives does not preclude a finding of no market dominance." *Southwest R.R. Car Parts Co. v. Missouri Pac. R.R. Co.*, STB Docket No. 40073 (Feb. 20, 1998); *see FMC*, 4 S.T.B. at 712-13 (potential for shipper to build truck loading facility was effective competition); *cf. Seminole Elec. Cooperative, Inc. v. CSX Transp., Inc.*, STB Docket No. 42110 (May 19, 2010) (ordering oral argument on issue of whether potential for shipper to undertake project to construct barge dock precluded finding of market dominance). DuPont's misstatement of the law has little impact on the market dominance issues in this case, because virtually all of the trucking and transloading alternatives discussed below can be utilized by DuPont today (and indeed many are currently being used by

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[26] *See, e.g., M&G*, STB Docket No. 42123, at 2 (quoting "effective competition" definition from *Market Dominance Determinations*); *U.S. Magnesium, LLC v. Union Pacific R.R. Co.*, STB Docket No. 42114, at 5 n.7 (Jan. 28, 2010) (same); *DuPont (Plastics)*, STB Docket No. 42099, at 3 n.5 (same); *DuPont (Nitrobenzene)*, STB Docket No. 42101, at 2 n.5 (same); *DuPont (Chlorine)*, STB Docket No. 42100, at 3 n.4 (same).

[27] It is not clear why the D.C. Circuit's decision in *CF Industries* cited this quote from the geographic competition discussion of *Market Dominance Determinations* as if it were the agency's definition of effective competition. What is clear is that neither the ICC nor the STB have ever adopted DuPont's cramped definition of effective competition.

DuPont). But DuPont's general approach of misstating the governing law casts serious doubt on the accuracy of its representations as a whole.

ii. Trucks Are Vigorous Competitors with Rail Carriers for Transportation of the Trucked Commodities.

The Board's recognition of the vitality of truck competition for many rail movements is an accurate reflection of the transportation market today. The freight transportation market in the United States is characterized by vigorous competition between and among modes, and truck transportation is an attractive competitive option for many freight shipments. Indeed, truck transportation is the predominant method of freight transportation in the United States. According to the most recent Commodity Flow Survey ("CFS"), 73% of freight tonnage in the United States moves by truck (70% in direct truck movements and 3% in truck-rail or truck-water intermodal movements).[28] Just 14.8% of freight tonnage moves in all-rail service.[29] The Federal Highway Administration has recognized that "[i]n value terms, trucking is by far the dominant domestic freight mode . . . account[ing] for three-quarters of freight shipment value."[30]

The strong competitive position that trucking possesses in the transportation market as a whole extends to the transportation market for chemicals. Trucks transport 48.3% of total U.S. freight tonnage for Basic Chemicals (a Standard Classification of Transportation Goods category that includes the vast majority of the DuPont issue commodities, including sulfuric acid, titanium

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[28] *See* Bureau of Transportation Statistics and U.S. Census Bureau, 2007 Commodity Flow Survey, at 1 (NS Reply WP "2007 Commodity Flow Survey").

[29] *See id.* All-rail movements have a proportionally higher share of freight tonnage on a ton-mile basis (40.2%), but are still outnumbered by truck direct movements and intermodal movements involving trucks (48.9%).

[30] *See* National Freight Transportation Trends and Emissions—Effects of Freight Movement (available in NS Reply workpapers).

dioxide, and caustic soda).[31] Trucking is the predominant mode of transportation for hazardous chemicals as well; the most recent CFS shows that 53.9% of total hazardous materials tonnage is transported by truck. *See* NS Reply WP "2007 HazMat Commodity Flow Survey" at 2. Indeed, the American Chemistry Council (of which DuPont is a member) has admitted that "[t]he majority of hazmat travels by truck." American Chemistry Council, Issue Brief on Hazmat Transportation Safety, at 1 (available in NS Reply workpapers).[32]

Most relevant to the issues in this case is the fact that DuPont regularly uses motor carriers to transport the Trucked Commodities. DuPont uses trucks to transport {{ }} of truckloads of the issue commodities each year. As Table II-B-1 demonstrates, in the five years between 2006 and 2010 DuPont shipped over {{ }} truckloads of these Trucked Commodities.

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[31] *See id.* at 25. The Commodity Flow Survey classifies commodities using the Standard Classification of Transportation Goods ("SCTG") system, not the Standard Transportation Commodity Code ("STCC") system. A description of SCTG categories is included in NS's workpapers.

[32] *See* NS Reply WP "ACC Member Companies" (listing DuPont as ACC member company).

TABLE II-B-1
DuPont Truck Shipments of Selected Issue Commodities (2006-2010)[33]

Commodity	DuPont Truck Shipments (2006-2010)
Aniline Oil	{{ }}
Difluoroethane	{{ }}
Dimethyl Ether	{{ }}
Dimethyl Formamide	{{ }}
Dimethyl Sulfate	{{ }}
Flammable Waste	{{ }}
Glycolic Acid	{{ }}
Lime	{{ }}
Methylamine Anhydrous	{{ }}
Methylamine Aqueous	{{ }}
Monomethyl Formamide	{{ }}
Muriatic Acid	{{ }}
Oleum	{{ }}
Petroleum Coke	{{ }}
Polyethylene	{{ }}
Propanediol Bio	{{ }}
Sodium Caustic	{{ }}
Sodium Methylate	{{ }}
Spent Sulfuric Acid	{{ }}
Sulfuric Acid	{{ }}
Sulfur Trioxide	{{ }}
Titanium Dioxide	{{ }}
Titanium Tetrachloride	{{ }}
Zircon Sand	{{ }}
Total:	{{ }}

[33] Table II-B-1 is based on truck shipment files DuPont produced in discovery, which are contained in NS Reply WP Folder "DuPont Truck Shipment Records."

As detailed below in section II-B-2-e, many of these truck shipments originated at the same DuPont facilities that are origins for issue movements. And many were delivered to the same DuPont customers located at destinations for issue movements. Indeed, in many cases DuPont has trucked issue commodities over one of the issue lanes. *See infra*. In short, trucking the issue commodities is not a mere hypothetical option that DuPont could use in the future—as Table II-B-2 illustrates, it is a real option that DuPont has used in the past and is using today.

TABLE II-B-2
DuPont Truck Shipments From Issue Facilities And To Issue Destinations[34]

Competitive Lanes Where Issue Commodity Trucks Have Been Loaded at Origin	{{ }}
Competitive Lanes Where Issue Commodity Trucks Have Been Unloaded at Destination	{{ }}
Competitive Lanes Where Issue Commodity Trucks Have Been Shipped Over Issue Lane	{{ }}

Trucks have several advantages over rail transportation that enable them to compete effectively in the marketplace for low-volume chemical shipments. Truck transportation is typically faster than rail transportation. This is particularly so when a direct truck shipment can substitute for a joint-rail movement involving two or three railroads. Truck transportation can also reduce loading and unloading costs. While rail cars typically must be loaded and unloaded by personnel of the consignor and consignee of the rail shipment, truck drivers sometimes are able to load and unload their own trucks with little (if any) need for assistance from the consignor and consignee. This self-loading and unloading is particularly common with non-hazardous bulk shipments, but it also occurs with hazardous truck shipments, particularly gasoline and fuels. While truck driver loading and unloading is less common for other hazardous chemicals, the speed advantage of trucks is significant for all chemical shipments.

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[34] Source: NS Reply WP "Truck Shipments To Issue Origins and Destinations.xls"

Transporting hazardous materials by truck does present different safety and logistical issues than transporting nonhazardous bulk materials. But so does transporting hazardous materials by rail, by barge, or by any other mode. DuPont's evidence details the specialized equipment and loading protocols that it deems to be necessary for loading and unloading trucks with the issue commodities. But loading railcars with these commodities requires similar specialized equipment and loading protocols.[35] Loading trucks with the issue commodities is not more dangerous or more arduous than loading railcars with them. The fact that transportation of the issue commodities requires specialized equipment and more care than the transportation of some other commodities does not alter the reality that these commodities can be and commonly are transported by truck.

DuPont's attempts to dismiss the competitiveness of the truck transportation it uses today should be rejected. First, DuPont attempts to use the CFS to argue that trucking hazardous materials is only practical at short distances, but its cherry-picked evidence is transparently flawed. *See* DuPont Opening I-11 to 12. DuPont claims that the "CFS shows a dramatic difference in the average miles per hazardous material shipment by truck versus rail" and argues that the fact that the average length of a hazardous material truck shipment is 59 miles proves that trucks can only compete with rail transportation for short-distance hazmat movements. *Id.* But the "hazardous materials" transportation statistics that DuPont cites are driven in large part by transportation of gasoline and fuel, which by far are the most commonly transported hazardous materials in the United States. The 2007 CFS estimated that out of the approximately 2.23 billion tons of hazardous materials transported in the United States in 2007, nearly half

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[35] NS Reply WP folder "DuPont Loading Procedures" includes DuPont's protocols for loading railcars and trucks with the issue commodities.

(over 1.1 billion tons) consisted of either gasoline or diesel fuel. *See* NS Reply WP "2007 HazMat Commodity Flow Survey" at 4, Table 3. Both the gasoline and the diesel fuel distribution network are characterized by large number of short-haul truck shipments over the "last mile" from distribution terminals to filling stations.[36] As a result, each commodity has an extremely short average length of haul, which substantially affects the average distance of all hazardous material shipments. Fuel oil, which constitutes another 20% of the total volume of hazardous materials transported in the United States, is similarly distributed over short distances. As a result, the fact that nearly 70% of CFS's data sample consisted of fuel and fuel oil with an average shipment distance of less than 40 miles substantially skewed the average mileage calculations for hazardous materials as a whole.

Table II-B-3, which is drawn directly from the 2007 CFS data, demonstrates that the average miles per shipment for gasoline, diesel fuel, and fuel oil is less than half the total average (and thus that the average for hazmats other than gasoline and diesel fuel is much higher than the total average).

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[36] *See* NS Reply WP "The Liquid and Gaseous Fuel Distribution System.pdf," at 2 (illustrating U.S. liquid fuels distribution system); NS Reply WP "Economic Impact Analysis for Gasoline Distribution Industry.pdf" at 2-2 ("Truck transportation is the most common delivery method for gasoline to retail outlets.").

Table II-B-3
Gasoline and Diesel Fuel Shipment Tonnage and Average Mileage[37]

	Tons (in thousands)	Percent of Total HazMat Tons	Average Miles Per Shipment
Gasoline	883,928	39.6%	43
Diesel Fuel	217,590	9.8%	39
Fuel Oil[38]	454,123	20.4%	37
Total HazMat Shipments	2,231,133	100%	96

Table II-B-4 depicts similar information from the CFS for hazardous material truck shipments. Over 70% of the total truck tonnage shipments in the United States consists of gasoline, diesel fuel, and fuel oil shipments with an average length of haul of 40, 36, and 30 miles, respectively. The inclusion of such a large number of short-haul fuel truck movements substantially depresses the average miles per shipment for hazmats as a whole.[39]

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[37] *See* NS Reply WP "2007 HazMat Commodity Flow Survey" at 4, Table 3.

[38] The primary commodity encompassed by UN number 1993 (Flammable liquids, n.o.s.) is fuel oil.

[39] Gasoline and diesel fuel are highlighted here as the most prominent factors depressing the average hazmat shipment distance, but it should be noted that other commodities like propane, and petroleum gases have short-haul truck-centered distribution networks that also lower the average shipment distance for flammable gas shipments. *See id.* at 4, 6 (average propane shipment distance was 24 miles; average shipment distance for all flammable gases (including propane) was 51 miles).

Table II-B-4
Gasoline and Diesel Fuel Truck Shipment Tonnage and Average Mileage [40]

	Truck Tons (in thousands)	Percent of Total HazMat Truck Tons	Average Miles Per Truck Shipment
Gasoline	537,659	44.7%	40
Diesel Fuel	87,389	7.3%	36
Fuel Oil	255,622	21.3%	30
Total HazMat Shipments	1,202,825	100%	59

The Commodity Flow Survey makes clear that the type of hazmat shipments at issue in this case have average lengths of haul much higher than the fuel-depressed average for all hazardous materials. Table 11a from the HazMat CFS shows that the average total hazmat shipment distance of 96 miles is a function of combining the relatively low shipment distances of commodity categories like gasoline (43 miles) and fuel oils (32 miles) with relatively higher shipment distances for commodity categories like basic chemicals (146 miles) and chemical products (348 miles). *See id.* at 21.

Indeed, the Commodity Flow Survey includes detailed data on truck shipment patterns for two of the issue commodities: sulfuric acid and sodium hydroxide (caustic soda). A substantial amount of sulfuric acid (34.1% of total tonnage) moves by truck, with an average truck haul length of 170 miles. *See id.* at 15. This average length of haul is substantially affected by lower lengths of haul for private trucks—for-hire truck shipments average 341 miles. *See id.* And 39.5% of sodium caustic tonnage moves via truck, with an average length of haul of 109 miles for all truck shipments and 355 miles for for-hire trucks. *See id.* Far from being evidence that the issue commodities are not trucked at long distances, therefore, the CFS actually

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[40] *See* NS Reply WP "2007 HazMat Commodity Flow Survey" at 1, 14-15.

shows that transportation of the issue commodities over several hundred miles or more is common.

In short, the Board should reject DuPont's claim that trucking hazardous materials at distances beyond DuPont's flawed "averages" is not competitive. It is certainly true that trucking is a particularly competitive alternative to rail transportation at shorter distances, but the best test of the distance at which trucks can be a competitive option is DuPont's own practice. None of the transportation options discussed below contemplate that DuPont would truck any of the Trucked Commodities a greater distance than it historically has trucked them.

Second, DuPont's citation of a U.S. Department of Transportation ("USDOT") statement warning against a "significant shift" to truck shipments of TIH commodities is a red herring. *See* DuPont Opening I-9 (citing U.S. Dep't of Transportation Comments in *Union Pacific R.R.—Petition for Declaratory Order*, STB Fin. Docket No. 35504 (filed March 12, 2012)). The USDOT comments DuPont relies upon exclusively addressed shipments of TIH traffic—which are the subject of the tariff provisions at issue in Docket No. 35504. Here, the vast majority of lanes DuPont has challenged are not TIH lanes—only 11 of the 138 total lanes DuPont has challenged are TIH lanes. *See* NS Reply Ex. II-B-1. And only three of the lanes for which Mr. Heisler has identified a competitive alternative are TIH lanes. *See id.* Each of these TIH lanes involves a commodity that DuPont regularly transports by truck—indeed, {{

}} DuPont has shipped trucks over the issue lane. *See infra* at II-B-181; II-B-188. Shifting the relatively small volume of these three lanes is not the sort of "significant shift" that USDOT discussed in its Docket 35504 comments. It is rather a recognition that DuPont could truck TIH commodities to the customers on these lanes just like it does to many other customers and that DuPont's ability to do so creates competitive pressures on NS's rail pricing.

Third, DuPont argues that multiple trucks are required to transport the volume of a single railcar, and therefore that trucking will involve more "loading events" than rail transportation. *See* DuPont Opening I-9. But while a substantial increase in "loading events" might be a deterrent to truck transportation on a high-volume lane, the lanes at issue here are relatively low volume, and a marginal increase in loading events is not a deterrent to cost-effective truck transportation.[41] For most lanes, exclusively using trucks would result in only a few hours more per week devoted to truck loading. It is also worth noting that, in many cases, truck loading and unloading can be performed by the truck driver as part of the trucking service. Railcar loading, on the other hand must always be performed by DuPont or contract personnel (for shipments originating at DuPont plants), and railcar unloading must be performed by personnel at the receiver.

Moreover, DuPont's claim that using smaller-volume trucks in lieu of larger-volume railcars "means 4-5 times more risk of an accidental release" is a substantial overstatement. While truck transportation requires relying on more individual shipments, the release of a tank car's volume of a hazardous material is a much more significant and dangerous event than the release of a truck trailer volume. The risks are therefore not nearly as skewed as DuPont claims. And again, the best test of how much risk DuPont is willing to tolerate in the real world is its past practice. DuPont transports {{ }} of truck shipments of the issue commodities each year, and it cannot establish Board jurisdiction by claiming that it now thinks trucks are too dangerous. In short, the fact that DuPont may choose to use rail service because it

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[41] See NS Reply Ex. II-B-5 for a summary of historical railcar volumes on the lanes with competitive alternatives and the number of truck shipments necessary to transport those volumes.

prefers fewer loading events does not change the fact that it could feasibly and cost-effectively transport the issue commodities by truck.

Finally, DuPont asserts that the Board should not make any ruling that would encourage shippers "to select trucks solely on the basis of a lower price." DuPont Opening I-12. While DuPont's meaning is less than clear, it appears to argue that the Board should be more forgiving when assessing DuPont's market dominance evidence on hazardous materials lanes because recognizing the existence of competitive alternatives might lead DuPont to exercise those alternatives. But Congress did not include a "hazmat exception" to the statutory command that shippers prove market dominance for any lane they wish to challenge. It is certainly true that the physical characteristics of a commodity (including its hazardous or nonhazardous nature) is a factor that the Board should consider in the market dominance calculus. *See Market Dominance Determinations*, 365 I.C.C. at 133. But if a hazmat is capable of being safely transported by truck, a shipper cannot be allowed to escape its burden of proving market dominance for a shipment of that commodity on the theory that rail transportation is superior to truck transportation as a matter of public policy.

iii. NS's Experiences in the Marketplace Demonstrate That Trucks Effectively Compete With Railroads for Transportation of the Trucked Commodities.

NS marketing personnel regularly consider truck competition when assessing the transportation market.[42] In today's transportation marketplace NS vigorously competes with

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[42] Alan Shaw, NS Group Vice President (Chemicals), sponsors the evidence in this section of NS's Reply Evidence regarding NS's real-world experiences with competition from motor carrier and transloading alternatives for chemicals shipments. Mr. Shaw's experience and qualifications are set forth in Section IV.

trucks and rail-truck transload options for carload business in general and for chemicals business in particular.

Truck competition is regularly considered by NS when setting rates for truckable commodities. {{

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Truck competition and the ability to divert traffic to trucks are regularly cited by shippers when negotiating with NS for rail rates. One example of a shipper using motor carrier competition when negotiating rail rates {{

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Many other shippers have similarly used their ability to truck commodities as leverage in rate negotiations. A few examples of shippers using trucking options as negotiating leverage are listed below:

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NS often responds to shippers' ability to use truck alternatives with adjustments to initial rate offers. {{

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In short, competition from motor carriers is vigorous and pervasive, and it has a real constraining effect on the rates NS may charge in the chemicals market. As discussed below, DuPont is in an extraordinarily strong position to take advantage of this market competition.

b. DuPont Is Well-Positioned To Take Advantage of Its Market Options.

DuPont has ample opportunities to use trucking options for the Trucked Commodities. It has relationships and contracts with {{ }} motor carriers with the capacity to transport one or more of the Trucked Commodities, and it has the ability to leverage the significant volume of its business to obtain favorable rates and contract terms. And DuPont has an advantage that is available to very few shippers: it has its own private trucking fleet, with trained drivers and an ample supply of specialized equipment necessary to carry the Trucked Commodities.

DuPont holds significant leverage in the marketplace. In its evidence DuPont presents itself as a passive victim forced to use NS service over the issue lanes due to NS's market power. But the reality is that DuPont is a Fortune 100 company with substantial power to obtain favorable treatment in the transportation marketplace. In 2011 it had worldwide net sales of approximately $38 billion and earnings of over $3.4 billion. *See* DuPont 2011 10-K at 17, 20 (available in NS Reply Workpapers).[43] These figures represent a 20% increase in sales revenue over 2010, an increase that DuPont "principally" attributed to its price increases. *Id.* at 17. At the end of 2011 DuPont had cash and cash equivalents of approximately $3.6 billion. *See id.* at F-5.

DuPont's market power is not predicated simply on the fact that it has ample resources to take advantage of market alternatives, but rather on the fact that DuPont controls a substantial book of business that it can use to leverage favorable rates. DuPont has {{ }} plant sites in the United States, and it ships millions of tons of commodities annually. *See* NS Reply WP

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[43] DuPont's 2011 revenues were therefore three-and-a-half times greater than NS's. *See* NS Reply WP "NS 2011 10-K.pdf" at K18.

"DuPont U.S. Plant Sites.xls" (produced by DuPont in discovery). DuPont can and does use its substantial volume of business to obtain favorable transportation rates and service.

DuPont's market power is reflected in the remarkably favorable terms that it has secured for itself in virtually every motor carrier contract. Most of DuPont's motor carrier contracts have similar terms and conditions, many of which substantially benefit DuPont.[44] For example, DuPont's motor carrier contracts typically contain the following provisions:

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- {{

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- {{

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- {{

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[44] All motor carrier contracts referenced in this section are included in NS Reply WP Folder "DuPont Trucking Contracts" and organized in subfolders by the name of the motor carrier.

[45] *See, e.g.*, {{

}}

[46] *See, e.g.*, {{

}}

[47] *See, e.g.*, {{

}}

}}

The result of these strikingly favorable contractual provisions is that DuPont has significant flexibility to obtain the lowest possible trucking costs and best possible service. The fact that DuPont was able to secure these conditions demonstrates the significant leverage that it has in the transportation marketplace, and the fact that motor carriers agreed to them demonstrates their interest in obtaining a share of DuPont's business. And as detailed below in section II-B-2-b, DuPont has used its market power to secure favorable rates for transporting many of these commodities by truck.

DuPont's ability to obtain favorable trucking rates is also evidenced by {{

}}

DuPont's good and longstanding relationships with motor carriers are further demonstrated by the fact that it regularly recognizes its trucking partners with service awards. For example, in 2011 DuPont Titanium Technologies awarded its "prestigious Outstanding Intermodal Carrier of the Year award" to Mode Transportation. *See* NS Reply WP "Mode Transportation Release.pdf." And awards aside, DuPont's motor carriers have an incentive to offer favorable rates and excellent service to a customer that commands such a substantial volume of business.

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[48] *See, e.g.*, {{

}}

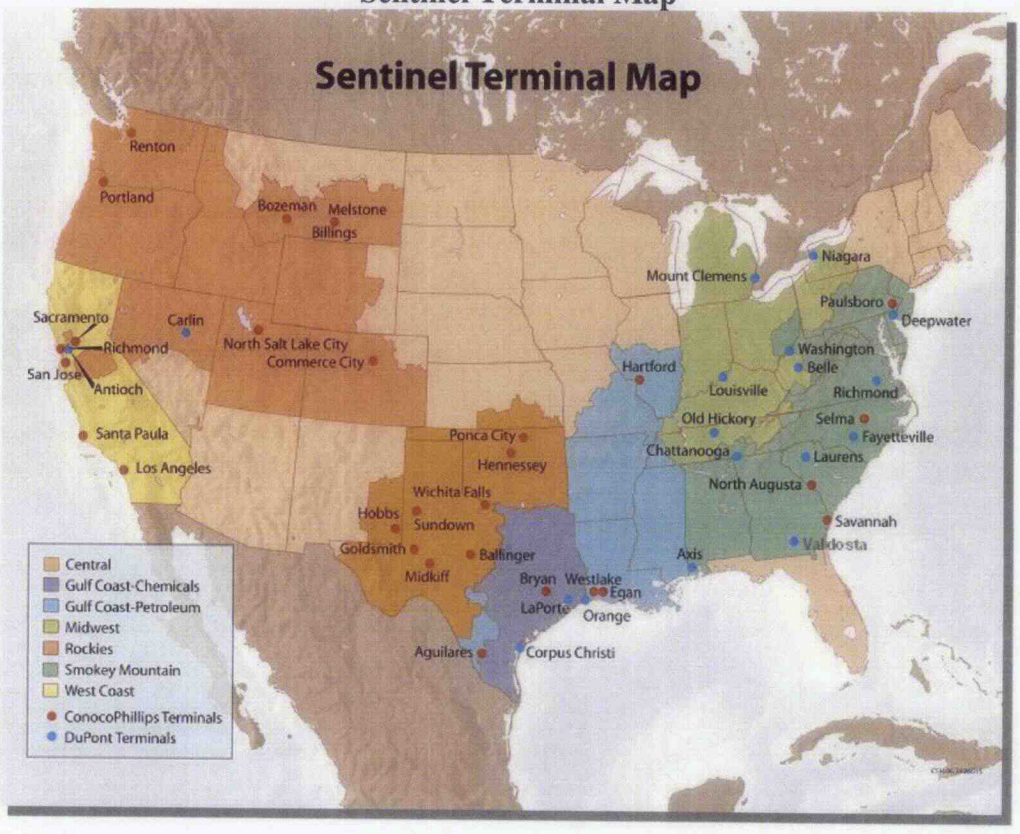
DuPont's ability to obtain favorable terms from outside motor carriers is enhanced by its ability to use its own in-house trucking fleet to transport the issue commodities. DuPont is the 80% owner of Sentinel Transportation, LLC ("Sentinel"), a limited liability company that operates a nationwide private trucking fleet to transport commodities for DuPont and ConocoPhillips (which owns the remaining 20% interest in Sentinel).[49] Sentinel operates eighteen terminals for DuPont (and another twenty-four for Conoco). *See* NS Reply WP "Sentinel Transportation Terminal Locations," *available at* http://www.sentineltrans.com/locations.html. As Illustration II-B-1 shows, 15 of these DuPont-dedicated terminals are located east of the Mississippi in areas that could easily serve some of the issue movements. *See id.* Indeed, several Sentinel terminals are located adjacent to or on the grounds of DuPont plants, including DuPont's facilities at Belle, WV; Bellwood, VA; Deepwater, TX; La Porte, TX; and Orange, TX. *See id.*

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[49] *See* E.I. du Pont de Nemours & Co. Form 11-K Annual Report of Employee Stock Purchase Savings and Similar Plans, at 4 (filed June 27, 2011) (stating that Sentinel is "a joint venture whose members are DuPont (80%) and Conoco (20%)") (available in workpapers); {{

}}

Illustration II-B-1
Sentinel Terminal Map[50]



Sentinel's fleet includes specialized equipment dedicated to DuPont's service. The Sentinel fleet includes {{ }} tractors and {{ }} trailers used for DuPont shipments. *See* NS Reply WP "Sentinel Subpoena Responses.xls." More importantly, hundreds of these trailers are specialized chemicals trailers that can be used to transport the Trucked Commodities. When Sentinel's fleet is added to the substantial number of specialized trailers that DuPont itself owns and leases, the total private trailer fleet under DuPont's control contains an ample supply of private equipment that could be used to transport the issue commodities, as Table II-B-5 demonstrates.

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[50] Image excerpted from NS Reply WP "Sentinel Transportation Terminal Locations," *available at* http://www.sentineltrans.com/locations.html.

TABLE II-B-5
DuPont and Sentinel Supply of Trailers

Trailer Type	Commodities Transported in Trailers[51]	Trailers in Sentinel Fleet[52]	Trailers in DuPont Fleet[53]
MC 312 / DOT 412 (Corrosive Liquid Tank Truck)	{{ }} {{ }} {{ }} {{ }} {{ }} {{ }} {{ }}	{{ }}	{{ }}
MC 307 / DOT 407 (Low-Pressure Chemical Tank Truck)	{{ }} {{ }} {{ }} {{ }} {{ }} {{ }} {{ }} {{ }}	{{ }}	{{ }}
MC 331 (High-Pressure Tank Truck)	{{ }} {{ }}	{{ }}	{{ }}
Pneumatic Hopper Truck	{{ }} {{ }} {{ }}	{{ }}	{{ }}
Dump Trucks	{{ }}	{{ }}	{{ }}

Moreover, the motor carriers with whom DuPont regularly does business also maintain substantial fleets of specialized equipment that can and are used to transport the Trucked Commodities for DuPont. For example, {{

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[51] Source: NS Reply WP Folder "DuPont INT Response on Truck Type" (DuPont interrogatory response identifying the types of trucks that it believes can transport the issue commodities).

[52] Source: NS Reply WP "Sentinel Subpoena Responses.xlsx," at Tabs "Sent. Trailers 12-2011" & "Special DuPont Trailers 12-2011" (produced by Sentinel in discovery).

[53] Source: NS Reply WP "DuPont Trailer Info.xls" (produced by DuPont in discovery).

}} In short, there is an ample supply of trucks able to transport the Trucked Commodities for DuPont. As demonstrated below in section II-B-2-d, DuPont can cost-effectively use these trucks for alternative transportation on ninety-nine of the issue lanes.

c. The Board's "Limit Price" Proposal Is Legally Flawed and Economically Meaningless, and It Should Not Be Applied In This Case.

In a recent adjudication the Board proposed a new quantitative methodology to assess the effectiveness of competition, but this methodology is unlawful, economically unsound, and should not be applied in this or any other case. *See M&G*, Docket No. 42123. In *M&G*, the Board announced for the first time what it calls the "limit price methodology" for determining whether a railroad possesses market dominance over the contested movements in maximum

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[54] {{ }}

[55] {{ }}

[56] {{ }}

[57] {{ }}

reasonable rate cases. The Board has not expressly stated that it intends to apply this new methodology to this or any other pending rate cases,[58] but because the language in the *M&G* decision is not clear on the point, NS includes the following section explaining both why the Board may not lawfully do so and why the "limit price methodology" is seriously flawed and should not be employed in this case.[59]

The "limit price" approach used in *M&G* consisted of four steps. First, the Board set a "limit price," which the Board defined as the highest price a railroad could theoretically charge a shipper "without causing a significant amount of the issue traffic on a particular rail movement to be diverted to any particular competitive alternative." *M&G*, STB Docket No. 42123, at 3-4. In practice, the Board appears to have used the cost of the lowest-cost viable transportation alternative as the "limit price" in each case. Second, the Board calculated a "limit price R/VC ratio," defined as the ratio of the limit price to the rail carrier's "variable cost of providing the service at issue." *Id.* at 4. This limit price R/VC ratio then was compared to the railroad's most recent Revenue Shortfall Allocation Method ("RSAM") figure. If the limit price R/VC ratio exceeded the RSAM figure, the Board preliminarily concluded that "the alternative cannot exert competitive pressure sufficient to effectively constrain the rate at issue." *Id.* If the limit price R/VC ratio was less than the current RSAM figure, the Board preliminarily concluded that "the competitive alternative effectively constrains the rate at issue." *Id.* Third, the Board considered whether "certain intangible qualities" existed that could overcome the presumption established

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[58] If the Board is consistent with the approach it announced in proposing limitations on the use of "cross-over traffic" of not applying such limitations to pending cases on grounds of fairness to the litigants, *see Rate Regulation Reforms*, STB Ex Parte No. 715, at 17 n.11 (July 25, 2012), then presumably the Board will not apply the "limit price methodology" in this proceeding.

[59] The Board invited interested parties to submit comments on the "limit price" approach in the *M&G* Docket. *See M&G*, STB Docket No. 42123 (Oct. 25, 2012). NS submitted amicus curiae comments on November 28, 2012, and incorporates the substance of those comments herein.

by the comparison of RSAM to the limit price R/VC ratio. *Id.* These intangible qualities are characterized as "certain unquantifiable benefits" or "certain unquantifiable costs." *Id.* at 14. As demonstrated below, this proposal to create an R/VC-based rebuttable presumption[60] of market dominance is a direct violation of the Interstate Commerce Act, an unlawful attempt to revise the agency's governing market dominance rules without notice and comment, and a fundamentally incorrect and economically meaningless approach.

This proposed limit price approach should not be applied in this case (or any other case), for at least three reasons. First, the "limit price" approach's decision to use a R/VC-based rebuttable presumption conflicts with the plain language of the Interstate Commerce Act and Congress's expressed intent that the agency not use R/VC ratios to establish any presumptions about market dominance. Second, the Board's proposal to announce this new rule in an individual adjudication is a violation of the Administrative Procedure Act's ("APA's") notice-and comment requirements, which require a rulemaking for the Board to reverse the market dominance standards that the ICC adopted in *Market Dominance Determinations*. Third, the limit price methodology is an economically meaningless tool for purposes of assessing the effectiveness of competition. NS's evidence includes statements from three prominent economists with expertise in transportation markets—Professor Robert Willig of Princeton University and Drs. B. Kelly Eakin and Mark Meitzen of Christiansen Associates—and all three have identified serious shortcomings in the limit price methodology. *See* NS Reply Exhibits II-B-7 (Statement of Drs. B. Kelly Eakin and Mark Meitzen) and II-B-8 (Statement of Professor

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[60] While the Board's decision in *M&G* studiously avoids using the term "rebuttable presumption"—and instead says that the approach creates a "preliminary conclusion," *id.* at 14—the approach plainly creates a presumption of market dominance that can then be rebutted by evidence of "intangible qualities." There is no substantive difference between this "preliminary conclusion" and a "rebuttable presumption."

Robert Willig). Among other flaws, the limit price approach fails to consider relevant market information, including the impact of product and geographic competition; bases its conclusions upon an RSAM figure that does not incorporate any information about the competitiveness of particular markets; places undue reliance on variable cost measures that are inherently imprecise at the shipment-specific level; and would do nothing to simplify the market dominance inquiry. As the ICC recognized after its last failed experiment with "rebuttable presumptions" for market dominance, whether an alternative to rail transportation constitutes effective competition is a question that the agency must resolve using its expert judgment in light of all the relevant evidence. No "quantitative" test or presumption can substitute for the agency's own best judgment, and the Board should not abandon its settled framework for assessing the effectiveness of competition on a case-by-case basis.

i. The Limit Price Approach Violates the Interstate Commerce Act.

First, the "limit price" approach is not a lawful means to determine whether competition is effective, because it directly contradicts the language of the Interstate Commerce Act and is at odds with Congress's expressed opposition to the use of rebuttable presumptions based on variable costs for qualitative market dominance purposes. 49 U.S.C. § 10707(d)(2) explicitly provides that:

> A finding by the Board that a rate charged by a rail carrier results in a revenue-variable cost percentage for the transportation to which the rate applies that is equal to or greater than 180 percent does not establish a presumption that—
>
> (A) such rail carrier has or does not have market dominance over such transportation . . .

49 U.S.C. § 10707(d)(2). Congress therefore stated plainly that, while it was establishing a new R/VC-based jurisdictional threshold to limit the agency's jurisdiction, R/VC ratios were not to be

used to "establish a presumption" that a defendant "has or does not have market dominance." *Id.* That is precisely what the limit price approach does: it uses the R/VC ratio for the rail rate that would be equivalent to the lowest-price alternative to establish a rebuttable presumption of market dominance.

The Board argued in *M&G* that the limit price approach "does not implicate § 10707(d)(2)'s statutory directive" because it considers the "limit price R/VC ratio" rather than the R/VC for the challenged rail rate, but this is a distinction without a difference. *M&G*, STB Docket No. 42123, at 17. In most transportation markets for which the Board is asked to determine the existence of effective competition, the price of rail service often will be reasonably comparable to the price of competitive alternatives (although prices among different modes often will diverge somewhat as a result of service or other advantages). Indeed, *M&G* itself was a case in which the evidence showed that the challenged rail rates were "similar" to the cost of intermodal competition. *Id.* at 13. Here, too, NS has presented evidence of transportation alternatives with prices that are competitive with the challenged rail rates; NS is not contesting market dominance on any lane where the cost of the transportation alternative exceeds the cost of NS rail service by more than 20%. *See* NS Reply Exhibit II-B-1. As a result, for every lane challenged in this case the "limit price R/VC ratio" is generally in the same range as the actual R/VC ratio for NS rates. There is therefore no practical distinction between a "limit price R/VC" comparison to RSAM and an actual R/VC comparison. The Board cannot lawfully avoid the command of § 10707(d)(2) by claiming that it is examining hypothetical R/VC ratios of similarly-priced alternatives in lieu of the actual rail rates.

The legislative context in which § 10707(d)(2) was enacted further demonstrates Congress's unmistakable opposition to the use of R/VC presumptions in the market dominance

analysis. After the market dominance requirement was enacted in the Railroad Revitalization and Regulatory Reform Act of 1976, the ICC created procedures that were predicated on the use of several rebuttable presumptions for determining market dominance—including a rebuttable presumption of market dominance for rates with an R/VC ratio higher than 180%. *See Special Procedures for Making Findings of Market Dominance as Required by the Railroad Revitalization and Regulatory Reform Act of 1976*, 353 I.C.C. 875, at 886-87 (1976) ("*Special Procedures*"). Congress was not satisfied with the ICC's approach, however, and believed that its rules were unduly narrow.[61] And in enacting the Staggers Act, Congress specifically instructed the ICC to revise *Special Procedures* and its "rebuttable presumption" approach to market dominance determinations.[62] The ICC's subsequent decision to abandon the rebuttable presumption approach of *Special Procedures* (discussed further below) was therefore an instance of "taking the hint" from Congress that the agency needed to "abandon [its use of] market dominance presumptions." *Western Coal Traffic League v. United States*, 694 F.2d 378, 394 (5th Cir. 1983) (Brown, J., dissenting); *see Market Dominance Determinations*, 365 I.C.C. at 119 n.4 (recognizing that "[p]assage of the Staggers Act required modification" of an earlier ICC proposal that would maintain the use of a rebuttable R/VC presumption).

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[61] *See* H. REP. 96-1035, at 38 (1980) ("In the 4R Act, Congress instituted the so-called 'market dominance' test in hopes of removing most traffic from rate regulation. Unfortunately, the rules promulgated by the Commission freed up less than 30 percent of the traffic from regulation.").

[62] *See* H. REP. 96-1430, at 88 (1980) (Conf. Rep.) ("[S]ince other parts of the Conference Substitute provide additional rate freedom for rail carriers beyond those found in present law or under existing or proposed Commission regulations, the Commission must revise its market dominance regulations.").

ii. Adoption of the "Limit Price" Test in This Case Would Violate the Administrative Procedure Act.

The incompatibility of the limit price approach with the statutory bar on basing presumptions of market dominance on R/VC ratios is alone sufficient reason for the Board not to apply the limit price approach to this case. But that is just the beginning of the legal problems with the Board's proposal. An equally serious legal defect is the Board's attempt to use an adjudication to substantially amend rules that were adopted by the agency in a notice and comment rulemaking. The new "limit price" test would be a sharp break from the Board's existing and longstanding rules on qualitative market dominance, which were adopted through notice and comment rulemaking by the ICC in *Market Dominance Determinations*, 365 I.C.C. 118 (1981), and can only be amended through notice and comment rulemaking.

The Board's existing rules governing the consideration of qualitative market dominance constitute a specific and clear repudiation of the use of rebuttable presumptions. The *Market Dominance Determinations* decision specifically rejected the rebuttable presumptions that the ICC had initially adopted in *Special Procedures*. The Commission explained that:

> Time has shown that the use of rebuttable presumptions has not enhanced the accuracy of market dominance determinations. While they did serve a useful purpose while we gained experience, the factors determining the degree of competition faced by a rail carrier are too numerous and too varied to be gauged, with any reasonable degree of accuracy, by so few measures. Further the measures themselves are often only approximations of the underlying conditions they are intended to reflect.

Id. at 120. The Commission specifically noted that the quantitative evidence that informed the rebuttable presumptions was not a good measure of the competitive circumstances of particular movements:

> [T]he use of rebuttable presumptions in market dominance determinations often placed too much emphasis on quantitative evidence which did not fully reflect the circumstances of any given

> movement. This quantitative evidence was frequently offered at the expense of other evidence which, though less subject to quantification, is more reflective of the degree of market power possessed by a rail carrier over certain traffic.

Id. Not only did the ICC reject reliance on rebuttable presumptions generally, it also specifically rejected rebuttable presumptions based upon R/VC ratios as "misleading" and uninformative. *Id.* at 122 ("There are any number of reasons why a high price/cost ratio may not be indicative of true market power on the part of the railroad. Reliance on such ratios will, therefore, not only be misleading, but will preclude more relevant information from being introduced."). The final *Market Dominance Determinations* rule replaced the discredited rebuttable presumptions of *Special Procedures* with "broader and more flexible guidelines [that] allow for more accurate market dominance determinations on a case-by-case basis." *Id.* at 119.

The Board's *M&G* proposal would reverse the core premise of *Market Dominance Determinations* by adopting an R/VC-based rebuttable presumption for use in making market dominance determinations. Because *Market Dominance Determinations* is a rule adopted through APA notice-and-comment procedures,[63] the adoption of an *M&G* approach through anything less than similar notice-and-comment procedures is a plain violation of the APA.

An amendment to a legislative rule requires a notice-and-comment rulemaking proceeding. *See Sprint Corp. v. FCC,* 315 F.3d 369, 374 (D.C. Cir. 2003) ("new rules that work substantive changes in prior regulations are subject to the APA procedures. . . . [W]hen an

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[63] There can be no serious dispute that *Market Dominance Determinations* was a legislative rule subject to APA procedures—indeed, the decision explicitly recognized that it was being adopted subject to the APA section that grants agencies notice-and-comment rulemaking authority. *See Market Dominance Determinations*, 365 I.C.C. at 135 (citing 5 U.S.C. § 553); *see also Western Coal Traffic League v. United States*, 694 F.2d 378, 392 (5th Cir. 1982) *opinion adopted in part*, 719 F.2d 772 (5th Cir. 1983) ("The guidelines here involved are indeed rules . . . and the Commission's choice of nomenclature is without legal significance.").

agency changes the rules of the game . . . more than a clarification has occurred."); *American Mining Congress v. Mine Safety & Health Administration,* 995 F.2d 1106, 1112 (D.C. Cir. 1993) ("[i]f a second rule repudiates or is irreconcilable with a prior legislative rule, the second rule must be an amendment of the first," subject to notice and comment requirements).[64] Accordingly, any application of the Board's new "limit price" market dominance rule would be invalid absent notice-and-comment rulemaking in compliance with the APA.

The Board therefore cannot use the limit price approach in this or any other adjudication unless and until it commences a notice-and-comment rulemaking to allow all interested parties the opportunity to comment on the proposal, as required by the APA.[65] An amendment to a legislative rule requires a notice-and-comment proceeding and cannot be achieved in an adjudication. *Marseilles Land and Water Co. v. FERC,* 345 F.3d 916, 920 (D.C. Cir. 2003) (holding that "an administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a *de facto* amendment to its regulation through adjudication"); *see Shalala v. Guernsey Mem'l Hosp.,* 514 U.S. 87, 100 (1995) (an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must follow APA notice-and-comment procedures).

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[64] *See also Broadgate Inc. v. U.S. Citizenship and Immigration Servs.*, 730 F. Supp. 2d 240, 244 (D.D.C. 2010) (An "agency's intent to exercise legislative power may be shown where the second rule effectively amends the previously adopted legislative rule, either by repudiating it or by virtue of the two rules' irreconcilability.").

[65] While the Board did allow an opportunity in *M&G* for interested parties to comment on the proposal as *amicus curiae*, that concession did not satisfy the APA's requirements. For example, no notice of a proposed rulemaking was ever filed in the Federal Register, nor are commenters other than M&G and CSXT parties to that proceeding with standing to appeal the Board's final decision. *See M&G*, STB Docket No. 42123, at 3 n.10 (Oct. 25, 2012) ("Other interested parties may submit their comments along with a motion to participate as amicus curiae, but will not be permitted to intervene as parties to this private rate dispute.").

Significantly, when the agency has altered the *Market Dominance Determinations* rule it has done so through notice-and-comment rulemaking. In particular, *Market Dominance Determinations* held that geographic and product competition should be considered in market dominance determinations, and the decision set forth factors to guide the submission of such evidence. *See Market Dominance Determinations*, 365 I.C.C. at 131. When the ICC chose to alter those product and geographic competition rules by shifting the burden of proving such competition to railroads, it did so through a notice-and-comment rulemaking. *See Product and Geographic Competition*, 2 I.C.C. 2d 1 (1985). And when the Board later chose to end its consideration of product and geographic competition evidence, it again acted through a notice-and-comment rulemaking. *See Market Dominance Determinations—Product and Geographic Competition*, 3 S.T.B. 937 (1998). Here, too, the agency is required to follow APA procedures with a notice-and-comment rulemaking if it intends to abandon the approach that it adopted through notice-and-comment rulemaking.

iii. The "Limit Price" Test Is Arbitrary and Economically Meaningless.

A further compelling reason for the Board to not use the limit price approach in this case is that it is an arbitrary and economically meaningless method for assessing the effectiveness of competition in a particular market. NS's Reply Evidence includes testimony from some of the most prominent and respected transportation economists in the United States, each of whom concludes that the limit price approach is inappropriate and unwarranted. NS Reply Exhibit II-B-7 is a statement by economists B. Kelly Eakin and Mark Meitzen. Dr. Eakin is an expert in industrial organization, specializing in the economic analysis of competitive and regulated markets. He was the project manager and a principal author of the November 2008 and January 2010 Christensen Associates studies of the U.S. freight railroad industry commissioned by the

Board. Dr. Meitzen is an expert in the economic analysis of network industries including railroads, who was also a principal author of the November 2008 and January 2010 Christensen Associates studies of the U.S. freight railroad industry. NS Reply Exhibit II-B-8 is a statement by Dr. Robert Willig, a Professor of Economics and Public Affairs in the Economics Department and the Woodrow Wilson School of Public and International Affairs of Princeton University who has decades of experience with economic analysis of the railroad industry.[66] The statements of Dr. Eakin, Dr. Meitzen, and Professor Willig identify several major problems in the proposed limit price approach, which are summarized below.

(a) The Limit Price Test Ignores Relevant Market Information.

First, the proposed limit price test ignores the most relevant available information about the competitiveness of the specific transportation market at issue; in particular, the test does not consider either information about the railroad's pricing or information about how the railroad's pricing compares to the pricing of alternatives. Dr. Eakin and Dr. Meitzen explain that, because the limit price approach makes a preliminary conclusion of market dominance from a comparison of the limit price R/VC to the defendant carrier's RSAM figure, the Board's proposed test does not consider either the price charged by the railroad or how that price relates to the price of competitive alternatives. *See* NS Reply Ex. II-B-7 at 5-6, 9-10.

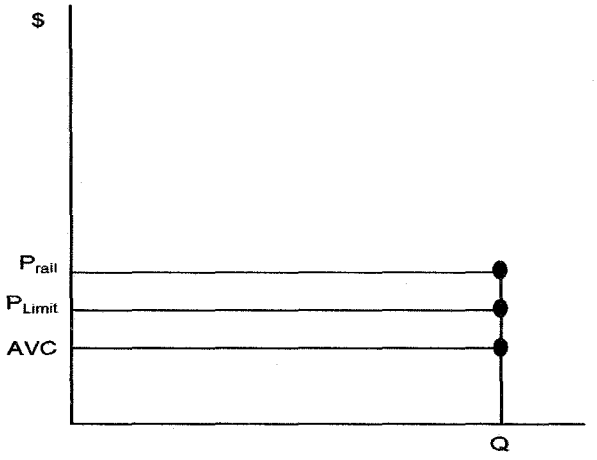
Figure 1 from Dr. Eakin's and Dr. Meitzen's statement illustrates the problem. Several pieces of relevant specific market information could be identified for any rail market for which the Board is assessing the effectiveness of a competitive alternative, including: (1) the price the railroad is charging (P_{Rail}); (2) the quantity of services the railroad is providing (Q); (3) the

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[66] Full statements of qualification and curriculum vitae for Dr. Eakin, Dr. Meitzen, and Professor Willig are included in Section IV.

railroad's variable costs for providing the service (AVC); and (4) the price of the selected competitive alternative to the railroad's service (*i.e.*, the limit price) (P_{Limit}). *See* NS Reply Ex. II-B-7 at 6.

Figure II-B-1[67]



The only market information used in the proposed limit pricing test is P_{Limit} and AVC. The limit price test ignores the one data point in Figure 1 that directly reflects information about demand (*i.e.*, the intersection of Q and P_{Rail}). *See* NS Reply Ex. II-B-7 at 6. It also ignores the relationship between P_{Limit} and P_{Rail}—even though common sense indicates that the relative proximity of the rail price and the alternative's price is relevant to assessing whether the alternative is effectively constraining the railroad's rates. *See id.* at 8-10. As Dr. Eakin and Dr. Meitzen observe, "[t]he proposed limit price screen for market dominance is flawed because it does not consider one of the most important indicia of competition—the relationship between the price charged by the railroad and the price charged by a transportation alternative." *Id.* at 8.

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[67] Source: Figure 1 in NS Reply Ex. II-B-7.

(b) The Proposed Limit Price Test Uses Information Irrelevant to the Existence of Competition.

Not only is the limit price flawed because it ignores relevant information, it is flawed because its results turn upon information that is utterly irrelevant to the existence of competition in particular markets. In particular, the RSAM figure used in the test does not contain *any* market-specific information. This point is illustrated aptly by returning to Figure 1 replicated above on page II-B-51. RSAM appears nowhere on that figure—because RSAM is entirely independent of the competitive factors in particular markets. As a result, using RSAM as the yardstick to measure whether transportation alternatives are sufficiently "competitive" is fraught with problems.

RSAM is designed to measure "the average markup that [a carrier] would need to collect from all of its potentially captive traffic to earn a return on investment equal to the cost of capital." *M&G*, STB Docket No. 42123, at 4. Professor Willig's statement explains that RSAM "is a formulaic mathematical calculation that yields a system-wide needed markup for potentially captive traffic." NS Reply Ex. II-B-8 at 6. In other words, RSAM is the *average* amount by which revenues must exceed variable costs on potentially demand-inelastic shipments to permit the railroad to earn revenues adequate to cover the full costs of building, maintaining, and operating its overall rail network. But of course a railroad cannot be expected to price all its $R/VC_{>180}$ traffic precisely at RSAM, for varying competitive factors will mean that some traffic will only be able to move at rates below RSAM. And if some traffic moves at rates below the RSAM average, other traffic must move at rates above the average for a railroad to cover its full costs. It therefore makes little sense to presume that a particular rate is not subject to competitive factors simply because it moves at a rate above the RSAM percentage. *See* NS Reply Ex. II-B-8 at 7 ("There is nothing inherent in the calculation of a railroad's RSAM percentage that provides

any insight into questions surrounding either whether a railroad is market dominant with respect to a given move or whether rates for that move reflect an exercise of any such dominance.").

Moreover, because the RSAM ratio is a system-wide average R/VC goal for all movements generating ratios greater than 180%, it does not incorporate any information about the competitive dynamics of any particular market. Rather, RSAM is a measure that is exclusively about the railroad. It is not a measure of whether the railroad faces actual competition for a particular shipment or how robust that competition is. The information contained in RSAM is unrelated to any specific market and does not incorporate any information on demand, and therefore it has no bearing as to whether a rail price in a specific market is effectively constrained by competition.

Dr. Eakin's and Dr. Meitzen's statement identifies several scenarios in which the limit price approach's dependence on RSAM would cause it to be an unreliable test of market dominance. In particular, they describe realistic potential situations in which the limit price test would conclude that "market dominance" exists where the railroad charges prices below its competition, and where the test would conclude that the railroad was not market dominant in many situations where the railroad was charging substantially more than its competition. *See* NS Reply Ex. II-B-7 at 8-11.

Because the limit price approach does not consider the relationship between the limit price and the challenged rail rate, the Board's test could lead to a presumption of market dominance even in instances in which the price of the transportation alternative is in fact *significantly lower* than the carrier's own price. For example, if a rate for a potential shipment from a chemical plant served by a rail carrier generates an R/VC ratio of 600%, the Board's test would find the carrier is presumptively "market dominant" *even if a truck alternative that was*

moving those same shipments existed at a rate 35% cheaper than the rail rate. Such a result is entirely driven by a relatively high limit price R/VC ratio in comparison to the RSAM. A similarly absurd result could occur for a high priced commodity where the customer has the option of two rail carriers. Even in the instance of a *dual-served* chemical plant, if the R/VC ratios were higher on both carriers than the corresponding RSAM figures, then the Board's test would lead to *both* carriers being presumptively "market dominant." A test that yields such illogical results is not an accurate gauge of "effective competition."

Moreover, the fundamental presumption of the limit price approach—that an R/VC ratio above RSAM is an objective indicator of a lack of competition—is inaccurate. On the contrary, in many situations markets with actual and robust competition could produce rates above RSAM. For example, in markets where variable costs are not well captured by a railroad's URCS-based costs (such as many of the chemicals markets at issue here), an R/VC ratio above RSAM is not meaningful. As the ICC warned in *Market Dominance Determinations*, "[t]here are any number of reasons why a high price/cost ratio may not be indicative of true market power on the part of the railroad. Reliance on such ratios will, therefore, not only be misleading, but will preclude more relevant information from being introduced." 365 I.C.C. at 122.

In short, the focus on RSAM in the "limit price" test means the test ignores the actual conduct of the shipper and the carrier in the marketplace. The focus on the price of alternatives to the rail transportation at issue on the one hand and RSAM on the other means that the analysis the Board is undertaking is completely untethered to the actions of the shipper and the railroad in the real world marketplace and is therefore "misleading." *Id.* This failing alone dooms the "limit price" test.

(c) The Proposed Methodology Does Not Overcome the Acknowledged Weakness of R/VC Ratios as an Indicator of Market Power Abuse.

The limit price approach is further flawed because it affords undue significance to R/VC ratios, which both the Board and economists have previously found to be an unreliable indicator of market power. The Board-commissioned Christiansen Report observed that R/VC ratios had "weak relationships" to market dominance and thus that "regulatory reforms that would establish R/VC tests as the sole quantitative indicator of a railroad's market dominance are not appropriate."[68] The Board itself has echoed this assessment. *See, e.g., Potomac Elec. Power Co. v. CSX Transp., Inc.*, 2 S.T.B. 290, 294 (1997) ("we do not use rate-cost relationships as a basis for qualitative market dominance determinations").

The *M&G* decision attempts to distinguish the limit-price R/VC from this historical recognition of the unreliability of R/VC ratios in qualitative market dominance determinations by arguing that the limit price R/VCs are predicated on the alternative's price and not the rail price. But Dr. Eakin and Dr. Meitzen explain that the most significant problem with using an R/VC ratio as an indicator of market dominance is not the measure of revenue in the numerator, but rather the inability of the URCS-based variable cost measure in the denominator to accurately measure shipment-level variable costs. *See* NS Reply Ex. II-B-7 at 12. As the Christiansen Report explained,

> [C]aptivity measures based on categorizing shipment-level R/VC (or markup) data are dependent on the alignment of actual and measured costs in the tails of the R/VC distribution. Our analysis

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[68] *See* Laurits R. Christensen Associates, Inc., A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals That Might Enhance Competition—Revised Final Report at ES-14 (Nov. 2009).

> suggests that URCS costs have limitations in adequately reflecting shipment-level, cost-causing factors.[69]

Thus, even if the limit price for a particular shipment were accurately calculated, the limit price R/VC ratio is not a reliable measure of the true limit price to the true variable cost for that shipment. *See* NS Reply Ex. II-B-7 at 12.

(d) The Limit Price Approach Does Not Simplify Market Dominance Determinations.

Finally, the limit price approach does not achieve its basic proposed purpose of achieving an "objective" way to streamline the Board's consideration of qualitative market dominance. The Board's decision indicates that the limit price was prompted in part by concerns about the potential complexity of the market dominance inquiry. *See M&G*, STB Docket No. 42123, at 3. It is certainly true that the consideration of qualitative market dominance in a multi-lane case involving products regularly transported by trucks can be complex.[70] But the limit price approach does nothing to relieve this complexity, which is inherent in the statutory demand that the Board assess the effectiveness of potential competitive alternatives to any challenged rate. The limit price approach includes consideration of "intangible factors" that can overcome the "preliminary conclusion" established by the limit price calculation. As a result, "the factors that have typically been considered in the qualitative determination of market dominance would still need to be considered under the proposed methodology." NS Reply Ex. II-B-7 at 3. Therefore,

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[69] Laurits R. Christensen Associates, Inc., A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals That Might Enhance Competition—Revised Final Report at 21-22 n.30 (Nov. 2009).

[70] It should be noted, however, that much of the "complexity" in *M&G* resulted from the facts that the parties to that case litigated many relatively novel issues. As the Board resolves qualitative market dominance arguments in future cases, it will clarify the governing law much as it has done on stand alone cost issues, and it is likely that future cases will feature fewer contested issues.

"the proposed limit price test is not likely to provide a more expeditious solution to the determination of market dominance." *Id.* Indeed, the Board itself admits that its "overall approach" would require consideration of "the same factors described by the market dominance guidelines originally set forth in *Market Dominance Determinations & Consideration of Product Competition. " M&G*, STB Docket No. 42123, at 14-15. The limit price approach adds a meaningless "objective" test to the complex process of determining the effectiveness of competitive options without any real accompanying cost or time savings.

To illustrate the lack of time or cost savings created by the limit price approach, imagine that a court decided that all its bench trials would be settled by the flip of a coin establishing a "preliminary conclusion" of liability, but that parties could present evidence to overcome the "presumption" created by the coin flip. Such a policy would not simplify trials at all, for each party would still be motivated to present evidence to confirm or rebut the results of the coin flip. The only effect would be to increase the arbitrariness of the result. Using an economically meaningless indicator as a screen to establish a presumption of market dominance is little better than flipping a coin, and neither flipping a coin nor adopting an arbitrary "presumption" of market dominance will substantially simplify either the parties' evidence or the Board's consideration of qualitative market dominance.

d. DuPont's Arguments That NS is Market Dominant Despite The Existence of Cost-Competitive Truck Alternatives Should Be Rejected.

This section responds to the major arguments that DuPont claims support a finding that NS is market dominant over the issue shipments, namely: (1) that the Board is forbidden from considering whole-route intermodal alternatives to challenged Rule 11 shipments; (2) that NS's rate increases are evidence of its market dominance; (3) that certain DuPont contracts preclude it

from using alternatives to rail and thus render DuPont captive to NS's rail service; and (4) that alternatives to rail are not viable because of alleged infrastructure constraints, storage needs, or "product integrity" concerns.

i. DuPont's Argument that The Board Cannot Consider Whole-Route Intermodal Alternatives Should Be Rejected.

The Board should reject DuPont's claim that the Board must ignore intermodal competition for joint-line movements unless the intermodal alternative is designed to replace only the NS segment of the movement. DuPont does not argue that all-truck alternatives to a joint rail movement do not constitute effective competition to NS's rail service in the real world. And it cannot deny that for many issue movements it {{ }} uses trucks to transport commodities over the entire route covered by a joint-line rail movement. Instead, DuPont exclusively relies on an erroneous claim that whole-route truck alternatives to joint-line rail movements are "geographic competition" that it claims is barred from Board consideration by *Market Dominance Determinations—Product & Geographic Competition*, 3 S.T.B. 937 (1998). According to DuPont, direct truck alternatives to joint-line DuPont rail shipments that originate at the same origin and terminate at the same destination as the rail shipment cannot be considered in the market dominance analysis because such movements constitute competition for the entire rail movement and not competition limited to the NS segment alone.

This dispute is not about "geographic competition" as that term was originally understood by the agency. NS is not asking the Board to consider whether there are different destinations where DuPont could ship the issue commodities or different suppliers from which DuPont could obtain commodities. Nor does NS ask the Board to consider whether DuPont faces competition from product substitution, or any other form of indirect competition that the Board and federal

courts have understood to be "product and geographic competition." Rather, the question here is whether the Board may consider direct intermodal transportation options that originate at the actual origins listed in the complaint and that terminate at the actual destinations listed in the complaint.[71]

By redefining geographic competition to include movements between the actual origin and actual destination of joint line movements, DuPont would radically limit the statutory meaning of intermodal competition in a way that is irreconcilable with the language of the Interstate Commerce Act. The Act expressly commands that the Board "shall" consider the effectiveness of intermodal competition before entertaining a challenge to the reasonableness of any rate. 49 U.S.C. § 10707(b). DuPont would negate this statutory requirement that the Board consider the effectiveness of non-rail modes of transportation, for according to DuPont the Board may not consider any intermodal alternative to a Rule 11 rate that does not contemplate that the traffic would be delivered in a rail car to the precise interchange point that would have been used in joint-rail service. The Board cannot lawfully adopt an interpretation of the Interstate Commerce Act that would negate the congressional requirement that the effectiveness of intermodal competition be considered in every rate case, including challenges to Rule 11 rates.

DuPont's claim that its position is supported by the statute is meritless. According to DuPont, the statutory requirement that the Board consider the effectiveness of competition "for the transportation to which the rate applies" means that any intermodal alternative must substitute only for the challenged movement and not for any other segment of the joint movement. 49 U.S.C. § 10707(a). But DuPont's conclusion depends both on ignoring

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[71] *See* Complaint Exhibit B (listing ultimate origins and ultimate destinations as the "origin" and "destination" of each joint line movement).

requirements set forth in the plain language of § 10707 and on inventing restrictions that are not there. As discussed above, DuPont's interpretation of the "transportation to which the rate applies" language of § 10707 is incompatible with Congress's command that the effectiveness of intermodal competition be considered in every rate case. Moreover, the statute simply does not have the limiting meaning that DuPont reads into it. Whole-route intermodal competition is indisputably competition "for the transportation to which the rate applies." If DuPont can substitute direct truck transportation for joint-rail transportation, that direct truck service competes both with NS's Rule 11 rate and with the connecting carrier's Rule 11 rate. The fact that whole-route intermodal competition also competes with rail service on the non-NS portion of the joint movement does not change the fact that it represents real world competition from another mode of transportation "for the [NS rail] transportation to which the rate applies." This competition is plainly within the scope of the statute.

DuPont's assertion that its position is supported by precedent is equally wrong. DuPont's reliance on language from *Minnesota Power, Inc. v. Duluth, Missabe & Iron Range Ry. Co.*, 4 S.T.B. 64 (1999) ("*DMIR I*"), *petitions for reconsideration denied*, 4 S.T.B. 288 (1999) ("*DMIR II*") (collectively, "*DMIR*"), ignores the fact that the language DuPont cites directly conflicts both with other ICC and STB decisions holding that direct whole-route alternatives are intermodal competition (not geographic competition) and with definitions of intermodal and geographic competition that were adopted and reaffirmed in multiple agency rulemakings. NS submits that *DMIR* did not adopt such a radical redefinition of the meaning of intermodal competition, but if it did, it constituted an arbitrary and capricious misinterpretation of the statute that would not withstand appellate review.

DuPont all but admits that its position makes little practical sense. It concedes that alternatives that satisfy its proposed legal test are often not "the most efficient or lowest cost alternative for the entire through movement," but claims that the Board is "required" to limit its analysis to those options. DuPont Opening I-14. But DuPont does not impose that limitation on itself in the real world. On the contrary, DuPont routinely trucks from the issue origins to the issue destinations. And it has a number of contracts for truck shipments from the issue origin to the issue destination. DuPont's argument boils down to the absurd claim that the Board is precluded from considering "the most efficient [and] lowest cost alternative" for many issue movements even though those are the alternatives that DuPont itself considers.

As NS expert transportation economist Mark Burton explains, the interest of a purchaser of transportation services is in obtaining economical and efficient transportation to move product from the origin to the destination. *See* NS Reply Ex. II-B-6 at 2-4 (Verified Statement of Mark Burton). A whole-route alternative unquestionably exerts pressure on Rule 11 segment rates as a matter of simple economics. *See id.* Ignoring this real-world intermodal competition would be utterly inconsistent with Congress's directive that the Board carefully consider the effectiveness of direct competition before assessing the reasonableness of any rate.

In *M&G*, the Board was deeply skeptical about an argument by the complainant that *DMIR* prohibited consideration of whole-route transportation alternatives, noting that "M&G's argument . . . misapprehends both the boundaries of the Board's jurisdiction and the nature of the tools available to the Board when conducting its market dominance analysis." *M&G*, STB Docket No. 42123, at 10. The Board did not reach the merits of the *DMIR* argument in *M&G*, however, because it struck the argument as improper rebuttal. *See id.* at 10 & n.27. NS therefore presents a detailed refutation of this *DMIR* argument below.

Subsection (a) below discusses the practical consequences of DuPont's misinterpretation of the statute and the absurd results that would result from adopting it. Subsection (a) also contains the expert assessment of Mark Burton, who opines that as a matter of fundamental economic theory a shipper's primary concern is with the cost competitiveness of a freight shipment as a whole—not the relative costs for individual segments of a joint-line movement. Subsection (b) demonstrates that the Interstate Commerce Act requires consideration of direct whole-route intermodal alternatives. Subsection (c) debunks DuPont's assertion that the statute forbids consideration of whole-route intermodal alternatives. Subsection (d) shows that both the ICC and STB have held that direct whole-route intermodal transportation alternatives constitute intermodal competition, not geographic competition. Finally, subsection (e) explains the critical distinctions between *DMIR* and this case, and it details the flaws in *DMIR*'s reasoning that preclude the Board from relying on that case.[72]

(a) DuPont's Narrow Interpretation of "Intermodal Competition" Would Have Radical and Illogical Consequences.

Before considering the multiple reasons why DuPont's position is incorrect as a matter of law, it is important to consider the practical implications of its position. DuPont's attempt to redefine whole-route intermodal competition as "geographic competition" would both prevent the Board from considering the direct whole-route trucking alternatives that DuPont actually uses today and cause the Board to illogically ignore competition that is present in multiple other

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[72] NS notes that many of the transportation alternatives identified in subsection II-B-2-e comply with DuPont's unduly restrictive "DMIR objection," either because they are alternatives to a local NS movement or because they are transload options that could be used in conjunction with the same connecting rail carriers used for the challenged NS movement. Specifically, NS's alternatives to lanes A2, A3, A9, A12, A13, A18, A19, A23, A25, B52, B67, B128, B132, B135, B137, and B140 would not be subject to the "DMIR objection" as DuPont articulated it in its Opening Evidence.

cases. DuPont {{ }} uses whole-route direct truck shipments as a competitive alternative to joint-rail movements. DuPont has already used truck shipments as a transportation alternative between the ultimate origin and destination for no fewer than {{ }} of the 89 joint-line movements with competitive alternatives discussed below.

One example of the whole-route competition that DuPont would have the Board ignore is Lane B107, where DuPont challenges NS's Rule 11 rate for the joint CSXT-NS shipment of sodium caustic railcars between Natrium, WV and Belle, WV. Far from being "captive" to rail transportation for this movement, between 2006 and 2010 DuPont shipped {{ }} truckloads of sodium caustic over the 140-mile highway route between Natrium and Belle. *See* NS Reply WP "DuPont Sodium Caustic Truck Shipments.xls." {{

}}. This is just one example. DuPont has used whole-route truck alternatives to joint rail shipments for at

least {{ }} other joint-rate case lanes.[73] To ignore this real-world intermodal competition would be to violate both the letter and the spirit of Congress's unmistakable command that the Board consider the effectiveness of "competition from other . . . modes of transportation" before it considers the reasonableness of any rail rate. § 10707(a).

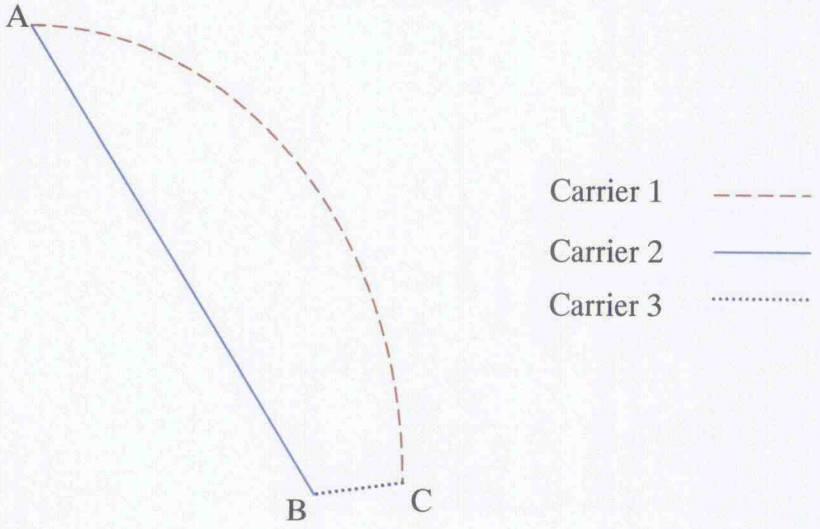
Moreover, DuPont's position would significantly and irrationally restrict the market dominance inquiry in other cases. For example, one of the Three Benchmark cases brought by DuPont against CSXT challenged CSXT's rates for the rail movement of chlorine between Natrium, WV and New Johnsonville, TN. *See E.I. du Pont de Nemours & Co. v. CSX Transp., Inc.*, STB Docket No. 42100 (June 30, 2008). In light of evidence that 90% of the chlorine between those points moved by barge, the Board found that barges constituted effective intermodal competition. *See id.* at 4-5. But imagine that the Natrium-New Johnsonville movement was not a CSXT local movement, but rather a joint line movement, and that DuPont had secured a contract for the non-CSXT portion. The difference between the movement being a CSXT local movement and a joint-line movement would not change any of the economic factors affecting the potential competitiveness of barge service. But according to DuPont, the result of the case would have to be different. In DuPont's view, the Board would be required to ignore a barge option that transported 90% of the issue volume in the real world, for that whole-route competition would supposedly be impermissible geographic competition. This necessary result of DuPont's logic would be "pretty silly . . . from an economic or common sense perspective." *Midtec Paper Corp. v. United States*, 857 F.2d 1487, 1513 (D.C. Cir. 1988).

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[73] Specifically, lanes {{ }} are all lanes where DuPont has shipped trucks of the relevant commodity directly from the ultimate origin listed in the complaint to the ultimate destination listed in the complaint.

Indeed, DuPont's attempt to drastically reduce the Board's consideration of competitive alternatives could substantially limit the Board's ability to consider intramodal competition. Consider a scenario where a rail movement between points A and C can be made either by a local route on Carrier 1 or by a joint-line route over Carriers 2 and 3, which would interchange traffic at point C. (This scenario is illustrated in Figure II-B-2 below.) In the real world, the Carrier 1 route plainly provides intramodal competition to the Carrier 2/Carrier 3 route. But under DuPont's formulation, if a shipper enters a rail contract with Carrier 3 for movements between points B and C, the Board would not be allowed to consider this Carrier 1 competition in a challenge to Carrier 2's rate for movements between points A and B .

FIGURE II-B-2



Once again, the result dictated by DuPont's reasoning does not accord with common sense or economic logic and leads to practical consequences that are not consistent with the statute. Congress intended the market dominance test to be a real constraint on the agency's

jurisdiction, and refusing to consider evidence of whole-route alternatives is not consistent with that intent.[74]

In sum, DuPont's suggested interpretation of the statute would lead to results that are not consistent with how competition works in the real world. The attached statement of NS expert Mark Burton illustrates this point, by demonstrating that real-world shippers are concerned with the ultimate total costs of transportation as a whole—not the costs of individual segments. *See* NS Reply Ex. II-B-6 (statement of Mark Burton). In a real-world economic analysis, what is relevant are the full transportation costs between the actual shipment origin and the actual destination. In simple terms, the goal of any freight shipper is to eliminate the distance that separates the location of a specific commodity (shipment origin) from the location where it would like that commodity to be (shipment destination). *See id.* at 2. Even when the shipper must use multiple railroads or multiple modes of transportation, its concern is limited to the cost and timeliness of transportation as a whole. *See id.* A shipper has no reason to care whether the shipment moves directly from its origin to its ultimate destination or whether it reaches that destination via any particular intermediate point. *See id.* In the real-world transportation market, therefore, the cost of moving issue commodities between ultimate origin and ultimate destination is the primary focus of a complainant and should be the primary focus of the Board in evaluating

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[74] *See, e.g.*, H. REP. No. 1035, 96th Cong., 2nd Sess. 39 (1980), 1980 U.S.C.C.A.N. 3984 ("If a shipper can rely on a transportation alternative, which would include another railroad, a barge, or a truck, at a transportation cost which is not substantially greater than the rail transportation cost, then competition is present. Competition will serve to hold down rates, and the railroad involved would have no market power."); *Western Coal Traffic League v. United States*, 719 F.2d 772, 779 (5th Cir. 1983) ("As the Final Conference Report to the Staggers Act emphasized, '*Whenever* there is effective competition, such competition should continue to function as the regulator of the rate rather than the Commission.'")

competitive alternatives even if a shipper is only challenging the reasonableness of one segment of a joint rail movement.

It is telling that DuPont's evidence makes no effort at all to demonstrate that limiting the market dominance analysis to individual segments of a joint-rail movement is an economically reasonable way to consider how competition works in the real world. Indeed, DuPont admits that its approach often would preclude the Board from considering "the most efficient or lowest cost alternative for the entire through movement." DuPont Opening I-14. But the Board is charged with upholding the national Rail Transportation Policy, including the policy "to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail." 49 U.S.C. § 10101(1). Accepting DuPont's position is entirely inconsistent with that policy. The Board must reject DuPont's attempt to unduly restrict the scope of the market dominance inquiry, and it should consider NS's evidence demonstrating that whole-route trucking options that are available to DuPont for shipments between the ultimate origins and ultimate destinations of the issue movements constitute effective intermodal competition.

(b) The Statute Requires the Board to Consider Direct Intermodal Competition.

As a legal matter, DuPont's position must fail because it is not a permissible interpretation of the Interstate Commerce Act. The Act's command that the Board consider "effective competition from other . . . modes of transportation" in every rate case is incompatible with DuPont's claim that the Board is not allowed to consider any competitive alternative for a Rule 11 rate that does not deliver the commodity in a railcar at the precise point where NS would interchange the traffic in rail service.

The Interstate Commerce Act explicitly requires the Board to consider the effectiveness of direct intermodal competition before it examines the reasonableness of a railroad's rate. Section 10707(b) of the Interstate Commerce Act states that when a rate "is challenged as being unreasonably high, the Board shall determine whether the rail carrier proposing the rate has market dominance over the transportation to which the rate applies." 49 U.S.C. § 10707(b) (emphasis added). Congress's choice of the word "shall" makes clear that the Board must make a jurisdictional market dominance finding for every rate challenge, for the use of "shall" in a statute is ordinarily interpreted to indicate a mandatory command.[75] The inference that Congress chose the verb "shall" to indicate a mandatory requirement is particularly strong when "shall" is used in conjunction with "may," as it is in § 10707(b).[76]

The requirement that the Board "shall" make a market dominance finding includes a requirement to consider intermodal competition in every case. As § 10707(a) provides, "'market dominance' means an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies." § 10707(a) (emphasis added). The Board is therefore required to consider the effectiveness of competition from "other . . . modes of transportation"—*i.e.*, intermodal competition—for every rate challenge. This requirement is confirmed by the overwhelming evidence that Congress believed that intermodal competition

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[75] *See, e.g., Alabama v. Bozeman*, 533 U.S. 146, 153 ("The word 'shall' is ordinarily the language of command." (internal quotation marks omitted)); *United States v. Insurance Co. of North Am.*, 83 F.3d 1507, 1510 n.5 (D.C. Cir. 1996) ("Cases are legion affirming the mandatory character of 'shall.'").

[76] *See Oljato Chapter of the Navajo Tribe v. Train*, 515 F.2d 654, 662 (D.C. Cir. 1975) (When a statute "uses both 'may' and 'shall,' the normal inference is that each is being used in its usual sense—the one act being permissive, the other mandatory."); 49 U.S.C. § 10707(b) (providing that Board "*shall* determine" whether railroad has market dominance before considering reasonableness of any rate but that it "*may* make that determination on its own initiative or on complaint" (emphases added)).

was an important restraint on rail rates that the agency needed to consider. *See, e.g., Midtec*, 857 F.2d at 1506 (noting that in Staggers Act Congress "rel[ied] on truck-rail competition to obviate the need for regulation"); *Central Vermont Ry. v. ICC*, 711 F.2d 331, 336 (1983) ("A major impetus behind the deregulation of railroads in the Staggers Rail Act . . . was Congress' recognition that railroads generally had to compete with other modes of transportation."). Indeed, each of the three major revisions to the Interstate Commerce Act over the last generation was based in part on Congress's conclusion that the intermodal competition faced by railroads was a reason to limit the agency's regulation of railroads.[77]

DuPont's claim that the Board cannot consider whole-route intermodal alternatives to joint rate movements is irreconcilable with the statutory requirement that the Board consider the effectiveness of intermodal competition in every case. According to DuPont, the only competitive alternative for a Rule 11 rate that can be considered in the market dominance analysis is competition that would deliver the issue commodity in a rail car to the connecting rail carrier at the same interchange point that would be used in all-rail service. But the statute demands that the Board consider non-rail modes of transportation. Requiring any "intermodal" competition for a Rule 11 rate to end with product in a railcar in the rail yard in which it would

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[77] *See* H. REP. NO. 104-311, at 90 (1995), *available at* 1995 U.S.S.C.A.N. 793, 802 (House report on Interstate Commerce Commission Termination Act finding that "[w]ith the emergence of the trucking industry, as well as the pipeline and barge industries, railroads have increasingly faced competition from other modes of transportation."); H. REP. NO. 96-1430, at 79 (1980) (Conf. Rep.) (conference report on Staggers Act finding that "today, most transportation is competitive and . . . [n]early two-thirds of intercity freight is transported by modes of transportation other than railroads"); S. REP. NO. 94-499, at 11 (1976), 1976 U.S.S.C.A.N. 14, 24 (Senate report on Railroad Revitalization and Regulatory Reform Act of 1976 citing "[g]rowth of other modes" and "changes in the competitive nature of the transportation market" as reasons to limit ICC's rate reasonableness jurisdiction).

have been interchanged in rail service effectively would mean that there is no way to prove competition from non-rail modes for a Rule 11 rate.

The Board therefore cannot adopt DuPont's position without disregarding Congress's command that intermodal competition be considered in every case. A "'cardinal principle of statutory interpretation' [is] that 'a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant.'" *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001) (quoting *Duncan v. Walker*, 533 U.S. 167, 174 (2001)); *see Burlington Northern Inc.—Control & Merger—St. Louis-San Francisco Ry. Co.*, 360 I.C.C. 788, 948 (1980) ("In statutory construction, significance and effect shall, if possible, be accorded to every word. No clause, sentence, or word shall be superfluous, void, or insignificant.") DuPont's argument would make § 10707's requirement that intermodal competition be considered by the Board superfluous in any case challenging a Rule 11 rate. The Board cannot interpret the Interstate Commerce Act in a way that would negate the statute's demand that competition "from other . . . modes of transportation" be considered in every case.[78]

Put differently, to say that the only permissible competitive alternative that the Board may consider when analyzing market dominance for a NS Rule 11 rate is one that would place the issue commodity in a railcar at the precise interchange point used in rail service[79] is to say

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[78] It is no answer for DuPont to claim that its constricted interpretation of the Act would allow intermodal competition to be considered for challenges to local rates, or in the rare instances where a suitable transloading facility is located at the precise rail interchange point. The Interstate Commerce Act requires the Board to consider the effectiveness of intermodal competition in every rate challenge. *See* § 10707(b) ("When a rate for transportation by a rail carrier . . . is challenged as being unreasonably high, the Board shall determine whether the rail carrier proposing the rate has market dominance over the transportation to which the rate applies." (emphasis added)).

[79] Or, for movements where DuPont is the receiver, an alternative where the "intermodal" option would have to originate with railcars of the product at the interchange point.

that the Board is only allowed to consider intramodal competition for challenges to bottleneck rates. The statute cannot be reasonably read to permit such a conclusion. As the D.C. Circuit observed in another context, reading the Interstate Commerce Act to require the Board to exclusively focus on intramodal competition "would be a pretty silly exercise from an economic or common sense perspective, [and] Congress required no such foolishness." *Midtec*, 857 F.2d at 1513 (rejecting claim that Board could only consider intramodal competition when evaluating § 11103 competitive access claims).

While the agency has discretion to interpret the Interstate Commerce Act, it does not have the authority to adopt an interpretation that would negate Congress's clear requirement that intermodal competition be considered in every case.[80] To be sure, the Board may have the discretion under the statute to decide whether to consider indirect forms of competition in the market dominance analysis, such as competition from product substitution or the use of different suppliers. *See AAR v. STB*, 237 F.3d at 679-80 (holding that Board could permissibly construe the term "competition" in § 10707(a) to apply to only direct competition to the transportation at issue, not indirect competition). But the statute cannot be reasonably interpreted to preclude the consideration of any form of direct competition to move the same commodity between the ultimate origin and the ultimate destination. In other words, although the Board could reasonably interpret the statute as not including indirect forms of competition not explicitly set forth in § 10707(a), it cannot reasonably interpret the statute in a way that would preclude

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[80] *See Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984) ("If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress."); *Genesee & Wyoming, Inc.—Continuance in Control Exemption—Illinois & Midland R.R., Inc.*, 2 S.T.B. 651, 654 ("If the meaning of a statute is clear, both we and the reviewing court are obliged to follow it." (citing *Chevron*)).

consideration of "other . . . modes of transportation" that could directly substitute for the rail transportation at issue.

(c) DuPont's Claim That the Statute Prohibits Consideration of Whole-Route Intermodal Competition Is Wrong.

DuPont's suggestion that the statute supports a bar on whole-route intermodal alternatives has no merit. According to DuPont, the statutory definition that "'market dominance' means an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies" should be read to limit the competition that the Board may consider to competition that could replace the challenged NS segment *and no other segment of the joint movement. See* DuPont Opening I-13 (quoting *DMIR*). But the statute does not support this constricted interpretation. Effective intermodal competition to the entire route of a joint-line movement plainly includes "the transportation to which [the NS Rule 11] rate applies." For example, the fact that DuPont can directly truck methylamine anhydrous between NS-served Belle, WV, and UP-served Cadet, MO (Lane B6), is plainly a potential competitive alternative to NS-UP joint rail transportation that potentially constrains both NS's Rule 11 rate and UP's Rule 11 rate.[81] Direct truck transportation of methylamine anhydrous from Belle, WV, to Cadet, MO, unquestionably represents competition to the NS "transportation to which [the challenged Rule 11 tariff] rate applies." The fact that direct truck transportation also competes with the UP rate does not affect the fact that it is intermodal competition for the NS rate at issue.

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DuPont's argument depends on reading language into the statute that simply is not there. The statute says that intermodal competition must compete with the "transportation to which the rate applies"; it does not say that intermodal competition must only compete with the "transportation to which the rate applies." DuPont cannot point to anything in the statutory language or legislative history that suggests that Congress intended the "transportation to which a rate applies" language to operate as a restriction forbidding consideration of alternatives that would replace both the "transportation to which a rate applies" and other transportation. On the contrary, the natural interpretation of Congress's requirement that the agency consider "competition from other . . . modes of transportation for the transportation to which a rate applies" is simply that the agency must consider whether effective competition exists for the movement at issue.

This interpretation is supported by the legislative history, which shows that the "transportation to which a rate applies" phrase was added to the statute as clarifying language and was not intended to limit the substantive scope of the market dominance test. The initial Senate draft of the legislation that became the Railroad Revitalization and Regulatory Reform Act of 1976 defined market dominance as "the absence of effective competition." S. 2265, 94th Cong., 1st Sess., at § 103 (a)(5)(B)(ii) (1975). In response to ICC comments, Congress subsequently revised the market dominance definition to "the absence of effective competition for the traffic to which a rate applies." S.2718 at § 103. The ICC observed that this revision was intended "to mak[e] clear that it is the proponent carrier or carriers proposing the rate that must have market dominance." *See Special Procedures for Making Findings of Market Dominance as Required by the Railroad Revitalization and Regulatory Reform Act of 1976*, 353 I.C.C. 875, 943 (1976). There is no basis to interpret this clarifying language as a substantive restriction that

would exclude evidence of intermodal alternatives that compete both with the transportation to which a rate applies and with the transportation provided by connecting rail carriers.

If Congress had wanted the Board to consider intermodal competition for a segment and only that segment, it easily could have drafted the statute to limit the market dominance inquiry to "competition from other rail carriers or modes of transportation for the transportation to which a rate applies" *and only for that transportation.* But it chose not to include such a limitation, and DuPont may not graft a new limitation onto Congress's plain language.

Moreover, DuPont's urged interpretation of the statute would eliminate § 10707's command that the Board consider "effective competition from other . . . modes of transportation" for any challenge to a Rule 11 rate. Even if it were reasonable in the abstract to interpret "transportation to which a rate applies" as a limitation forbidding consideration of whole-route transportation alternatives (and it is not), that interpretation would negate Congress's clear requirement that the Board consider the effectiveness of intermodal competition in every rate case. As demonstrated above, the Board may not interpret the Interstate Commerce Act in a way that renders any "clause, sentence, or word . . . superfluous, void, or insignificant." *TRW Inc.*, 534 U.S. at 31 (2001). DuPont's claim that the Board should interpret § 10707 in a way that would make it impossible to consider intermodal competition for a Rule 11 rate violates this fundamental rule of statutory construction, and it must be rejected.

Furthermore, DuPont's attempt to interpret § 10707's language as a restriction on the Board's ability to consider whole-route intermodal alternatives is at odds with Congress's clearly-expressed policy that, "to the greatest extent possible, railroad rates should be governed by competitive forces." *Consolidated Papers, Inc. v. Chicago & N.W. Transp. Co.*, 7 I.C.C.2d 330, 336 (1991). Statutory interpretation "must not be guided by a single sentence or member of

a sentence," but rather must "look to the provisions of the whole law, and to its object or policy." *Philbrook v. Glodgett*, 421 U.S. 707, 712 (1975). Congress's policy in adopting the market dominance test was to "allow[] the forces of the marketplace to regulate railroad rates wherever possible" and to encourage the agency to consider intermodal competition wherever such competition might be effective. *See Potomac Elec. Power Co. v. Consolidated Rail Corp.*, 367 I.C.C. 532, 536 (1983); *see also supra* II-B-69 & n.76. The Board must interpret § 10707 in a way that is consistent with that policy and reject DuPont's invitation to read a limitation into the statute that is not there.

(d) ICC and Board Precedent Support Treating Direct Whole Route Competition as Intermodal Competition, Not Geographic Competition.

The statutory requirement that the Board consider direct intermodal competition for challenges to Rule 11 movements is buttressed by the agency's past decisions and rules defining the scope of intermodal competition and geographic competition. In fact, a review of ICC and STB precedent demonstrates that DuPont's assertion that a direct whole route intermodal alternative to a Rule 11 movement is "geographic competition" is utterly divorced from the understanding of that term that the agency adopted in multiple rulemakings. From the first ICC rulemaking implementing Staggers, geographic competition was understood to be "a restraint on rail pricing stemming from a shipper's or receiver's ability to get the product to which the rate applies from another source, or ship it to another destination." *Market Dominance Determinations*, 365 I.C.C. at 128 (emphasis added).[82] The ICC explained that geographic

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[82] The Staggers Act required the ICC to evaluate the use of geographic competition in market dominance determinations. *See* Staggers Rail Act of 1980, PUB L. NO. 96-448, § 205 (1980). The Commission adopted its initial definition of geographic competition in a rulemaking after receiving extensive comments from interested parties. *See Market Dominance Determinations*, 365 I.C.C. at 119.

competition was relevant to market dominance because where such competition existed the railroad would have to compete with the carriers serving the other source or destination. *See id.* ("Because the shippers and receivers can do this [*i.e.*, use alternative sources or ship to alternative destinations], the railroad must compete with the railroad serving the alternate source or destination."). Because the geographic competition inquiry was always focused on competitive pressures from alternative suppliers or customers, geographic competition historically was characterized as "indirect competition" to be distinguished from "direct" competition between the origin and destination of the issue movement. *See AAR v. STB*, 306 F.3d at 1109-10; *AAR v. STB*, 237 F.3d at 677.

The ICC's guidelines for submission of geographic competition evidence reflected the understanding that geographic competition concerned "alternative geographical sources of supply or alternative destinations available to the shipper for the product in question." *Market Dominance Determinations*, 365 I.C.C. at 134; *see also Product and Geographic Competition*, 2 I.C.C.2d 1, 22 (1985) (amended market dominance guidelines). For example, the market dominance guidelines required the Commission to consider evidence about "the number of alternative geographical sources of supply or alternative destinations," evidence on the "suitability of the product available for each such source or required by each such destination" of each source, and the "capacity" of each alternative source and destination to supply or to accept the product. *Product and Geographic Competition*, 1 I.C.C.2d at 22. All of these categories of evidence plainly contemplate geographic competition that involves a different ultimate source or destination than the issue movement. Indeed, these evidentiary guidelines for geographic competition would make no sense if geographic competition also encompassed whole-route transportation alternatives with the same ultimate source and same ultimate destination. How is

evidence of the "capacity" of sources relevant if geographic competition includes direct whole-route options where the same source is used? How is the "suitability" of suppliers or consumers relevant for a whole-route option where the ultimate supplier and consumer does not change? The market dominance guidelines simply did not contemplate that whole-route alternatives could be considered "geographic competition."

Multiple ICC decisions adopted the understanding that geographic competition resulted either from "a shipper's ability to sell the product at another destination, or a receiver's ability to obtain it from another source." *Westmoreland Coal Sales Co. v. Denver & Rio Grande W. R.R. Co.*, 5 I.C.C.2d 751, 757 (1989).[83] Multiple federal circuit court decisions accepted the ICC's definition of geographic competition, agreeing that "[g]eographic competition is present when a shipper-consignor may direct his product to a different destination, or a shipper-consignee may secure the same product from a different origin."[84] And the Board similarly held that geographic

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[83] *See Shenango Inc. v. Pittsburgh, Chartiers & Youghiogheny Ry. Co.*, ICC Docket No. 40068 (Aug. 15, 1988), 1988 WL 224701 at *26 ("Geographic competition occurs when a receiver or shipper can obtain the product in question from another source or ship it to another destination."); *General Electric Co. v. Consolidated Rail Corp.*, ICC Docket No. 37477 (Apr. 27, 1987), 1987 WL 98368 at *5 ("Geographic competition stems from the shipper's or receiver's ability to get the product to which the rate applies from another source or to ship it to another destination by other carriers of the same mode or by different modes."); *McGraw Edison Co. v. Alton & So. Ry. Co.*, 2 I.C.C.2d 102, 109 (1986) ("Geographic competition consists of the restraint on rail pricing from a shipper's or receiver's ability to get the product to which the rate applies from another source, or ship it to another destination."); *Allied Chemical Corp. v. Ann Arbor R.R. Sys.*, 1 I.C.C.2d 492, 497-98 (1985) ("Geographic competition refers to transportation of the same product from a different source. For example, if the power plant could obtain coal from a different source, using different carriers, there would be 'geographic competition.'").

[84] *Atchison, Topeka & Santa Fe Ry. Co. v. ICC*, 580 F.2d 621, 633 n.22 (D.C. Cir. 1978); *see Salt River Agricultural Improvement & Power District v. United States*, 762 F.2d 1053, 1062 (D.C. Cir. 1985); *Arizona Public Service Co. v. United States*, 742 F.2d 644, 648 (D.C. Cir. 1984) (geographic competition is "competition between the challenged railroad and other carriers delivering the same product to the same destination from alternative origins"); *Western Coal Traffic League v. United States*, 719 F.2d at 775 n.5 ("Geographic competition refers to transportation of the same product from a different location.").

competition exists "where the shipper can conduct its business by obtaining the goods it needs from a different source and/or shipping its product to a different destination using another carrier." *Southwest R.R. Car Parts Co. v. Missouri Pac. R.R. Co.*, STB Docket No. 40073 (Feb. 20, 1998). In sum, there is no indication in *Market Dominance Determinations* or any other ICC decision applying the market dominance standard that "geographic competition" could be applied to an alternative that ultimately originated from the same source as the challenged movement or that ultimately terminated at the same destination as the challenged movement simply because that alternative replaced the whole route of transportation and not merely the rail segment whose rate has been challenged.

Most importantly, the agency has specifically held that direct whole-route competitive alternatives analogous to the whole-route truck competition at issue here are intermodal competition—not geographic competition. *See Dayton Power & Light Co. v. Louisville & Nashville R.R. Co.*, 1 I.C.C.2d 375, 380 (1985) ("*Dayton Power*"); *CF Industries, Inc. v. Koch Pipeline, L.P.*, 4 S.T.B. 637 (2000) ("*Koch Pipeline*"). In *Dayton Power*, the complainant challenged the reasonableness of rail rates from various coal loading origins to the Licking River Terminal at Wilder, Kentucky. *See Dayton Power*, 1 I.C.C.2d at 375. At the Licking River Terminal, coal was loaded into barges for delivery to the complainant's generating facility on the Ohio River. *See id.* Under DuPont's theory, therefore, the only cognizable intramodal and intermodal competition would be transportation that terminated at the Licking River Terminal, and any competitive options that would replace the whole route of movement between the coal loading origins and the complainant's generating facility would be classified as "geographic competition."

But that is not what the Commission held. Instead, the Commission recognized that alternative transportation options between the ultimate origins and the ultimate destinations were direct competition that should be considered as potential intermodal competition. Specifically, the Commission analyzed whether trucking coal from the complaint origins to another Ohio River barge transloading facility at Maysville, KY could be effective intermodal competition. *See id.* at 381-82. While these truck movements would not terminate at the Licking River Terminal, they would allow truck-barge competition over the whole route of the coal movement between the ultimate origin and the ultimate destination. The Commission made clear that it considered this alternative to be intermodal competition "for the transportation of the same commodity between the same origin and destinations," and not to be geographic competition. *See id.* at 381. Similarly, the Commission considered joint-rail movements from the coal loading origins to the Maysville, KY barge facility to be potential intramodal competition—not geographic competition. *See id.* The fact that a later section of the *Dayton Power* decision analyzed potential geographic competition "from alternative sources" underscores the Commission's holding that a direct whole-route alternative is cognizable intermodal competition. *See id.* at 383-84.

Koch Pipeline, is another example of the agency considering "whole-route" transportation alternatives to be intermodal competition—not geographic competition. *Koch Pipeline* was a challenge to the reasonableness of anhydrous ammonia pipeline rates between Louisiana and twenty-one pipeline delivery points in Arkansas, Illinois, Indiana, Iowa, Missouri, and Nebraska. *See* 4 S.T.B. at 638. Each of these pipeline delivery points was a large storage terminal from which specialized trucks were loaded to deliver anhydrous ammonia to farmers. *See id.* at 639, 667. After holding that its pipeline rate jurisdiction was constrained by the same

market dominance standards that constrain its rail rate jurisdiction, *see id.* at 641, the Board considered whether the defendant pipeline's rates were constrained by intermodal competition from barge shipments. One of the pipeline delivery points was also served by barge transportation, and the Board found that barges constituted effective intermodal competition for that pipeline movement. But the Board also considered whether pipeline delivery points that were not served by barge were nonetheless subject to effective intermodal competition from barge shipments to nearby river terminals that could serve the ultimate customers by truck. In other words, the Board considered whether effective competition could exist from a direct "whole-route" intermodal alternative that would bypass the pipeline destination named in the complaint and instead use a different barge terminal that would serve the ultimate customers by truck. While the Board ultimately found that this direct whole route competition was not effective in constraining the defendant's rates,[85] the Board clearly treated it as *intermodal* competition—not geographic competition. Indeed, a later section of *Koch Pipeline* considered the effectiveness of geographic competition from alternative sources. *See id.* at 652-54.

In short, both the plain language of § 10707 and the weight of ICC and STB precedent demonstrate that direct whole-route alternatives are intermodal competition and not geographic competition. DuPont's reliance on language from a single decision that conflicts with this precedent cannot stand in the face of the statutory language and the settled position that the agency adopted after multiple rulemakings.

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[85] The Board found that, due to storage constraints at barge terminals, "the amount of pipeline traffic that could be diverted from the pipeline to barge is not sufficient to effectively constrain Koch's rates." *Id.* at 650.

(e) DuPont's Reliance on *DMIR* is Misplaced

DuPont fails to cite *Dayton Power* or *Koch Pipeline* and instead suggests that the issue of whether direct whole-route transportation alternatives are cognizable intermodal competition was entirely settled by the Board's decision in *DMIR*. But DuPont fails to acknowledge both the substantial distinctions between *DMIR* and this case and the significant flaws in the reasoning of the *DMIR* dicta that it cites. Indeed, *DMIR* cannot be given the meaning that DuPont ascribes to it, for if it were *DMIR* would be an arbitrary and capricious decision that cannot control the outcome here.

DMIR involved a challenge to a DMIR rate for transportation of coal from an interchange point at Keenan, MN, to a Minnesota Power generation facility near Colby, MN; the coal originated at mines served by BNSF, which delivered the coal to Keenan for interchange pursuant to a transportation contract with Minnesota Power. *See DMIR I*, 4 S.T.B. at 64. DMIR sought discovery from Minnesota Power about its ability to obtain coal from the stockpile at its Boswell plant. *See id.* at 66. Minnesota Power responded that it had no such documents, and moreover it claimed that truck shipments from its Boswell stockpile would constitute geographic competition. *See id.* While Minnesota Power's admission that it did not have documents responsive to DMIR's discovery requests settled the issue, the Board went on to agree with Minnesota Power that trucking coal from Boswell would be geographic competition that could not be considered under *Product and Geographic Competition*, on the theory that the origin of the challenged rate was Keenan.[86] *See id.*; *see also DMIR II*, 4 S.T.B. at 291-93.

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[86] Because the complainant's statement that it had found no responsive documents obviated any need for the Board to rule on the propriety of discovery, the passage from *DMIR* on which DuPont relies thus embodies a classic definition of "dictum": "language unnecessary to a decision." *Lawson v. United* States, 176 F.2d 49, 51 (D.C. Cir. 1949).

DuPont's reliance on *DMIR*'s dicta ignores a critical distinction. In *DMIR*, the Board reasoned that restricting discovery into truck competition originating at the utility's Boswell plant would not "foreclose the carrier's opportunity to show lack of market dominance." *DMIR*, 4 S.T.B. at 293. Specifically, the Board held that DMIR could just as easily postulate "a rail-truck alternative" with the rail-truck transfer occurring at the DMIR interchange at Keenan rather than at the utility's Boswell plant. *See id.* That Keenan option would have been the exact same type of intermodal competition as the Boswell option DMIR sought to demonstrate—a rail-truck transload where BNSF originated the traffic and transported it to a transload point where trucks would be loaded for coal deliveries to final destination. In other words, *DMIR* was premised on a factual scenario in which requiring the transload to occur at the currently-used interchange point did not conflict with the Board's statutory duty to consider intermodal competition. The situation is starkly different in the case of the whole-route trucking alternatives at issue here. DuPont is not arguing that the direct truck competition that it uses in the real world should be replaced with an equally efficient alternative. Rather, DuPont is using the *DMIR* dicta as a device to foreclose any consideration of intermodal competition, including truck options actually used by DuPont.

DuPont's assertion that this isolated discovery decision was intended to substantially restrict the market dominance test and to foreclose consideration of direct whole-route intermodal alternatives in all cases is not a reasonable reading of *DMIR*.[87] But if DuPont were correct that *DMIR* should be read to have substantially revised the law by adopting a definition of geographic competition that starkly departs from all previous definitions of the term (not to

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[87] It is also noteworthy that the Board did not follow *DMIR* in *Koch Pipeline*, where it considered "whole-route" competition to be intermodal competition.

mention tacitly overruling *Dayton Power*), that decision would have to be deemed arbitrary and capricious, for three reasons. First, *DMIR* did not even address the Board's departure from ICC precedent holding that whole-route alternatives were intermodal competition and not geographic competition—let alone justify that departure. Second, if the Board wished to revise market dominance guidelines that were adopted in notice-and-comment rulemaking, it had to do so in notice-and-comment rulemaking—not in a discovery decision in an adjudication. Third, the reasoning of *DMIR* is logically flawed, inconsistent with the Interstate Commerce Act, and would not survive appellate review.[88]

(i) *DMIR* Did Not Provide Any Justification for the Board's Departure from *Dayton Power*.

DMIR's dicta was arbitrary and capricious because it failed to comply with the bedrock administrative law principle that an agency must justify any decision to depart from a previous precedent. As demonstrated above, before *DMIR* the ICC recognized that whole-route intermodal alternatives were intermodal competition and not geographic competition. *See Dayton Power*, 1 I.C.C.2d 375. But the *DMIR* decisions did not acknowledge this precedent—let alone persuasively justify a departure from it. Indeed, *DMIR* suggests that the Board was addressing a new factual scenario that was not anticipated by previous ICC decisions. *See DMIR I*, 4 S.T.B. at 292 n.13 (claiming that conflict between *Product and Geographic Competition* and *DMIR* dicta could be dismissed because *Product and Geographic Competition* did not address cases "in which a rate must necessarily be confined to the bottleneck segment of a through movement"). That assumption was plainly incorrect. *Dayton Power* squarely addressed a

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[88] The *DMIR* litigation ended in a negotiated settlement, and no court of appeals ever heard an appeal.

situation where the challenged rail rate comprised only a part of the through movement, and the Board could not lawfully abandon the *Dayton Power* precedent without explaining its reasoning for doing so. *See Manufacturers Ry. Co. v. STB*, 676 F.3d 1094, 1096 (D.C. Cir. 2012) ("This Court will set aside agency action if, among other things, the agency 'reverses its position in the face of a precedent it has not persuasively distinguished.'" (quoting *New York Cross Harbor R.R. v. STB*, 374 F.3d 1177, 1181 (D.C. Cir. 2004)). Because the *DMIR* decision failed to justify the Board's departure from *Dayton Power*—and indeed failed to even acknowledge that departure—it was arbitrary and capricious and is not entitled to any weight.

(ii) *DMIR*'s Dicta Could Not Change the Regulatory Definition of Geographic Competition Without Notice and Comment.

Even if the Board had explained its departure from precedent in *DMIR*, the Board did not (and does not) have the authority to use a procedural decision on the scope of discovery in an adjudication to substantially revise definitions of intermodal and geographic competition that were adopted in notice-and-comment rulemaking and affirmed after several other notice-and-comment rulemakings. As detailed above, *Market Dominance Determinations* defined geographic competition as "a restraint on rail pricing stemming from a shipper's or receiver's ability to get the product to which the rate applies from another source, or ship it to another destination." *Market Dominance Determinations*, 365 I.C.C. at 128 (emphasis added). The regulatory definition of geographic competition plainly referred to competitive transportation options from a different ultimate origin or to a different ultimate destination. *See supra* at subsection II.B.2.d.i(d). And that regulatory definition remained consistent through subsequent rulemakings to shift the burden of proof for product and geographic competition evidence and

ultimately to discontinue the use of product and geographic competition.[89] At no point did the ICC or the Board notify the public of, or provide opportunity for comment on, an expanded definition of geographic competition that would apply to whole-route intermodal alternatives between the actual origin and actual destination of a joint-line movement.[90]

The Board did not have authority under the Administrative Procedure Act to use the *DMIR* adjudication to change the definition of geographic competition that was adopted after a rulemaking. *See Marseilles Land and Water Co.*, 245 F.3d at 920 (holding that "an administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a de facto amendment to its regulation through adjudication"). While in the first instance an agency has the choice to establish a position through rulemaking or through adjudications, once it adopts a rule it cannot amend it through adjudication. Another rulemaking is required. *See Alaska Professional Hunters Ass'n v. F.A.A.*, 177 F.3d 1030, 1034 (D.C. Cir. 1999) ("When an agency has given its regulation a definitive interpretation, and later significantly revises that interpretation, the agency has in effect amended its rule, something it may not accomplish without notice and comment."); *Paralyzed Veterans of*

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[89] *See Product and Geographic Competition*, 2 I.C.C.2d at 22 (revised geographic competition guidelines applied to "alternative geographical sources of supply or alternative destinations available to the originator or receiver of the product in question"); *Market Dominance Determinations—Product & Geographic Competition*, 3 S.T.B. 937, 937 (1998) (geographic competition concerns "whether the complaining shipper can avoid using the defendant railroad by obtaining the same product from a different source, or by shipping the same product to a different destination").

[90] It should be noted that the *Market Dominance Determinations—Product & Geographic Competition*, 3 S.T.B. 937 (1998) rulemaking occurred after the Board's *Bottleneck* decisions. Therefore, if the Board believed that *Bottleneck* warranted a revision to the prevailing definition of geographic competition, it had ample opportunity to do so in the *Product & Geographic Competition* proceeding. But there was never any indication in that rulemaking that the geographic competition that the Board was considering eliminating included direct competition over the whole route or joint-line movements.

America v. D.C. Arena L.P., 117 F.3d 579, 586 (D.C. Cir. 1997) (agency violates APA if it makes a "fundamental change in its interpretation of a substantive regulation without notice and comment"). The Supreme Court has made clear that an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must comply with APA notice-and-comment procedures. *Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. at 100. Because the *DMIR* dicta did not meet this standard, it was arbitrary and capricious, and the Board cannot rely on it.

Where an agency is merely clarifying an existing rule, formal rulemaking is typically not required. *See, e.g., Air Transport Ass'n of America v. F.A.A.*, 291 F.3d 49 (D.C. Cir. 2002) (finding that the FAA's interpretation of a phrase in its airline pilot flight-time schedule regulations was simply a clarification of the existing rules and was neither substantive nor a departure from prior interpretation that could require compliance with notice and comment procedures). In this case, DuPont contends that the *DMIR* dicta substantially changed the understanding of geographic competition in a way that effectively negates the statutory command to consider intermodal competition in any challenge to a Rule 11 rate. Any such significant change would require notice and comment. *See Sprint Corp. v. F.C.C*, 315 F.3d at 374 ("Whereas a clarification may be embodied in an interpretive rule that is exempt from notice and comment requirements, new rules that work substantive changes in prior regulations are subject to the APA's procedures.").

The fact that *DMIR*'s dicta failed to comply with notice and comment rulemaking is not a meaningless procedural technicality. The purpose of notice and comment rulemaking is to ensure that a broader range of interested parties can comment on an issue and bring issues to the Board's attention. Here, for example, a broad application of the *DMIR* dicta would substantially expand the Board's rate reasonableness jurisdiction by effectively eliminating its consideration

of intermodal competition in cases involving Rule 11 rates. It is impossible to square this result with the language of the statute, the unmistakable intent of Congress, or with good public policy. The Board's failure to solicit comment from the public before making such a momentous and ill-considered change to longstanding agency interpretations constituted significant error, and accordingly the Board should not rely on the *DMIR* dicta for any purpose.

(iii) The *DMIR* Dicta Misinterprets the Statute.

Most importantly, *DMIR* was an arbitrary and capricious misinterpretation of the statute. *DMIR II* claimed that its redefinition of geographic competition to include direct whole-route competition was required (1) by the language of section 10707; (2) by the *Bottleneck* decisions; and (3) by *Product and Geographic Competition*. *See DMIR II*, 4 S.T.B. at 292. None of these arguments has any merit.

First, the Board suggested that under the statute the market dominance inquiry must be limited to "the transportation to which [the rate at issue] applies" and therefore that when considering competition for a Rule 11 rate the Board may only consider options that would only replace the rail segment covered by that Rule 11 rate. As demonstrated above in subsections b and c, this interpretation is fallacious. Nothing in the statute suggests that the competition "from other . . . modes of transportation" that the Board is required to consider must be alternatives that only compete with the challenged Rule 11 rate and not with the other segments of a joint rail movement. And the statute cannot be read to contain such a limitation because of the fundamental statutory principle that "'a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant.'" *TRW*, 534 U.S. at 31. The Board cannot reasonably interpret section 10707 in a way that would eliminate the statute's requirement that "effective competition from other . . . modes of

transportation" be considered in every case. Interpreting the statute to require that any "intermodal" competition deliver product to a connecting carrier in a railcar would do just that.

Second, *DMIR II* claimed that the *Bottleneck* decisions' holding that the Board would not consider portions of a movement governed by a rail transportation contract when assessing the reasonableness of a rate meant that the Board could not consider a whole-route market dominance alternative that also replicated a portion governed by contract. *See DMIR II*, 4 S.T.B. at 292. But this superficial reasoning mixes apples and oranges, and it is plainly inconsistent with the overall deregulatory purpose of 49 U.S.C. § 10709. The fact that section 10709 bars the Board from considering the reasonableness of a rate governed by contract has nothing to do with whether the Board is free to ignore real-world competition "from other . . . modes of transportation" simply because the intermodal alternative competes with a joint rail movement that partially moves by contract.[91] Section 10709(c) was intended to reduce Board regulation by removing the Board's jurisdiction over contract movements. As *Bottleneck I* made clear, reading this deregulatory statute as a mechanism to increase Board regulation by effectively eliminating consideration of intermodal competition for challenges to Rule 11 rates would be completely inconsistent with Congress's intent. *See Bottleneck I*, 1 S.T.B. 1059, 1070 n.17 ("[S]ection 10709 was not intended to impose new regulatory obligations on non-contracting parties.").

DMIR's and DuPont's citation of *Bottleneck* is particularly unpersuasive because in *Bottleneck* the Board firmly rejected the "fiction" that when a contract rate and a common carrier rate are combined for joint line service the common carrier rate "originates" at the interchange

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[91] The *Bottleneck* decisions made clear that permitting shippers to challenge the reasonableness of a "bottleneck rate" was predicated on the fact that "we are without *rate reasonableness jurisdiction* over the rates of any rail transportation provided by contract." *Bottleneck I*, 1 S.T.B. at 1074 (emphasis added).

point and not the ultimate origin. *See id.* Several of the commenting shippers in *Bottleneck* argued that "exempt contract service over one route-segment and common carrier service over another cannot be combined to form a through route" (and thus that shippers need not pursue a competitive access remedy to obtain a rate on the bottleneck segment). *Id.* The Board disagreed, holding that shippers could not "create the fiction that common carrier rail service following a rail contract movement 'originates' at the interchange point, rather than the mine." *See id.* That is precisely the fiction that DuPont asks the Board to adopt today. Having rejected that fiction in the notice-and-comment *Bottleneck* proceedings, the Board could not adopt it in the *DMIR* adjudication without violating APA requirements. And it cannot and should not accept that fiction today.

Third, *DMIR* incorrectly claimed that ignoring evidence of whole-route intermodal alternatives was required by *Market Dominance Determinations—Product & Geographic Competition*. *See DMIR II*, 4 S.T.B. at 292. But as discussed above, there was no indication in that rulemaking or in the agency's prior jurisprudence that "geographic competition" encompassed a whole-route transportation alternative to move the same commodity between the same ultimate origin and ultimate destination. To the contrary, precedent was clear that such whole-route alternatives constituted intermodal competition. *See supra* at II-B-75 to II-B-80. Indeed, the court reviewing *Product and Geographic Competition* clearly understood geographic competition to mean transportation "using a different departure-point or destination." *AAR v. STB*, 237 F.3d at 678.

Moreover, the Board's rationale for limiting evidence of product and geographic competition—that such evidence "imposes substantial burdens on both the parties and this agency" and had a "chilling effect" on shippers' willingness to bring rate complaints—is simply

not present here. *See Market Dominance Determinations—Product & Geographic Competition*, 3 S.T.B. at 946; *AAR v. STB*, 306 F.3d at 1110; *AAR v. STB*, 237 F.3d at 680.[92] There is nothing burdensome about considering the evidence of direct truck alternatives that DuPont actually uses in many cases but wants the Board to ignore. And there is nothing "chilling" about requiring shippers to prove that there is an absence of effective competition from other modes between the actual origin and actual destination of the rail shipments at issue—on the contrary, this is the bare minimum of what § 10707(a) requires.

Indeed, the Board's determination to end consideration of product and geographic competition was upheld on the ground that the Board had discretion to balance the competing rail transportation policies "to have competition determine rail rates where possible" and "to provide for the expeditious handling and resolution of all proceedings where regulation is required." *See AAR v. STB*, 306 F.3d at 1111. Because the consideration of whole-route truck competition does not adversely affect the "expeditious handling and resolution" of rate cases in any meaningful way, the only rail transportation policy that weighs in the balance is the policy "to have competition determine rail rates where possible." Here, that policy plainly weighs against the *DMIR* dicta's assertion that whole-route intermodal competition be ignored. The basis on which the D.C. Circuit affirmed the Board's decision to end consideration of geographic source competition would not apply to a decision to refuse to consider competition from trucks for joint rate movements, and that appeal may well have been decided differently had the Court been presented with the *DMIR* dicta's expanded definition of "geographic competition."

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[92] *Cf. Koch Pipeline*, STB Docket No. 41685, at 6 (May 3, 2000) ("Our decision not to consider evidence of product and geographic competition in rail rate cases was based on our substantial experience with how these factors were exploited by railroad defendants to delay and thwart the prosecution of rail rate cases, imposing undue burdens on rail shippers and ultimately foreclosing shippers from regulatory relief.").

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For the multiple reasons detailed above, the Board should reject DuPont's claim that the *DMIR* dicta forbids the Board from considering the effectiveness of direct truck alternatives to joint-rail movements even when DuPont uses those alternatives today. *DMIR* is inconsistent with the statute and incompatible with agency precedent. Indeed, while DuPont claims that the Board needs to adhere to the supposed "precedent" of the *DMIR* dicta, in doing so DuPont would have the Board reject *Dayton Power*, *Koch Pipeline*, and the multiple ICC and STB decisions defining geographic competition to mean indirect competition from other geographic locations—not intermodal competition from the same origins and destinations listed in the complaint. In any event, the Board is not bound to adhere to an incorrect interpretation of the statute. "Error is not to be perpetuated simply because it has been once made, and wisdom is not to be rejected merely because it comes late." *Western Coal Traffic League*, 694 F.2d at 391.[93] The record in this case proves that *DMIR*'s dicta was an error that should not be perpetuated. Prohibiting evidence of whole-route intermodal alternatives to challenged Rule 11 rates would effectively preclude the consideration of intermodal competition in a way that is not consistent with the Interstate Commerce Act. Particularly in a case like this one—where DuPont has actually used whole-route direct trucking for {{ }} of issue lanes—*DMIR*'s suggestion that the agency should close its eyes to that competition is incompatible with Congress's command that the Board "shall" consider the effectiveness of intermodal competition in every rate case.

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[93] *See also CSX Transp., Inc. v. STB*, 584 F.3d 1076, 1079 (D.C. Cir. 2009) ("Wisdom, Justice Frankfurter once said, too often never comes, and so one ought not to reject it merely because it comes late." (internal quotation marks omitted)).

ii. NS's Rates Are In Line With the Market And Do Not Show Market Dominance.

DuPont also attempts to demonstrate market dominance by pointing to the level of NS's rates and NS's rate increases in recent years, but these arguments do not withstand scrutiny. First, DuPont's claims that "aggressive NS rate increases" prove NS's market dominance lack any merit. DuPont's argument rests entirely on a misapprehension of the law: its assertion that effective competition means that any rate increase must be accompanied by a loss in traffic. As discussed above, DuPont's attempted redefinition of "effective competition" has no basis in the agency's precedent, and the Board should reject the notion that a shipper can manufacture market dominance through the simple device of continuing to use a railroad's service after a rate increase. *See infra* at II-B-19.

Moreover, the fact that NS's tariff rates have increased in recent years does not demonstrate market dominance. {

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Furthermore, the period during which { }
was one that saw significant increases in the marginal costs for trucking. The relative rise in marginal trucking costs is illustrated by the fact that one study estimated 1996 marginal trucking costs to be $1.04 per mile and another estimated 2011 marginal trucking costs to be $1.706 per mile– a 63% increase. *See* NS Reply WP "1997 Study of Truck Costs for Owner/Operators" at 37; NS Reply WP "ATRI Operational Costs of Trucking.pdf" at 2. While these two studies may not have had identical methodologies, they are consistent with a dramatic increase in trucking costs during a period when {

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Moreover, a portion of the increase in DuPont's rates is due to the fact that DuPont's contract rates were being replaced with tariffs. Transportation contracts offer valuable certainty to both railroads and shippers, and {

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} Indeed, the Board has acknowledged that transportation contract rates will typically be lower than tariff rates for similar movements. *See U.S. Magnesium, L.L.C. v. Union Pac. R.R. Co.*, STB Docket No. 42114, at 18 (Jan. 28, 2010) (agreeing that "contract rates can in some instances be lower than tariff rates for a number of reasons (for instance, shippers in certain settings could negotiate indemnity or volume assurances with the carrier in exchange for a better rate)").

Second, DuPont argues that the absolute level of NS's rates demonstrate market dominance, but DuPont's argument is conclusory and impossibly inconsistent. In DuPont's view, where the cost of alternative transportation is more than 10% above NS's rail rates, that is supposed "conclusive" proof that NS is market dominant. *See, e.g.*, DuPont Opening I-14 through I-16. But when NS's rail rates are equivalent to or higher than truck rates, that supposedly proves market dominance too. *See id.* at I-17 ("comparable or lower truck rates are not an effective constraint upon NS rates, but actually are evidence of NS exercising its market power"); *id.* at II-B-148 (declaring that lanes where direct trucking costs are within 10% of the cost of rail transportation must be lanes where "NS has priced up to the higher cost truck alternative"). This illogical heads I win, tails you lose style of argumentation lacks any merit.

Instead, the Board should use the common sense rule that when the cost of alternative transportation is less than or reasonably comparable to the cost of rail transportation, the alternative transportation is effective competition unless the complainant presents evidence that some non-cost-related factor prevents it from being competitive. This accords with Congress's expressed belief that a logistically feasible transportation alternative would constitute effective competition if it were available at a comparable cost:

> If a shipper can rely on a transportation alternative, which could include another railroad, a barge, or a truck, at a transportation cost

> which is not substantially greater than the rail transportation cost, then competition is present. Competition will serve to hold down rates, and the railroad involved would not have market power.

H. REP. 96-1430, at 39 (1980). In this case, therefore, the only lanes that can be disqualified on cost grounds alone are those lanes where the cost of alternative transportation is "substantially greater than the rail transportation cost." *Id.* As detailed below, Mr. Heisler did not consider any alternative transportation to be competitive unless its costs were no more than 20% higher than the cost of rail transportation. Indeed, the vast majority of the options presented herein are less expensive than the cost of rail transportation. And all but a handful fall within the 10% threshold that DuPont wrongly asserts is the upper boundary of cost-competiveness.

DuPont cites three decisions for the proposition that similarly-priced motor carrier alternatives are not evidence of effective competition, but none can bear the weight that DuPont places on them. *See* DuPont Opening I-22 to I-23. These decisions all stand for the uncontroversial proposition that cost comparability is not sufficient to prove effective competition where there is substantial evidence that the alternative is inherently less efficient and less desirable than rail transportation. In that circumstance it is possible that the cost comparability between rail transportation and an obviously less suitable alternative is not the result of effective competition. The principle outlined by these decisions is best understood as an exception to the general rule that "a transportation alternative . . . at a transportation cost which is not substantially greater than the rail transportation cost . . . [demonstrates that] competition is present." H. REP. 96-1430, at 39 (1980). DuPont's attempt to extend that exception to apply to any situation where rail prices are comparable to truck prices would make the exception swallow the rule and would represent an sharp departure from Congress's intent that the Board not regulate any rate for which a shipper has an effective alternative.

First, DuPont relies on language from the D.C. Circuit's decision in *Arizona Public Service Co.*, which held that "[a]t some point the availability of an alternative such as the horse and buggy or even people carrying oil in buckets theoretically prevents railroads from raising their rates beyond an outer bound." *Arizona Pub. Serv. Co.*, 742 F.2d at 651. The D.C. Circuit's identification of the issue as a "horse and buggy" problem demonstrates the extreme limits of the exception. The key factor creating a "horse and buggy" scenario is not that a rail rate is set at the level of its competition but rather that the rail rate is set at the level of a mode that is obviously inferior and inherently less efficient than rail service. Participants in competitive markets price to the level of their competitors every day; indeed, that is how markets are supposed to work. The only situation in which the Board could find that a comparably-priced transportation alternative was not effective competition would be where the alternative is at such a clear disadvantage vis-à-vis rail that the comparable pricing was more likely the function of a monopolist pricing to its profit-maximizing price than of a competitive market.[98]

Second, DuPont cites a footnote from *Amstar Corp. v. Atchison, Topeka & Santa Fe Ry.*, ICC No. 37478, 1987 WL 99931, at *6 n.11 (Nov. 23, 1987), for the proposition that "similarity of rates alone does not indicate the motor carriers provided an effective constraint." But DuPont neglects to point out that in *Amstar* the agency relied on substantial non-cost factors to conclude that comparable trucking prices were not proof of effective competition. Specifically, the Commission relied on the distance of the potential truck movements (which ranged from 1296 to

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[98] While *Arizona Public Service* discussed the theoretical possibility of a horse and buggy exception, its facts did not present such scenario. The Court instead addressed a case where truck transportation rates were up to 60% higher than rail rates. *See Arizona Public Service,* 742 F.2d at 651 ("truck rates are much higher than railroad rates for comparable services, and there is no suggestion in this record that the truck rates are higher because of any superiority in truck transportation of oil").

1508 miles) and the fact that truck shipments at that distance were rare before concluding that rate comparisons between rail and truck rates for such shipments were not informative. *See id.* at *6. Indeed, it appears that the railroads did not seriously contest the shipper arguments that there was no effective intermodal competition as to these movements. *See id.* (noting that "no countering evidence was provided by defendants").

Third, *DuPont (Plastics)* is also inapplicable, for there the Board relied on specific evidence that long-haul truck transportation of a sensitive commodity was infeasible. In *DuPont (Plastics)* the question before the Board was whether CSXT's tariff rate for an 820-mile movement of plastic powder was constrained by direct truck competition at rates "at least 10% higher" than the challenged rail rate. *See DuPont (Plastics)*, STB Docket No 42099 at 7 (June 30, 2008). The Board found that truck transportation was significantly complicated by the physical characteristics of the issue commodity, which had a melting point under 100° Fahrenheit and which required specialized temperature-controlled trucks and special techniques to load and unload. *See id.* Truck delivery of this commodity was therefore "a disfavored alternative" regardless of cost. *Id.* Once again, the evidence showed that long-haul truck transportation of this sensitive commodity was less desirable than rail transportation, and the Board concluded from that evidence that it was not an effective alternative.

In short, the precedents that DuPont cites for a claim that cost-competitive transportation alternatives do not create market dominance do not support its position. These decisions rather stand for the proposition that cost comparability may not demonstrate market dominance when other evidence shows that the alternative is inherently less efficient and less desirable than rail transportation. Congress made clear that in the ordinary course the Board should assume that where a feasible and cost-comparable option exists, "competition is present." H. REP. 96-1430,

at 39 (1980). The Board should not abandon or weaken that principle because of the hypothetical risk of a "horse and buggy" situation.

iii. DuPont's Contracts With Customers and Suppliers Do Not Establish Market Dominance.

DuPont further argues that on many lanes it has no choice but to ship by rail because of customer "requirements" to use rail transportation. But in almost every case DuPont's evidence of these "requirements" is exaggerated and unpersuasive. Most prominently, DuPont claims that the ineffectiveness of intermodal alternatives is conclusively demonstrated by a "contractual requirement" for rail deliveries. But the contracts that DuPont relies upon do not demonstrate such a requirement—rather they are short term, regularly renewed contracts that DuPont has ample flexibility to renegotiate. Indeed, many of the customers that DuPont claims "require" rail through their contracts have actually received significant shipment volumes via truck, and many of the contracts DuPont cites as "requiring" rail deliveries explicitly contemplate motor carrier deliveries.

DuPont relies on ICC precedent recognizing that the "needs of the shipper or receiver" can affect the feasibility of truck transportation, but it has produced virtually no evidence that demonstrates such a need. *See* DuPont Opening I-47 (citing *McCarty Farms*, 3 I.C.C.2d at 829). For all but a handful of lanes, DuPont presented no evidence that its customers truly "require" rail transportation and are incapable of receiving truck shipments. Indeed, NS is not challenging DuPont's evidence of market dominance on any lane where it has demonstrated a true customer requirement for rail deliveries. For instance, on Lane {{ }} DuPont produced a statement from a customer indicating that its facility is physically incapable of receiving truck shipments of the issue commodity, and on Lane {{ }} DuPont presented evidence that DuPont itself is physically incapable of loading the issue commodity into trucks at the origin plant. While NS is

not contesting the Board's jurisdiction over its rates for those two lanes, they are the exception that proves the rule. For most lanes on which DuPont alleged a customer "requirement" for rail, it produced little to no evidence demonstrating such a requirement.[99]

DuPont's primary evidence of customer requirements are contracts that allegedly demonstrate a "requirement" for rail delivery. *See* DuPont Opening I-47. But like so many of DuPont's allegations, the broad statements in its narrative are not backed up by an examination of the specific facts. In the first place, the contracts at issue here are short-term supply contracts—nearly all of which are expired or on the verge of expiring. For instance, DuPont claims that its contract with {{ }}, the customer on Lane {{ }}, compels DuPont to ship product by rail even though that contract expired in 2008.[100] Other contracts are terminable on 90 days notice.[101] DuPont plainly cannot claim that it lacks competitive options because of a contractual requirement that no longer exists or that can be easily canceled. Moreover, DuPont regularly renegotiates supply contracts with its customers. If DuPont believes that a contractual provision was restraining it from exercising a competitive option, then it has ample opportunity to renegotiate that provision when entering a new supply contract.

DuPont also significantly exaggerates the import of the contractual "requirements" it claims to find in its supply contracts. Many of the contracts in fact specifically contemplate

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[99] Having failed to provide evidence of such a "requirement" on Opening, DuPont is precluded from doing so on rebuttal. *See General Procedures*, 5 S.T.B. at 445-46; *Xcel*, STB Docket No. 42057, at 5 (Jan. 19, 2005).

[100] *See* {{

}}

[101] *See, e.g.*, {{
}}

truck shipments. {{

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Perhaps most compellingly, many of the customers whom DuPont says "require" rail shipments in their supply contracts have received multiple deliveries via truck. For example, {{

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iv. DuPont's Other Alleged Rationales for Market Dominance Should Be Rejected.

DuPont raises a series of other arguments for market dominance, including alleged infrastructure constraints precluding reliance on trucking or transloading alternatives, alleged needs to use railcars to store the issue commodities, and arguments that trucking or transloading could risk contamination or damage product quality. These arguments are commodity-specific and sometimes lane-specific, and therefore are addressed in the individual lane discussions below. But the Board should consider three overarching points when evaluating DuPont's arguments.

First, most of DuPont's objections are irrelevant, for they address alleged issues with transportation options that NS is not proposing as effective competitive alternative. For example, DuPont's product integrity objections for biopropanediol and glycolic acid are irrelevant because NS is not challenging DuPont's evidence of market dominance for those commodities, and DuPont's objections to transloading difluoroethane, dimethyl ether, lime, and zircon sand are irrelevant because NS is not proposing transload options for those commodities.

Second, DuPont's evidence largely ignores the principle that a competitive alternative need not be able to accommodate 100% of the issue volume in order to constitute effective competition.[102] Indeed, for several commodities DuPont asserts infrastructure needs based on the theory that it would entirely abandon rail transportation of the issue commodities (not just the issue movements) and exclusively rely on truck. This is plainly incorrect; what is at issue here are the volumes of the issue lanes, which are relatively low and which could be converted to truck with little or no additional infrastructure. *Cf. M&G*, STB Docket No. 42123, at 29 (holding that railcar volume shifts that would "involve an average of only three trucks per week" were "far below volume levels the Board has deemed infeasible in the past"). In the few instances where a full-scale use of competitive truck alternatives might require some additional infrastructure, DuPont could make the needed investments to utilize its truck options at costs that are economically reasonable.

Third, and perhaps most importantly, DuPont has the burden of proving a lack of effective competition. *See DuPont (Chlorine)* at 2. It cannot meet that burden with generalized

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[102] *DuPont*, STB Docket No. 42100, at 4 ("For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'") (citing *Amstar Corp. v. Great Alabama S. R.R.*, I.C.C. Docket No. 38239S (served Nov. 10, 1987)).

allegations that are unsupported by specific documentation. *See, e.g.*, *M&G*, STB Docket No. 42123, at 28 (rejecting argument that "customers require rail delivery because they lack silo space" because complainant "has submitted no direct evidence to support its theory"); *id.* at 34 (rejecting complainant's argument because it "provides no documentation or specific support for this proposition other than references to its prior generalized arguments"). In many occasions DuPont's assertions that rail transportation is required on a particular lane are unsupported by any "documentation or specific support." DuPont repeatedly alleges that customers "require" or "need" rail transportation without any direct or indirect statements from customers indicating that that in fact is the case. Such unsupported allegations are far short of what is required for DuPont to carry its burden to prove that intermodal competition is not effective, particularly in light of the considerable evidence that alternative transportation options for many issue lanes are feasible, cost-competitive, and regularly used by DuPont.

e. Effective Trucking Competition Exists for Ninety-Nine of the Issue Lanes

i. Overview of NS Approach to Identifying Competitive Alternatives

NS expert Gordon Heisler is an expert in logistics with broad experience in chemicals transportation. Mr. Heisler has spent most of his career identifying and analyzing competitive transportation options for chemicals shippers. He directed Sunoco's transportation group for approximately thirteen years, and during that time he was responsible for the operational management and economics of all rail and bulk truck movements for Sunoco.[103] In this case, Mr. Heisler analyzed potential competitive options for the issue movements and identified alternative transportation options competitive with NS's tariff rates for ninety-nine of the issue

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[103] *See* Section IV for Mr. Heisler's full statement of qualifications.

movements. Each of the competitive alternatives discussed below shares four key elements: (1) trucking and/or transloading is a physically feasible alternative; (2) trucking and/or transloading over the issue lane can be accomplished safely; (3) shipment volumes over the issue lane are amenable to truck or transload alternatives; and (4) the costs of alternative transportation are competitive with the costs of NS rail service. Each of these elements is discussed in more detail below.

1) Trucking And/Or Transloading Is a Physically Feasible Alternative for the Issue Lane.

For each competitive option discussed below, Mr. Heisler determined that trucking over the issue lane was a physically feasible alternative to rail service. Mr. Heisler determined that the issue commodity was amenable to trucking and that commercial equipment was available. He also determined that loading trucks was feasible at the origin and that unloading trucks was feasible at the destination. For lanes where transloading is a potential option, Mr. Heisler analyzed the suitability of the issue commodity to transloading and the capacity of the proposed transload facility to handle the issue commodity. Mr. Heisler reached these conclusions based on his experience in the industry and his analysis of documents and data produced by DuPont in discovery, including DuPont trucking records for the issue commodities; DuPont truck loading and unloading procedures for the issue commodities; and DuPont interrogatory responses regarding the feasibility of alternative transportation.

2) Alternative Transportation Does Not Create Safety Concerns.

Each competitive alternative is also one where converting rail traffic to truck transportation would not raise any safety issues. Mr. Heisler's identification of lanes that could be trucked safely was informed both by his experience in the industry and by DuPont's own practices. As detailed below, DuPont regularly uses motor carriers for the commodities for

which NS proposes trucking alternatives, and DuPont has extensive safety procedures in place for truck loading and unloading. While some of the issue commodities are hazardous materials, the safety concerns from transporting these materials by truck are no different than the safety concerns from transporting them by rail.[104]

3) Shipment Volumes On The Issue Lane Are Consistent With Competitive Trucking And/Or Transloading.

The third issue Mr. Heisler considered was whether the volumes moving over the issue lanes were conducive to motor carrier transportation. One of the most significant advantages that rail transportation can have over truck transportation is that railroads are better suited to transport high volumes of bulk commodities. In a SAC case involving substantial long-distance shipments of bulk commodities, trucking is often not a realistic option.[105] In this case, however, the lanes DuPont has challenged are low-volume lanes that are naturally conducive to trucking. Most lanes average less than one railcar per week, and even the highest volume lane consists of only a few hundred carloads per year. *See* NS Reply Exhibit II-B-5 (detailing annual railcar volumes on issue lanes). As the chart below details, it would take less than five trucks per week to transport the entire annual volume of { } of the 99 issue lanes with a competitive alternative identified by Mr. Heisler. That averages to less than one truck per business day. And the highest-volume lane with a competitive alternative—{ }—could be entirely converted to truck transportation using less than { } trucks per week. *See id.* These volumes are far less than volumes that the Board has recognized could be trucked competitively.

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[104] Chlorine is the only DuPont issue commodity to have a DOT Classification of 2.3 (gas poisonous by inhalation). NS does not contend that transporting chlorine by truck is a realistic competitive option in these lanes and at these volumes.

[105] *See, e.g., Metropolitan Edison Co. v. Conrail*, 5 I.C.C.2d 385, 412 (1989) (finding that it was "[s]imply impractical" to move a million tons of coal by truck).

For example, in *FMC* the Board found effective truck competition for an option that would have required "an increase in traffic of only about 15 trucks per day." *FMC*, 4 S.T.B. at 713; *see also M&G*, STB Docket No. 42123, at 29 (holding that railcar volume shifts that would "involve an average of only three trucks per week" were "far below volume levels the Board has deemed infeasible in the past").

TABLE II-B-6
Trucks Per Week Necessary to Carry Entire Annual Railcar Volume on Lanes With Truck or Transload Options[106]

Less than 1 truck per week	{ }
Between 1 and 5 trucks per week	{ }
Between 5 and 10 trucks per week	{ }
Over 10 trucks per week	{ }

While each of the trucking alternatives detailed below is capable of transporting the entire volume of the issue lane, it should not be forgotten that a transportation alternative need not accommodate 100% of volume to constitute effective competition. "For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'" *DuPont (Chlorine)*, STB Docket No. 42100, at 4 (citing *Amstar Corp. v. Great Alabama S. R.R.*, I.C.C. Docket No. 38239S (served Nov. 10, 1987)). The Board instead "seek[s] to determine [. . .] whether the alternative mode places 'considerable competitive pressures' on the defendant railroad." *Id.* Indeed, effective competition can exist where an alternative transportation option accounts for well less than half of the total volume. *See Amstar Corp. v. Great Alabama S. R.R.*, I.C.C. Docket No. 38239S

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[106] Chart derived from NS Reply Exhibit II-B-5.

(trucks provided effective intermodal competition where 1.5% of issue traffic moved via truck); *FMC*, 4 S.T.B. at 713 (finding effective intermodal competition for coke transportation where shipper's previous use of motor carriage never exceeded 12% of its annual coke shipments).

4) The Costs of Alternative Transportation Are Competitive With the Costs of Rail Service on Each Lane Identified.

For each alternative, Mr. Heisler calculated all potential costs to DuPont of that alternative. For truck alternatives he considered both trucking rates and any ancillary charges; for rail-truck transload alternatives he also considered rail rates and transload facility charges. A detailed breakdown of Mr. Heisler's cost calculations for direct truck options is set forth in NS Reply Ex. II-B-2 and the supporting workpaper NS Reply WP "Direct Truck Analysis.xls." The cost calculations for transload options are set forth in NS Reply Ex. II-B-3 and the supporting workpaper NS Reply WP "Transload Cost Analysis.xls." All of the costs are based on actual rates available to DuPont today and include the following factors.

- Truck costs: Truck rates are calculated from DuPont's truck contracts, which are included in NS's workpapers. Mr. Heisler's cost calculations account for applicable fuel surcharges and all necessary accessorial charges.[107] For example, Mr. Heisler's cost analysis includes the cost of cleaning trucks in instances where those costs are appropriate. NS Reply WP "Direct Truck Analysis.xls" details all components of Mr. Heisler's truck cost calculations.

- Rail costs: Rail costs are calculated from DuPont's rail contracts (which are included in NS's workpapers) and incorporate applicable fuel surcharges and escalation. For some rail-truck transload options, DuPont did not have an existing contract rate for the non-NS railroad's movement to or from the transload facility, and in those instances Mr. Heisler used rates from that carrier's public tariffs to calculate rail costs for the transload option. Because contract rates are typically lower than public tariff rates, this approach is very conservative and likely overstates the cost of transportation alternatives.

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[107] Fuel surcharges are calculated based on fuel surcharges in effect on May 11, 2012 (the same date used by DuPont for its market dominance evidence).

- Transload costs: The costs of transloading at CSX TRANSFLO facilities are based on DuPont's contract with TRANSFLO and include all applicable fees and accessorial charges. The costs of transloading at Superior facilities are similarly based on DuPont's contract, and the costs for CargoFlo transloading are based on a quote obtained by Mr. Heisler.

After calculating the total costs of the alternative transportation options, Mr. Heisler determined that the costs of each potential competitive option are comparable to, and in many cases below, the costs of rail transportation using the challenged NS tariff rate.[108] None of the options discussed herein are over 20% more costly than transportation using the challenged rail rate, and many are below the level of the rail rates.

There is no support in Board precedent for DuPont's assertion that any transportation alternative that is over 10% more costly than rail service cannot be effective competition. DuPont's claim that the Board "has concluded that a 10% rate disparity after a substantial rail rate increase was sufficient to demonstrate a lack of effective competition" is a blatant misstatement of the law. DuPont Opening I-15 (citing *DuPont (Plastics)* at 7). *DuPont (Plastics)* found market dominance for certain CSXT plastic rates based on multiple factors, only one of which was the fact that truck rates were "at least" 10% higher than rail rates. DuPont thus has no support for the arbitrary 10% cost cutoff it uses in its Opening Evidence.

DuPont's 10% cutoff is also arbitrarily low as a practical matter. Because motor carriers often have substantial service and speed advantages over railroads, motor carriers can command a premium in the marketplace well above 10%. Mr. Heisler thus considered competitive options with costs up to 20% higher than the cost of rail service. *Cf. Special Procedures*, 353 I.C.C. at

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[108] All comparisons between truck costs and rail costs were made based on railcar equivalents. Mr. Heisler determined the appropriate ratio of trucks per equivalent railcar by using actual truck shipment weights and actual railcar shipment weights from DuPont shipment records. The ratios and the calculations that underlay the ratios are set forth at NS Reply WPs ""Direct Truck Costs.xls," "Transload Lane Analysis.xls," and "Lane A11 Analysis.xls."

881 (noting that Department of Transportation comments on the ICC's market dominance standards argued that effective intermodal competition would exist wherever motor carrier rates were "120 percent or less of the rail rate").

ii. There is Effective Trucking and Truck-Transload Competition for Twenty-Three Sulfuric Acid Lanes.

Truck transportation is an effective competitive alternative for at least twenty-three of the sulfuric acid lanes whose rates DuPont has challenged. Sulfuric acid is one of the oldest known industrial chemicals, and it is the most commonly manufactured chemical in the United States. It is a strong inorganic acid that is used in a variety of industrial applications. Sulfuric acid is a hazardous material, but it is not toxic-by-inhalation.

DuPont prominently advertises its ability to ship sulfuric acid by multiple modes. Its website touts that it can ship sulfuric acid by truck in "dedicated tank trailers," by rail in "phenolic-lined, carbon steel rail cars," and by barge.[109] DuPont has safety protocols for sulfuric acid loading and handling in place at its sulfuric acid plants, and it has created video guides to safe sulfuric acid handling for its customers.[110] And DuPont admitted in discovery that sulfuric acid could be feasibly transported by truck.[111] And while DuPont claims that trucks are used

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[109] DuPont Sulfur Technologies, Packages/Transportation, *available at* http://www2.dupont.com/Sulfur_Technologies/en_US/products/sulfur_technologies/packages_transportation.html; *see also* {{

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[110] *See, e.g.*, {{

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[111] NS Interrogatory 43 asked DuPont to state "whether DuPont contends that truck transportation of [each] Issue Commodity is infeasible, impractical, or unwarranted because of (i) the physical characteristics of the commodity, (ii) the hazardous nature of the commodity, and/or (iii) concerns that truck transportation would adversely affect product quality."

predominantly for short-distance transportation of sulfuric acid, *see* DuPont Opening I-11, the Commodity Flow Survey shows that the average length of haul for private sulfuric acid trucks is 341 miles. *See supra* II-B-28.

DuPont commonly transports sulfuric acid by truck. *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls." Records DuPont produced in discovery show that it shipped {{ }} truckloads of sulfuric acid between 2006 and 2010—an average of {{ }} trucks per week. *See id.* Many of these shipments traverse long distances. {{

}} *See id.* {{

}} are typically used for these truck movements. *See* NS Reply WP "DuPont Truck Requirements."[112] DuPont has used a variety of motor carriers for sulfuric acid truck shipments, including {{

}} *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls."

Indeed, DuPont's actions demonstrates that it believes that trucking sulfuric acid can be a competitive alternative to rail. {{

Interrogatory 45 similarly asked DuPont to identify any feasibility objections to the transloading of each Issue Commodity. As for sulfuric acid, DuPont responded that it had no feasibility objections to truck transportation. *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

[112] NS Reply WP "DuPont Truck Requirements" is a document that DuPont produced in discovery in response to an NS interrogatory asking DuPont to identify the types of trucks that it believes can transport the issue commodities.

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Sulfuric acid is also transloadable at properly equipped facilities, and it is commonly transloaded today. For example, NS regularly transloads sulfuric acid at its {

} The primary equipment necessary to transload sulfuric acid is an unloading rack, which can be purchased for approximately { }[113] CSX TRANSFLO advertises its ability to handle sulfuric acid and other acids, and many TRANSFLO facilities are viable options to transload sulfuric acid.[114]

The viability of transloading sulfuric acid is best demonstrated by the fact that {{

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[113] NS Witness Charlie Brenner sponsors this evidence relating to NS's transloading of sulfuric acid and the necessary equipment for transloading that commodity.

[114] *See* NS Reply WP "TRANSFLO Chemicals Handling.pdf," *available at* www.transflo.net/transflo/index.cfm/products/chemicals/

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  }}
- {{
  }}

While DuPont has stated that certain grades of sulfuric acid (namely 98% or 99% grades) have a high freezing point that may require access to steam or hot water for thawing and that others need to be protected from exposure to air, this simply means that DuPont must use a well-equipped transloading facility with proper equipment to handle those grades—just like the CSX TRANSFLO facilities {{ }}.[115] Moreover, DuPont's transloading feasibility objections are irrelevant for most of the lanes that it claims cannot be transloaded, because most of those lanes are subject to competition from direct trucking.[116] In short, both direct truck options and rail-truck transload options are feasible transportation alternatives that DuPont {{ }} uses to transport sulfuric acid.

(a) Sulfuric Acid Shipments From Red Lion.

Nine of the sulfuric acid lanes in this case that originate at DuPont's Red Lion plant in Reybold, DE are subject to effective competition from direct truck transportation, and seventeen

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[115] DuPont also significantly exaggerates the degree to which freezing temperatures could affect transloading at Philadelphia. Philadelphia temperatures average above 42° nine months out of the year. *See* NS Reply WP "Climate Information for Philadelphia.pdf." The fact that transloading could be logistically more challenging in colder weather is at most a "transitory and short-term problem" that does not create market dominance. *DuPont (Chlorine)*, STB Docket No. 42100, at 5; *see Salt River Project v. United States*, 762 F.2d 1053, 1062 (D.C. Cir. 1985) ("We do not believe Congress, in formulating the market dominance inquiry, had in mind situations such as the present in which a particular railroad arguably may have transitory market power.").

[116] Specifically, Lanes {{ }} are all lanes for which NS's Reply Evidence presents a feasible direct truck option that moots DuPont's objection to the feasibility of transloading.

are subject to effective competition from rail-truck transloading.[117] DuPont ships substantial volumes of sulfuric acid by truck from Reybold—a total of {{ }} sulfuric acid truck shipments originated at Red Lion between 2006 and 2010. *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls." That number is even more impressive in light of the fact that Red Lion shut down production for a substantial portion of that period. *See* DuPont Opening II-B-11. DuPont has protocols for loading sulfuric acid to tank trucks at Red Lion,[118] and it has the capacity to load as many as six sulfuric acid trucks during normal business hours each day.[119]

DuPont's claim that it does not have sufficient truck loading capacity at Red Lion to accommodate more truck shipments is meritless. The total railcar volume on the eighteen Reybold lanes was merely { } carloads between January 2007 and June 2012. *See* NS Reply Ex. II-B-5. Even assuming a substantial increase in volume to { } carloads per year would require only { } trucks, just { } per business day. Given the fast 1.5 hour truck loading time and its dedicated truck loading spot, DuPont can hardly claim that it is incapable of transporting the issue volumes by truck. As demonstrated below, direct truck transportation of sulfuric acid from Reybold is an effective competitive option for DuPont to serve customers east of the Mississippi.

DuPont's competitive options for transportation from Reybold are not limited to direct truck shipments, however. It alternatively could truck sulfuric acid the short distance to the CSX

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[117] Eight lanes—A23, B127, B129, B130, B134, B136, B141, and B142—are subject to competition from both direct truck and rail-truck transload alternatives.

[118] *See* NS Reply WP "Red Lion Sulfuric Acid Loading Procedures.pdf" (DD000334—341).

[119] DuPont admits that it has a truck loading spot at Red Lion dedicated to outbound sulfuric acid and that it typically takes 1.5 hours to load a sulfuric acid truck at Reybold. *See* DuPont Opening II-B-15; NS Reply WPs "Barge and Truck Spots.xls" and "Truck Loading-Unloading.xls." Thus, during a nine-hour day from 8:00 AM to 5:00 PM, DuPont could expect to load up to {{ }} trucks at Red Lion.

TRANSFLO facility in Philadelphia, PA[120] to be transloaded into railcars. For the five lanes where the final destination is served by CSXT, CSXT then could deliver the sulfuric acid railcars to the ultimate customer. For the eleven lanes where the customer is served by another railroad, CSXT could deliver the railcars to its interchange point with that railroad (just as NS would). As demonstrated in NS Reply Ex. II-B-3, the total costs of this transloading option—including truck costs, transloading fees, and the cost of CSXT rail service—compare favorably to the cost of NS rail service.[121] This option, which is referred to below as the "Philadelphia Transload Option," is an effective competitive option for sixteen of the Reybold-origin sulfuric acid lanes.

The Philadelphia Transload Option is not merely hypothetical. On the contrary,

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[120] CSX TRANSFLO also operates a facility in Wilmington, DE, that is just 15 miles from Reybold and is also a potential site for sulfuric acid transloading. Mr. Heisler chose the Philadelphia TRANSFLO for this analysis because {{

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[121] As set forth in NS Reply Exhibit II-B-3, truck costs for the Philadelphia Transload Option are derived from DuPont's contract with {{HazMat Environmental}}, which includes a {{ }} rate for sulfuric acid shipments from Reybold to Philadelphia (before fuel surcharge). Transload costs are taken from {{

}} And the costs of CSXT rail service are taken from {{

}}

DuPont has effective competitive alternatives for eighteen of the challenged sulfuric acid lanes originating at Reybold.

Lane A23 (Reybold, DE to Detroit, MI): This lane challenges NS's tariff rate for shipments of sulfuric acid from the Red Lion plant to PVS Chemicals in Detroit, MI. DuPont has a feasible truck alternative to this movement, however. The full cost to truck a railcar's volume of sulfuric acid over the 573-mile route[122] from Reybold to Detroit, MI, under the {{ }} contract is {{ }} than the tariff rate. *See* NS Reply Exhibit II-B-2. The cost of trucking is similar enough to the cost of rail to act as an effective competitive constraint. Alternatively, DuPont could use the Philadelphia Transload Option to serve this customer. Sulfuric acid could be trucked to the CSX TRANSFLO at Philadelphia, PA; transloaded into railcars; and transported by CSXT to { } ({ } is located within the Conrail Detroit Shared Asset Area, and it is open to both CSXT and NS.[123]) The total costs of this transload option are {{ }} the NS tariff rate. *See* NS Reply Exhibit II-B-3.

DuPont's assertion that NS is market dominant over Lane A23 because the customer is a "distributor[] who require[s] the railcars for storage" must be rejected. DuPont Opening II-B-24. In the first place, DuPont has provided no evidence whatsoever to support its assertion that its customer "requires" railcars for storage. Its evidence contains no documentation of such a requirement, no evidence of its customer's storage capacity, and certainly no statement from the customer claiming that it is unable to receive truck deliveries. DuPont cannot satisfy its burden

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[122] NS Reply Exhibit II-B-4—"Maps for Competitive Alternatives"—illustrates the highway route for each of the direct truck and truck-transload routes discussed herein.

[123] *See* NS Reply WP "Shared Asset Area Station List.xls."

to prove market dominance on this lane with such an unsupported assertion.[124] Moreover, DuPont's argument does not affect the feasibility of a transload option, since under the transload option the Detroit customer would be receiving railcars of sulfuric acid.

Lane A25 (Reybold, DE to Morrisville, PA): This lane challenges NS's tariff for sulfuric acid movements from Red Lion to Basic Chemical Solutions, LLC in Morrisville, PA. Red Lion is just 75.5 highway miles from the customer location, meaning that truck delivery is a highly competitive option to NS rail service. DuPont's truck contract with {{ }} allows DuPont to truck railcar volumes of sulfuric acid to Morrisville at a cost that is {{ }} the NS tariff rate. *See* NS Reply Exhibit II-B-2.

Lane B126 (Reybold, DE to Albuquerque, NM): Lane B126 challenges NS's Rule 11 rate for transporting sulfuric acid to Streator, IL, for interchange with BNSF, which delivers to DuPont's Albuquerque customer by rail. As an alternative, DuPont could use the Philadelphia Transload Option described above. It could cost-effectively truck sulfuric acid to the CSX TRANSFLO at Philadelphia; transload sulfuric acid into railcars; and have CSXT transport the railcars to its interchange with BNSF for delivery to Albuquerque, NM.[125] The total costs of the Philadelphia Transload Option for this lane are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

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[124] And, having failed to present this evidence on opening, DuPont is procedurally barred from attempting to introduce it on rebuttal. *See General Procedures for Presenting Evidence in Stand-Alone Cost Rate Cases*, 5 S.T.B. 441 (2001) ("[T]he party with the burden of proof on a particular issue must present its entire case-in-chief in its opening evidence. . . . Rebuttal may not be used as an opportunity to introduce new evidence that could and should have been submitted on opening to support the opening submissions.").

[125] DuPont's claim that its customer for Lane B126 requires railcars for storage is moot, since under this option DuPont's customer would receive sulfuric acid shipments in railcars just as it does today. *See* DuPont Opening II-B-24.

Lane B127 (Reybold, DE to Baltimore, MD): Lane B127 challenges NS's Rule 11 rate for transporting sulfuric acid to Baltimore, MD, for interchange with CSXT, which delivers to three customers in the Baltimore area. {{

}} DuPont could cost-effectively deliver to each of these customers via truck over the 69-mile highway route between Reybold and Baltimore. {{ }} each have agreed to contract rates that would enable DuPont to substitute direct truck service for this two-railroad movement {{ }} *See* NS Reply Exhibit II-B-2. Alternatively, DuPont could serve its Baltimore customers using the Philadelphia Transload Option described above. Sulfuric acid trucks from Reybold could be transloaded into railcars at Philadelphia and then transported by CSXT to final destination in Baltimore. The total costs of the Philadelphia Transload Option costs for Lane B127 would be {{ }} the cost of rail service using NS. *See* NS Reply Exhibit II-B-3.

DuPont's objections to alternative transportation on this lane lack any merit. DuPont's statement that the Lane B127 customers are "high volume purchasers" is irrelevant. DuPont Opening II-B-24. Historical volumes on this lane are not unusually high, and would require only { } trucks per week at the highest historical volume levels.[126] And DuPont's claim that one out of its three customers "requires railcars for storage" cannot support a finding of market

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[126] NS Reply Ex. II-B-5 shows that DuPont shipped {

}

dominance. DuPont Opening II-B-24. DuPont has provided no documentation or explanation of this supposed requirement.

Lane B128 (Reybold, DE to Blair, NE): Lane B128 challenges NS's Rule 11 rate for transporting sulfuric acid to Chicago, IL, for interchange with UP, which would deliver the commodity to Cargill in Blair, NE. {

} Alternatively, DuPont could serve its Blair customer using the Philadelphia Transload Option described above. Sulfuric acid trucks from Reybold could be transloaded into railcars at Philadelphia and then transported by CSXT to Chicago for interchange with UP and final delivery to Blair. The Philadelphia Transload Option is approximately {{ }} the cost of rail service on this lane. *See* NS Reply Exhibit II-B-3.

Lane B129 (Reybold, DE to Brewton, AL): This lane challenges NS's Rule 11 rate for transporting sulfuric acid to Birmingham, AL, for interchange with CSXT, which would deliver the sulfuric acid traffic to Georgia Pacific in Brewton, AL. {

} Instead of rail service for any future shipments, DuPont could ship truckloads of sulfuric acid directly from Reybold to Brewton. Under DuPont's {{ }} contract, sulfuric acid could be trucked over this 994-highway-mile route for {{ }} the cost of rail. *See* NS Reply Exhibit II-B-2. Alternatively, DuPont could use the Philadelphia Transload Option for Brewton shipments. Sulfuric acid trucks from Reybold would be transloaded into railcars at Philadelphia and then transported by CSXT to final destination in Brewton. {{

}} *See* NS Reply Exhibit II-B-3.

Lane B130 (Reybold, DE to Castle Hayne, NC): Like Lane B129, Lane B130 challenges NS's Rule 11 rate for its portion of a sulfuric acid movement to a customer served by CSXT. Under the challenged rate, NS would transport sulfuric acid railcars to Charlotte, NC, for interchange with CSXT, which would deliver them to Elementis Chromium in Castle Hayne, NC. { } Alternatively, DuPont could directly ship sulfuric acid trucks over the 472-highway-mile route from Reybold to Castle Hayne. {{

}} DuPont's contract with {{ }} would allow DuPont to ship trucks over this lane at a price that is {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. Alternatively, DuPont could transport sulfuric acid to Castle Hayne using the Philadelphia Transload Option described above. Sulfuric acid trucks from Reybold could be transloaded into railcars at Philadelphia and then transported by CSXT to Castle Hayne. The Philadelphia Transload Option is {{ }} all-rail transportation on this lane. *See* NS Reply Exhibit II-B-3.

Lane B131 (Reybold, DE to Clifton, AZ): Lane B131 challenges NS's Rule 11 rate for transporting sulfuric acid to Kansas City, MO, for interchange with UP, which delivers the sulfuric acid to DuPont's customer Freeport-McMoran Copper & Gold in Clifton, AZ. While direct truck transportation over the 2300-mile route between Reybold and Clifton is not a competitive transportation option, this lane is an ideal candidate for rail-truck transloading. DuPont could use the Philadelphia Transload Option to cost-effectively truck sulfuric acid to the CSX TRANSFLO at Philadelphia; transload sulfuric acid into railcars; and have CSXT transport the railcars to its interchange with UP for delivery to Clifton. The total costs of the Philadelphia

Transload Option for this lane are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B132 (Reybold, DE to Corson, SD): Lane B131 is another lane where NS's portion of a joint line movement to a western destination could be replaced by a rail-truck transload option. This lane challenges NS's Rule 11 rate for transporting sulfuric acid from Reybold to Chicago. At Chicago railcars are interchanged with BNSF for delivery to Corson, SD. The NS portion of the route from Reybold to Chicago could effectively be replaced by the Philadelphia Transload Option. DuPont could ship sulfuric acid trucks for transloading at the Philadelphia TRANSFLO, and CSXT could transport the loaded railcars to the Chicago, IL, interchange with UP. The total costs of the Philadelphia Transload Option for Lane B132 are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B134 (Reybold, DE to Ferguson, MS): This lane challenges NS's Rule 11 tariff for sulfuric acid movements from Red Lion to Memphis, TN, where traffic is interchanged with CN for delivery to the Georgia Pacific plant in Ferguson, MS. {{

}} While Ferguson is 1,130 highway miles from Reybold, DuPont {{ }} trucks sulfuric acid over comparable distances. {{

}}.

{{ }} contract with DuPont allows DuPont to truck sulfuric acid over this route for a cost {{ }} than the cost of rail. *See* NS Reply Exhibit II-B-2. An

{{ }} cost-effective option would be for DuPont to use the Philadelphia Transload Option for this lane. Sulfuric acid trucks from Reybold could be transloaded into railcars at the CSX TRANSFLO in Philadelphia and then transported by CSXT to Memphis for interchange to CN and delivery to Ferguson, MS. The total costs of this transload option are {{ }} the costs of rail transportation. *See* NS Reply Exhibit II-B-3.

Lane B135 (Reybold, DE to Hastings, NE): Lane B131 challenges NS's Rule 11 rate for transporting sulfuric acid to Chicago, IL, for interchange with BNSF, which delivers the sulfuric acid to Hastings, NE. As an alternative to this NS-BNSF joint movement, DuPont could use the Philadelphia Transload Option. Trucks would transport sulfuric acid from Reybold to Philadelphia for transloading into railcars, and CSXT would transport the railcars to its Chicago interchange with BNSF.[127] The total costs of the Philadelphia Transload Option for this lane are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B136 (Reybold, DE to Indianapolis, IN): This lane challenges NS's Rule 11 rate for transporting sulfuric acid to Cincinnati, OH, for interchange with CSXT, which delivers to Univar in Indianapolis. DuPont could cost-effectively substitute truck deliveries over the 650-mile highway route from Reybold to Indianapolis, IN, for the current NS-CSXT rail movement. {{ }} has agreed to a truck contract rate that is {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. Alternatively, DuPont could use the Philadelphia Transload Option—*i.e.*, truck to the CSX TRANSFLO at Philadelphia and

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[127] DuPont's claim that its customer for Lane B135 requires railcars for storage is moot, since under this option DuPont's customer would receive sulfuric acid shipments in railcars just as it does today. *See* DuPont Opening II-B-24.

transload to CSXT there for delivery to Indianapolis. {{

}} *See* NS Reply Exhibit II-B-3.

Lane B137 (Reybold, DE to Omaha, NE): Lane B137 is another lane where the Philadelphia Transload Option is an effective competitive alternative. {

} under it NS would transport sulfuric acid from Reybold to Chicago, IL, for interchange with UP, which would deliver the acid to Omaha, NE. Alternatively, DuPont could use the Philadelphia Transload Option to transport truckloads of sulfuric acid from Reybold to Philadelphia, PA, for transloading into railcars. CSXT then would transport the railcars to its Chicago interchange with UP. The total costs of the Philadelphia Transload Option for Lane B137 are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B138 (Reybold, DE to Orange, TX): Similar to Lane B137, Lane B138 is a joint-line shipment of sulfuric acid to a western destination where NS faces effective competition from a rail-truck transload alternative. { } NS would transport railcars from Reybold to East St. Louis, IL, for interchange with BNSF, which would deliver the product to Orange, TX. Instead, DuPont could use the Philadelphia Transload Option. Sulfuric acid would be trucked from Reybold to Philadelphia and transloaded into railcars that CSXT would transport to East St. Louis, IL, for interchange with BNSF. The total costs of the Philadelphia Transload Option for this lane are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B139 (Reybold, DE to Phoenix, AZ): Lane B139 is another lane where NS's portion of a joint line movement to a western destination could be replaced by the Philadelphia Transload Option. This lane challenges NS's Rule 11 rate for transporting sulfuric acid from

Reybold to Streator for interchange with BNSF. BNSF would deliver the railcars to Phoenix, AZ. Alternatively, DuPont could ship sulfuric acid trucks for transloading at the Philadelphia TRANSFLO, and CSXT could transport the loaded railcars to its interchange with BNSF.[128] The total costs of the Philadelphia Transload Option for Lane B139 are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B140 (Reybold, DE to Sioux City, IA): Lane B140 challenges NS's Rule 11 rate for transporting sulfuric acid to Chicago, IL, for interchange with BNSF, which delivers to the Sioux City, IA, customer by rail. { } As an alternative, DuPont could use the Philadelphia Transload Option. It could cost-effectively truck sulfuric acid to the CSX TRANSFLO at Philadelphia; transload sulfuric acid into railcars; and have CSXT transport the railcars to its Chicago interchange with BNSF for delivery to Sioux City.[129] The total costs of the Philadelphia Transload Option for this lane are {{ }} the costs of rail transportation using the challenged NS rate. *See* NS Reply Exhibit II-B-3.

Lane B141 (Reybold, DE to Toledo, OH): This lane challenges NS's Rule 11 rate for transporting sulfuric acid to Toledo, OH, for interchange with CSXT, which delivers railcars to their final destination in Toledo. Alternatively, DuPont could truck sulfuric acid directly from Reybold to its Toledo customer Jones Hamilton. The highway distance between Reybold and Toledo is 528 miles, and the costs of this direct truck option are competitive with rail service. DuPont's contract with {{ }} would allow DuPont to truck sulfuric acid

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[128] DuPont's claim that its customer for Lane B139 requires railcars for storage is moot, since under this option DuPont's customer would receive sulfuric acid shipments in railcars. *See* DuPont Opening II-B-24.

[129] Like for Lane B139, DuPont's claim that its customer for Lane B140 requires railcars for storage is moot, since under this option DuPont's customer would receive sulfuric acid shipments in railcars. *See* DuPont Opening II-B-24.

over this lane for {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. Alternatively, the Philadelphia Transload Option would allow cost-effective service over this lane. *See* NS Reply Exhibit II-B-3.

Lane B142 (Reybold, DE to Washington, WV): Lane 142 challenges NS's Rule 11 rate for transporting sulfuric acid to Hagerstown, MD, for interchange with CSXT, which delivers railcars to their final destination at DuPont's Washington, WV facility. As an alternative to rail delivery, DuPont could truck sulfuric acid directly from Reybold to Washington, a distance of 400 highway miles. The Sentinel terminal at Washington, WV, potentially could provide transportation services for this movement. *See* NS Reply WP "Sentinel Transportation Terminal Locations" (available at http://www.sentineltrans.com/locations.html) (stating that Washington terminal "provides local and over the road bulk chemical and reefer transportation services in support of the Washington Works DuPont Site"). DuPont's contract with {{ }} provides for a truck rate {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. Or, DuPont could use {{ }}, both of whom have agreed to truck contract rates {{ }} the cost of two-railroad service. Another competitive option for this lane is the Philadelphia Transload Option. Sulfuric acid trucks from Reybold could load into railcars at Philadelphia, and CSXT could transport those railcars to Washington. *See* NS Reply Exhibit II-B-3.

(b) Sulfuric Acid Shipments from Bellwood.

Effective direct truck competition also exists for the three issue lanes challenging NS tariff rates for sulfuric acid shipments from DuPont's Bellwood plant in Richmond, VA. Like it has from Red Lion, DuPont trucks a {{ }} amount of sulfuric acid from Bellwood—{{ }} trucks between 2006 and 2010. *See* NS Reply WP "DuPont Sulfuric Acid Truck

Shipments.xls." The Bellwood plant has {{ }} truck spot dedicated to sulfuric truck loading,[130] and DuPont has procedures in place for sulfuric acid truck loading at Bellwood.[131]

Lane B92 (Bellwood, VA to Dallas, GA): DuPont challenges NS's Rule 11 rate for its portion of the joint NS-CSXT transportation of sulfuric acid from Bellwood, VA, to Dallas, GA. CSXT transports railcars from Bellwood, VA, to Petersburg, VA, for interchange with NS, which delivers railcars to DuPont's customer Basic Chemical in Dallas. As an alternative to this two-carrier movement, DuPont could truck sulfuric acid directly over the 551-mile highway route between Bellwood and Dallas. {{ }} each have agreed to truck rates {{ }} of the cost of rail. *See* NS Reply Exhibit II-B-2. These {{ }} trucking rates are effective competition to rail transportation for this lane. DuPont also could use a rail-truck transload option for this lane; specifically, CSXT could transport railcars from Bellwood to the CSX TRANSFLO at Atlanta, GA, where the sulfuric acid could be transloaded into trucks for delivery to Dallas. The cost of this transload option is {{ }} the cost of all-rail transportation. *See* NS Reply Exhibit II-B-3.[132]

Lane B93 (Bellwood, VA to Fort Mill, SC): This lane challenges NS's Rule 11 tariff for its portion of the transportation of sulfuric acid from Bellwood, VA, to Fort Mill, SC. CSXT originates rail shipments at Bellwood and transports them to Charlotte, NC, where cars are interchanged with NS for delivery to DuPont's customer Nation Ford in Fort Mill, SC. {{

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[130] *See* NS Reply WP "Barge and Truck Spots.xls."

[131] *See* NS Reply WP "Bellwood Sulfuric Acid Loading Procedures.pdf."

[132] DuPont's unsupported claim that the customer for Lane B92 requires railcars for storage should be rejected for the reasons addressed above for Lane A23. *See infra* at II-B-115. DuPont cannot carry its burden to prove jurisdiction with conclusory assertions about customer "requirements" that it has made without any attempt to document those requirements or to demonstrate why they prevent DuPont from using any alternative transportation.

}} Direct truck service over the 304-mile route between Bellwood and Fort Mill is an effective competitive alternative to rail service. {{ }} has agreed to a contract rate that enables DuPont to transport trucks over this lane for a total cost {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

Lane B94 (Bellwood, VA to Rockwell, NC): Lane B94 challenges NS's Rule 11 tariff for its portion of the transportation of sulfuric acid from Bellwood, VA, to Rockwell, NC. CSXT originates rail shipments at Bellwood and transports them to Petersburg, VA, for interchange with NS, which delivers railcars to DuPont's customer Alchem, Inc. in Rockwell, NC. Alternatively, DuPont could truck sulfuric acid directly over the 255-mile highway route between Bellwood and Rockwell. {{ }} each have agreed to truck rates that are {{ }} the cost of rail service over this lane. *See* NS Reply Exhibit II-B-2. In addition, DuPont could use a rail-truck transload option for this lane using the same CSX TRANSFLO facility that could be used for Lane B92. CSXT could transport railcars from Bellwood to the Charlotte TRANSFLO, where the sulfuric acid could be transloaded into trucks for delivery to Rockwell. The cost of this transload option is {{ }} the cost of all-rail transportation. *See* NS Reply Exhibit II-B-3.[133]

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[133] DuPont's unsupported claim that the customer for Lane B94 requires railcars for storage should be rejected for the reasons addressed above for Lane A23. *See infra* at II-B-115. And as with Lane A23, DuPont's storage claim is irrelevant to the viability of the transload option, for under that option DuPont's customer would continue to receive product in railcars.

(c) Sulfuric Acid Shipments from Morses Mill.

There is also effective truck competition to NS's rate for sulfuric acid shipments from DuPont's Morses Mill plant in Bayway, NJ, to Giles Chemical Company in Waynesboro, NC (Lane A2). Historically DuPont has shipped large volumes of sulfuric acid from Morses Mill via truck. Between 2008 and 2010, it shipped {{ }} sulfuric acid trucks from Morses Mill, and in 2010 alone it shipped {{ }} trucks. *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls."[134] Like at Red Lion, the Morses Mill plant has substantial truck loading capacity. Morses Mill has {{ }} spots for sulfuric truck loading, and with an average loading time of {{ }} hours per truck, it can load as many as {{ }} trucks in a 9-hour day. *See* NS Reply WPs "Barge and Truck Spots.xls" and "Truck Loading-Unloading.xls." DuPont has procedures in place for sulfuric acid truck loading at Morses Mill.[135]

Trucking sulfuric acid from Morses Mill is not only feasible; it is a cost-effective alternative to NS direct rail service. DuPont's contract with {{ }} allows it to transport sulfuric acid from Morses Mill to Waynesboro at a total cost {{ }} *See* NS Reply Exhibit II-B-2. The distance is 709 highway miles, {{ }} for many DuPont truck shipments. *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls," at "Distances" Tab. The relatively low volumes over this lane further support the competitiveness of trucks. DuPont's shipments over this lane average just { } a year, a volume that could readily be transported by truck. *See* NS Reply Ex. II-B-5.

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[134] Moreover, {{ }}

[135] *See* NS Reply WP "Morses Mill Sulfuric Acid Loading Procedures.pdf."

Alternatively, DuPont could use a rail-truck transload option for this lane. Bayway is located in a Conrail Shared Asset Area and is dually served by CSXT and NS.[136] CSXT could transport railcars of sulfuric acid from Bayway to the CSX TRANSFLO facility at Spartanburg, SC. At Spartanburg the sulfuric acid could be transloaded into trucks for delivery to Waynesboro. The total cost of this transload option is

}} *See* NS Reply Ex. II-B-3.

(d) Sulfuric Acid Shipments From Miami Fort

Finally, there is effective direct truck competition for the issue lane challenging NS's rate for sulfuric acid shipments from DuPont's Miami Fort, OH, plant to Dallas, GA. DuPont trucks a {{ }} amount of sulfuric acid from Miami Fort—{{ }} trucks between 2006 and 2010. *See* NS Reply WP "DuPont Sulfuric Acid Truck Shipments.xls." The Miami Fort plant has {{ }} truck spots dedicated to sulfuric truck loading,[137] and DuPont has procedures in place for sulfuric acid truck loading at Miami Fort.[138]

Lane B101 (Miami Fort, OH to Dallas, GA): This lane challenges NS's Rule 11 tariff for its portion of the transportation of sulfuric acid from Bellwood, VA, to Dallas, GA. CSXT originates rail shipments at Miami Fort, OH, and transports them to Cincinnati, OH, where cars are interchanged with NS for delivery to DuPont's customer Basic Chemical in Dallas. Direct truck service over the 435-mile route between Miami Fort and Dallas is an effective competitive alternative to rail service. {{ }} has agreed to a contract rate that enables DuPont

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[136] *See* NS Reply WP "Shared Asset Area Station List.xls."

[137] *See* NS Reply WP "Barge and Truck Spots.xls."

[138] *See* NS Reply WP "Miami Fort Sulfuric Acid Loading Procedures.pdf."

to transport trucks over this lane for a total cost {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

iii. There is Effective Truck Competition for Eighteen Titanium Dioxide Lanes.

Eighteen of the titanium dioxide lanes whose rates DuPont has challenged are subject to effective truck competition. Titanium dioxide is a white pigment that is an essential element in a wide variety of paints and coatings. DuPont manufactures titanium dioxide at multiple facilities, including its Edgemoor, DE, and New Johnsonville, TN, plants. DuPont admitted in the Ex Parte 705 proceeding that titanium dioxide "is a nonhazardous material that is amenable to rail and truck shipments," but claimed that trucking was not effective competition because "DuPont and its customers have made a commitment to rail transportation and cannot simply move to trucks."[139] In fact, however, DuPont ships {{ }} of truckloads of titanium dioxide to its customers every year. DuPont shipped {{ }} trucks of titanium dioxide to customers between 2006 and 2010, including {{ }} originating at Edgemoor and {{ }} originating at New Johnsonville. *See* NS Reply WP "DuPont Titanium Dioxide Truck Shipments.xls."[140] DuPont used a variety of motor carriers for these truck shipments, including {{

}} *See id.* Titanium dioxide is shipped in {{

}} *See* NS Reply WP "DuPont Truck Requirements."

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[139] *See* DuPont Initial Comments at 7, *Competition in the Rail Industry*, STB Ex Parte No. 705 (filed Apr. 12, 2011); *see also* NS Reply WP "DuPont Ti-Pure Titanium Dioxide Pigment MSDS" {{

}}

[140] *See also* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf" (admitting that trucking and transloading of titanium dioxide is feasible).

DuPont's Edgemoor plant is served by the Sentinel facility in Deepwater, NJ, and the New Johnsonville plant could be served by the Sentinel facility in Old Hickory, TN.[141] DuPont has titanium dioxide truck loading procedures in place for both Edgemoor and New Johnsonville,[142] and it admitted in its discovery responses that both Edgemoor and New Johnsonville have truck spots available to load trucks with titanium dioxide. *See* NS Reply WP "Barge and Truck Spots.xls." Indeed, truck loading at Edgemoor takes only {{ }} *See* NS Reply WP "Truck Loading-Unloading.xls."

DuPont has also shipped substantial volumes of titanium dioxide through rail-truck transloading facilities. {{

}} DuPont's own conduct shows that it has the capacity and willingness to use trucking and transloading as an alternative to rail shipments.

Indeed, DuPont has demonstrated its ability to shift substantial volumes of titanium dioxide from rail transportation to truck transportation. It admits that in July 2010 it substantially increased truck shipments of titanium dioxide from Edgemoor to keep its customers supplied during a plant shutdown, and that it similarly increased truck shipments from New

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[141] Sentinel's website states that the Deepwater terminal "provides local and over the road bulk chemical transportation services in support of the DuPont Chambers Works and Edgemoore [sic] sites." *See* http://www.sentineltrans.com/locations.html (available at NS Reply WP "Sentinel Transportation Terminal Locations"). While the Old Hickory terminal's "primary business is over-the-road delivery of plastic pellets," it also provides long-distance "bulk liquid deliveries" for DuPont. *Id.*

[142] *See* NS Reply WPs "New Johnsonville Titanium Dioxide Loading Procedures.pdf" and "Edgemoor Titanium Dioxide Loading Procedures.pdf."

Johnsonville in May and June 2010 because of flooding and rail service issues. *See* DuPont Opening II-B-150. While DuPont cites these instances in an apparent effort to explain away truck shipments as "emergency" responses, what they actually demonstrate is that DuPont has the capacity to ship—and that its customers have the capacity to receive—significant volumes of titanium dioxide by truck.

Nor is there any merit to DuPont's claim that increasing its reliance on trucks would "strand" its railcar fleet. *See* DuPont Opening II-B-149. Exercising available competitive options for the issue movements (many of which DuPont is already using today) does not mean that DuPont is unable to use its railcars for other shipments or in conjunction with truck service on the issue lanes. *DuPont*, STB Docket No. 42100, at 4 (citing *Amstar Corp. v. Great Alabama S. R.R.*, I.C.C. Docket No. 38239S) ("For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'"). Indeed, the transload options described below necessarily contemplate that DuPont would use railcars for a portion of those movements. And even if DuPont's use of rail alternatives made some of its titanium dioxide fleet unnecessary, DuPont presents no evidence that it would not be practical for it to release some of the railcars that it leases or to repurpose some railcars for some of the many other commodities that DuPont transports.

Eighteen titanium dioxide lanes are subject to potential truck competition:

Lane A11 (Edgemoor, DE to Chicago, IL): DuPont challenges NS's rates for transporting titanium dioxide from Edgemoor, DE, to the Superior Carriers transloading facility in Chicago, IL. From the Superior facility DuPont's products are then trucked to a variety of customers in the Midwest. Alternatively, DuPont could truck directly to those customers. Indeed, most of DuPont's titanium dioxide shipments from the Superior Carriers terminal are

trucked east from Chicago to destinations in {{ }}. Direct trucking results in a less circuitous route. This option both avoids transloading costs and results in a substantially shorter route for many movements. *See* NS Reply WP "Lane A11 Analysis.xls" (comparing costs and mileage of rail-truck transload service through Superior Carriers facility with costs and mileage of direct truck service from Edgemoor). As NS Reply WP "Lane A11 Analysis.xls" illustrates, each of the customers who received truck shipments from the Superior Carriers facility could receive direct truck shipments at a cost that is {{ }} the cost of the current rail-truck transload option DuPont is using. *See id.* This feasible and cost-effective direct truck option is an effective alternative to the challenged rail rate.

Lane A12 (Edgemoor to Chillicothe, OH): DuPont challenges NS's tariff rate for titanium dioxide shipments from Edgemoor to DuPont's customer P.H. Glatfelder in Chillicothe, OH. But DuPont's claim that NS is market dominant over this lane is starkly contradicted by the fact that {{

}} While DuPont asserts that P. H. Glatfelder "transitioned away from trucks" in recent years, trucking continues to constitute a {{ }} portion of the volume on this lane. In 2010 P.H. Glatfelder received { } railcar shipments and {{ }} truck shipments of titanium dioxide from Edgemoor. *See* NS Reply WP "DuPont Titanium Dioxide Truck Shipments.xls"; NS Reply Ex. II-B-5. And DuPont can truck product directly over the 517-mile route from

Edgemoor to Chillicothe at a cost that is {{ }} *See* NS Reply Exhibit II-B-2.

Lane A13 (Edgemoor to Mahrt, AL): DuPont challenges NS's tariff rate for titanium dioxide shipments from Edgemoor to DuPont's customer Meadwestvaco in Mahrt, AL. DuPont alternatively could truck product directly from Edgemoor to Meadwestvaco, a distance of 906 highway miles. The effectiveness of this alternative is demonstrated by the fact that {{

}} This is ample capacity to accommodate the rail volumes at issue here, which amount to only { } carloads annually. {{

}} *See* NS Reply Exhibit II-B-2. This is a cost-effective direct truck option to the challenged rail rate.

Lane B50 (Edgemoor to Garland, TX): Lane B50 challenges NS's Rule 11 rate for transporting titanium dioxide from Edgemoor to its interchange with KCS at Meridian, MS; KCS then delivers titanium dioxide to Valspar in Garland, TX. {{

}} {{ }} direct truck shipments from Edgemoor to Garland are an effective competitive alternative to rail service over this lane. {{

}} has agreed to a contract rate for these shipments that is {{ }}. *See* NS Reply Exhibit II-B-2.

Lane B51 (Edgemoor to Groos, MI): Lane B50 challenges NS's tariff rate for its portion of the NS-CN movement of titanium dioxide from Edgemoor to Groos, MI. NS originates the traffic at Edgemoor and interchanges it with CN at Chicago, IL, for delivery to NewPage Corporation at Groos. {{

}} Direct truck shipments from Edgemoor to Groos are an effective competitive alternative to rail service over this lane. {{ }} has agreed to a contract rate for these shipments that is {{ }}. *See* NS Reply Exhibit II-B-2.

Lane B52 (Edgemoor to Laredo, TX): This lane challenges NS's rate for its portion of the shipment of titanium dioxide shipments from Edgemoor to Laredo, TX. NS transports railcars from Edgemoor to East St. Louis, IL; UP delivers them to Laredo. {{

}} Due to the 1788-highway-mile distance between Edgemoor and Laredo, direct trucking is not a cost-competitive alternative. Rail-truck transloading is competitive with all-rail transportation, however. DuPont could truck titanium dioxide over the short route between Edgemoor and the CSX TRANSFLO at Wilmington, and use CSXT to transport railcars to the UP interchange at

---

[143] DuPont's claim that {{

}}

East St. Louis. After accounting for all applicable costs (including truck cleaning) and even after using CSXT tariff rates instead of likely-lower contract rates, the costs of this option are still {{ of the costs of all-rail transportation. *See* NS Reply Ex. II-B-3.

Lane B55 (Edgemoor to Port Huron, MI): Lane B55 challenges NS's Rule 11 rate for its portion of NS-CN joint movements of titanium dioxide between Edgemoor and Port Huron, MI. NS transports titanium dioxide railcars from Edgemoor to Buffalo, NY, where it interchanges the railcars to CN for delivery to DuPont's customer Domtar Pulp & Paper Products in Port Huron. Direct truck transportation over the 617-mile route from Edgemoor to Port Huron is an effective competitive alternative. {{

}} DuPont's contract with {{

}} includes a rate for truck shipments over this route that is {{

}} than the cost of rail service. *See* NS Reply Exhibit II-B-2. This cost-competitive option constitutes effective competition to NS's rail service.

Lane B56 (Edgemoor to Portland, ME): DuPont has also challenged NS's Rule 11 rate for transporting titanium dioxide from Edgemoor to its interchange with Pan Am Railways at Mechanicville, NY; Pan Am Railways and the Springfield Terminal Railway deliver titanium dioxide to DuPont's customer Monson Companies in Portland, ME. Direct trucking over the 434-highway-mile route between Edgemoor and Portland is a viable alternative to this three-carrier movement. {{

}} {{Similar}} direct truck shipments from Edgemoor to Portland are an effective competitive alternative to rail service over this lane. The {{Suttles Truck Leasing}} contract rate for this lane is {{ }} the cost of rail service. *See* NS Reply Ex. II-B-2.

Lane B58(Edgemoor to Quinnesec, MI): Lane B58 challenges NS's Rule 11 rate for transporting titanium dioxide from Edgemoor to its interchange with CN at Chicago, IL; CN then delivers titanium dioxide to Verso Paper. {{

}}

{{ }} direct truck shipments from Edgemoor to Quinnesec are an effective competitive alternative to rail service over this lane. {{ }} has agreed to a contract rate for these shipments that is {{ }}. *See* NS Reply Exhibit II-B-2. Alternatively, DuPont could use a rail-truck transload option to deliver product to Verso. Titanium dioxide could be trucked from Edgemoor to the CN Cargo Flo terminal in Detroit, MI and there transloaded into railcars for CN delivery to Verso.[144] The costs of this transloading option are {{ }} of the cost of all-rail service. *See* NS Reply Ex. II-B-3.

Lane B59 (Edgemoor to Rileys, ME): Lane B59 challenges NS's tariff rate for transporting titanium dioxide from Edgemoor to its interchange with Pan Am Railways at Mechanicville, NY; Pan Am Railways and the Springfield Terminal Railway deliver titanium dioxide to DuPont's customer Verso Paper in Rileys, ME. {{

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[144] {{

}}

}} Direct truck shipments from Edgemoor to Rileys are an effective competitive alternative to rail service over this lane. {{ }} has agreed to a contract rate for these shipments that is {{ }}. *See* NS Reply Exhibit II-B-2.

DuPont asserts that the {{ }} volume of trucks shipped to Verso does not preclude a finding of market dominance, because many of those trucks were shipped to a portion of the Verso facility that is unable to receive rail deliveries. This argument is a red herring. The undisputed fact that DuPont shipped {{ }} of titanium dioxide trucks to Verso shows that DuPont is plainly able to use this alternative truck transportation to serve a portion of its customer's facility and that this arrangement has been satisfactory to both DuPont and Verso. DuPont has not advanced any evidence from which the Board could conclude that trucking is not an adequate substitute for rail service on this lane.[145]

Lane B60 (Edgemoor to Rumford, ME): Like Lanes B56 and B58, Lane B60 is a challenge to NS's tariff rate for its portion of a movement of titanium dioxide from Edgemoor to a customer in Maine. NS transports railcars from Edgemoor to its interchange with Pan Am Railways at Mechanicville; Pan Am Railways then interchanges the traffic with the Springfield

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[145] Tellingly, DuPont's evidence does not allege that the rail-served portion of the Verso facility cannot receive trucks. *See* DuPont Opening II-B-159 (claiming that "[t]wo parts of the customer's plant use titanium dioxide but only one can accept railcar shipments"—not that only one could receive truck shipments). Even if DuPont had made such an allegation, the fact that truck transportation could not accommodate 100% of DuPont's shipments to Verso is insufficient to prove market dominance. *See DuPont (Chlorine)* at 4.

Terminal Railway, which serves DuPont's customer NewPage in Rumford, ME. {{

}} Direct truck shipments from Edgemoor to Rumford are an effective competitive alternative to rail service over this lane. The {{ }} contract rate for this lane is {{ }} the cost of rail service and is an effective competitive alternative to NS's rail service. *See* NS Reply Exhibit II-B-2.

As with Lane B59, DuPont's argument that the {{ }} truck shipments to New Page can be ignored by the Board because part of its customer's plant cannot receive rail shipments is unpersuasive. DuPont has not provided evidence that the rail-served portion of its customer's facility cannot receive trucks—rather, it alleges only that part of the facility cannot receive railcars. *See* DuPont Opening II-B-160. And even if DuPont has such evidence, the fact that truck transportation could not accommodate 100% of DuPont's shipments to this customer does not demonstrate market dominance. *See DuPont (Chlorine)*, STB Docket No 42100, at 4.

Lane B62 (Edgemoor to Shawmutt, ME): DuPont has also challenged NS's Rule 11 rate for transporting titanium dioxide from Edgemoor to its interchange with Pan Am Railways at Mechanicville, NY; Pan Am Railways and the Springfield Terminal Railway deliver titanium dioxide to DuPont's customer SAPPI in Shawmutt, ME. {{

}} Direct truck shipments from Edgemoor to Shawmutt are an effective competitive alternative to rail service over this lane. The {{ }} contract rate for this lane is {{ }} the

cost of rail service, making this {{ }} option an effective competitive alternative to NS's rail service. *See* NS Reply Exhibit II-B-2.

Lane B67 (Edgemoor to West Monroe, LA): Lane B67 challenges NS's Rule 11 rate for transporting titanium dioxide from Edgemoor to Meridian for interchange with KCS, which serves DuPont's customer Graphic Packaging International in West Monro, LA. As an alternative to all-rail service, DuPont could use the CSX TRANSFLO facility in Wilmington, DE to create a cost-effective rail-truck transload option. Trucks could transport titanium dioxide from Edgemoor to the Wilmington TRANSFLO for loading into railcars, and CSXT could transport the railcars to Birmingham for interchange with KCS. The total costs of this rail-truck option are {{ }} of the cost of rail service. *See* NS Reply Ex. II-B-3.

Lane B68 (Edgemoor to Wheeling, IL): Lane B68 challenges NS's Rule 11 rate for its portion of NS-CN joint movements of titanium dioxide between Edgemoor and Wheeling, IN. NS transports titanium dioxide railcars from Edgemoor to Chicago, IL, where it interchanges the railcars to CN for delivery to DuPont's customer Valspar in Wheeling. Direct truck transportation over the 778-mile route from Edgemoor to Wheeling is an effective competitive alternative. {{

}} DuPont's contract with {{ }} includes a rate for truck shipments over this route that is {{ }} than the cost of rail service. *See* NS Reply Exhibit II-B-2. This cost-competitive option constitutes effective competition to NS's rail service.

Lane B97 (Edgemoor to New Johnsonville): DuPont has also challenged NS's Rule 11 rate for its segment of NS-CSXT movements of titanium dioxide between DuPont's plants at Edgemoor and New Johnsonville. NS transports railcars from Edgemoor to Cincinnati; CSXT delivers them from Cincinnati to New Johnsonville. A competitive alternative to this NS-CSXT routing is direct truck service. {{

}} {{ }} can provide truck service over this lane at a total cost {{ }} of the cost of rail. *See* NS Reply Exhibit II-B-2. And while Lane B97 is one of the higher-volume lanes challenged by DuPont (averaging { } shipments a year), that volume could readily be transported by truck. Less than {thirteen} trucks per week would be necessary to convert the entire volume of this lane to truck. *See* NS Reply Exhibit II-B-5. Since DuPont has admitted that it only takes {{ }} to load a titanium dioxide truck at Edgemoor, this volume is eminently truckable. *See* NS Reply WP "Truck Loading-Unloading.xls." {{

}} Rail-truck transloading is another viable option for this lane. DuPont could truck titanium dioxide from Edgemoor to the CSX TRANSFLO facility at Wilmington for transloading into railcars, and

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[146] {{

}}

CSXT could transport the railcars to New Johnsonville. The total costs of this rail-truck option are {{ }} less than the cost of two-railroad service. *See* NS Reply Ex. II-B-3.

Lane B109 (New Johnsonville to Chapman, PA): Lane B109 challenges NS's Rule 11 tariff for its portion of joint rail movements of titanium dioxide shipments from New Johnsonville to Chapman, PA. This traffic originates at New Johnsonville on CSXT, and CSXT delivers it to interchange with NS at Cincinnati, OH; NS then delivers the shipments to DuPont's customer Behr at Chapman. Alternatively, DuPont could truck titanium dioxide directly from New Johnsonville over the 887-mile highway route to Behr. {{ }} has agreed to a contract rate for this lane that is {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This cost-effective alternative constitutes effective competition to NS's rail service. Rail-truck transloading is also a viable competitive alternative. Edgemoor-originating trucks could deliver titanium dioxide to the CSX Philadelphia TRANSFLO for loading into railcars that CSXT could transport to final destination at a total cost {{ }} than two-railroad service. *See* NS Reply Ex. II-B-3. DuPont's assertion that the customer on this lane "prefers railcars"—an assertion that DuPont supports with no evidence—has little merit. Indeed, the customer on this lane {{

}} This actual history illustrates the competitive options on this lane—not an unsupported claim of a "preference" for rail.

Lane B111 (New Johnsonville to Morrow, GA): DuPont challenges NS's Rule 11 tariff for its portion of CSXT-NS movements of titanium dioxide shipments from New

Johnsonville to Morrow, GA. CSXT originates the traffic at New Johnsonville and interchanges it to NS at Chattanooga; NS then delivers the shipments to DuPont's customer Sherwin Williams at Morrow, GA. Alternatively, DuPont could truck titanium dioxide directly over the 348-mile highway route to Sherwin Williams—{{

}} Direct truck costs compare favorably to rail costs for this movement—{{ }} has agreed to contract rates that are {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This cost-effective alternative constitutes effective competition to NS's rail service. Another option for DuPont would be to have CSXT transport railcars from New Johnsonville to the Atlanta TRANSFLO for transloading into trucks that could deliver titanium dioxide to Sherwin Williams. Such an option is {{ }} of the cost of all-rail service. *See* NS Reply Ex. II-B-3.

Lane B124 (New Johnsonville to McDonough, GA): This lane is a joint CSXT-NS movement from New Johnsonville to DuPont's customer Behr Process Corp. in McDonough, GA. Titanium dioxide shipments originate at New Johnsonville and are transported by CSXT to its interchange with NS at Chattanooga, TN; NS transports the cars to McDonough. Instead of this two-railroad movement, DuPont could truck titanium dioxide directly to McDonough for a price competitive with the cost of rail service. This direct truck route is only 358 highway miles. {{

}} {{ }} has agreed to contract rates that enable DuPont to truck titanium dioxide from New Johnsonville to McDonough {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. Rail-truck transloading is also a viable competitive alternative. CSXT could transport railcars from New Johnsonville to its Atlanta

TRANSFLO facility, and there trucks could be loaded with product for delivery to McDonough. The total cost of that option is {{ }} the cost of two-railroad service. *See* NS Reply Ex. II-B-3.

iv. There is Effective Truck Competition for Sixteen Methylamine Anhydrous Lanes.

Sixteen of the anhydrous methylamine lanes whose rates DuPont has challenged are subject to effective competition from trucks. Methylamines are strong bases similar to ammonia that are used in the preparation of products such as insecticides, fungicides, and pharmaceuticals. DuPont produces three methylamine gases at its Belle, WV, facility—monomethylamine, dimethylamine, and trimethylamine. DuPont transports these methylamine gases to customers in one of two forms: (1) dissolved in water (*i.e.*, "aqueous" methylamine); or (2) as a liquefied gas (*i.e.*, "anhydrous" methylamine). Twenty-one issue lanes are for shipments of anhydrous methylamine, and six are for shipments of aqueous methylamine. All these lanes originate at Belle.

DuPont's Belle plant has extensive access to transportation options. According to a recent plant description, Belle "has two river docks for shipping, rail service provided by Norfolk Southern, and five major trucking terminals within 20 miles." *See* NS WP "West Va Development Office Belle Brochure." Indeed, a Sentinel trucking terminal is located within the Belle complex. *See* NS Reply WP "Sentinel Transportation Terminal Locations," *available at* http://www.sentineltrans.com/locations.html. Sentinel's website states that the Belle terminal's "primary business is over-the-road delivery of compressed gases [like anhydrous methylamines] to industrial customers across the U.S." *Id.*

DuPont acknowledges that methylamines can be trucked. Its Material Safety Data Sheet for anhydrous methylamines specifically provides that this commodity can be shipped in tank

cars and tank trucks. *See* NS Reply WP "MSDS for Methylamines, AN"; *see also* NS Reply WP "Anhydrous Methylamine Transportation Risk Assessment" {{

}} Anhydrous methylamine is transported in {{ }}

See NS Reply WP "DuPont Truck Requirements."

DuPont has transported a substantial amount of methylamines via truck. In the five-year period between 2006 and 2010 DuPont shipped {{ }} truckloads of methylamine aqueous, {{ }} truckloads of dimethylamine anhydrous, {{ }} truckloads of monomethylamine anhydrous, and {{ }} truckloads of trimethylamine anhydrous. *See* NS Reply WP "DuPont Methylamine Truck Shipments.xls." Many of these methylamine shipments were trucked over long distances—DuPont shipping records show Sentinel truck shipments of methylamines from Belle to {{ }}. *See id.* And significantly, many of these shipments were made to customers on the issue lanes. As discussed below, the customers on lanes {{ }} all have received truck shipments of anhydrous dimethylamine from Belle. *See id.* DuPont's regular use of trucks to transport methylamine from Belle is powerful evidence of the effectiveness of truck competition for methylamine shipments.[147]

DuPont states that truck shipments of anhydrous methylamines require "special pressurized tanks" and "special gaskets and safety systems." DuPont Opening II-B-105. But

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[147] DuPont has claimed that the truck loading of methylamines takes somewhat longer than other commodities—{{ }} for anhydrous methylamines and {{ }} for aqueous methylamines, and that the {{ }} truck spots at Belle for methylamine truck loading must be shared with other commodities. *See* NS Reply WPs "Barge and Truck Spots.xls" and "Truck Loading-Unloading.xls." But even accepting all those claims as true, converting 100% of the railcar volume of every lane discussed in this section to trucks would require only { } additional truck loadings per week. *See* NS Reply Ex. II-B-5.

documents produced by DuPont {{ }} in discovery show that DuPont has access to the appropriate equipment.[148] Indeed, {{

}} And any doubt about Sentinel's ability to truck these commodities is conclusively dispelled by the fact that {{

DuPont has also used other carriers for anhydrous methylamine truck shipments, including {{ }}[150] *See id.*

DuPont also claims that it does not have sufficient truck loading capacity for anhydrous methylamines. DuPont claims that because its Belle plant has only one truck loading rack for anhydrous methylamines and dimethyl ether, DuPont can only load trucks with "the equivalent volume of a single railcar" in one day. DuPont Opening II-B-109. As a result, DuPont claims that it would be impractical to transport its entire production of anhydrous methylamines by truck instead of railcars unless DuPont were to construct a second loading rack. *See id.* The clear flaw in this analysis is that DuPont does not need the ability to completely abandon its use of rail transportation for all anhydrous methylamines in order to have a competitive trucking option on the particular lanes at issue in this case. *See supra* II-B-105 to II-B-106. In fact, DuPont does not even need to be able to convert all the volume of the issue lanes to truck for

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[148] *See* NS Reply WP "DuPont Available Equipment.xls."

[149] *See* NS Reply WP "Sentinel Charleston, WV Terminal Scope of Work."

[150] DuPont admits that "nearly all of the issue customers have AHM storage tanks at their facilities," but nonetheless hypothesizes that its customers may be using railcars for additional storage. DuPont Opening II-B-112. DuPont has provide no evidence that directly supports its hypothesis—indeed, all it points to is the fact that sometimes customers do not immediately unload railcars upon receipt. *See id.* This is plainly insufficient to meet DuPont's burden to demonstrate that its customers demand railcar shipments.

trucking to be effective competition. *See DuPont (Chlorine)*, STB Docket No. 42100, at 4 ("For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'"). In this case, the relevant lanes are the sixteen methylamine anhydrous lanes and the five dimethyl ether lanes for which NS has proposed competitive alternatives, and the total combined rail volume of those lanes is { } railcars per year. *See* NS Reply Ex. II-B-5.[151] Accepting DuPont's claim that the equivalent of only one railcar's volume could be trucked per day, over { } of the issue lane volume could be converted to trucking without additional infrastructure. That is amply sufficient to constitute an effective competitive alternative.

Sixteen methylamine shipments are subject to cost-effective competition from truck transportation:

Lane A9 (Belle to Wyandotte, MI): This lane challenges NS's tariff for methylamine anhydrous shipments from Belle to Taminco in Wyandotte, MI. Truck deliveries to Wyandotte are a cost-effective competitive option. *See* NS Reply Exhibit II-B-2. {{ }} Neither the distance of the shipment (344 highway miles) nor the volumes on this lane { } are bars to truck transportation, and truck delivery is therefore a highly competitive alternative to NS rail service.

Lane B6 (Belle to Cadet, MO): This lane challenges NS's Rule 11 tariff for anhydrous methylamine shipments to Cadet, MO; NS transports the cars to its interchange with UP at East St. Louis, IL, and UP delivers them to DuPont's customer Buckman Laboratories at Cadet, MO.

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[151] Indeed, {twelve} of the methylamine anhydrous lanes with competitive options average less than 30 railcar shipments per year. *See* NS Reply Ex. II-B-5 at Lanes {{ }}

Rather than using this two-carrier rail transportation, DuPont could truck methylamine anhydrous directly to Buckman at costs competitive with NS's tariff. *See* NS Reply Exhibit II-B-2. {{ }} The highway distance between Belle and Cadet is only 583 miles, {{ }} This competitive option is not just available to DuPont—{{ }} These {{ }} are particularly significant because Lane B6 is a low-volume rail lane of only { } railcars annually. *See* NS Reply Ex. II-B-5. The fact that DuPont {{ }} is strong evidence that trucking is effective competition.

Lane B10 (Belle to Conroe, TX): Lane B10 challenges NS's Rule 11 tariff for methylamine anhydrous movements from Belle to NS's interchange with BNSF at East St. Louis, IL; UP delivers the product to DuPont's customer Huntsman in Conroe, TX. Alternatively, DuPont could truck methylamines over the 1113-mile highway route to Conroe DuPont's contract with {{ }} provides a rate for trucking dimethylamine anhydrous to Corsicana, TX, {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B11 (Belle to Corsicana, TX): Lane B11 is a challenge to NS's Rule 11 tariff for methylamine anhydrous movements from Belle to NS's interchange with UP at East St. Louis; UP delivers the product to DuPont's customer Corsicana Technologies in Corsicana, TX. Alternatively, DuPont could truck methylamines over the 1,058-mile highway route to Corsicana

— {{

}} DuPont's contract with {{ }} includes a rate for trucking dimethylamine anhydrous to Corsicana {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B14 (Belle to Ethyl, AR): Lane B14 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to East St. Louis, IL, where UP receives railcars in interchange for delivery to the Louisiana and North West Railroad ("LNW") at McNeil, AR. LNW then delivers the railcars to DuPont's customer Albemarle in Ethyl, AR. DuPont could cost-effectively substitute direct truck service over the 857-mile highway route from Belle to Ethyl for this three-railroad movement. {{ }} could provide direct truck service at rates {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. In fact, {{

}}

Lane B18 (Belle to Garyville, LA): This lane challenges NS's tariff rate for methylamine anhydrous shipments from Belle to New Orleans, LA, where CN receives cars in interchange for delivery to Garyville, LA. DuPont could instead truck directly to its Garyville customer Nalco. The highway distance is 915 miles, and the cost of trucking with {{ }} is {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B19 (Belle to Geismar, LA): Similar to Lane B18, Lane B19 challenges NS's Rule 11 rate for a joint-line NS-CN movement to a Louisiana customer. As an alternative to two-carrier rail service, DuPont could truck directly from Belle over the 937-highway-mile route

to its Geismar, LA, customer BASF. The cost of {{ }} truck shipments is {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B32 (Belle to St. Gabriel, LA): This lane challenges NS's Rule 11 tariff for shipping methylamine anhydrous railcars to New Orleans, LA for interchange with CN, which delivers product to DuPont's customer Taminco in St. Gabriel, LA. Direct truck transportation over the 959-mile highway route from Belle to St. Gabriel is an effective competitive alternative to all-rail transportation. {{

}}. {{ }} has agreed to contract rates that make the cost of trucking {{ }} than the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This {{ }} direct truck option constitutes effective competition to NS's rail service.

Lane B36 (Belle to Strang, TX): This lane challenges NS's Rule 11 rate for its segment of a joint-line movement of methylamine anhydrous from Belle to DuPont's facility in Strang. NS transports railcars from Belle to East St. Louis, IL, for interchange with UP, which delivers the railcars to their final destination in Strang, TX. DuPont also could deliver dimethylamine to its customer using direct truck shipments from Belle to Strang, a distance of 1,165 highway miles. The cost of direct truck shipments is competitive with the cost of rail service. {{ }} has agreed to contract rates that are {{ }} to the total cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B39 (Belle to Texas City, TX): Lane B39 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to East St. Louis, where UP receives railcars in interchange for delivery to DuPont's customer International Specialty Products in Texas City, TX. DuPont instead could truck product directly over the 1188-mile highway route from Belle to Texas City at a price that is competitive with rail service. DuPont could ship methylamine anhydrous over this lane using {{ }} trucks at a cost {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. The feasibility of DuPont trucking methylamine anhydrous to SKW Quab is demonstrated by the fact that {{

}}

Lane B40 (Belle to Verona, MO): This lane challenges NS's Rule 11 tariff for shipping methylamine anhydrous railcars to East St. Louis, IL, for interchange with BNSF, which delivers product to DuPont's customer BCP Ingredients at Verona, MO. Alternatively, DuPont could truck dimethylamine anhydrous directly from Belle over the 766-mile highway route to Verona. {{ }} has agreed to contract rates that make the cost of trucking {{ }} than the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

Lane B41 (Belle to West Memphis, AR): This lane challenges NS's tariff rate for methylamine anhydrous shipments from Belle to Kansas City, where UP receives cars in interchange for delivery to West Memphis, AR. DuPont could instead truck directly to its West Memphis customer. The highway distance is 602 miles, and the cost of trucking is competitive with the cost of rail service. DuPont's contract with {{ }} would allow direct truck transportation for a price that is {{ }} the cost of the two-carrier rail movement. *See* NS Reply Exhibit II-B-2.

Lane B43 (Belle to Wichita, KS): Lane B43 challenges NS's Rule 11 rate for its portion of the joint NS-BNSF movement of methylamine anhydrous from Belle to Wichita, KS. NS originates this traffic at Belle and interchanges it to BNSF at East St. Louis; BNSF then transports it to DuPont's customer Air Products in Wichita. As an alternative, DuPont could ship dimethylamine anhydrous to Air Products directly in {{ }} trucks for a total cost {{ }} the cost of rail service. *See* NS Reply Ex. II-B-2.

Lane B90 (Belle to Port Bienville, MS): Lane B90 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to Atlanta, where CSXT receives railcars in interchange for delivery to the Port Bienville Railroad, which serves DuPont's customer Polychemie in Port Bienville, MS. DuPont could cost-effectively substitute direct truck service over the 853-mile highway route from Belle to Port Bienville for this three-railroad movement. {{ }} could provide direct truck service at rates {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. In fact, {{

}}

Lane B91 (Belle to Theodore, AL): Lane B90 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to Cincinnati, OH, where CSXT receives railcars in interchange for delivery to DuPont's customer SKW Quab Chemicals in Theodore, AL. DuPont instead could truck product directly over the 816-mile highway route from Belle to SKW Quab at a price that is competitive with rail service. DuPont could ship methylamine anhydrous over this lane using {{ }} trucks at a cost {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. The feasibility of DuPont trucking methylamine anhydrous to SKW Quab is demonstrated by the fact that {{

}}

Lane B121 (Belle to Mapleton, IL): This lane challenges NS's Rule 11 rate for its segment of a joint-line movement of methylamine anhydrous from Belle to DuPont's customer Lonza, Inc. in Mapleton. NS transports railcars from Belle to Logansport, IN, for interchange with the Toledo, Peoria, and Western, which delivers the railcars to their final destination in Mapleton, IL. DuPont also could deliver dimethylamine to its customer using direct truck shipments from Belle to Mapleton, a distance of 520 highway miles. The cost of direct truck shipments is competitive with the cost of rail service. {{ }} has agreed to contract rates that are {{ }} the total cost of rail service. *See* NS Reply Exhibit II-B-2.

v. There is Effective Truck Competition for Eight Sodium Caustic Lanes.

Eight of the NS rates for sodium caustic shipments that DuPont challenges are subject to effective competition from trucks. Sodium caustic (which is also known as caustic soda) has corrosive properties and is therefore classified as a hazardous material, but it is not toxic by inhalation. DuPont has admitted that sodium caustic can be trucked safely,[152] and it has {{ }} used trucks to transport sodium caustic to its customers. Between 2006 and 2010 {{ }} trucks of sodium caustic were shipped for DuPont's account. *See* NS Reply WP "DuPont Sodium Caustic Truck Shipments.xls." Sodium caustic can be trucked in {{ }} *See* NS Reply WP "DuPont Truck Requirements." DuPont has used several motor carriers for sodium caustic shipments, including {{ }} And according to

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[152] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf"; *see also* DuPont Opening II-B-58.

the Commodity Flow Survey, 39.5% of United States sodium caustic tonnage moves via truck, with an average length of haul of 109 miles for all truck shipments and 355 miles for for-hire trucks. *See infra* at II-B-28.

While most of the other complaint movements involve DuPont's shipments to its customers, each of the sodium caustic lanes in the complaint is a lane where DuPont itself is the consumer. DuPont purchases sodium caustic from other chemical manufacturers like Olin and PPG. DuPont has received a {{ }} number of truck deliveries of sodium caustic from these suppliers. It received {{

}} DuPont has truck unloading procedures in place for sodium caustic and available truck unloading space at the DuPont facilities that receive issue shipments of sodium caustic.[153] In short, sodium caustic is truckable, DuPont's suppliers can ship it by truck, DuPont has the facilities to receive sodium caustic trucks, and {{

}}.

DuPont's assertion that it receives too much sodium caustic to ship it by truck is not credible. DuPont claims to have performed a special study proving that it would need {

} of truck shipments to replace NS's rail service on the challenged lanes, but DuPont's study is transparently flawed. *See* DuPont Opening II-B-59 to II-B-60. It did not calculate how many trucks would be needed to carry the NS rail volumes on the issue lanes, but rather how many trucks would be needed to convert <u>100% of all volumes received at the DuPont facilities</u>

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[153] *See* NS Reply WPs "Sodium Caustic Unloading Procedures" and "Barge and Truck Spots.xls."

from whatever source. The DuPont "study" becomes truly ridiculous because it includes DuPont facilities that are not even served by NS. The idea that DuPont does not have effective truck competition for the issue movements because it would be impractical for it to forswear all rail transportation of sodium caustic is utter nonsense.

The issue is whether DuPont has the ability to convert a meaningful volume of the issue shipments to truck. Here, the volumes at issue are eminently truckable. The highest-volume sodium caustic lane in the case—Lane B81—averaged { } railcars per year. Converting 100% of that lane's volume to trucking would require less than { } truck shipments per week. *See* NS Reply Ex. II-B-5. {{

}} And it must not be forgotten that an alternative mode does not need to accommodate 100% of the lane volume to be an effective competitive option. *See DuPont (Chlorine)*, STB Docket No. 42100, at 4. DuPont's meaningless special study cannot obscure the truth that it could readily transport the volumes at issue by truck if it chose to.

At least eight sodium caustic lanes are subject to effective competition from truck transportation:

Lane B47 (Charleston, TN to Woodstock, TN): DuPont challenges NS's rate for rail shipments of sodium caustic from Olin's Charleston, TN, plant to DuPont's Woodstock, TN facility. Alternatively, sodium caustic could be trucked over the 354-mile route from Charleston to Woodstock at a price competitive with rail service. DuPont's contract with {{ }} provides a truck rate {{ }} the equivalent rail rate. *See* NS Reply Exhibit II-B-2. {{

}} In short, this option is an effective competitive alternative to NS rail service.

Lane B79 (McIntosh, AL to Delisle, MS): Lane B79 challenges NS's Rule 11 rate for its portion of joint rail shipments from Olin's McIntosh, AL, facility to DuPont's plant in Delisle, MS. While McIntosh and Delisle are just 122 highway miles apart, rail shipments over this route require the participation of three carriers. NS originates the issue traffic at McIntosh and transports it to Mobile for interchange with CN, which transports the railcars to Hattiesburg for interchange with KCS, which then delivers the sodium caustic cars to Delisle. Alternatively, DuPont could truck sodium caustic directly from McIntosh to Delisle, for a cost that is {{ }} competitive with the cost of rail service. DuPont's motor carrier contract with {{ }} provides rates that are {{ }} the cost of three-railroad service over this lane. *See* NS Reply Exhibit II-B-2.

Lane B80 (McIntosh, AL to Orange, TX): Similar to Lane B79, Lane B80 is a challenge to NS's Rule 11 rate for its portion of joint rail shipments or caustic soda originating at Olin's McIntosh, AL facility. The destination for Lane B80 is the DuPont plant in Orange, TX. NS transports this traffic from McIntosh to New Orleans, LA, for interchange with UP, which delivers railcars to Orange. Directly trucking sodium caustic from McIntosh to Orange is an effective competitive alternative to rail service. The highway distance between McIntosh and Orange is only 398 miles, and the cost of truck transportation under the {{ }} contract is {{ }} than the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B81 (McIntosh, AL to Woodstock, TN): On this lane, DuPont challenges NS's tariff for its portion of the movement of sodium caustic from Olin's facility at McIntosh, AL, to DuPont's plant at Woodstock, TN. NS originates carloads at McIntosh and transports them to

Mobile for interchange with CN, which transports the railcars to Woodstock. Alternatively, DuPont could truck sodium caustic directly over the 348-highway-mile route between McIntosh and Woodstock. The cost of this truck transportation under the {{ }} contract is {{ }} of the cost of rail service {{

}}

Lane B107 (Natrium, WV to Belle, WV): DuPont challenges NS's Rule 11 rate for the joint CSXT-NS rail movement between PPG's Natrium facility and DuPont's Belle plant. CSXT originates shipments at Natrium, WV and interchanges with NS at Cincinnati; NS then delivers the railcars to Belle, WV. An effective competitive alternative to this two-carrier movement would be for DuPont to truck product directly from Natrium to Belle. As discussed above, Sentinel has a trucking terminal within the Belle complex, and there is another Sentinel terminal in Parkersburg, WV (just 20 miles from Natrium).[154] {{

}}

These {{ }} are particularly significant because the rail volumes over this route amount to just {24} railcars annually. {{

}}[155] The costs of trucking over the short 140-mile

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[154] *See* NS Reply WP "Sentinel Transportation Terminal Locations."

[155] DuPont suggests that the admitted "large truck volumes" at Belle are irrelevant because some of its business units are configured to receive trucks and one is configured to receive railcars. DuPont Opening II-B-61. This suggestion misses the point, which is that truck volumes are

highway route between Natrium and Belle are highly competitive with the costs of joint rail service. *See* NS Reply Exhibit II-B-2. DuPont's contracts with {{ }} each provide rates for truck transportation that are {{ }} the cost of rail service. *See id.*

Lane B108 (Natrium, WV to Danville, VA): DuPont also challenges NS's Rule 11 rate for its segment of the CSXT-NS movement between PPG's Natrium facility and DuPont's Danville, VA, facility. CSXT originates this movement and interchanges railcars with NS at Lynchburg, VA, and NS delivers the cars to their final destination. Direct truck shipments over the 363-mile route between Natrium and Danville are a cost-effective alternative to rail service. *See* NS Reply Exhibit II-B-2. {{ }} can provide truck transportation over this route for {{ }} the cost of rail transportation, and DuPont's contracts with {{ }} has truck rates {{close to}} the cost of rail service. {{

}} *See* NS Reply Exhibit II-B-2.

Lane B112 (Niagara Falls, NY to Belle, WV): DuPont also challenges NS's Rule 11 rate for its segment of the CSXT-NS movement of sodium caustic between Oxychem's facility in Niagara Falls, NY and Belle. CSXT originates this movement in Niagara Falls and interchanges

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plainly a feasible and economical method for DuPont to receive sodium caustic at Belle. Even accepting DuPont's assertion that its Amines business is not currently configured to receive truck shipments, DuPont presented no evidence that it would be uneconomical or impractical for its Amines business to convert its operations to receive trucks like DuPont's other Belle business units have.

[156] *See* NS Reply WP "Barge and Truck Spots.xls."

railcars with NS at Columbus, OH. NS delivers the cars to Belle. Direct truck shipments over the 453-mile route between Niagara Falls and Belle are a cost-effective alternative to rail service. {{ }} can provide truck transportation over this route for {{ }} of the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

Lane B114 (Niagara Falls, NY to Edgemoor, DE): Lastly, DuPont challenges NS's Rule 11 rate for its segment of the CSXT-NS movement of sodium caustic between Oxychem's facility in Niagara Falls, NY and Belle. CSXT originates this movement in Niagara Falls and interchanges railcars with NS at Buffalo, NY. NS then delivers the cars to Belle. Direct truck shipments over the 373-mile route between Niagara Falls and Belle are a cost-effective alternative to rail service. {{ }} can provide truck transportation over this route for {{ }} of the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

vi. There is Effective Trucking Competition for Five Lanes of Dimethyl Ether.

There is also effective truck competition to NS's Rule 11 rates for the transportation of dimethyl ether ("DME") over five lanes, each of which originates at DuPont's Belle facility. DuPont admits that DME is a truckable commodity,[157] and it admits that it can load DME trucks at Belle.[158] DME is trucked in {{ }} *See* NS Reply WP "DuPont Truck Requirements." DuPont could use trucks from the on-site Sentinel trucking facility at Belle, {{

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[157] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

[158] *See* NS Reply WP "Truck Loading – Unloading.xls" (describing process for DME truck loading at Belle).

}}[159] And DuPont ships DME from Belle via truck, moving {{ }} truckloads of DME from Belle between 2006 and 2010. *See* NS Reply WP "DuPont Dimethyl Ether Truck Shipments.xls." As demonstrated below, {{

}} *See id.* {{ }} *See id.*

DuPont argues that it takes up to 4-6 hours to load a truck with DME, and therefore that truck transportation is impractical. But DuPont ignores the fact that the volumes over these lanes are relatively small—Lanes { } each average less than { } railcars per year, and { } has seen only { } railcar shipments since 2007. *See* NS Reply Ex. II-B-5 (volume exhibit). And even the highest volume DME lane { } averages only { } railcars a year. Converting 100% of the volume of every lane for which NS has identified a competitive option to truck transportation translates to less than { } truck shipments per year—less than { } additional truck loadings a day.[160] Indeed, loading just one DME truck per day would enable DuPont to convert 61% of the total lane volume to trucks. If DuPont believes that it needs more truck loading capacity for DME at Belle, then it is free to construct it. DuPont has not presented any evidence that building an additional truck loading rack would be cost-prohibitive.[161]

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[159] *See* NS Reply WP "Sentinel Transportation Terminal Locations"; NS Reply WP "Sentinel Charleston, WV Terminal Scope of Work."

[160] The average annual volume of Lanes A3, B23, B42, B89, and B120 amounts to { } railcars per year. *See* NS Reply Ex. II-B-5. According to DuPont, 4.5 trucks can transport the volume of one railcar. *See* DuPont Opening II-B-78.

[161] {{

}}

DuPont also objects to truck transportation on the theory that it would need to purchase { } new specialized trailers "to handle current rail volumes." DuPont Opening II-B-79. But DuPont once again advances the fallacy that the Board must consider the costs of DuPont completely abandoning rail as a transportation method for DME—and not the much smaller costs of DuPont using trucks for the subset of issue shipments that are cost-competitive with trucks. DuPont plainly would not need to purchase { } trailers to carry { } railcars of volume. Mr. Heisler's analysis shows that{ } trucks would be more than adequate to handle that volume. *See* NS Reply WP "DME Truck Fleet Size.xlsx." And the Sentinel terminal at Belle already has {{

}} Moreover, DuPont could accommodate 61% of the truck-competitive lanes with just one truck shipment per day. As demonstrated in NS Reply Ex. II-B-2, the truck cost advantage over rail for the DME truck-competitive lanes is {{

}} a shipment, so if DuPont believes that it is necessary to purchase additional trailers to accommodate it could economically do so.[162]

DuPont has cost-competitive direct truck alternatives for five dimethyl ether movements.

Lane A3 (Belle to Danville, IL): Lane A3 challenges NS's local rate for transporting dimethyl ether from Belle to Danville, IL, the location of DuPont's customer KIK Custom Products. Alternatively, DuPont could truck dimethyl ether over this route using Sentinel trucks at a cost {{ }} than the cost of rail service. *See* NS Reply Exhibit II-B-2.

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[162] And of course if DuPont chose to purchase more specialized trailers, then it would need fewer specialized railcars. {{

}}

Lane B23 (Belle to Lorenzo, IL): Lane B23 challenges NS's Rule 11 rate for shipping dimethyl ether to Chicago for interchange with BNSF, which serves DuPont's customer Diversified CPC International in Lorenzo, IL. As an alternative to this two-carrier movement, DuPont could truck dimethyl ether directly to its customer over the 489-mile route between Belle and Lorenzo. The cost of trucking is competitive with the cost of rail service—specifically, DuPont's contract with {{ }} provides trucking rates for this route that are {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B42 (Belle to Winford Spur, LA): Lane B42 challenges the NS common carrier rate for transporting dimethyl ether from Belle to its interchange with KCS at Meridian, MS; KCS then transports the railcars to Aeropres in Winford Spur, LA. Direct truck shipments are a viable option for this low-volume lane, which has seen only { } railcar shipment over the last five years. *See* NS Reply Exhibit II-B-5. {{

}} {{ }} can provide truck service over this lane for {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This {{ }}truck alternative constitutes effective competition to the challenged rail rate.

Lane B89 (Belle to Gainesville, GA): This lane challenges NS's Rule 11 rate for shipping dimethyl ether to Cincinnati, OH, for interchange with CSXT, which serves DuPont's customer KIK/Piedmont Labs in Gainesville, GA. Alternatively, DuPont could truck dimethyl ether directly to its customer over the 411-highway-mile route between Belle and Gainesville, GA. DuPont's contracts with {{ }} has trucking rates for this route that are {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B120 (Belle to Divine, IL): Lane B120 challenges NS's Rule 11 tariff for its portion of a joint NS-CN movement from Belle, WV, to Divine, IL. NS originates traffic at Belle and transports it to its interchange with CN at Pine, IN; CN then delivers the product to DuPont's customer Technical Propellants in Divine. Direct trucking over the 498-mile route from Belle to Divine is a logistically feasible option for this lane—indeed, {{

}} Moreover, trucking is a cost-effective option to rail service for this lane. {{ }} has agreed to contract rates that allow DuPont to truck over this lane for {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

vii. There is Effective Competition from Trucks for Five Petroleum Coke Lanes.

Five issue lanes involve NS's rates for shipments of petroleum coke, or petcoke, and each of these lanes is subject to effective competition from direct trucking or rail-truck transloading. Petcoke is a nonhazardous material that DuPont admits is readily truckable and transloadable.[163] DuPont trucked {{ }} truckloads of petcoke between 2006 and 2010. *See* NS Reply WP "Petcoke Truck Shipments 2006-2010." It can be transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements."

DuPont alleges that it would need to modify its Edgemoor facility in order to receive "a substantial volume of Pet Coke by truck." DuPont Opening II-B-124. Specifically, DuPont claims that it "must reconfigure the unloading spot by increasing the vertical clearance within the shed" so that that ordinary dump trucks can unload onto its conveyor. *Id.* DuPont claims that

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[163] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf" (admitting that petcoke can be trucked and transloaded); *see also* NS Reply WP "MSDS for Pet Coke" {{ }}.

this would cost {{ }}. In the first place, {{ }} is not an unreasonable amount for a shipper to spend to take advantage of a competitive option, particularly one that could replace nearly { } railcars every year. More importantly, DuPont's own workpaper shows that it would cost far less than {{ }} to increase vertical clearance at the loading spot. According to DuPont Opening WP "Coke Unloading Study.xls," the cost of "New Building over existing rail hopper, w/ truck clearance" is only {{ }} DuPont's workpaper arrives at the higher figure only by providing costs for other items like {{

}} DuPont has provided no evidence to conclude that any of the other items in the Coke Unloading Study are necessary for it to receive truck shipments—it says that all it needs to do is "increase[e] the vertical clearance within the shed." DuPont Opening II-B-124. It is reasonable to expect that DuPont could undertake this modest infrastructure project to avail itself of its competitive options.

Trucking and transloading is a feasible and economical alternative for the following five issue lanes:

Lane B48 (Cresap, WV to Edgemoor, DE): CSXT originates this traffic at DuPont's supplier Rain CII in Cresap, WV, and interchanges it with NS at Hagerstown, MD; NS then delivers the petcoke cars to Edgemoor. Direct truck shipments over the 351-mile route between Cresap and Edgemoor are a feasible option that is cost-competitive with NS rail service. Rain CII has the ability to ship petcoke by truck; it advertises on its website that it "[p]rovides direct truck, rail, and barge shipments to customers." *See* NS Reply WP "Rain Petcoke Truck Shipping.pdf" *available at* http://www.raincii.com/locations_usa.htm. DuPont's contract with {{ }} contract provides truck rates that would allow DuPont to truck

petcoke over Lane B48 at {{ }} the cost of rail. *See* NS Reply Exhibit II-B-2.

Lane B48 could also be cost-effectively transported via a rail-truck transload option. CSXT could originate petcoke traffic at Cresap and deliver it to the CSX TRANSFLO facility in Wilmington, DE. There the petcoke could be loaded into trucks for the short 8-mile trip to Edgemoor. As demonstrated in NS Reply Exhibit II-B-3, this rail-truck transload option is competitive with the cost of all-rail service.

Lanes B69 and B98 (Enid, OK to Edgemoor, DE): This issue traffic originates at BNSF-served petcoke supplier Oxbow Calcining; BNSF transports the petcoke to East St. Louis, IL, for interchange with NS, which delivers petcoke to Edgemoor.[164] As an alternative to all-rail transportation BNSF could interchange petcoke to CSXT at East St. Louis, and CSXT could transport it to its Wilmington TRANSFLO terminal. From there the petcoke could be trucked the eight-mile distance to Edgemoor. The total costs of this CSXT-truck transportation alternative are {{ }} the costs of NS rail service. *See* NS Reply Exhibit II-B-3.

Lane B75 & B123 (Lemont, IL to Edgemoor, DE): Lanes B75 and B123 challenge NS's rates for its portion of joint-line petcoke movements from Lemont, IL to Edgemoor.[165] For each lane, BNSF transports petcoke from DuPont's supplier Calcining International in Lemont to Chicago for interchange with NS, which delivers the petcoke to Edgemoor. Alternatively, DuPont could use rail-truck transloading through the CSX Wilmington TRANSFLO. BNSF

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[164] Lane B69 challenges NS's tariff for transportation in private cars; Lane B98 challenges NS's tariff for transportation in railroad-owned cars.

[165] Lane B75 challenges NS's tariff for transportation in railroad-owned cars; Lane B123 challenges NS's tariff for transportation in private cars.

could interchange petcoke to CSXT at Chicago, and CSXT could transport it to its Wilmington TRANSFLO terminal. From there the petcoke could be trucked the short distance to Edgemoor. The total costs of this CSXT-truck transportation alternative are {{ }} the costs of NS rail service. *See* NS Reply Exhibit II-B-3.

viii. There is Effective Trucking Competition for Four Aniline Oil Lanes.

Truck transportation is also effective competition for four aniline oil lanes. Aniline oil is a liquid amine used to make dyes, plastics, and medicines. DuPont manufactures aniline oil at several facilities, including its Pascagoula, MS plant. While aniline oil is a hazardous material, DuPont admits that transportation of aniline oil by truck is feasible.[166] In fact, DuPont regularly transports aniline oil by rail, barge, and truck. During the 2006-10 period DuPont shipped {{ }} truckloads of aniline oil. *See* NS Reply WP "DuPont Aniline Oil Truck Shipments.xls." {{ }} of those truckloads originated at Pascagoula, the origin for lanes B84, B85, and B115, and {{ }} originated at DuPont's Dowling, TX facility , the origin for Lane B49. *See id.* DuPont used motor carriers including {{ }} for these shipments. *See id.* Aniline oil is transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements." Moreover, DuPont has truck loading and unloading procedures in place for aniline oil. *See* NS Reply WP "Aniline Truck Procedures"; *see also* DuPont Opening II-B-39 (admitting that both Pascagoula and Dowling facilities "can load aniline oil into trucks").

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[166] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf"; *see also* NS Reply WP "DuPont MSDS for Aniline"{{
}}

Lane B49 (Dowling, TX to Fort Mill, SC): Lane B49 challenges NS's Rule 11 rate for its portion of aniline oil shipments from DuPont's facility at Dowling to Nation Ford at Fort Mill, SC. KCS originates these shipments at Dowling and interchanges them to NS at Meridian, MS; NS then delivers the railcars to Fort Mill. Alternatively, aniline oil could be trucked over the 943-mile route directly from Dowling to Fort Mill. {{

}} {{ }} could transport this traffic at rates that are {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B84 (Pascagoula, MS to Fort Mill, SC): This lane challenges NS's tariff rate for its portion of the joint MSE-NS movement of aniline oil from DuPont's Pascagoula plant to Nation Ford Chemicals in Fort Mill. The Mississippi Export Railroad ("MSE") originates the traffic at Pascagoula and interchanges it with NS at Mobile; NS then transports it to its final destination. Direct truck transportation is a competitive alternative to this rail movement—{{

}} The 619-highway-mile distance between Pascagoula and Fort Mill is amenable to competitive truck service. And, the cost analysis in Exhibit II-B-2 demonstrates that trucking over this route with {{ }} trucks is cost-competitive with all-rail service.

Lane B85 (Pascagoula, MS to Lemoyne, AL): Lane B85 challenges NS's Rule 11 rate for aniline oil shipments from Pascagoula to { } in Lemoyne, AL. MSE originates these shipments at Pascagoula and interchanges them to NS at Mobile, AL; NS then delivers the railcars to Lemoyne. Direct trucks from Pascagoula to Lemoyne are a competitive alternative to

this two-carrier movement. The highway distance between Pascagoula and Lemoyne is only 57 miles, and {{ }} could transport this traffic at rates that are {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B115 (Pascagoula, MS to Fort Mill, SC): DuPont challenges NS's tariff rate for its portion of the joint CSXT-NS movement of aniline oil from DuPont's Pascagoula plant to Nation Ford Chemicals in Fort Mill, SC. CSXT originates the traffic at Pascagoula and interchanges it with NS at Atlanta, GA; NS then transports it to its final destination. (The only difference between this lane and Lane B84 is that the originating railroad is CSXT and not MSE.) The same direct truck competition that is present for Lane B84 is present for this movement. DuPont can transport aniline oil over this 619-highway-mile route at truck rates that are competitive with the price of rail service, and the feasibility of this option is proven by the fact that {{

}}

ix. There is Effective Truck Competition for Three Methylamine Aqueous Lanes.

Trucks also provide effective competition to three of the aqueous methylamine lanes whose rates DuPont has challenged. As discussed above, DuPont produces aqueous methylamines at Belle. Like anhydrous methylamines, aqueous methylamines can be safely transported by truck. Indeed, DuPont admits that aqueous methylamines are easier to handle than anhydrous methylamines. *See* DuPont Opening II-B-114 ("AQMs are safer to handle than AHMs . . . [and] have lower vapor pressure and flammability."). While anhydrous methylamine, which is a liquefied gas, must be transported in {{ }}, aqueous methylamine can be transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements."

In the five-year period between 2006 and 2010 DuPont shipped {{ }} truckloads of methylamine aqueous. *See* NS Reply WP "DuPont Methylamine Truck Shipments.xls." Many of these methylamine shipments were trucked over long distances—DuPont shipping records show truck shipments of methylamines from Belle to {{ }}. *See id.* Most importantly, DuPont has used trucks for methylamine aqueous shipments on {{ }} of the three lanes for which Mr. Heisler identified a competitive truck alternative. *See id.*

DuPont claims that it takes{{ }} to load a truck with aqueous methylamines, and that the {{ }} truck spots at Belle for methylamine truck loading must be shared with other commodities. *See* NS Reply WPs "Barge and Truck Spots.xls" and "Truck Loading-Unloading.xls." But even accepting all those claims as true, converting 100% of the railcar volume of every lane discussed in this section to trucks would require only {94} additional truck loadings per year—less than { } *See* NS Reply Ex. II-B-5.

Like it does for other commodities, DuPont generally alleges that its customers require rail cars to store aqueous methylamine without producing hard evidence to support that fact. DuPont has not bothered to provide any statements from its customers expressing such a storage need, or showing that they objected when DuPont supplied them via truck. Instead, DuPont says that customers' need for storage can be inferred from the fact that sometimes they did not unload railcars immediately. This is not sufficient to carry its burden. DuPont cannot demonstrate that the Board has jurisdiction over lanes that have competitively priced truck alternatives {{ }} with an unsupported hypothesis that its customers might like to use railcars for storage.

Three aqueous methylamine lanes are subject to effective competition from direct truck transportation.

Lane B8 (Belle to Channelview, TX): This lane challenges NS's Rule 11 rate for its segment of a joint-line movement of methylamine aqueous from Belle to DuPont's customer Lyondell Chemical in Channelview, TX. NS transports railcars from Belle to East St. Louis, IL, for interchange with UP, which delivers the railcars to Channelview. DuPont also could deliver dimethylamine to Lyondell using direct truck shipments from Belle to Channelview, a distance of 1160 highway miles. The feasibility of this direct truck option is confirmed by the fact that {{

}} Moreover, the cost of direct truck shipments is competitive with the cost of rail service. {{ }} has agreed to contract rates that are {{ }} the total cost of rail service. *See* NS Reply Exhibit II-B-2.

Lane B17 (Belle to Freeport, TX): Lane B17 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to East St. Louis, IL, where UP receives railcars in interchange for delivery to DuPont's customer Nalco in Freeport, TX. DuPont instead could truck product directly over the 1,213-mile highway route from Belle to Freeport at a price that is competitive with rail service.[167] DuPont could ship methylamine anhydrous over this lane using {{ }} trucks at a cost {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. The feasibility of DuPont trucking methylamine anhydrous to Nalco is demonstrated by the fact that {{

}}

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[167] This 1,213-mile route is the longest direct truck route that NS proposes as a competitive alternative.

Lane B33 (Belle to St. Joseph, MO): Lane B33 challenges NS's Rule 11 tariff for shipments of methylamine anhydrous to Kansas City, MO, where UP receives railcars in interchange for delivery to DuPont's customer Albaugh Chemical in St. Joseph, MO. DuPont could cost-effectively substitute direct truck service over the 800-mile highway route from Belle to St. Joseph for this two-railroad movement. {{ }} could provide direct truck service at rates {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2. In fact, {{

}}

x. There is Effective Trucking Competition for Three Lanes of Polyethylene.

There is also effective competition from truck or rail-truck transload options for three of the challenged rates for the transportation of polyethylene. Polyethylene is a plastic that is transported in pellet form. Polyethylene is commonly trucked using self-loading pneumatic hopper trucks. *See* NS Reply WP "DuPont Truck Requirements" ({{

}}). While DuPont suggests that polyethylene trucking is not feasible because trucking can lead to "fines and streamers,"[168] the seriousness of this alleged concern is disproved by the fact that DuPont chose to ship {{ }} truckloads of plastic pellets between 2006 and 2010. *See* NS Reply WP "Polyethylene Truck Shipments.xls." DuPont used several motor carriers for these movements, including {{

}} *See id.*

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[168] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

Moreover, {{ }} of DuPont's polyethylene truck shipments originated at transload facilities. *See* DuPont Opening II-B-133. For example, DuPont shipped {{ }} truckloads of plastics through the {{ }} to destinations in states including {{ }} *See* NS Reply WP "Polyethylene Truck Shipments.xls" at "Transload" tab. Rail-truck transloading of polyethylene is a transportation mode that DuPont {{ }} relies on in the ordinary course of business, and where it is cost-effective this option can be effective competition to all-rail service.

DuPont raises a variety of red herrings in an attempt to distract the Board from the indisputable fact that DuPont routinely transports polyethylene via truck and rail-truck options. But most of DuPont's assertions are completely unsupported, and indeed appear to have been cut-and-pasted from evidence filed in another STB proceeding. For example, DuPont devotes two-and-a-half pages of its evidence to reciting 1996 testimony submitted by the Society of Plastics in opposition to the *UP/SP* merger. This entire section of DuPont's evidence was lifted almost word-for-word from evidence filed by Total Petrochemicals USA, Inc. in August 2011.[169] Moreover, the testimony has little relevance to the issues here. The fact that sixteen years ago an advocacy group seeking conditions in a merger claimed that some plastics receivers used railcars for storage does not come close to proving that the customers on the lanes at issue here are unable to receive truck shipments because they need to use railcars for storage. Indeed, DuPont's evidence shows that both the polyethylene customers at issue here have silos dedicated to polyethylene storage! *See* DuPont Opening II-B-134. DuPont claims that this storage is "limited," but it has not produced any evidence from its customers claiming that they do not have

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[169] *Compare* DuPont Opening II-B-130 through II-B-133 *with* Rebuttal Evidence of Total Petrochemicals USA, Inc. at II-B-25 through II-B-28, *Total Petrochemicals USA, Inc. v. CSX Transp., Inc.*, STB Docket No. 42121 (filed Sept. 6, 2011).

sufficient storage or that truck shipments would be logistically infeasible. Sixteen-year-old testimony asserting that some polyethylene consumers use railcars for storage cannot satisfy DuPont's burden to prove that trucking is not effective competition for the particular lanes at issue in this case.[170]

DuPont again cribs from TPI by claiming that it would incur "inventory carrying costs" because it would invoice rail-truck shipments differently from rail shipments. But DuPont has done absolutely nothing to estimate such costs, and it has provided no evidence from which the Board could conclude that a quirk of DuPont's invoicing practices is a real-world cost that can be factored into the market dominance analysis. To state the obvious, DuPont's failure to provide any justification for or quantification of this supposed cost on opening makes it impossible for the Board to give it any weight.

Lane B45 (Bloomington to Washington, NJ): Lane B45 is a lane where a rail-truck transload option is effective competition to all-rail transportation. UP originates polyethylene cars at DuPont's Bloomington, TX, facility and transports them to interchange with NS at East St. Louis; NS then transports the cars to DuPont's customer Twist Beauty Packaging in Washington, NJ. {{

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[170] The irrelevance of this outdated testimony is further confirmed by the fact that the Board rejected the Society of Plastics' arguments in 1996. *See Union Pac. Corp. et al.—Control & Merger—S. Pac. Rail Corp. et al.*, 1 S.T.B. 233, 394-96 (1996) (rejecting the plastics industry arguments that the UP/SP merger would permit UP/SP to dominate the transportation of plastics, noting that "many plastics shippers continue to have rail transport options with carriers other than UP or SP, and about 15% of the plastics traffic is shipped by truck and intermodal transport," and finding that protestants overstated the traffic that would be exclusively served by the merged UP/SP). If the Board was unconvinced by the Society of Plastics's claims in 1996, they can hardly be convincing now.

}}[171] A {{ }} rail-truck transload option is available using the CSX TRANSFLO facility in Philadelphia. Rail shipments could originate at Bloomington on UP and be transported to East St. Louis, IL (as they are for UP-NS all-rail service); be interchanged with CSXT for rail transportation to Philadelphia; and then be transloaded into trucks for delivery over the 74-mile route to Washington, NJ. Even assuming that DuPont would use CSXT tariff rates for this route (and not likely-lower contract rates), the total costs of this transload option are {{ }} of the cost of all-rail service. *See* NS Reply Exhibit II-B-3.

Lane B82 (Orange, TX to Greenville, SC): This lane challenges NS's tariff for its portion of polyethylene movements from DuPont's Orange, TX, plant to a Rexam facility on Greenville, SC. UP originates rail traffic in Orange and interchanges it to NS at New Orleans; NS then delivers railcars to Greenville, SC. But DuPont also ships polyethylene over this route by truck. {{

}} DuPont could use {{ }} for additional truck shipments to Rexam at a cost {{ }} of the cost of rail transportation. *See* NS Reply Ex. II-B-2.

Lane B83 (Orange, TX to Washington, NJ): Like Lane B45, Lane B83 is a lane where DuPont could supply its Washington, NJ, customer Twist Beauty Packaging via rail-truck

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[171] DuPont's misleading claim that truck volumes over this lane are "almost non-existent" ignores the fact that total volumes over this lane are extremely low. DuPont Opening II-B-130. NS handled a total of { } railcar shipments over this lane in 2009 and 2010. *See* NS Reply Ex. II-B-5 {{
}}

transloading instead of all-rail transportation. UP originates polyethylene cars at DuPont's Orange, Texas facility and transports them to interchange with NS at East St. Louis, IL; NS then transports the cars to Washington, NJ. As described above for Lane B45, {{ }}[172] The same rail-truck transload option used for Lane B45 could be used for Lane B83. Rail shipments could originate on UP and be transported to East St. Louis, IL (as they are for UP-NS all-rail service); be interchanged with CSXT for rail transportation to the Philadelphia TRANSFLO; and then be transloaded into trucks for delivery over the 74-mile route to Washington. Using CSXT tariff rates for this route (and not likely-lower contract rates), the total costs of this transload option are {{ }} of the cost of all-rail service. *See* NS Reply Exhibit II-B-3.

Alternatively, DuPont could directly truck polyethylene from Orange to Washington. DuPont's contract with {{ }} would allow direct truck shipments over this route for a total cost within {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

xi. There is Effective Competition for Two Muriatic Acid Lanes.

Each of the two NS rates for muriatic acid shipments that DuPont challenges is subject to effective competition from direct truck shipments, as well as direct intramodal competition described above at II-B-8 to II-B-9. Muriatic acid (also known as hydrochloric acid) is a hazardous material, but it is not toxic by inhalation. DuPont has admitted that hydrochloric acid can be trucked safely,[173] and it in fact {{

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[172] It is worth noting that NS handled a total of {three} railcar shipments over this lane in 2009 and 2010. *See* NS Reply Ex. II-B-5. {{ }}

[173] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

}} *See* NS Reply WP "DuPont Truck Requirements." DuPont has {{ }} truck spots available to load hydrochloric acid at Louisville, KY, and there is a Sentinel terminal at Louisville that could provide trucks for this movement.[174]

While DuPont alleges that each of the muriatic acid lanes has railcar volumes too high to be trucked, its claimed lane volumes are significantly inflated by including shipments for which DuPont does not pay the freight. *See* DuPont Opening II-B-36 (admitting that a third party "currently pays the freight" for most muriatic acid shipments between Louisville and Lafayette, IN, and Decatur, IN. As NS Reply Ex. II-B-5 shows, only { } railcars moved over these lanes in DuPont's account between 2007 and the first half of 2012. This volume is well within the range that could be readily handled by trucks. And even if one accepts DuPont's position on the lane volumes, a competitive truck option does not need to be able to handle 100% of the lane volume to constitute effective competition. *See DuPont*, STB Docket No. 42100, at 4 ("For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'"). Indeed, DuPont has access to an intramodal CSXT rail option that could supplement or substitute for the truck options on these lanes. *See supra* at II-B-8 to II-B-9.

Lane A18 (Louisville to Decatur, IN): DuPont challenges NS's rate for transporting muriatic acid from the DuPont Louisville plant to ADM Corp. and Tate and Lyle in Decatur, IL. A competitive alternative to this rail movement is direct truck shipments of hydrochloric acid over the 258-mile highway route between Louisville and Decatur. DuPont's truck contract with

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[174] *See* NS Reply WPs "Barge and Truck Spots" and "Sentinel Transportation Terminal Locations."

{{ }} each provide truck rates that are {{ }} the challenged NS tariff rate. *See* NS Reply Exhibit II-B-2.

Lane A19 (Louisville to Lafayette, IN): DuPont also challenges NS's local rate for transporting muriatic acid from the DuPont Louisville plant to Tate and Lyle in Lafayette, IN. A competitive alternative to this rail movement is direct truck shipments of hydrochloric acid over the 184-mile highway route between Louisville and Lafayette. DuPont's truck contracts with {{ }} provide truck rates that are {{ }} the challenged NS tariff rate. *See* NS Reply Exhibit II-B-2. In short, NS's rail service over this route faces effective competition from motor carriers.

xii. There is Effective Truck Competition for Two Oleum Lanes.

DuPont also faces effective competition from trucks for the two oleum lanes in the complaint. Sulfuric acid with dissolved sulfur trioxide is known as "fuming" sulfuric acid, or oleum. While fuming sulfuric acid is a poisonous material that requires precautions while handling, it can be transported safely by truck.[175] DuPont admitted in discovery that trucking oleum was feasible,[176] and it produced multiple handling and loading guides that detail its procedures for transporting oleum by truck.[177] DuPont stated in discovery that oleum could be trucked using the same {{ }} trucks used for non-fuming sulfuric acid shipments. *See* NS Reply WP "DuPont Truck Requirements." Indeed, DuPont shipped {{ }} trucks of oleum between 2006 and 2010. *See* NS Reply WP "Oleum Truck Shipments

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[175] The oleum transported in Lane B103 is at a TIH grade, but the oleum transported in Lane B106 is not a TIH. *See* DuPont Opening II-B-32 to II-B-33.

[176] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

[177] *See* NS Reply WP "Oleum Handling and Loading Procedures.pdf."

2006-2010.xls." {{ }} of those truck shipments originated at DuPont's Miami Fort plant, which is the origin for each of the two issue lanes challenging NS's rates for transporting oleum. The Miami Fort plant has {{ }} dedicated to oleum truck loading.[178] As demonstrated below, direct truck shipments from Miami Fort are effective competition for each of the two oleum issue lanes.

Lane B103 (Miami Fort, OH to Mcintosh, AL): This lane challenges NS's Rule 11 common carrier rate for its segment of the joint CSXT-NS movement of oleum from Miami Fort to DuPont's customer BASF at McIntosh, AL. CSXT originates the traffic at Miami Fort and transports it to Chattanooga, TN; NS then delivers the product to McIntosh. Alternatively, DuPont could truck oleum directly to BASF. The highway mileage between Miami Fort and McIntosh is 669 miles, which is well within the distance that DuPont trucks oleum today. *See* NS Reply WP "Oleum Truck Distances.xls" (showing {{ }} truck shipments of oleum from {{ }}). DuPont's past truck shipments of oleum from Miami Fort prove that loading trucks is feasible at the origin, and {{

}} Finally, the cost of direct truck service is {{ }} the cost of rail service, whether DuPont uses {{

}} trucks. *See* NS Reply Exhibit II-B-2. There is unquestionably effective competition for this traffic.

Lane B106 (Miami Fort, OH to Pepper, VA): Lane B106 challenges NS's Rule 11 rate for its segment of the joint CSXT-NS movement of oleum from Miami Fort to DuPont's

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[178] *See* NS Reply WP "Barge and Truck Spots.xls."

customer Alliant Techsystems, Inc. at Pepper, VA. CSXT originates the traffic at Miami Fort and transports it to Cincinnati, OH; NS then delivers the product to Pepper. {{

}} DuPont could truck oleum over the 372-mile route from Miami Fort to Pepper at a competitive price. {{ }} each have agreed to contract rates {{ }} the cost of rail transportation. *See* NS Reply Exhibit II-B-2.

xiii. There is Effective Trucking Competition for the Two Zircon Sand Lanes.

Effective truck competition also exists for NS's rates for the transportation of zircon sand from Starke, FL, to Huntsville, AL. Zircon sand is a nonhazardous material that is readily truckable. DuPont claimed in one interrogatory response that zircon sand must be trucked in bags and not open trucks, arguing that the fine grains of zircon sand creates a potential of product loss.[179] But this claim is at odds with its admission in another interrogatory response that {{

}} *See* NS Reply WP "DuPont Truck Requirements." Moreover, trucking zircon sand is a competitive transportation option that DuPont uses. Starke, FL, has {{ }} available spot for truck loading of zircon sand,[180] and DuPont has procedures in place to load zircon sand cars at Starke. *See* NS Reply WP "Starke Truck Loading Operating Procedures.pdf." And

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[179] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf." Despite this contention, DuPont's own {{

}}

[180] *See* NS Reply WP "Barge and Truck Spots.xls."

revealingly, DuPont has shipped zircon sand trucks from Starke—a total of {{ }} *See* NS Reply WP "DuPont Zircon Sand Truck Shipments.xls." DuPont has used {{ }} for these truck shipments. *See id.*

Lanes B116 & B117 each constitute a challenge to an NS tariff rate for NS's segment of the transportation between DuPont's Starke, FL, facility and DuPont's customer Saint Gobain in Huntsville, AL.[181] CSXT originates the traffic at Starke and interchanges it to NS at Decatur, GA; NS then delivers it to final destination in Huntsville. DuPont could also truck zircon sand directly over the 519-mile route from Starke to Huntsville. {{

}}

xiv. There is Effective Trucking Competition for One Dimethyl Formamide Lane.

Trucks constitute an effective competitive option for one of the five dimethyl formamide ("DMF") lanes whose rates DuPont has challenged. DMF is a flammable hazardous material, but it is not a TIH.. DuPont has admitted, however, that DMF can be safely transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements." Indeed,

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[181] The rate challenged in Lane B116 applies to shipments in privately-owned cars, and the rate challenged in Lane B117 applies to shipments in railroad-owned cars.

DuPont shipped {{ }} truckloads of DMF during the five-year period between 2006 and 2010. *See* NS Reply WP "DuPont DMF Truck Shipments.xls." DuPont used motor carriers including {{ }} for these truck shipments. *See id.* {{ }} of those truck shipments originated at DuPont's Belle, WV, facility. *See id.* DuPont has procedures in place for loading DMF into trailers for truck transportation. *See* NS Reply WP "DMF Trailer Loading Procedures."

Lane B35 (Belle, WV to Strang, TX): Lane B35 challenges NS's Rule 11 rate for its portion of shipments of DMF from Belle to Strang, TX. NS originates this traffic at Belle and interchanges it with UP at East St. Louis, IL; UP then delivers the railcars to Strang. A competitive alternative to this two-carrier rail movement is direct truck service from Belle to Strang, a distance of 1165 highway miles. The costs of trucking over this route are competitive with the costs of rail service. {{ }} contract rate for this shipment would allow DuPont to truck DMF over this route at a price {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

xv. There is Effective Trucking Competition for One Lane of Dimethyl Sulfate.

There is also effective truck competition to NS's Rule 11 rate for the transportation of dimethyl sulfate over one lane of traffic originating at DuPont's Belle plant. Dimethyl sulfate is classified as a poisonous commodity by DOT, and DuPont claims that this classification makes trucking infeasible.[182] But the reality is that DuPont can and does truck this commodity, and that it has the necessary equipment to transport this commodity safely by truck. Between 2006 and 2010 DuPont shipped {{ }} truckloads of dimethyl sulfate, {{ }} of which were

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[182] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

shipped from Belle. *See* NS Reply WP "Dimethyl Sulfate Truck Shipments.xls." Most of these truckloads were shipped in {{ }} trucks; DuPont also used {{ }} to truck dimethyl sulfate. *See id.* DuPont admitted in discovery that Belle has truck spots available to load dimethyl sulfate, and it has established truck loading procedures and developed commodity handling guides for use in trucking this commodity.[183] DuPont's interrogatory responses admitted that dimethyl sulfate could be trucked {{ }} *See* NS Reply WP "DuPont Truck Requirements." The on-site Sentinel terminal in Belle has trucks and trailers capable of transporting dimethyl sulfate, and {{ }}[184] DuPont's claim that dimethyl sulfate trucking is not feasible because dimethyl sulfate requires specialized trucks is thus a red herring—{{ }} And as demonstrated below, Sentinel can provide cost-effective direct truck transportation for one issue lane that constitutes effective competition to NS's rail service.

Lane B20 (Belle to Janesville, WI): This lane challenges NS's Rule 11 rate for dimethyl sulfate shipments from Belle to Evonik in Janesville, WI. NS transports railcars from Belle to its interchange with UP at Chicago, IL; UP then transports the cars to their final destination. {{

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[183] *See* NS Reply WP "Truck Loading – Unloading.xls" (describing process for dimethyl sulfate truck loading at Belle).

[184] *See* NS Reply WP "Sentinel Transportation Terminal Locations"; NS Reply WP "Sentinel Charleston, WV Terminal Scope of Work."; *supra* II-B-39, Table II-B-5 (showing that DuPont and Sentinel have {{ }} MC 312/DOT 312 trucks capable of transporting dimethyl sulfate).

}} And {{ }} truck shipments over the 579-highway-mile route between Belle and Janesville are a cost-effective alternative to rail service. {{

}} *See* NS Reply Ex. II-B-2. This {{ }} truck rate offered by a motor carrier with the equipment and experience necessary to transport this commodity shows that trucking over this lane is an effective competitive alternative to rail service.

xvi. There is Effective Competition from Trucks for the Lime Lane.

Trucks also provide effective competition to the one NS tariff rate DuPont has challenged for the transportation of lime (calcium oxide). Lime is not regulated as a hazardous material by DOT, and it is commonly trucked by DuPont. Over the five-year period from 2006 through 2010, DuPont shipped {{ }} truckloads of lime. *See* NS Reply WP "DuPont Lime Truck Shipments.xls." DuPont used a number of motor carriers for these truck shipments, including {{ }} *See id.* {{

}}: Lane B96 (Danville, VA to Ampthill, VA). *See id.* {{

}} It may be the case that, as DuPont claims, the type of lime that is shipped over Lane B96 is a specialty lime that must be transported in sealed trucks. But that fact has nor prevented DuPont from trucking this kind of lime in the past

and it does not preclude DuPont from trucking that lime in the future.[185] Indeed, DuPont's Spruance plant has procedures in place for the unloading of lime trucks.[186]

In short, trucking lime is practical with appropriate equipment (namely, sealed trucks), and DuPont has access to the trucking equipment necessary to ship lime over the 140-mile route from Danville, VA, to Ampthill, VA by truck. As Exhibit II-B-2 shows, DuPont could truck product under its {{ }} contracts for a price {{ }} the cost of rail service. DuPont has ample transportation alternatives for this lane, and the challenged lime rate is thus subject to effective competition.

DuPont asserts that it needs to use railcars on this lane because it uses railcars for overflow lime storage at its Spruance plant. *See* DuPont Opening II-B-100. But DuPont admits that it could just as well store lime in truck trailers. *See id.* DuPont fails to demonstrate that this option would be economically infeasible, or even that it would cost more to use trucks for storage instead of railcars. And its allegations that using trucks would "strand its railcar investment" are a red herring—DuPont could easily repurpose these rail cars for use at other facilities or with other commodities. Indeed, DuPont's argument boils down to an assertion that it has the power to make choices that would render NS market dominant. Because it has chosen to use railcars to store lime instead of trailers, says DuPont, the fact that it could make a different choice to use trailers for storage must be ignored. The question is not whether DuPont would rather use rail transportation for lime shipments to Danville and railcar storage at Danville; the

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[185] While DuPont asserts that lime's tendency to absorb water makes trucking impractical, it admits that the solution to this problem is to transport lime in a "sealed container." *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf." Indeed, DuPont's admission that lime can be transported in {{ }} belies its suggestion that this commodity is not truckable. *See* NS Reply WP "DuPont Truck Requirements."

[186] *See* NS Reply WP "Spruance Lime Unloading Standard Procedures."

question is whether DuPont can substitute truck transportation for rail service (and substitute truck trailer storage as an alternative to rail trailer storage).

xvii. There is Effective Competition for One Potassium Hydroxide Lane.

In addition, the issue lane challenging NS's rate for the transportation of potassium hydroxide is subject to effective competition from trucks. Potassium hydroxide is chemically similar to sodium caustic, and like sodium caustic it has corrosive properties but is not toxic by inhalation. Another important similarity to sodium caustic is that potassium hydroxide can and is trucked by DuPont, which admitted in discovery that trucking this commodity is feasible.[187] Like sodium caustic, potassium hydroxide is transported in {{

}} *See* NS Reply WP "DuPont Truck Requirements."

Lane B125 (Charleston. TN to Woodstock, TN): DuPont challenges NS's Rule 11 rate for the joint NS-CN movement of potassium hydroxide from Olin's Charleston, TN, plant to DuPont's Woodstock, TN plant. NS can originate potassium hydroxide cars at Charleston and deliver them in interchange to CN at Memphis; CN serves DuPont's Woodstock plant. {

} DuPont could instead truck directly over the 377-mile highway route from Charleston, TN, to Woodstock, TN. {{

[187] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

}} Not only is this trucking option feasible, its costs are competitive with the costs of rail service. *See* NS Reply Exhibit II-B-2. DuPont could use its contract with {{ }} to truck potassium hydroxide over this lane at rates that are {{ }} than the cost of rail shipments.

DuPont alleges that Lane B125 has a "high annual volume" that is "too great to shift to trucks," DuPont Opening II-B-51 & 52, but the volumes on this lane are not as significant as DuPont alleges. Even accepting DuPont's claim that the annual volume on this lane would equate to { } 22-ton trucks, that volume is the equivalent of less than {two} trucks per business day. DuPont's opening submission does not include any evidence from which the Board could conclude that shipping this volume of trucks is impractical. MC 307 insulated trucks are the most common in the tank truck industry, and DuPont should be able to readily obtain resources to handle additional volume.

xviii. There is Effective Competition for the Sodium Methylate Lane.

Lane B86 is the only lane challenging an NS rate for the transportation of sodium methylate, and this lane is subject to effective competition from truck shipments. Sodium methylate is classified by DOT as a hazardous commodity, but it is not toxic by inhalation and it is amenable to truck transportation. DuPont has admitted that trucking this commodity is feasible,[188] and this admission is confirmed by the fact that {{ }} *See* NS Reply WP "DuPont Sodium Methylate Truck Shipments.xls." DuPont used {{ }} for these truck shipments. *See id.* Sodium

[188] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

methylate is transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements." DuPont has {{ }} truck spot available at its Strang plant to load sodium methylate trucks, and it has procedures in place for tank truck loading of sodium methylate.[189]

Lane B86 (Strang, TX to Lemoyne, AL). DuPont challenges NS's Rule 11 rate for the joint UP-NS movement of sodium methylate between DuPont's Strang, TX, plant and its Lemoyne, AL plant. Direct truck shipments over the 707-mile route between DuPont's two plants are an effective competitive alternative to rail service over this lane. {{ }} could provide service over this route for a total cost {{ }} of the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This cost-competitive direct truck option constitutes effective competition to NS's tariff rate.

DuPont claims that its sodium methylate loading capacity at Strang is limited and that it sometimes uses railcars to supplement its sodium methylate storage at Lemoyne. But DuPont ignores the fact that Lane B86 is an extremely low-volume lane, which typically sees only 4 annual railcars or less per year. Even accepting DuPont's claim that it can only load one to two trucks with sodium methylate per month, DuPont could transfer the lion's share of its Lane B86 traffic to truck transportation without exceeding that limitation. And DuPont admits that it sometimes stores sodium methylate in railcars at Strang. If DuPont truly has storage capacity constraints at Lemoyne, then it could store product in railcars at Strang and truck it to Lemoyne when needed. As with so many of the other issue lanes, the fact that DuPont may prefer the convenience of railcars over trucking options does not establish market dominance. Wanting to

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[189] *See* NS Reply WP "Strang Sodium Methylate Loading Procedures."

ship by rail instead of using other modes is patently insufficient to prove that those other modes are not effective competition.

xix. There is Effective Competition for the Spent Sulfuric Acid Lane.

Trucks also constitute an effective competitive option for the spent sulfuric acid lane DuPont has challenged. Spent sulfuric acid is sulfuric acid that has been used in another process but that can be regenerated into fresh acid. DuPont's Burnside, LA plant operates this kind of sulfuric acid regeneration process, and DuPont receives spent sulfuric acid from third parties for use in this process. Some spent sulfuric acid is shipped to Burnside in railcars—like the issue movement Lane B77. {{

}} DuPont used motor carriers including {{ }} for these truck shipments. *See id.* DuPont has admitted that spent acid can be safely transported in {{ }} *See* NS Reply WP "DuPont Truck Requirements." DuPont has procedures in place for loading and unloading spent sulfuric acid into trailers for truck transportation. *See* NS Reply WP "Spent Sulfuric Acid Trailer Loading Procedures."

Lane B77 (McIntosh, AL to Burnside, LA). DuPont challenges NS's Rule 11 rate for the joint movement of spent sulfuric acid between a BASF facility in McIntosh, AL, and DuPont's Burnside, LA, plant. Direct truck shipments over the 236-mile route between DuPont's two plants are an effective competitive alternative to rail service over this lane. {{ }} could provide service over this route for a total cost within {{ }} of

the cost of rail transportation. *See* NS Reply Exhibit II-B-2. This cost-competitive direct truck option constitutes effective competition to NS's tariff rate.

DuPont's allegation that the volume of spent sulfuric acid shipped over this lane is "far too large to transport by truck" collapses upon examination. DuPont Opening II-B-27. The highest historical annual volume over this lane was the 2010 volume of { } railcars. *See* NS Reply Ex. II-B-5.[190] Using the same { } truck-to-railcar ratio that DuPont uses for spent sulfuric acid, this translates to { } trucks, approximately { } per week and { } per business day. This volume is eminently truckable.[191] And of course it is well-established that a alternative transportation mode need not be capable of transporting 100% of a lane's volume for it to be an effective competitive alternative. *DuPont (Chlroine)*, STB Docket No. 42100, at 4 ("For an alternative mode to provide effective competition, it need not necessarily be 'capable of handling substantially all or even a majority of the subject traffic.'").

xx. There is Effective Trucking Competition for One Sulfur Trioxide Lane.

Trucks constitute an effective competitive option for one of the two sulfur trioxide lanes whose rates DuPont has challenged. Sulfur trioxide is classified by DOT as a hazardous material that is both corrosive and poisonous. DuPont has admitted, however, that sulfur trioxide can be safely transported in {{ }} *See* NS Reply WP

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[190] {

}

[191] For example, in *FMC* the Board found effective truck competition for an option that would have required "an increase in traffic of only about 15 trucks per day." *FMC*, 4 S.T.B. at 713. The trucks needed for lane B77 amount to less than { } of that amount.

"DuPont Truck Requirements."[192] DuPont's confidence in its ability to truck sulfur trioxide safely is shown by the fact that it shipped {{ }} truckloads of the commodity during the five-year period between 2006 and 2010. *See* NS Reply WP "DuPont Sulfur Trioxide Truck Shipments.xls." DuPont used {{ }} for these truck shipments. *See id.* {{ }} of those truck shipments originated at DuPont's Miami Fort facility in North Bend, Ohio. *See id.* DuPont has procedures in place for loading sulfur trioxide into trailers for truck transportation. *See* NS Reply WP "Miami Fort Sulfur Trioxide Trailer Loading Procedures."

Lane B102 (Miami Fort, OH to Gracewood, GA): CSXT originates this traffic at Miami Fort and interchanges it with NS at Chattanooga, TN; NS then delivers the railcars to DuPont's customer Solvay Chemicals in Gracewood, GA. A competitive alternative to this two-carrier rail movement is direct truck service from Miami Fort to Gracewood, a distance of 566 highway miles. {{

}}[193] The costs of trucking over this route are competitive with the costs of rail service. {{ }} each have agreed to contract rates that would allow DuPont to truck sulfur trioxide over this route at a price {{ }} the cost of rail service. *See* NS Reply Exhibit II-B-2.

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[192] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf"; *see also* NS Reply WP "DuPont MSDS for Sulfur Trioxide" {{ }}.

[193] {{ }}

xxi. There is Effective Trucking Competition for One Waste Liquids Lane.

Effective truck competition also exists for one issue lane challenging an NS rate for the transportation of waste liquids. Waste liquids (also known as flammable waste) are commonly transported via truck, and DuPont conceded in discovery that trucking this commodity was feasible.[194] DuPont trucked {{ }} truckloads of waste liquids between 2006 and 2010. *See* NS Reply WP "DuPont Waste Liquids Truck Shipments.xls." The motor carriers DuPont used for these shipments included {{ }} *See id.* Waste liquids are trucked in {{ }} *See* NS Reply WP "DuPont Truck Requirements." Trucking is a particularly competitive alternative for short-distance hauls of waste liquids.

Lane B76 (Lemoyne, AL to Artesia, MS) is such a short-haul movement—a movement of waste liquids from DuPont's Lemoyne, AL, facility to a Geocycle, LLC plant in Artesia, MS, only 205 highway miles away. Lemoyne is equipped to load trucks with hazardous waste—it has {{ }} spots for outbound truck loading, and loading a truck takes only {{ }}. *See* NS Reply WPs "Barge and Truck Spots.xls" and "Truck Loading-Unloading.xls." Moreover, the Sentinel facility in Axis could provide the necessary trucks.[195] Moreover, the cost of direct truck transportation is competitive with the cost of the two-carrier NS-KCS movement from Lemoyne to Artesia. DuPont's contracts with { } each provide truck rates for this movement that are {{ }} the cost of joint rail service. *See* NS Reply Exhibit II-B-2.

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[194] *See* NS Reply WP "DuPont Responses to Interrogatories 43-45.pdf."

[195] *See* NS Reply WP "Sentinel Transportation Terminal Locations."

For the reasons detailed above, DuPont has failed to establish that NS possesses market dominance over transportation for the ninety-nine lanes subject to effective intermodal competition. Indeed, each of the evidentiary categories that *Market Dominance Determinations* identified as relevant to the consideration of the effectiveness of market dominance weighs in favor of finding the competitive alternatives presented above to be effective. Under *Market Dominance Determinations*, the Board is first to consider evidence of "the amount of the product in question that is transported by motor carrier where rail alternatives are available." *Market Dominance Determinations*, 365 I.C.C. at 133. NS has presented ample evidence that DuPont relies on trucks to ship the issue commodities, that it has often shipped the issue commodities over the issue lanes, and that it maintains multiple motor carrier contracts enabling it to cost-effectively truck the issue commodities in the future. The second and third categories of evidence—"the amount of the product that is transported by motor carrier under transportation circumstances (*e.g.*, shipment size and distance) similar to rail" and "the amount of the product that is transported using motor carrier by shippers with similar needs (distributional, inventory, et cetera) as the shipper protesting the rate"—also weigh in favor of truck and transload competition being effective. *Market Dominance Determinations*, 365 I.C.C. at 133. The options presented herein are similar to—and sometimes precisely the same as—transportation that DuPont is using to move the issue commodities today under transportation circumstances similar to those on the issue lanes. And the fourth category—"physical characteristics of the product in question that may preclude transportation by motor carrier"—also weighs in favor of the effectiveness of competition, for each of the commodities for which NS has presented a competitive alternative has been transported for DuPont by motor carrier. *Market Dominance Determinations*, 365 I.C.C. at 133. The final category—"the transportation costs of the rail and

motor carrier alternatives"—is powerful evidence of the effectiveness of competition. DuPont not only has feasible motor carrier options, thanks to its considerable market power it also has competitive rates for those options. By bringing this case, DuPont has indicated that it would rather seek an artificial regulatory reduction of its rates than use its market options. But under the Interstate Commerce Act DuPont is not entitled to pick litigation over a market rate just because it hopes for a rate prescription that would be lower than the cost of alternative transportation. Where there is effective competition the Board does not have jurisdiction, and DuPont's challenges to the rates for the 99 lanes for which it has not demonstrated a lack of effective competition should be dismissed from the case with prejudice.

Table of Contents

Page

III. STAND ALONE COST III-A-1

A. TRAFFIC GROUP III-A-1

1. Stand-Alone Railroad Traffic. III-A-1

2. Volumes (historical and projected). III-A-2

a. Coal. III-A-4

i. The 2010 NS Forecast. III-A-6

ii. Dramatic and Unforeseen Changes in U.S. Coal Demand in 2011 and 2012. ..... III-A-11

(a) The Natural Gas "Revolution"—Abundant, Low-Cost Natural Gas. III-A-13

(b) Environmental Regulations. III-A-24

(c) Mild Weather in 2011-2012 Has Further Reduced Utility Coal Demand. III-A-30

iii. Effects of Lower Utility Coal Demand. III-A-32

(a) Effects on NS Coal Customers. III-A-32

(b) Effects on NS Transportation of Coal. III-A-34

iv. Application of Up-to-Date Authoritative EIA 2012 AEO to Calculate DRR Coal Volumes. III-A-36

(a) The DRR Coal Volume Overstatement Caused by Use of the Outdated NS Forecast for 2011 Alone is Substantial. III-A-37

(b) DuPont's Unprecedented Use of a CAGR for Longer Term Coal Volumes Further Overstates DRR Coal Traffic Volumes. III-A-38

v. Because NS's 2010 Coal Forecast is Outdated and Inaccurate, the Board Should Use EIA 2012 Forecasts. III-A-41

vi. NS's Coal Region-Specific Application of 2012 AEO Projections is More Accurate than DuPont's Use of a Single, Undifferentiated Aggregated Growth Rate for All Coal Traffic. III-A-43

vii. Projecting DRR Coke and Iron Ore Volumes III-A-50

b. Non-Coal Traffic Volumes. III-A-51

i. TCS Traffic. III-A-52

ii. Projected Traffic Volumes in 2016-2019. ..... III-A-52

iii. Leapfrog Cross-Over Traffic. III-A-53

3. Revenues (historical and projected). III-A-59

a. Single-Line. III-A-59

i. Coal III-A-59

ii. Intermodal. III-A-61

(a) Because the DRR Does Not Account For the Cost III-A-s of Certain Services Provided by TCS and TDIS, It May Not Claim the Revenues Generated by Those Services. III-A-61

(b) Attributing to the DRR Revenues from Traffic that Use Facilities that are not Shared by the Issue Traffic Would Create an Impermissible Cross-Subsidy III-A-64

(c) TCS Traffic Having No NS Rail Revenue III-A-66

(d) DuPont Also Miscalculated TCS Revenue Growth from 2010 through 2011. ..... III-A-67

iii. Fuel Surcharge. III-A-69

b. Divisions—Existing Interchanges. III-A-73

i. Handling Carrier Payments III-A-73

ii. Switching Carrier Payments. III-A-76

c. Divisions—Cross-Over Traffic III-A-77

i. DuPont's Significant Mileage Errors..... III-A-79

ii. The Board Must Apply the "Average Total Cost" Rule and Methodology to Allocate Crossover Traffic Revenues in this Case..... III-A-83

(a) Background..... III-A-85

(b) The Board Must Apply the ATC Rule Because at All Times Relevant to this Case, ATC Has Been the Only Legally Valid Rule and Methodology Governing Cross-over Traffic Revenue Allocation..... III-A-86

(c) As a Matter of Administrative Law, the Board Must Apply the ATC Rule in All SAC Cases Unless and Until it Has Completed a Full Notice-and-Comment Rulemaking that Adopts a Different Rule. .. III-A-90

(i) The APA Requires that Legislative (Substantive) Rules Be Adopted, Amended, and Repealed in Notice-and-Comment Rulemakings. III-A-91

(ii) ATC is a Legislative Rule that May Be Amended Only Through Notice-and-Comment Rulemaking. III-A-93

(iii) Modified ATC—Which Sought to Amend the ATC Rule—May Not Be Applied to this Case, Because it Was Not Adopted in a Notice-and-Comment Rulemaking and Thus is Not a Valid Substantive Rule.... III-A-103

(1) Exceptions to the APA Rulemaking Requirement Must Be Construed and Applied Very Narrowly III-A-105

(2) The Board Intended to Make a Substantive Amendment to the ATC Rule in Western Fuels..... III-A-106

(3) The Changes Made to the ATC Rule by "Modified" ATC Further Demonstrate it Was a Substantive Amendment, Subject to Notice-and-Comment Rulemaking Requirements. III-A-108

(4) "Modified ATC" was an Amendment to the ATC Rule that Modified that Rule. III-A-112

(iv) An Agency May Not Avoid Notice-and-Comment Requirements by Acting in an Adjudication..... III-A-113

(d) Equal Application of ATC to all Cross-over Traffic is Logical, Fair and Fully Consistent With SAC Rules and Theory. III-A-116

(i) Application of ATC to Low R/VC Movements is Not "Illogical," and the Concern that Led the Board to Modify the ATC Rule is Not Present Here..... III-A-118

(ii) Application of ATC to Low-Rated Cross-over Traffic Selected by a Complainant is Not Unfair. III-A-120

(e) Recent Events Have Further Undermined the Amended/Modified ATC Rule the Board Created and Applied in Western Fuels..... III-A-122

III. STAND ALONE COST

A. TRAFFIC GROUP

1. Stand-Alone Railroad Traffic.

NS generally accepts DuPont's selected traffic group for purposes of determining SARR traffic volumes and revenues, with one exception. NS rejects DuPont's selection of certain Triple Crown Services ("TCS") movements for which NS does not collect any rail line haul revenues. These waybills show zero NS line haul revenues and zero net tons. TCS is an intermodal services provider that, among other services, purchases rail transportation service from carriers other than NS on behalf of TCS's shipper customers. The NS waybills reporting zero revenues and tons are duplicate waybills representing the non-NS portion (*i.e.*, the portion handled by another rail carrier) of an interline move.[1] NS has corrected that error by removing the non-NS TCS traffic from the DRR traffic base in this Reply Evidence.

DuPont has also introduced in this case a novel attempted expansion of the cross-over traffic device, by creating internal cross-over movements, or "Leapfrog Traffic." What DuPont seeks to create is a whole new category of cross-over traffic involving multiple alternating segments of a movement handled by the SARR and by the residual incumbent in succession. Segments that DuPont assumes would be handled by the residual incumbent include segments within the footprint of the SARR in which the residual incumbent would serve as a bridge carrier, receiving traffic in interchange from the SARR, moving that traffic over a costly or low-density segment, and then interchanging the traffic back to the SARR at the conclusion of that

[1] Despite these being duplicate waybill records with no NS revenue, DuPont assigned the average *total* TCS revenues generated by the movements with duplicate waybills. As a result, not only does DuPont assign revenue to which the DRR is not entitled (*i.e.*, revenue paid to another carrier for its segment of an interline move), but for these moves it effectively double-counts the revenues that TCS actually received. *See infra* III-A-3-a-ii-(c).

segment. This is an unprecedented contortion of the cross-over device, which is intended to be a simplifying measure that replicates the results of a fully modeled SARR and SAC analysis without introducing bias to the analysis. DuPont's proposed approach does exactly the opposite: it complicates the SAC analysis while simultaneously introducing bias and distorting the analysis, in part by allowing the SARR to avoid high-cost, low-contribution, and operationally difficult internal segments of SARR routes. *See, e.g.,* NS Reply III-C-A-5; NS Reply WP "DRR Leapfrog Trains.xlsx" (lists the approximately 17,000 Leapfrog trains that DuPont included in its base year DRR traffic). The Board should flatly reject this unprecedented tactic, remove all Leapfrog movements from the DRR traffic group, and make clear that such internal cross-over traffic is not permissible in this or any future case.

2. Volumes (historical and projected).

NS accepts most of DuPont's traffic volumes and projections for the DRR for the period from June 2009 through 2015. The volumes DuPont developed using actual NS traffic data for 2009 and 2010 are reasonably accurate, and NS accepts those volumes for the first 19 months of operation of the SARR (June 2009 through December 2010). NS also accepts DuPont's use of NS's internal forecasts, produced in discovery, to project DRR traffic volumes through 2015 for every commodity group except coal.

With respect to coal traffic volumes, NS rejects DuPont's use of NS's 2010 forecast because of significant unforeseen developments and coal market changes occurring after 2010 that have rendered the NS 2010 forecast outdated, inaccurate, and unreliable. As discussed in detail below, NS's 2010 projections for volumes of coal shipments did not anticipate the precipitous decline in coal shipments that has occurred over the course of 2011 and 2012 due to the confluence of several factors affecting coal usage, including historically low natural gas prices, new environmental regulations, retirement of coal-fired power plants, and unusual

weather. NS therefore adjusts DuPont's SARR traffic projections using the most recent federal Energy Information Administration ("EIA") actual and projected coal volumes, substituting the EIA data for NS's outdated 2010 coal volume forecast.

As discussed in more detail below, the Board has repeatedly endorsed the use of official EIA forecasts to project SARR coal volumes in instances in which a defendant carrier's forecasts are unavailable, inaccurate, or otherwise unreliable. *See, e.g., Duke/NS*, 7 S.T.B. at 103 (analyzing parties' alternative proposed coal volume projection approaches and adopting EIA projections, noting that because EIA is an independent statistical arm of the U.S. Department of Energy that exists for the specific purpose of providing policy-neutral forecasts and data, it is the Board's preferred authoritative source for coal volume forecasts); Decision, *Duke/NS*, STB Docket No. 42069, at 4-5 (served Feb. 4, 2004) (technical corrections decision substituted EIA forecasts for carrier forecasts, stating "[t]he 2003 and 2004 traffic levels are also measured using EIA forecasts, rather than NS's internal business forecasts, in view of the demonstrated inaccuracy of the NS forecasts and the general preference for reliance on official, neutral governmental forecasts."); *see also Western Fuels Assoc., Inc. v. BNSF Rwy. Co.*, STB Docket No. 42088, at 6 (served Feb. 28, 2008) ("To project the amount of coal traffic that would move on a SARR *over the entire analysis period*, we use forecasts published by the Department of Energy's Energy Information Agency.") (emphasis added). NS's Reply approach follows well-established Board precedent by using 2012 EIA coal volume data and projections—instead of NS's demonstrably outdated and inaccurate 2010 forecast—to calculate SARR coal traffic volumes for the period from 2011 to 2019.

NS also rejects DuPont's approach to projecting DRR traffic volumes for non-coal commodity groups for the period 2016-2019. As explained below, DuPont's unprecedented

approach of applying a compound annual growth rate based upon a mixture of historical volume and projected volume growth from 2009-2015 dramatically overstates DRR traffic volumes for the last four years of the SAC analysis period. *See infra* III-A-2-b. NS's Reply Evidence has corrected that overstatement by applying an approach that is consistent with Board precedent and produces a more reasonable and realistic growth rate for non-coal traffic for the 2016 to 2019 period. *See id.*

a. Coal.

The coal traffic growth factors for 2011-2015 that DuPont developed are based upon an NS forecast issued in 2010 that pre-dated: (1) the precipitous decline in coal shipment volumes that has occurred over the last two years, and (2) today's significantly reduced projections for growth in coal volumes in the future. *See* DuPont Opening III-A-7 to III-A-12.[2] In aggregate, that 2010 forecast projected a {{ }} increase in coal traffic volumes in 2011 and an additional {{ }} increase in those volumes in 2012. *See id.* III-A-9, Table III-A-2. Due to unforeseen events and dramatically changed market conditions in the intervening two years, NS's 2010 coal forecasts have proven to overestimate drastically the growth in its coal transportation volumes for 2011 and 2012. That overstatement, in turn, carries through to create a corresponding overstatement of coal volumes for the full forecast period through 2015.[3]

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[2] DuPont combined the NS origin-specific coal volume forecasts to create an "aggregate" forecast that it applied as a single amalgamated growth factor across all DRR mine origins and coal-producing regions, without regard for the origin-specific factors and circumstances that cause variation in the projected growth or decline in coal shipments from the mines originating the coal traffic selected for the DRR. *See* DuPont Opening III-A-7 to III-A-9. DuPont's approach is inconsistent with the methodology used to develop the NS forecast, and would misallocate volumes among different regions and DRR line segments. NS addresses this issue in more detail below. *See infra* III-A-43 to III-A-50.

[3] Further, because DuPont relies upon its 2011-2015 coal traffic volume assumptions to develop its projected SARR coal traffic for the "out years," the coal volumes it assumes for each and

The neutral and independent federal EIA recently issued its official annual coal volume forecast (the Annual Energy Outlook, or "AEO") that takes into account the drastic market changes since the preparation of NS's 2010 forecast. In contrast with the outdated and inaccurate NS 2010 forecast, which projects {{ }} combined growth in coal traffic volumes in 2011 and 2012, the June 2012 EIA Outlook—which includes *actual* coal volumes shipped in 2011—projects an overall 3.3% *decline* in coal volumes from DRR origin regions in those two years.[4] In aggregate, that means the NS 2010 forecast overstated coal traffic volumes by {{ }} in 2011 and 2012 in comparison with up-to-date forecasts by the Board's preferred, authoritative coal forecast source, the EIA.[5] Although it has been widely reported publicly, NS describes below the unanticipated, dramatic change in coal usage and transportation and the reasons the Board should determine DRR coal volumes by applying the current EIA actual volume data and projections instead of the outdated and unreliable 2010 NS forecast.

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every one of the last 8 ½ years of the SAC analysis period (2011 through May 31, 2019) are overstated. *See infra* III-A-38 to III-A-41.

[4] See NS Reply WP "Coal Forecast Reply.xlsx." For purposes of making an "apples-to-apples" comparison, growth rates are applied to 2010 DRR volumes without factoring in plant capacity factors or DuPont's re-allocation of capped volumes.

[5] *See, e.g., Duke/NS*, 7 S.T.B. at 103 (analyzing parties' alternative proposed coal volume projection approaches and adopting EIA projections, noting that because EIA is an independent statistical arm of the U.S. Department of Energy that exists for the specific purpose of providing policy-neutral forecasts and data, it is the Board's preferred authoritative source for coal volume forecasts); *Duke/NS*, STB Docket No. 42069, Decision at 4-5 (served Feb. 4, 2004) (technical corrections decision substituted EIA forecasts for carrier forecasts, stating "[t]he 2003 and 2004 traffic levels are also measured using EIA forecasts, rather than NS's internal business forecasts, in view of the demonstrated inaccuracy of the NS forecasts and the general preference for reliance on official, neutral governmental forecasts."); *Western Fuels Assoc., Inc. v. BNSF Rwy. Co.*, STB Docket No. 42088, at 6 (served Feb. 28, 2008).

i. The 2010 NS Forecast.[6]

In December 2010, NS issued its 2010 internal coal volume forecast for each year from 2011 through 2015. That forecast—produced to DuPont in the discovery phase of this case—was based upon origin- and destination-specific information developed and compiled beginning in June 2010, culminating in a forecast adopted in late October 2010. The 2010 NS coal volume forecast was developed by NS's Coal Business Group ("CBG") sales and marketing team and the NS Market Research and Economics group ("MRE"), using various sources of information. The CBG developed what became its final coal volumes forecast for 2011 through 2015 in August and early September, issuing its final forecast on September 10, 2010. The MRE group completed its final review of forecasts for all NS commodities and traffic in October 2010, and issued the 2010 NS forecast near the end of October without making any changes to the September CBG coal volume forecast. NS then loaded that forecast into its demand planning system, known as DELPHI, in early to mid-October of 2010. That system generated NS's overall forecast for all traffic—including coal volumes—for 2011 through 2015 that NS ultimately promulgated in December 2010. Thus the most recent information about coal demand, market conditions, and other relevant coal factors reflected in the NS forecast produced to DuPont was from October 2010. Moreover, the October coal forecast was unchanged from that developed by NS's CBG in August and issued in early September 2010.

In mid-to-late 2010, the period in which NS developed its 2010 coal forecast, the general expectation was that the nascent economic recovery would continue to drive increased coal demand and corresponding increases in rail transportation of coal in the coming years, as leading

[6] This section III-A-2-a-i, describing the development of the NS coal volumes forecasts in 2010 and contemporaneous views and projections for coal market demand is sponsored by Kathleen Smith, NS Director of Market Research and Economics. Her credentials and expertise are described in more detail in Section IV.

manufacturing sectors continued to gain momentum. The United States was coming off healthy GDP growth rates of 3.8 % and 3.9%, respectively, in the first two quarters of the year. *See United States GDP Growth Rate*, Trading Economics, *http://www.tradingeconomics.com /united-states/gdp-growth* (last visited July 12, 2012) (*citing* U.S. Bureau of Economic Analysis). Thus, when NS developed and finalized its coal forecast in August and early September, second quarter 2010 was the most recent full quarter for which economic data were available, and that data showed the economy growing at an annual rate of 3.85%. Many economists and analysts anticipated a continuing and possibly accelerating economic recovery would be led by industrial sectors of the economy that require large energy usage. As discussed below, the general view among analysts and in the energy industry was that demand for both coal and natural gas would continue to increase significantly. Accordingly, railroads, energy companies, and analysts voiced optimism about increasing coal demand, which would lead to more coal shipments.

For example, "[s]everal Wall Street analysts [were] predicting . . . . [d]emand for coal [w]ould also increase as factories begin to ramp up production." Ronald D. White, *Recession Slams The Brakes On Railroads*, L.A. TIMES, Jan. 14, 2010, *in* NS Reply WP Folder "Coal News." Coal company stock prices rose significantly in late 2010 and in early 2011 on expectations of growing demand for coal. *See, e.g., Bloomberg America's Coal Index Price Chart*, BLOOMBERG, *available at* http://www.bloomberg.com/quote/ BUSCOAL:IND/chart. The Wall Street Journal reported at the end of the first quarter of 2011 (the quarter immediately following the December 2010 NS forecast) that "[t]wo of the nation's largest North American railroads steamed ahead in the first quarter, hauling more coal, automobiles and industrial chemicals despite winter-related slowdowns." Bob Sechler, *Earnings – The Upshot: Railroads Riding Strong Volume Gains,* WALL ST. J., Apr. 21, 2011, at B6, in NS Reply WP Folder "Coal

News." Thus, even as late as the end of the first quarter of 2011, industry observers remained bullish on the prospects for increased coal transportation volumes. In particular, "[t]he strong results bode well for Norfolk, Va.,-based Norfolk Southern Corp., a[] big coal hauler . . . ." *Id.*

NS had good reason to expect robust coal volume growth at the end of 2010, because it had achieved strong fourth quarter 2010 growth in utility coal shipment volumes. NS's fourth quarter 2010 coal shipment tonnages increased 16.3% compared to fourth quarter 2009. Peter T. Gartell, *NS Among Railroads Seeing Exports Increase*, PLATTS COAL TRADER, Jan. 26, 2011, in NS Reply WP Folder "Coal News;" *Norfolk Southern Reaches 52-Week High on Coal Volume, No Slowdown in Sight*, U.S. COAL REV., May 2, 2011, in NS Reply WP Folder "Coal News." Norfolk Southern "attributed the growth in utility coal shipments to stockpile replenishment and new business in the Southeast" and because "[30 percent of] NS-served utility stockpiles are below targets . . . . The railroad ought to benefit from more inventory building during the shoulder months." *Norfolk Southern Reaches 52-Week High on Coal Volume, No Slowdown in Sight*, U.S. COAL REV., May 2, 2011, in NS Reply WP Folder "Coal News."

Contemporaneous statements by NS executives show the company shared the widespread expectation that the growth in coal transportation volumes experienced in the second half of 2010 would continue into the coming years. In a third quarter 2010 presentation to analysts, NS Chief Marketing Officer Don Seale stated:

> [C]oal volume was up 15% in the [third] quarter . . . [E]conomic growth should raise electricity demand which is up 9% in our service region. In this regard, our utility volume strengthened in September, up 16% for the month compared to overall third quarter growth of 8%. *We expect utility [coal] volumes to accelerate in the third quarter and through the coming year.*

Statement of Don Seale, NS 3Q 2010 Earnings Presentation Transcript, 10/27/2010, NS Reply WP "NS 3Q Earnings Presentation.pdf" at 3-4 (emphasis added). NS Chief Executive Officer

Wick Moorman concluded that "[e]verything we are being told by our utilities is for us to expect heavy demand for utility coal restocking . . . . as well as ongoing generation demand." *See id.* at 10. After even stronger growth in coal shipment volumes in the fourth quarter of 2010, CEO Moorman reiterated that as NS "look[s] at 2011, we see the prospect for strong business growth in almost every segment of our business, particularly in Coal and Intermodal." Statement of W. Moorman, 4Q 2010 Earnings Presentation Transcript (1/25/2011), NS Reply WP "NS 4Q Earnings Presentation.pdf" at 10.[7]

Coal suppliers generally shared NS's view in late 2009 and 2010 that an improving economy would result in significant growth in coal demand. For example, a major coal company mining in the Central Appalachian region, Alpha Natural Resources, predicted that it would experience substantial growth in coal shipments in 2010 and 2011. Alpha stated in its 2009 annual report press release, "[a]s 2010 begins, prospects for the thermal coal market have begun to improve." Michael Niven, *Alpha Again Raises Its Met Coal Sales Guidance, Reports Q4'09 Earnings*, SNL COAL REP., Feb. 15, 2010, in NS Reply WP Folder "Coal News." Alpha believed that the energy-intensive industrial sectors that lead the economy would cause coal demand and prices to increase, projecting that "[r]elative to conditions in 2009, economic recovery is widely anticipated in 2010, which should lead to increased electricity generation,

[7] NS's primary eastern rail competitor, CSXT, also had high expectations for post-2010 coal traffic volumes. In January 2011, "CSX said it expects to continue reporting record results throughout 2011," and although driven in significant part by exports, CSX also reported growth of 29% in shipments of coal to power plants. Peter T. Gartrell, *CSX Expects Export Coal Growth to Continue*, PLATTS COAL TRADER, Jan. 25, 2011, at 1, in NS Reply WP Folder "Coal News." CSX said "[g]rowth was driven by higher export shipments due to greater demand for US metallurgical coal, and by higher shipments to utility customers as stockpiles approach more normal levels." *Id.* A year later, in early 2012, CSXT actually had experienced a "poor thermal coal market [that] saw an actual decline in the railroad's volume of 8 percent" domestically, and "expect[ed] shipments could drop in 2012." *CSX Struggles with Utility Shipments in '11, but Makes Up for It With Good Exports*, U.S. COAL REV., Jan. 30, 2012, in NS Reply WP Folder "Coal News."

particularly in heavily industrialized regions of the country that rely on low-cost, coal-fired electricity." *Id.*[8] In 2010 Alpha further projected that 2011 eastern coal shipments would improve over 2010. *Id.*

At the same time, electric power generation companies shared the expectation that thermal coal demand would increase substantially in 2011. Anticipating higher utility demand for coal, Southern Company's Fuel Services Vice President's worry was whether "as the recovery begins to regain steam, are they able to bring [railroad] crewmen back fast enough?" Peter T. Gartrell, *2011 Looks Murky for Rails on Questions About Demand from Utilities, Exports*, PLATTS COAL TRADER, Mar. 30, 2010, at 1, in NS Reply WP Folder "Coal News." When Progress Energy was "[a]sked about the company's expectations for the period March 2010–June 2011," it responded that "[d]emand is expected to increase due to anticipated economic growth, and the challenges faced by coal mining companies to maintain or expand coal supply persist." *Progress Energy Carolinas Eyes $62/ton Coal in 2010-2011*, SNL COAL REP., May 17, 2010, in NS Reply WP Folder "Coal News."

Thus, at the time NS was preparing its December 2010 coal forecast, and even for several months thereafter, the strong majority view of industry participants and observers was that coal demand would likely increase substantially in 2011 and 2012. As discussed below, however, that expectation was thwarted by unforeseen events and market changes.

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[8] Significantly, in late 2010 and going into 2011, the general consensus in the U.S. coal industry was that in a growing industrial economy, coal would *recapture* utility generation market share from natural gas. In 2010, Alpha opined that "[t]he increased price of natural gas also suggests that much of the fuel switching observed last year is likely to reverse." *Id.*

ii. Dramatic and Unforeseen Changes in U.S. Coal Demand in 2011 and 2012.

This section III-A-2-a-ii is sponsored by Mr. Seth Schwartz, President of Energy Ventures Analysis, Inc. ("EVA"), a leading international energy consulting firm. Mr. Schwartz has more than 30 years of experience as an analyst and consultant to the electric power, coal, and natural gas industries. The credentials, experience, and expertise of Mr. Schwartz (sometimes referred to hereinafter as NS's "Energy Expert") are described in more detail in Section IV.

Beginning in the second half of 2011 and accelerating in 2012, dramatic and unprecedented changes in market conditions caused a precipitous drop in coal demand and consumption throughout the United States. That decline was the product of a confluence of several factors—most notably an historic decline in the price of natural gas, unusually mild winter weather, new and impending environmental regulations, and a slower than expected economic recovery—each of which reduced demand for coal.[9] Reduced demand for coal translates directly into reduced demand for transportation of coal. J.P. Morgan analysts summarized the effect on NS and other railroads in early 2012, stating that "[c]oal volumes have been exceptionally weak for the U.S. railroads in 2012 due to a combination of an unusually mild winter, high stockpiles, and very low natural gas prices."[10]

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[9] As the Wall Street Journal summarized, declining demand for coal has resulted from "inroads from natural gas, heightened environmental regulations and higher costs." Kris Maher, *Corporate News: Coal Strikes a Tough Vein over Costs, Natural Gas,* WALL ST. J., Aug. 12, 2011, at B3; *see also* Eric Lipton, *Even in Coal Country, the Fight for an Industry,* N.Y. TIMES, May 30, 2012, at A1 ("The decline [in coal demand] is largely because new pollution rules have made coal plants more costly, while a surge in production of natural gas . . . has sent gas prices plummeting."). Unusually warm winter weather further decreased demand for coal-fired power generation. *See* Dan Lowry, *As Layoffs Mount, Anger Boils Over in Appalachian Coal Country,* SNL DAILY COAL REP., June 25, 2012. All articles available in NS Reply WP Folder "Coal News."

[10] *See* T. Wadewitz et al, Railroads: Mapping Utility Plants to Rail Coal Volumes—Impact of Plant Retirements May be Largely Realized in 2012 J.P. Morgan North America Equity

As a result of the unanticipated changes and factors listed above, it is clear that the growth in coal demand projected by NS in 2010 for 2011 through 2015 has not been—and will not be—realized. Instead, the federal EIA and other experts project that coal traffic volumes will decline in 2012 and in the next few years. NS's 2010 forecast projected {{ }} growth in coal transportation volumes that would be moved by the DRR in 2011 and a further {{ }} growth—over and above the {{ }} growth in 2011—for 2012. *See, e.g.,* DuPont Opening III-A-9, Table III-A-2. In sharp contrast, the 2012 AEO published by EIA in June 2012 with the benefit of actual data for 2011 and recognition of the profound changes in the coal and electric power generation markets, shows that U.S. coal production volumes actually grew by only {{ }} in 2011, much lower than the {{ }} growth NS projected in 2010. Indeed, production from Central Appalachia—the source of the majority of DRR's coal traffic—actually *declined* slightly in 2011. *See* AEO Coal Production by Region and Type Table 69 (June 2012) http://www.eia.gov/forecasts/aeo/source_coal.cfm. Moreover, applying growth rates derived from the 2012 AEO for the coal regions from which DRR traffic originates, DRR coal traffic volume grew by only 1.7% in 2011, and is projected to *decline* by 4.9% in 2012, and to continue to decline over the remainder of the SAC analysis period. *See* EIA, AEO2012 (June 2012); NS Reply WP "Coal Forecast Reply.xlsx"[11]

Research (April 17, 2012) (hereinafter "Mapping Utility Plants to Rail Coal Volumes"); *see also infra* III-A-31 to III-A-32.

[11] Subsequent events and analyses suggest that, if anything, coal demand has fallen even further than previously anticipated in the second half of 2012 and the decline is expected to continue in 2013. *See, e.g.,* Argus Coal Transportation Vol. 31, 36, *Asia's Cold Takes Hold . . . Eastern Railroads Brace for Slowdown* (Sept. 2012) (reporting that reduced demand for Asian steel is likely to cause significant reduction in demand for export coal and NS and CSXT have scheduled and extended maintenance outages at coal loading facilities at ports in anticipation of a continuing decline in export coal demand); *Moody's Report Sees Down 2013 Coal Market,* PLATTS COAL TRADER (Aug. 28, 2012) (investment analysts report predicting Appalachian coal producers will be hit hardest by reduced coal demand in 2013, that coal production will decline

Below, NS and its Energy Expert describe some of the market and regulatory changes that have caused the precipitous decline in coal demand projections. The changes, addressed separately below, are inter-related in a significant way. Low natural gas prices and abundant supply of natural gas have changed the electric power industry's responses to new environmental regulations by altering the relative costs and economics of gas-fired-generation in comparison to coal-fired generation and accompanying pollution control costs. This change is both a short-term and longer-term phenomenon. The synergistic effects of low gas prices and additional pollution control requirements affect coal demand today by changing the order in which power plants are dispatched, which has resulted in displacement of coal-fired generation and reduced coal demand. In the medium and longer term, those factors affect investment decisions, reducing the likelihood of further investments in coal plants that would be necessary to keep them operating, promoting coal-to-gas generation switching, and potentially increasing and accelerating retirement of coal-fired power plants.

(a) The Natural Gas "Revolution"—Abundant, Low-Cost Natural Gas.

According to many experts and industry participants, the primary factor driving reduced demand for coal is the low price of natural gas, and utilities' resulting substitution of natural gas for coal in the generation of electric power. In recent years, electricity generation has generally accounted for approximately 93% of total U.S. coal consumption. *See, e.g.,* EIA, 2011 Annual Coal Report, Table 26 (Nov. 13. 2012); W. Watson *et al.*, U.S. Energy Info. Admin., *U.S. Coal Supply and Demand: 2010 Year in Review*, at 7 ("The electric power sector . . . which consumes about 93 percent of all coal in the U.S., is the overriding force for domestic coal consumption.").

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another three to six percent in 2013, and calling recent increases in coal-to-gas switching "a permanent shift at coal's expense").

Therefore, any significant shift from coal-fired generation to other sources of electric power generation (natural gas, nuclear, hydro, or other alternatives) will significantly reduce the overall U.S. demand for coal. Abundant supply of natural gas and historically low natural gas prices are primarily the result of the increasing use of hydraulic fracturing technology, or "fracking," to economically extract abundant natural gas from shale, sandstone, limestone, and other porous rock formations. *See* Russell Gold, *et al.*, *Glut Hits Natural-Gas Prices,* WALL ST. J., Jan. 12, 2012, *available at* online.wsj.com. In addition, high oil prices have caused petroleum companies to expand oil exploration and drilling, which produces natural gas as a byproduct. *See id.* ("High oil prices effectively subsidize the production of otherwise unprofitable natural gas."). Natural gas supplies are presently so high that there is little-to-no storage capacity remaining—some U.S. oil producers "flare" gas at the wellhead because they have no remaining storage or transportation capacity. *See id.*

Fracking and other non-conventional sources have generated a glut of natural gas supply in the United States in the last 18 months. Analyses conducted by EVA found that the only market sector capable of consuming significant additional volumes of natural gas in the short term is the electric power generation sector. NS's Energy Expert explains that, in order to displace coal as the fuel for generation of electricity, gas must be priced at a level that makes gas generation cheaper than coal generation. Given the lack of other significant markets for the excess natural gas supply, natural gas producers had little alternative but to sell natural gas at prices that would facilitate "fuel switching" (from coal to natural gas) by electric power generators.[12] According to NS's Energy Expert, fuel switching from coal to natural gas in the

[12] Another significant factor contributing to the switch from coal to gas-fired generation is that gas-fired units generally can be cycled on and off much more quickly and at lower cost than coal-fired units. Coal-fired units, in contrast, generally require significant ramp-up and ramp-

residential, industrial, and commercial sectors generally requires construction of new facilities (houses, factories, office buildings). In the electric power generation sector, significant under-utilized natural gas-fired combined cycle generation capacity already exists due to significant capacity additions over the last decade. When the excess supply of natural gas began to materialize in late 2010 and surplus gas had no other place to go, producers looked to the power market and reduced their prices to the levels needed to penetrate the market by displacing coal in power generation.

The combination of historically low natural gas prices and increasing costs of burning coal is so compelling that the chairman of the largest coal-burning utility in the United States commented this spring that today "[t]he math screams at you to do gas." Eric Lipton, *Even in Coal Country, the Fight for an Industry*, N.Y. TIMES, May 29, 2012, at A1 (quoting AEP Chairman Michael Morris).[13] Industry observers believe this natural gas "glut," and

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down time and costs, which limits generators' ability to change its fuel burning in response to fluctuations in power demand. Thus, gas-fired power generation allows greater flexibility to respond quickly and efficiently to peaks and dips in power demand using gas generation than is possible with coal-fired generation. This additional advantage enjoyed by gas has also contributed to the accelerating trend of gas displacement of coal in electric power generation.

[13] AEP's own recent actions illustrate the accuracy of Mr. Morris's statement. In a 2010 filing with the SEC, AEP stated that it intended to retrofit existing scrubbers and install additional pollution control equipment on units in its large Muskingum River # 5 and Big Sandy #2 power plants, both of which source large volumes of coal from the Central Appalachian coal fields. *See* 2009 AEP SEC 10-K (Feb. 26, 2010). By the third quarter of 2011, AEP changed its mind and decided not to go through with the pollution control retrofit and to retire the plant instead. *See* AEP SEC 10-Q, Third Quarter 2011 (July 29, 2011); AEP 2011 Fact Book, *available at* www.aep.com/investors/eventspresentationsandwebcasts/documents/AEP2011FactBook.pdf. NS Expert Schwartz finds this particularly significant because it is the first "super critical" boiler to be retired in the AEP system and because it is already equipped with SCR pollution abatement controls. Later, on May 30, 2012, AEP advised Kentucky Public Service Commission that it no longer sought cost recovery for installation of additional pollution control equipment—*i.e.*, it had suspended the project—because of the costs imposed by additional environmental requirements, including the Mercury and Air Toxics Standards ("MATS") rule discussed in the following section. *See Kentucky Power Motion to Withdraw Application* (May 30, 2012), *available at* http://psc.ky.gov/pscscf/2011%20cases/2011-00401/

accompanying rock bottom gas prices, will continue at least through 2013. Russell Gold *et al.*, *Glut Hits Natural-Gas Prices,* WALL ST. J., Jan. 12, 2012.

In 2010, however, neither EIA nor EVA nor other energy experts predicted anything near the magnitude of coal to gas switching that actually occurred. EVA initially estimated that total coal to gas switching in 2011 might reach 1.9 billion cubic feet per day ("BCFD"). The actual volume of switching observed by EVA in 2011 was 3.1 BCFD. According to EVA, coal-to-gas switching for 2012 appears likely to average 6.8 BCFD, three-and-one-half times the level forecast for 2011. Given that industry experts and participants did not foresee the dramatic shift from coal to natural gas in the power generation industry that has taken place in the last two years, it is hardly surprising that NS's 2010 coal forecasts did not anticipate that unprecedented, dramatic change.

According to EIA, the proportion of electricity generated by coal in the U.S. during 2011 was the lowest it has been in 60 years. *See* US Energy Info. Admin, *Annual Energy Review 2011* (Sept. 27, 2012) at 224, Table 8.2a, *available at* http://www.eia.gov/totalenergy/data/annual/pdf/aer.pdf; *see also* Kris Maher, *Corporate News: Coal Strikes a Tough Vein over Costs, Natural Gas*, WALL ST. J., Aug. 12, 2011, at B3; Nick Zieminski & Scott Malone, *Coal-Fired Profits Ebb For Railroads,* CHICAGO TRIBUNE, May 29, 2012 ("'The big driver is lower natural gas [prices],' said Fredrik Eliasson, CSX executive vice president and chief financial officer."). In January 2012, the proportion of electric power generated by coal in the U.S. fell below the percentage generated by natural gas and renewable fuels for the first time in American history. *See An Historic Day in United States Power Generation,* REFUELING ENERGY (Mar. 27, 2012), *available at* http://www.refuelingenergy.com/2012/03/historic-day-in-united-states-power.html (showing that coal represented 42% of total US electric power generation in 2011, but declined

to 38% in January 2012, compared to 40% generated by natural gas and renewable fuels). Several sources predict that for the full year 2012, coal will account for less than 40% of all electricity generated in the United States, the lowest share since World War II. *See* J. Tomich, *Constraints Cool Down Coal: Sliding Demand Is Blamed on Lower Natural Gas Prices, Increased Regulation*, ST. LOUIS POST-DISPATCH, Apr. 8, 2012, at E1 (reporting that because of inexpensive natural gas and increased regulations, coal-fired generation accounted for less than 40 % of electricity generation to date in 2012); J. Fahey, *U.S. Coal Use Falling Fast as Utilities Switch to Gas,* ASSOCIATED PRESS (June 12, 2012) (further reporting that natural gas will account for 30% of U.S. electric power production in 2012, and predicting that coal will fall from 50% of U.S. power generation in 2008 to near 30% by 2019), *available at* http://usatoday30.usatoday.com/money/industries/story/2012-06-12/coal-to-gas-project-denied/55557114/1.

The effect of newly abundant supply of natural gas and low gas prices on coal demand has been even more pronounced in the region served by NS, the Eastern United States. Natural gas prices have fallen from approximately $12.50 per million British Thermal Units ("MMBtu") in 2008 to as low as $2.30 per MMBtu in May 2012, declining 32% in 2011 alone. *See* Russell Gold et al., *Glut Hits Natural-Gas Prices,* WALL ST. J., Jan. 12, 2012; Jonathan Fahey, *US Coal Use Falling Fast as Utilities Switch to Gas*, ASSOCIATED PRESS, June 12, 2012; EIA, Henry Hub Gulf Coast Natural Gas Spot Price, *available at* http://www.eia.gov/dnav/ng/hist/rngwhhdd.htm.[14]

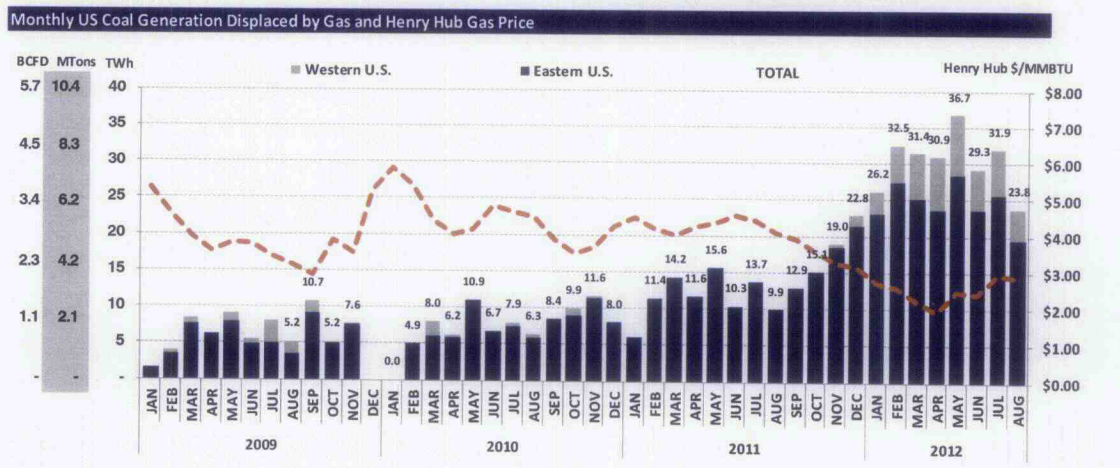
[14] Other reports cite natural gas prices as low as $2.30/million BTUs. *See A sign of the times*, THE U.S. COAL REVIEW (March 12, 2012) (quoting a Midwestern utility official as stating "Gas is coming into our turbines at $2.30 [per million BTUs] now, which is nothing"). The news media have called the utilities' switching from coal to natural gas a "revolution." Jonathan Fahey, *US Coal Use Falling Fast as Utilities Switch to Gas*, ASSOCIATED PRESS, June 12, 2012.

NS's Energy Expert and EVA have been monitoring electric power generation switching from coal to gas since 2008. Prior to the last 12-18 months, such switching was very modest. As the following graph illustrates, the recent natural gas glut and low gas prices have resulted in a dramatic increase in switching from coal to gas. The dashed red line is the average monthly natural gas price at the Henry Hub. The graph illustrates that, as a general rule of thumb, when the natural gas price is above $5.00 per MMBtu, relatively little coal to gas switching occurs. On the other hand, as the graph further illustrates, when the price is below $3.00 per MMBtu, considerable coal to gas switching occurs. In just the first eight months of 2012, EVA estimates the coal displacement due to natural gas switching to be *129 million tons*, most of which is eastern coal.[15]

See generally Eric Lipton, *Even in Coal Country, the Fight for an Industry*, N.Y. TIMES, May 30, 2012, at A1. Some have opined that, unlike past fluctuations in the energy markets, "a combination of new dynamics make a recovery for the domestic coal industry more challenging—and uncertain—this time." Jeffrey Tomich, *Constraints Cool Down Coal: Sliding Demand Is Blamed on Lower Natural Gas Prices, Increased Regulation*, ST. LOUIS POST-DISPATCH, Apr. 8, 2012, at E1. All articles in NS Reply WP Folder "Coal News."

[15] According to EVA's August monthly report, gas has displaced 129,711 tons of coal used in power generation in the first eight months of 2012 alone. *See* EVA, Monthly Power Generation Report—Coal-to-Gas Fuel Switching Report (Oct. 1, 2012), at 2. Of that total, 99,579 tons of coal—or 77%—were displaced by gas in the Eastern United States, the area served by NS and the DRR. *See id.* Note that EVA issues this monthly report for its subscribers (industry participants, analysts, etc), and did not prepare it for purposes of this case or at NS's request.

Table III-A-1
Coal to Gas Switching By U.S. Power Generators



EVA also measures coal-to-gas switching by geographic region. Five U.S. power generation regions account for most of the selected DRR utility traffic: Northeast, East North Central, PJMD,[16] Atlantic Coast, and the Southeast. Based on its data and analysis, NS's Energy Expert has calculated aggregate coal-to-gas switching for those five regions, for the period from 2010 through August 2012 (the most recent month for which complete data is available). That displacement data is summarized in Table III-A-2, below.

[16] Pennsylvania, New Jersey, Maryland, and Delaware.

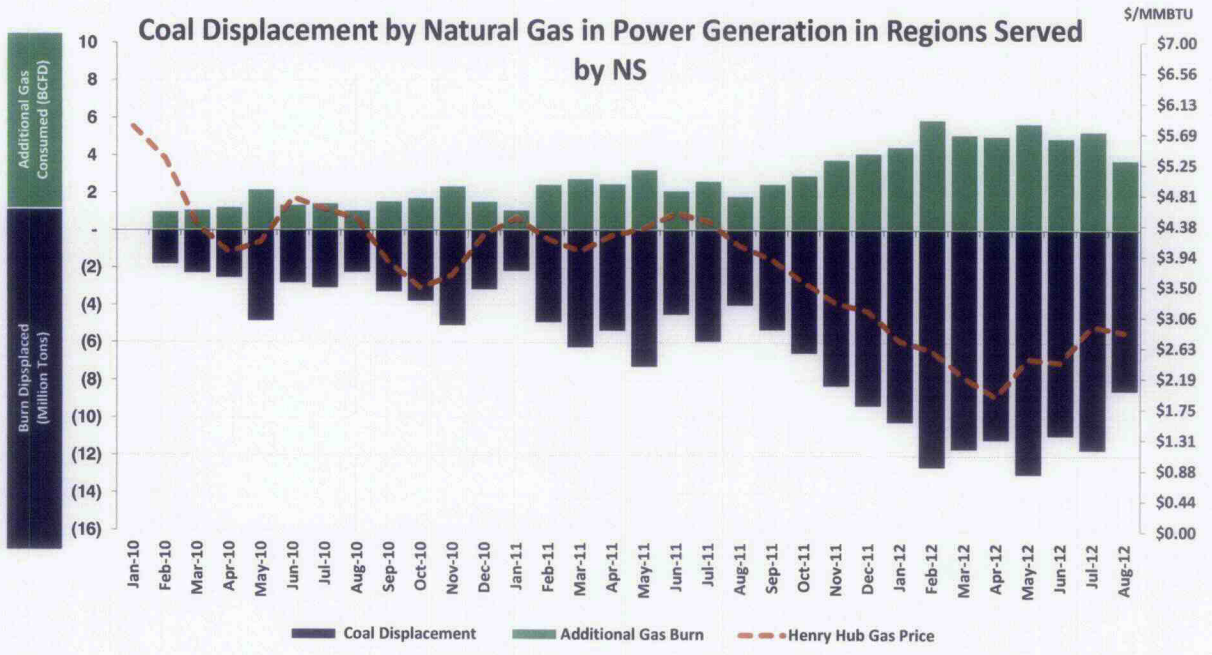
Table III-A-2
Tons of Coal Displaced by Gas Switching 2010 to Present (in thousands)

Region	2010	2011	8 Mo. 2012	Annualized 2012
Northeast	4,565	10,611	10,537	15,805
PJMD	6,868	13,700	15,194	22,790
East North Central	1,879	9,314	22,307	33,460
Atlantic Coast	5,200	10,629	12,881	19,322
Southeast	16,555	23,593	28,798	43,197
Total East[17]	**35,066**	**70,046**	**89,717**	**134,575**
Total U.S.	**44,260**	**79,098**	**129,711**	**194,567**

The following graph illustrates the fuel switching data set forth above, as well as the correlation between natural gas prices and that fuel switching, plotting natural gas prices against changes in coal-fired and gas-fired power generation in the primary regions served by NS and the DRR.

[17] Eastern totals include a region not listed in the table, "FRR," which covers the southern part of Florida, an area generally not served by NS.

Figure III-A-3



Source: EVA, Inc.

Based upon EVA's analyses and observation of the market, it has determined that *in 2012 alone*, switching from coal to natural gas for electric power generation is likely to displace nearly *200 million tons* of coal demand and production in the United States. This represents, in a single year, displacement of 21%, or more than one-fifth, of all thermal coal used to generate electric power in the United States.[18]

EVA's most recent forecast calls for the annual average price to remain below $3.50 per MMBtu in 2013 and to stay below $5.00 per MMBtu through 2016.[19] EIA in the 2012 AEO provides price forecasts under a number of different scenarios. Under all EIA scenarios, the price of natural gas remains below $5.00 per MMBtu (2010$) through most of the current

[18] EIA reported that the total amount of coal used for electric power generation in the U.S. in 2011 was 924,523,000 million tons. *See* EIA, Monthly Energy Review (September 2012), Table 7.3b. 195/924.5 = 21%. This calculation does not even take into account the steeper declines projected for higher price coal mined in Central Appalachia and other areas served by NS and the DRR, which likely will result in significantly higher percentage reductions in coal volumes shipper from those eastern regions.

[19] *See* EVA, Long-Term Outlook (August 2012).

decade. As previously discussed, NS's Energy Expert has determined that, in the eastern regions served by NS and the DRR, fuel switching (from coal to gas) generally starts when gas prices are under $5 per MMBtu. Thus, both EVA and EIA project that gas-for-coal fuel switching—and resulting continuing decline in coal production—appears likely to continue through the SAC analysis period.[20]

Ultimately, prices for natural gas will remain low until the market balances through reduced supply, increased demand, or both. Although efforts are underway to increase non-power generation natural gas demand, NS's Energy Expert believes any significant new demand will take years to materialize, and in the short-to-medium term the power generation sector will likely remain the primary market for excess supply of natural gas. Moreover, even with the recent increases in natural gas generation, the capacity factors for existing combined cycle capacity, shown in the following table, are nowhere near full operation. Generally combined cycle (gas-fired) power generation units in the primary regions served by NS and the DRR operated at approximately 20-40% capacity from 2005 through 2009, and even with significant increases in the last two years, most still operate at less than 50% of capacity.[21] Thus, gas

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[20] Indeed, more recent reports suggest that, if anything, EVA and the EIA's June 2012 AEO may be underestimating the likely reduction of coal demand due to displacement by natural gas. *See, e.g.,* Steven Mufson, *The Coal Killer: Cheap and Plentiful Shale Gas is Hastening the Demise of Coal-Fired Power Plants,* WASHINGTON POST, Nov. 23, 2012, at G1, in NS Reply WP Folder "Coal News" (noting, *inter alia,* that "the shale gas revolution is overthrowing assumptions about energy by undercutting coal prices and usurping it as the nation's fuel of choice for electric power generation."); *id* at G4 ("In April, for the first time, natural gas pulled even with coal as a fuel source for power plants. Through August, the use of coal to generate electric power had tumbled 17 percent while the use of natural gas jumped 27 percent, according to the Energy Information Administration.").

[21] The source Table III-A-4 data is the EVA FUELCAST 2012 Long-Term Outlook (August 2012). The region with the highest capacity usage from 2005-2012, New England, represents a very small portion of DRR coal traffic.

consumption by power producers has significant room to increase, even without planned construction of new gas-fired generation capacity.

Table III-A-4
Capacity Factors of Gas-Fired Combined Cycle Generation Units, By Region

Census Region	2005	2006	2007	2008	2009	2010	2011	2012 YTD
New England	48.0%	49.7%	50.8%	48.2%	48.2%	55.1%	57.4%	51.1%
Middle Atlantic	24.4%	27.3%	33.9%	34.0%	42.6%	46.0%	51.2%	55.2%
East North Central	17.5%	16.2%	20.1%	14.3%	16.4%	22.0%	28.5%	54.7%
West North Central	20.4%	20.4%	20.4%	20.4%	20.4%	20.4%	20.4%	16.8%
South Atlantic w/o Florida	20.3%	21.1%	26.6%	23.8%	36.1%	33.9%	41.0%	55.5%
TOTAL U.S.	**30.4%**	**32.4%**	**35.2%**	**34.3%**	**35.7%**	**37.4%**	**37.8%**	**43.2%**

As EIA's Annual Energy Outlook ("AEO") 2012 Early Release Overview summarized, "the reduced [from 2011 AEO] outlook for coal consumption in the electricity sector is the result of lower natural gas prices and higher coal prices that, taken together, support increased generation from natural gas in the AEO 2012" forecast. EIA AEO2012 Early Release Overview, at 10 (Jan. 23, 2012). As EIA further elaborated in the final 2012 AEO,

> [a]lthough higher coal exports provide some support in 2011, U.S. *coal production [is forecast to] decline[] for four years* thereafter as a result of low natural gas prices, rising coal prices, lack of growth in electricity demand, and increasing generation from renewables. In addition, new requirements to control emissions of nitrogen oxides (NO_x), sulfur dioxide, and air toxics (such as mercury and acid gases) [will] result in the retirement of some coal-fired generating capacity, contributing to the reduction in demand for coal.

AEO 2012, at 98 (emphasis added). Thus, according to the authoritative neutral expert agency preferred by the Board (and consistent with the consensus of other industry experts), coal volumes mined, transported, and burned to generate electricity are likely to be lower than 2011 levels and to continue to decline at least through 2015. The effect of the new air emissions regulations on eastern coal demand and production is described in the next section.

(b) Environmental Regulations.

In the time since NS developed its 2010 forecast, new environmental regulations have dramatically changed the outlook for coal-fired electricity generation. A survey of electric power producers by the Associated Press this year found that these new rules will cause the closure of *32 to 68 coal-fired plants* over the *next three years* alone. *See* Jonathan Fahey, *US Coal Use Falling Fast as Utilities Switch to Gas*, ASSOCIATED PRESS, June 12, 2012.[22]

According to the Government Accountability Office ("GAO"), the North American Electric Reliability Corporation ("NERC"), EVA, and numerous other coal and electric power agency experts, three significant new regulations instituted after 2010 will substantially increase the costs of coal-fired generation of electric power in the near future. *First*, and most immediate, is the Environmental Protection Agency's ("EPA") new Mercury and Air Toxics Standards ("MATS"), which EPA finalized and issued in February 2012.[23] This new rule sets stringent limits—based upon "maximum achievable control technology" —on coal-fired power plants' emissions of mercury, acid gases (including hydrogen chloride), and non-mercury hazardous air pollutants. All coal-fired stations must meet the new emissions standards—allowance trading

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[22] At the same time, mining methods used in some Appalachian coal fields are also facing stricter regulations and greater regulatory scrutiny. "[N]ew federal rules restricting impacts to streams from mining in six Eastern states have put more pressure on thermal coal, which is often mined from the surface with explosives and earth-moving machines." Kris Maher, *Coal Strikes a Tough Vein Over Costs, Natural Gas*, WALL ST. J., Aug. 11, 2011, at B3, in NS Reply WP Folder "Coal News." Regardless of whether federal agencies issue fewer mining permits in Appalachian coal regions (reducing available supply), impose more stringent conditions and mitigation requirements on this sort of mining, or both, the result will be the same: increased costs and prices for coal that is already among the most expensive in the country. This effect on the costs and supply of coal in regions served by the DRR is discussed in more detail below. *See infra* III-A-29 to III-A-30.

[23] *See* National Emission Standards for Hazardous Air pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9304 (Feb. 16, 2012) ("EPA MATS Rule").

and reduced unit use may not be used to achieve compliance. Significantly, EPA found that regulation of emissions of these pollutants from natural gas-fired generating plants was not necessary or appropriate. *See, e.g.,* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-635, EPA REGULATIONS AND ELECTRICITY: BETTER MONITORING BY AGENCIES COULD STRENGTHEN EFFORTS TO ADDRESS POTENTIAL CHALLENGES 13, n.16 (2012) ("GAO 12-635"). The rule requires all covered coal-fired and oil-fired units to come into compliance as expeditiously as possible but in any event no later than three years after the effective date of the rule, or by early 2015.[24] NS's Energy Expert has determined that compliance will likely require additions of scrubbers or dry sorbent injection on all coal-fired plants to meet chlorine requirements, activated carbon injection or a scrubber/selective catalytic reduction combination to meet mercury requirements, and fabric filters or precipitator upgrades for particulates.

EPA's own estimates put the cost of compliance with the MATS rule at approximately $10.2 *billion* by 2016.[25] *See* GAO 12-635, at 14. Costs of compliance with the MATS rule alone will cause the retirement of many coal-fired units, and will accelerate the retirement of units already scheduled for retirement in the next decade. Estimates of the number of power plant closures and retirements due to this single regulation vary, but nearly all experts are in agreement that the number will be large and significant. *See, e.g., id.*; *see also* NERC, *Potential Impacts of Future Environmental Regulations* (Nov. 2011); D. Harrison, A. Foss et al. *Potential*

[24] A one-year extension may be granted for units that can demonstrate such an extension is "necessary for installation of controls" necessary to meet the MATS emissions limits. *See* Clean Air Act Section 112, 42 U.S.C. § 7412.

[25] In 2007 dollars, EPA estimated compliance costs at $9.6 billion. *See* EPA MATS Rule, 77 Fed. Reg. 9304, 9306.

Impacts of EPA Air, Coal Combustion Residuals, and Cooling Water Regulations, NERA Economic Consulting (Sept. 2011).[26]

Second, EPA's proposed regulation of coal combustion residuals will likely impose significant compliance costs on coal fired power plants and further enhance the relative advantage of gas-fired plants. In June 2010, EPA issued a proposed rule related to the regulation of coal combustion residuals (also referred to as coal combustion waste or more loosely as coal ash) under the Resource Conservation and Recovery Act ("RCRA"). The regulations apply to the management of coal combustion residuals produced by steam electric power plants that are disposed of in landfills and surface impoundments. EPA proposed two approaches: (1) regulation of residuals under Subtitle C of RCRA as a "special waste" and (2) regulation of

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[26] Another regulation with significant potential for reducing coal-fired generation and hence demand for transportation in the Eastern United States is EPA's Cross-State Air Pollution Rule ("CSAPR"), issued in 2011. CSAPR is more stringent than existing SO_2 and NO_x restrictions, and would require emissions reductions in 28 States, covering most of the eastern half of the United States. EVA and others predicted that CSAPR would cause more and earlier retirement of coal-fired power units, and increased displacement of coal generation by other sources. *See, e.g.*, PJM Interconnection, *Coal Capacity at Risk for Retirement in PJM* (Aug. 26, 2011) at 26-28 (report concerning potential impacts of CASPR and MATS on coal-fired power generation by regional transmission organization that covers much of the coal service territory of NS and the DRR including IL, IN, KY, MD, NC, NJ, OH, PA, TN, VA, and WV); NERC, *Potential Impacts of Future Environmental Regulations*, at 116-18, 129-31. On August 21, 2012, a panel of the U.S. Court of Appeals for the D.C. Circuit ("D.C. Circuit") voted 2-1 to vacate CSAPR and remand the rule to EPA for further proceedings. *See EME Homer City v. EPA et al.,* D.C. Cir. No. 11-1302 (Aug. 21, 2012). In October 2012, EPA and nine states petitioned the full D.C. Circuit to hear the case and reinstate CSAPR. *See* Petition, *EME Homer City v. EPA et al,* D.C. Cir. No. 11-1302 (Oct. 5, 2012). Thus, the future application of CSAPR is uncertain. If the regulation is allowed to go into effect, thermal coal demand in the Eastern United States can be expected to decline even more than is presently forecast. Even if CSAPR is not upheld, EPA must find a way to implement a March 2012 consent decree under which it must require states to develop Regional Haze State Implementation Plans ("SIPs") required by the Clean Air Act. In the Eastern United States, EPA had proposed that CSAPR would meet the requirements of the Regional Haze rule. If CSAPR does not take effect, EPA will have to devise some other approach to implement the consent decree. Whatever approach EPA follows, it is likely to increase costs of coal-fired generation and lead to reduce thermal coal demand in the Eastern United States.

residuals under Subtitle D as a non-hazardous waste. In October 2011, EPA solicited additional comment on data received in conjunction with the proposed rule. The comment period closed in mid-November 2011. The final rule may be issued by the end of 2012. While the impacts of this rule on coal-fired power generation and demand for coal cannot be estimated with any precision until EPA issues its final rule, it is clear that this impending regulation and compliance costs will contribute to decisions to retire more coal-fired units and plants, further reducing demand for coal in the next few years.

Third, proposed regulation of cooling water processes and facilities would further increase costs of coal-fired power generation.[27] In April 2011, EPA published proposed standards for cooling water intake structures at all existing power generating facilities and existing manufacturing and industrial facilities pursuant to Section 316(b) of the Clean Water Act ("CWA"). The rule is expected to require existing facilities with a design intake of more than two million gallons per day to determine appropriate technologies to reduce impingement and entrainment. New units at an existing facility would be required to add technology that is equivalent to closed-cycle cooling systems. Various technologies can be used to reduce impingement and entrainment losses, including the retrofit of plants with cooling towers to provide closed-cycle cooling. EPA recently announced that it plans to issue the final rule in June 2013.[28] EPA estimates the cost of implementing necessary controls and process changes at approximately $400 million per year. *See* GAO-12-635 at 17.

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[27] While gas-fired units also use cooling water, coal-fired units generally use more water and therefore would be disproportionately affected by this regulation.

[28] EPA was obliged to issue a rule by July 2012 under a consent decree, but it negotiated a year extension to allow it to more fully consider comments.

Finally, perhaps the most significant and potent regulatory development for coal-fired power plants in the long term is EPA's new "greenhouse gas rules."[29] *See, e.g., Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule Step 3 and GHG Plantwide Applicability Limits,* 77 Fed. Reg. 41,051 (July 12, 2012).[30] These new standards would, for the first time, establish emissions limits for carbon pollution from new power plants—1,000 pounds of carbon dioxide per megawatt-hour of electricity generated. Jeffrey Tomich, *Constraints Cool Down Coal: Sliding Demand Is Blamed on Lower Natural Gas Prices, Increased Regulation*, ST. LOUIS POST-DISPATCH, Apr. 8, 2012, at E1, in NS Reply WP Folder "Coal News." Those regulations will take effect in 2013. "Once those [regulations] go into effect, no coal plants will be built unless utilities can develop a cost-effective way to capture carbon dioxide, analysts say. That technology has been slow to develop and is very expensive." Jonathan Fahey, *U.S. Coal Use Falling Fast as Utilities Switch to Gas,* ASSOCIATED PRESS, June

[29] There are a number of so-called "greenhouse gases," but the one most relevant here is carbon dioxide, which coal-fired power plants emit in significant volumes. "Stationary sources," including fossil-fuel-fired electricity plants and petroleum refineries, account for approximately 69% of all greenhouse gas emissions. *See* JAMES E. MCCARTHY & LARRY PARKER, CONG. RESEARCH SERV., R41212, EPA REGULATION OF GREENHOUSE GASES: CONGRESSIONAL RESPONSES AND OPTIONS (2010). Automobiles account for most of the remainder of greenhouse gas emissions. *See id.*

[30] The final "Tailoring Rule" cited above is one of a series of rules governing emissions of greenhouse gases that EPA developed through several years of rulemakings. For purposes of this discussion, the two most important EPA rules are the so-called "Timing Rule" and "Tailoring Rule." EPA issued the initial versions of these rules in April and June 2010, and then issued additional implementing rules in 2011 and 2012. The constellation of EPA greenhouse gas rules were challenged in the D.C. Circuit. During the pendency of those challenges, there was some doubt as to whether the rules would be upheld and thus whether power plants would be subject to greenhouse gas emissions regulation. The D.C. Circuit recently removed that doubt when it upheld all of EPA's greenhouse gas regulations in their entirety. *See Coalition for Responsible Regulation et al. v. Environmental Protection Agency et al,* Nos. 09-1322, 10-1024-1046, (D.C. Cir. June 26, 2012). As a result of the Court ruling, essentially all new or *modified* coal-fired power plants are subject to the significant and enormously expensive requirements and limitations of the new greenhouse gas regulations. It is also likely that existing coal-fired power plants that have not been modified eventually will be subject to greenhouse gas regulations and restrictions as well. *See* Clean Air Act Section 111(d), 42 U.S.C. § 7411(d).

12, 2012. The effective regulatory bar to construction of new coal-fired plants (including projects that were already planned or proposed)[31] erected by the greenhouse gas rules means that construction of new coal-fired plants will not stem the decline in coal demand due to the accelerated retirement of existing coal-fired capacity caused by new regulations, alternative fuels, and other factors.

At the same time costs related to coal-fired generation are increasing, the costs of *producing* coal in Appalachia are increasing disproportionately due to new and heightened enforcement of existing environmental and safety regulations. The best evidence of higher costs is the change in cash operating costs. According to EVA, the average cash operating costs of mines producing coal in Appalachia increased by 23% between the second quarter of 2010 and the second quarter of 2012.[32] This increase is significantly greater than that experienced in the other major supply regions[33] and creates a competitive disadvantage for Appalachian coals versus coals from other supply regions.[34] Appalachian regions, which include the origins of the majority of the coal transported by the DRR, experienced higher cost increases because of the type of mining in Appalachia and because of the nature of the remaining coal reserves. In particular, efforts by environmental groups and EPA to limit the relatively low-cost mountaintop

[31] The new rule applies to all new plants whose construction has not begun within 12 months of the proposed rule, which is July 2013.

[32] The cash costs are for publicly-traded coal companies which report their costs by segment. According to EVA, in the two relevant quarters, costs reflected the average for over 70% of Appalachian coal production. EVA compiles and publishes coal company financial performance in a publication entitled U.S. Coal Quarterly Financial Report.

[33] For example, average cash costs for reporting mines increased by 8% in the Illinois Basin and 13% in the Powder River Basin over the same period.

[34] Further exacerbating Eastern coal producers' competitive disadvantage is the fact that they mine narrower coal seams and have higher mining costs (especially for non-mountaintop techniques), and their coal generally has higher-sulfur content than that mined in other regions. *See* Kris Maher, *Coal Strikes a Tough Vein over Costs, Natural Gas*, WALL ST. J., Aug. 12, 2011, at B3.

mining have reduced production using this technique. According to NS's Energy Expert, underground mines, particularly in Central Appalachia, tend to mine thinner seams in "below drainage reserves," which are disproportionately affected by both the MINER Act[35] and by increased mine inspections. Notably, the increase in cash operating costs does not reflect the difficulty in obtaining new mine permits due to increased EPA involvement. The potential inability to acquire new permits in a timely manner would increase cash operating costs further as producers are forced to operate mines in potentially uneconomic manners.

Not only do more and more stringent regulation of various pollutants and mining methods make Eastern coal and coal-fired power plants much more expensive, they also confer additional advantages on cleaner-burning natural gas. As the Government Accountability Office recently noted, "power plants that burn coal produce more than 90 times as much sulfur dioxide, five times as much nitrogen oxide and twice as much carbon dioxide as those that run on natural gas." Jonathan Fahey, *U.S. Coal Use Falling Fast as Utilities Switch to Gas,* ASSOCIATED PRESS, June 12, 2012. Many analysts believe that the substantial cost advantage of natural gas over coal for power production under new and impending regulations means, for the foreseeable future, virtually all new fossil-fuel burning power plants will burn natural gas. *See id.* And, if natural gas supply remains high and its prices low, the accelerating trend of fuel switching from coal to gas will likely continue in the coming decade.

(c) Mild Weather in 2011-2012 Has Further Reduced Utility Coal Demand.

A third important factor in the unexpected short-term decline in coal shipments is the abnormally mild 2011–2012 winter, which reduced electricity use and thus coal consumption by

[35] In 2006, Congress enacted the Mine Improvement and New Emergency Response Act, or MINER Act, which imposed additional obligations on all coal operators.

power generating plants. March 2012 was the warmest March ever recorded in the United States. *See* EIA Electric Power Monthly, *U.S. Coal's Share of Total Net Generation Continues to Decline* (June 5, 2012). It has been widely reported that in 2012, "a mild winter and competition from less-expensive natural gas combine to weaken demand for power plants' longtime staple fuel, [coal]." Rebecca Smith, *Corporate News: Utilities Give Coal the Heave-Ho—Power Plants Abandon Longtime Staple for Generating Electricity as Price of Natural Gas Plummets*, WALL ST. J., May 1, 2012, at B6; *see also* Dan Lowry, *As Layoffs Mount, Anger Boils Over in Appalachian Coal Country*, SNL DAILY COAL REP., June 25, 2012 ("A warm winter also decreased thermal coal demand by utilities."); *A Sign of the Times: 'Gas is Coming into Our Turbines Now, Which is Nothing*, U.S. COAL REV., Mar. 12, 2012 ("The enormous inventories piling up at certain [coal-burning] facilities aren't simply a result of low natural gas prices. Mild winter weather and meager power demand have also played a role in the lower coal consumption rates."). As EIA summarized, "[t]he seasonal winter drawdown of coal stocks was totally negated during the winter months this year due to low natural gas prices and unseasonably warm temperatures throughout the continental United States. In fact, March 2012 was the seventh straight month that coal stockpiles at power plants increased from the previous month." EIA, *Electric Power Sector Coal Stocks* (Mar. 2012).

The Wall Street Journal reported in March 2012 that the "trend [in coal transportation] is down, especially as mild winter weather has curtailed already weak demand for electricity. . . . Research firm ISI Group estimates that demand [for coal] from utilities may drop by as much as 50 million tons this year, equivalent to 5% of consumption. So even though U.S. rail traffic overall is down only 1.4% this year, according to the Association of American Railroads, coal carloads are down 7.6%." Leon Denning, *Railroads Run Out of Steam at the Coal Face,* WALL

ST. J., Mar. 17, 2012.[36] Noting that NS coal shipments fell 12% in the first quarter of 2012, the Chicago Tribune explained that "[t]he mild winter in many parts of the country and the closing of a number of coal-burning electric generating plants has curbed demand, reducing coal shipments by U.S. railroads." Nick Zieminski & Scott Malone, *Coal-fired Profits Ebb for Railroads,* CHICAGO TRIBUNE (May 29, 2012).[37]

iii. Effects of Lower Utility Coal Demand.

(a) Effects on NS Coal Customers.

The combination of the abundant domestic supply of natural gas and historically low gas prices; increased environmental regulation, costly pollution control requirements, and limits on coal-fired power plants; and unusually mild weather and large coal stockpiles at coal-fired plants has caused a dramatic reduction in coal shipments in 2011 and 2012 compared to NS's 2010 projections. In April 2012, EIA reported that in the fourth quarter of 2011, "[c]oal consumption by power generators fell 18.8% from the previous quarter and 9.4% from the fourth quarter of 2010." Rebecca Smith, *Utilities Give Coal the Heave-Ho—Power Plants Abandon Longtime Staple for Generating Electricity as Price of Natural Gas Plummets,* WALL ST. J., May 1, 2012 at B6 (citing EIA report), in NS Reply WP Folder "Coal News." The CEO of Peabody Coal Company, the nation's largest coal producer, estimated that power industry demand for coal could drop by ten percent (or 100 million tons) in 2012. *Id.* Duke Energy Corporation, one of the largest power generators in the U.S., and a large NS coal transportation customer, told

[36] The same article noted that "CSX and Norfolk [Southern] have been hit hard as their Eastern networks are exposed to Appalachian coal . . ." *Id.*

[37] More recently, disruptions caused by Hurricane Sandy appears to have further reduced coal transportation volumes in NS's service territory. *See Railroads Restore Serviced Along East Coast; freight impact likely,* PLATTS COAL TRADER, Nov. 1. 2012, at 1, 6-7 (quoting transportation investment analyst as stating that the hurricane "is adding insult to injury for the Eastern rails, which are already suffering from double-digit declines in their historically high-margin coal business").

regulators that it expects to burn 40% less coal in 2012 than it burned in 2011. *See id.* Progress Energy, a significant NS coal customer in the Southeast, is renegotiating coal purchase contracts because it plans to burn less coal. *Id.*

Major coal companies such as Arch Coal—the second largest coal producer in the nation—have been shuttering Eastern coal operations. *See* Dan Lowry, *As Layoffs Mount, Anger Boils Over in Appalachian Coal Country*, SNL DAILY COAL REP., June 25, 2012, in NS Reply WP Folder "Coal News." "Arch's latest job cuts come on top of previous workforce reductions announced by Arch and other coal producers across the U.S. and particularly in Appalachia, [with] higher-cost operations [that] are unable to compete in an environment of low natural gas prices." *Id.* Central Appalachian coal mining company Alpha Resources plans to produce 11.5 million fewer tons in 2012 than in 2011, and has announced plans to idle 12 mining operations in Kentucky and West Virginia. In the spring of 2012, Patriot Coal closed a Kentucky mine, idled several more mines in West Virginia and Kentucky, and cut 1000 jobs. Patriot's woes worsened, and it filed for bankruptcy in July 2012. *See Patriot Bankruptcy May Leave Peabody Liable for Expense*, BLOOMBERG NEWS, July 10, 2012, NS Reply WP Folder "Coal News" (Patriot "is the biggest casualty so far of the slump in the U.S. coal industry, which has cut tens of millions of tons of production following a mild winter and after natural-gas prices dropped to their lowest in a decade."). This trend may well continue into 2013 and beyond, with Central Appalachia and its higher cost coal bearing the brunt of the loss in market share. *See, e.g.,* Kris Maher, *Coal Strikes a Tough Vein over Costs, Natural Gas*, WALL ST. J., Aug. 11, 2011, at B3, in NS Reply WP Folder "Coal News." ("Alpha [Natural Resources, Inc.], Patriot Coal Corp., Consol Energy Inc., and James River Coal Co., which have operations in Central Appalachia, all reported higher costs in the second quarter [2011].").

Volumes of coal shipped to ports for export do not offset the dramatic declines in domestic coal demand and shipments. Indeed, at this juncture no one could seriously contend that export coal volumes would provide a significant offset to declines in DRR domestic steam coal volumes. *First*, export coal traffic accounts for less than 20% of DRR coal traffic, so any increase in export volumes would have relatively little effect on overall DRR coal volumes. *Second*, the EIA forecast includes export coal, and thus changes in export coal are taken into account by NS's application of the EIA forecast. *Third*, export coal volumes have declined significantly during 2012, and forecasters are not projecting that export coal demand will increase substantially in the foreseeable future. Exports to Asia, which fueled some increases in export coal volumes moved by the railroads in 2010 and 2011, have subsided, and many observers believe Asian economies will not demand as much U.S. coal in the future. *See, e.g.*, K. Maher, *Chinese Slowdown Idles U.S. Coal Mines,* WALL ST. J., Sept. 28, 2012, at A1; Leon Denning, *Railroads Run Out of Steam at the Coal Face*, WALL ST. J., Mar. 17, 2012, at B6.

(b) Effects on NS Transportation of Coal.

Prominent railroad investment analysts have concluded that the decline in coal demand and the effect of power plant closures will likely be the greatest in the Eastern United States, NS's service territory.[38] Explaining that the mild winter of 2011-2012 was a significant driver of the decline in electricity demand, J.P. Morgan stated that "[t]he Southeast region, which is served by CSX and NSC, fell 8.2% [in the first quarter of 2012], which is the weakest region overall. We suspect this is contributing to significant weakness in coal demand in the service territory of [NS]." NS Reply WP "Mapping Utility Plants to Rail Coal Volumes" at 2 (contrasting 4.2% decline in coal shipments for NS and CSX in first quarter 2012 with less than one percent decline

[38] *See generally* NS Reply WP "Mapping Utility Plants to Rail Coal Volumes."

for BNSF and UP). While the JP Morgan analysts believed that Powder River Basin coal shipments may "bounce back" in 2013-2014, at the same time they stated '[f]or CSX and NSC we are less optimistic about a future bounce back in coal volumes." *Id.* at 1.

Analyzing power plant closures and their effect on rail coal transportation, JP Morgan concluded that "plants in the eastern US, served by CSX, NSC, and barge faced the most retirements . . . . [and] in 2012 and beyond, utilities in the eastern US continue to face the most pressure to cut back on coal-fired capacity. We note that CSX and NSC are the primary rail providers in this region . . ." *Id.* at 3-4. The report went on to estimate that NS may lose about 20-25 million tons of coal transportation in the next several years due to power plant retirements. *Id.* at 4. Summarizing the potential effect of retirements of coal plants on eastern railroads through 2015, the JP Morgan analysis stated:

> We note that there is a greater concentration of coal-fired plants in the eastern US states, which are located near the major Appalachian and Illinois coal mining operations and are primarily served by CSX and NSC. Based on our plant-by-plant analysis, we found that there is a spike in the amount of coal capacity slated for retirement in 2012 for both CSX and NSC relative to most other years . . . Relative to the 2011 coal tonnage hauled by the eastern railroads, *we estimate that the lost coal volumes from plant retirements in 2012* and beyond would amount to *tonnage reductions of* as much as 22.7% for CSX and *17.2 % for NSC.*

NS Reply WP "Mapping Utility Plants to Rail Coal Volumes" at 5-6 (emphases added). Note that these potential declines consider only plant closures, and not idling of plants, or reduced production at plants due to increased natural gas generation, environmental regulations, weather, or other factors. The same report later suggested that much of the effect of plant closure on rail

coal volumes between 2011 and 2015 may occur in 2012, meaning that *in 2012 alone* NS "would realize a *14.3% decline* [in coal shipment volume]" versus 2011. *Id.* at 9 (emphasis added).[39]

iv. Application of Up-to-Date Authoritative EIA 2012 AEO to Calculate DRR Coal Volumes.

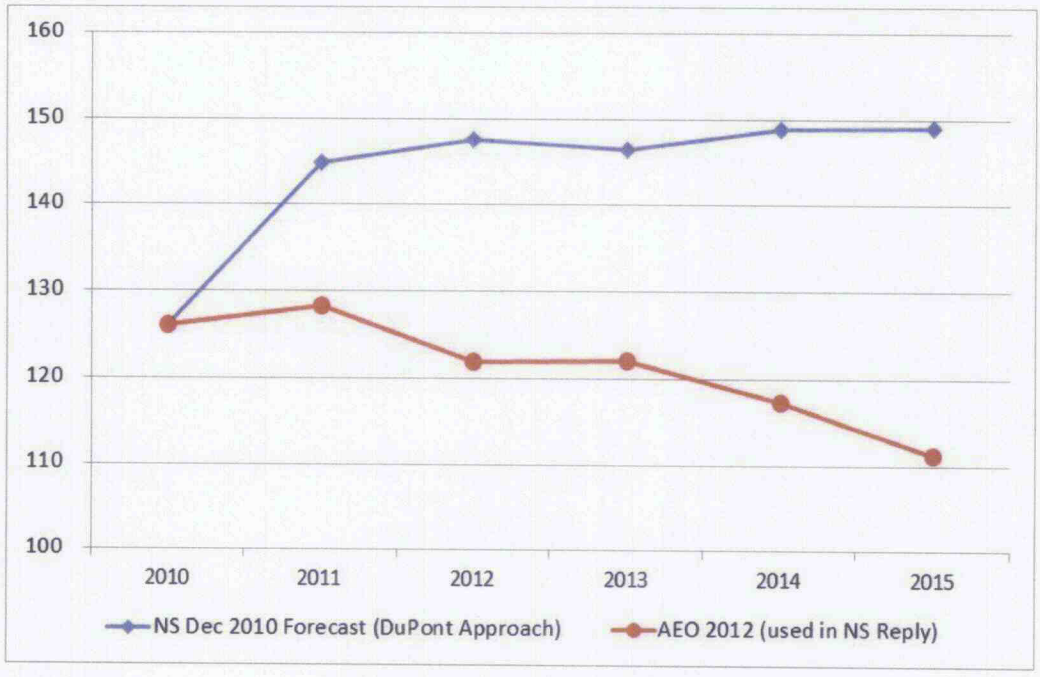
As previously discussed, the EIA issued its annual coal outlook in mid-2012 that, unlike the 2010 NS forecast, takes into account the sea change in utility coal demand over the last two years. Indeed, unlike the NS 2010 forecast, the 2012 EIA AEO data and projections report and use *actual*—instead of forecast—coal shipments for calendar year 2011. By definition, actual shipment volumes are more accurate than, and hence preferable to, even the best forecast. As described below, NS's experts applied the 2012 AEO data to the DRR coal traffic group to develop more accurate and up-to-date SARR coal volumes for the SAC analysis period.

For each coal move on the DRR, NS's Reply Evidence assigns the corresponding EIA coal production region and then applies the growth rate for that production region for each year over the SAC analysis period. *See* NS Reply WP "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx." As illustrated in the following Graph III-A-5, appropriate application of the recent, up-to-date EIA 2012 AEO coal volume data and forecasts makes a dramatic difference in DRR coal volumes over the period 2011 through 2015.

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[39] Publicly available reports suggest that demand for the eastern coal moved by NS has declined even further during 2012. *See, e.g., Norfolk Southern's Third Quarter 2012 Income Falls 27% on Lower Coal Demand*, PLATTS COAL TRADER, Oct. 24, 2012; *Weekly Coal Traffic Down 16.9%: AAR*, PLATTS COAL TRADER, Oct. 22, 2012, at 1-2 (reporting NS year-over-year decline of 20.6% in second week of October 2012); Argus Coal Transportation Vol. 31, 45, *Coal Shipments Slump* (Nov. 2012) (reporting that NS and CSXT are making rate concessions in order to attempt to increase declining coal transportation volumes); *see also Second-half Central and Northern App Mine Closings Near 32 Million Short Tons,* PLATTS COAL TRADER, Nov. 12, 2012.

Graph III-A-5
Impact of NS 2010 Forecast and EIA AEO 2012 on DRR Coal Traffic (million tons)



(a) The DRR Coal Volume Overstatement Caused by Use of the Outdated NS Forecast for 2011 Alone is Substantial.

The 2012 AEO actual coal volume data for 2011 shows that the DRR would not achieve anything near the {{ }} annual coal volume growth that NS forecast in 2010. *Compare* DuPont Opening III-A-9, Table III-A-2 (projecting 14.9% coal volume increase in 2011) *with* NS Reply WP "Coal Forecast Reply.xlsx" (applying AEO actual coal data to show a 1.7% increase in DRR coal volumes in 2011).

Because each year's DRR coal volume is based on applying a growth percentage to its prior year's volume, the significant overstatement of the 2011 coal growth rate creates a tonnage overstatement that is compounded in each remaining year of the SARR. Because of the changes in the coal market since NS issued the forecast it produced to DuPont, using the NS forecast would grossly overstate DRR coal traffic and distort the SAC analysis and results. Accordingly,

in this Reply Evidence, NS has used the 2012 AEO (2011 actual volumes and forecasts for 2012 to 2019) to develop DRR coal traffic volumes after 2010.

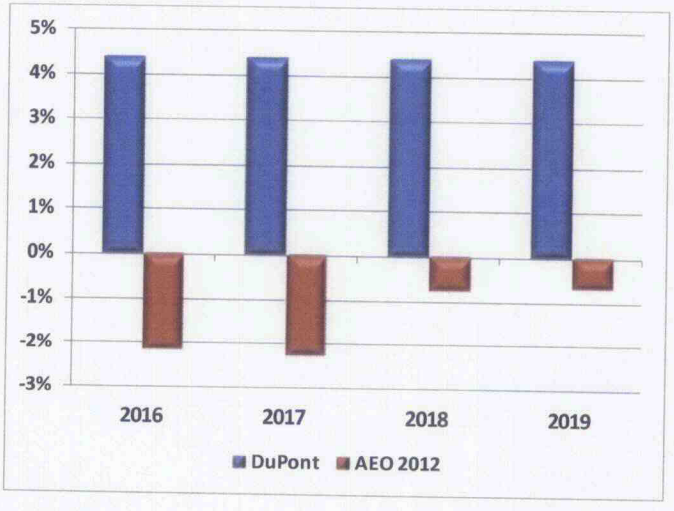
(b) DuPont's Unprecedented Use of a CAGR for Longer Term Coal Volumes Further Overstates DRR Coal Traffic Volumes.

DuPont's flawed approach causes its DRR coal volumes to diverge even further from the EIA's forecasts in the later years of the SAC analysis period. For changes in DRR coal volumes after 2015, which is the last year covered by the NS December 2010 forecast, DuPont has manufactured a "compound annual growth rate" ("CAGR") approach, by averaging the hypothetical annual change in NS coal volumes from 2009-2015 and applying that fabricated growth rate approach to each subsequent year. It is well-established that the Board uses EIA projections for years not covered by a carrier's internal forecasts. *See, e.g., Duke/NS*, 7 S.T.B. at 144-45 (using EIA forecasts for all years after the period covered by defendant carrier's forecasts). DuPont's proffered approach would flout established Board precedent and the Board's preference for the official, independent, and authoritative EIA projections for years for which carrier forecasts are not available. *See id.*; *AEPCO 2011,* STB Docket No. 42113, at 17-23.

Moreover, for the reasons explained below, DuPont's novel CAGR approach would further distort SARR coal traffic volumes by projecting steady 4.4% annual increases in 2016-2019, at the same time EIA projects decreases in each of those years. In the first instance, DuPont's use of the 2009 as the base year for deriving its CAGR escalation causes a substantial overstatement of DRR volumes in the later years of the analysis period. The year 2009 was the bottom year of the recession and the lowest traffic volume year for NS in the last several years. *See* DuPont Opening III-A-9. DuPont's use of 2009 low point of NS traffic volume as the baseline for calculating a mean growth rate for any traffic overstates the probable growth rate in

future years because it implicitly assumes—without any supporting evidence or argument—that the rate of growth in traffic in the rebound from the recession will continue apace for the years 2016 through 2019. Second, the general flaw in DuPont's CAGR approach is exacerbated for coal because of the inaccurate assumption that NS's coal traffic would grow by {{ }} in 2011. As previously demonstrated, that growth rate assumption is based upon an outdated and inaccurate 2010 NS forecast that pre-dated dramatic and unforeseen negative developments in coal markets. Thus, DuPont's use of NS's indisputably outdated and inaccurate 2010 coal forecast, in combination with its CAGR device, results in DRR coal volumes for 2016 through 2019 that are further artificially inflated. As the following graph III-A-6 illustrates, the EIA forecasts coal volume *decreases* in each of these four years. These decreases reflect a steady decline in the eastern coal market that EIA projects over the next decade.

Table III-A-6
DRR Later Year Coal Volumes Growth Rates[40]



By the end of the analysis period, the difference in DRR coal traffic under: (i) the current EIA AEO (NS Reply approach); and (ii) the outdated NS 2010 forecast as compounded by DuPont's "CAGR" device (DuPont Opening approach), amounts to more than 65 million tons

[40] *See* NS Reply WP "Coal Forecast Reply.xlsx."

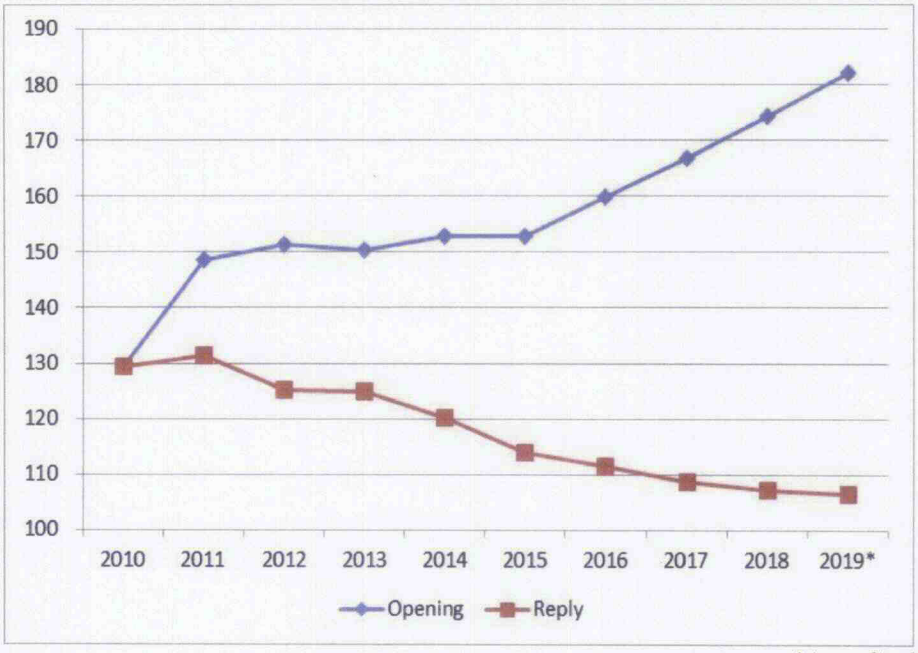
per year. The following Table III-A-7 compares the DRR coal tonnages for each year of the analysis period using the DuPont opening approach) and the 2012 EIA AEO (NS Reply approach).

Table III-A-7
DRR Coal Volumes (million tons)

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Opening	129.3	148.7	151.3	150.2	152.8	152.9	159.7	166.8	174.2	75.8
Reply	129.3	131.4	125.1	124.9	120.2	113.8	111.3	108.7	107.3	44.3
Difference	-	(17.3)	(26.3)	(25.4)	(32.6)	(39.1)	(48.4)	(58.1)	(66.9)	(31.5)
% Diff	*0%*	*-12%*	*-17%*	*-17%*	*-21%*	*-26%*	*-30%*	*-35%*	*-38%*	*-42%*

The following chart III-A-8 illustrates graphically the comparison set forth in the foregoing Table III-A-7, thereby depicting the overall result of DuPont's flawed coal volume projections, by comparing DuPont's overstated traffic volumes with NS Reply volumes (derived by applying the EIA region-specific data and projections to the DRR coal traffic group).

Chart III-A-8
DRR Coal Volumes Under DuPont Opening and NS Reply (million tons)[41]



*Annualized

v. Because NS's 2010 Coal Forecast is Outdated and Inaccurate, the Board Should Use EIA 2012 Forecasts.

The Board should adopt NS's approach and use the EIA 2012 AEO coal data and projections to calculate DRR coal traffic volumes from 2011 forward, because that approach is consistent with the Board's established practice of using EIA forecasts where accurate carrier coal volume forecasts are not available. For nearly a decade, the Board has used the AEO to project coal traffic volumes for periods for which there are not carrier forecasts generated in the normal course of business, and for periods for which the carrier forecast has been demonstrated to be inaccurate. *See, e.g., CP&L*, 7 S.T.B. at 250-51 (substituting EIA forecast for inaccurate carrier forecast); *Duke/NS*, 7 S.T.B. at 144-45 (using EIA forecasts for all years after the period covered by defendant carrier's forecasts); *AEPCO 2011,* STB Docket No. 42113, at 17-23

[41] The "Opening" line graph represents DuPont's proffered approach using a CAGR, and the "Reply" line graph represents NS's approach applying the EIA forecast.

(rejecting defendants' forecasts and using EIA projections to determine base year coal volumes and coal volumes for the remaining nine years of the analysis period).

CP&L provides strong precedent for using the EIA forecast instead of NS's outdated and inaccurate 2010 forecast to project DRR coal volumes from 2010 to 2019. As demonstrated above, NS's 2010 forecast was based on data and assumptions that, while reasonable when made, proved to be very inaccurate and to overstate substantially NS coal transportation volumes through the end of the SAC analysis period. The *CP&L* case involved similar circumstances. There, as here, the carrier's normal course of business coal traffic forecasts proved to be inaccurate. *See CP&*L, 7 S.T.B. at 249-50. The Board determined that it would distort the SAC analysis to use the carrier's forecasts. *Id.* at 250-51. Accordingly, the Board applied EIA forecasts to the carrier's actual traffic data to develop SARR coal traffic volumes, stating:

> The 2003 and 2004 traffic levels are also determined by relying on EIA forecasts, rather than NS's internal business forecasts, in view of the demonstrated inaccuracy of the NS forecasts and the general preference for reliance on official, neutral governmental forecasts.

Id. at 251 (the base year for the SARR was 2002, and the Board used the EIA 2003 AEO to project SARR volumes for 2003-2021). As in *CP&L,* NS's coal volume forecasts in this case have been shown to be inaccurate, and based on incorrect assumptions. Given the "demonstrated inaccuracy of the NS forecast and the general preference for reliance on official, neutral governmental forecasts," the Board should adopt NS's approach of applying coal-region-specific AEO forecasts to project DRR coal volumes for 2011 through May 31, 2019. *See id.*; *see also Duke/NS,* 7 S.T.B. at 145 ("EIA, an independent statistical arm of the Department of Energy, was created by Congress for the express purpose of providing policy-neutral data and forecasts. Thus, EIA provides an authoritative source for coal forecasts" in a SAC case).

In sum, the 2010 forecast NS produced in discovery is plainly outdated and did not foresee dramatic changes in the coal and electric power generation markets that have occurred over the last two years. The EIA 2012 AEO, in contrast, was issued in mid-2012 and thus was able to take into account those extraordinary changes in coal and energy market conditions. Moreover, the Board has consistently expressed its preference for using the independent, neutral, and authoritative EIA forecasts for purposes of projecting SARR coal volumes. Therefore, as in *CP&L* and *AEPCO 2011*, the Board should calculate SARR coal traffic volumes by applying the most recent EIA AEO instead of the defendant carrier's inaccurate forecasts.

The most recent available AEO is the 2012 final AEO, issued by EIA in June 2012. Consistent with Board precedent, NS has used that neutral authoritative forecast to project DRR coal revenues. *See* NS Reply WP "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx."

vi. NS's Coal Region-Specific Application of 2012 AEO Projections is More Accurate than DuPont's Use of a Single, Undifferentiated Aggregated Growth Rate for All Coal Traffic.

NS's development of DRR coal volumes is also more accurate than the approach used by DuPont for another reason. DuPont used a broad commodity-based approach to develop an aggregate growth rate for each commodity. *See* DuPont Opening III-A-7 to III-A-9. Under DuPont's approach, all coal volumes are assumed to change at the same rate, regardless of their coal origin region. This results in distortion of projected coal volumes and mis-assignment of coal traffic among DRR line segments because, as EIA forecasts show, coal volumes from different regions are projected to decline or grow at different rates. For the reasons discussed below, the Board should reject DuPont's nationwide aggregated volume change factor and instead apply EIA's region-specific forecast to each region from which the DRR coal shipments would originate.

Largely because of different characteristics of coal from different regions, coal cost differentials, and the geographic location of the regions, changes in demand for coal vary with the coal producing region. For example, Central Appalachian ("CAPP") coal generally costs more per ton than Powder River Basin ("PRB") or Eastern Interior coal, as demonstrated by the EIA data summary in the following Table III-A-9.

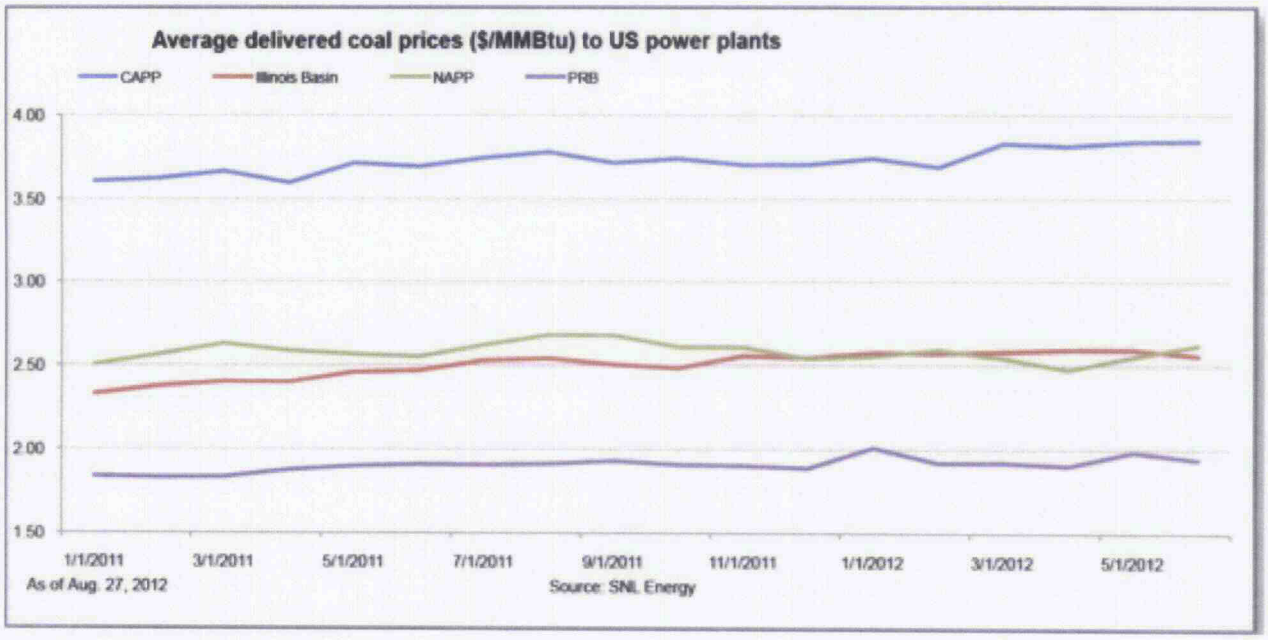
Table III-A-9[42]
EIA Weekly Spot Prices

Average weekly coal commodity spot prices (dollars per short ton)			
Week Ended	**Central Appalachia 12,500 Btu, 1.2 SO2**	**Illinois Basin 11,800 Btu, 5.0 SO2**	**Powder River Basin 8,800 Btu, 0.8 SO2**
Oct. 12, 2012	$65.95	$47.90	$10.25
Oct. 19, 2012	$65.95	$47.90	$10.25
Oct. 26, 2012	$65.95	$47.90	$10.25
Nov. 2, 2012	$65.95	$47.90	$10.35
Nov. 9, 2012	$65.95	$47.90	$10.35

As a result, the average delivered coal price to United States power plants for CAPP coal has been consistently at least $1.00 MMBtu higher than Illinois Basin coal and $1.50 MMBtu higher than PRB coal over the past two years.

[42] EIA, Weekly Spot Prices, *available at* http://www.eia.gov/coal/news_markets/ (last accessed Nov. 24, 2012).

Figure III-A-10[43]
SNL Energy—Average Delivered Coal Prices by Origin



These differences are not explained by transportation costs, which are typically higher on a MMBtu basis for PRB coal, especially for power plants in the eastern United States.[44]

CAPP coal also has a significantly higher sulfur content than PRB coal, which means that CAPP coal requires more pollution control equipment and capture of SO_2 by the power generating plant. Those two factors tend to make PRB coal more attractive to many coal-fired power plants than CAPP coal. On the other hand, PRB coal has a lower heat generating capacity per ton than CAPP coal, so a power plant must burn substantially more PRB coal to generate the same amount of heat as a given volume of CAPP coal. And, because PRB coal is in Wyoming and Montana, it sometimes costs more to transport that coal to eastern power plants than it does

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[43] SNL Energy, Coal to Gas Switching, at 5 (Sept. 2012).

[44] *See, e.g.*, Alpha Natural Resources, Form 8-K (June 28, 2010), *available at* http://alnr.client.shareholder.com/secfiling.cfm?filingID=1301063-10-36&CIK=1301063 (indicating that "unlike the other basins, transportation costs dwarf" commodity prices for PRB coal, and reporting that the average transportation cost for PRB coal was $1.00 MMBtu, compared to $0.47 MMBtu for coal from other basins).

to transport coal to eastern plants from Northern Appalachian ("NAPP") and Eastern Interior regions.

Further, different power plants are designed to burn different types of coal and therefore often source their coal from the region(s) that produces that type of coal. Some plants that have installed pollution abatement equipment in recent years are less concerned about the types and levels of pollutants in coal from a given region because that equipment allows them to reduce or prevent emissions of those pollutants. In addition, some NAPP coal is better suited for use as metallurgical coal, and therefore more likely to be transported to ocean ports for export. The markets for export coal are affected by different variables than markets for domestic steam coal, so those coal volumes often change at significantly different rates (and sometimes in different directions) than steam coal volumes.

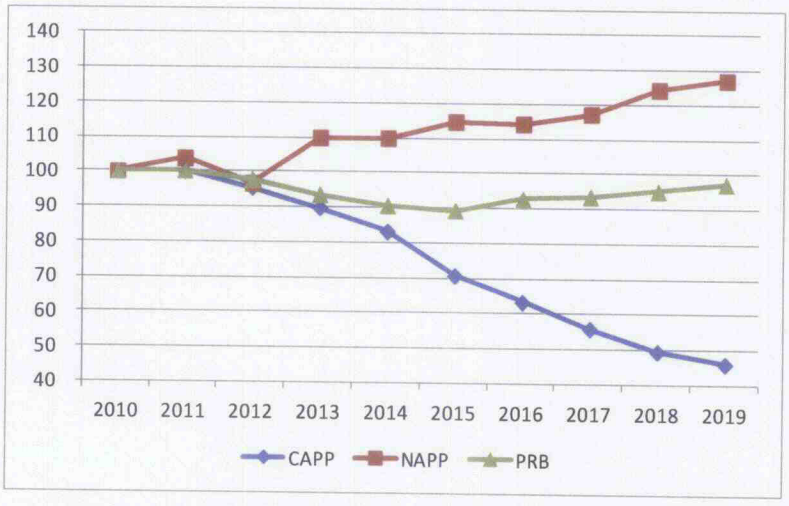
The foregoing, and a number of other factors, influence the regions from which different coal-fired plants source their coal, and make projected demand for coal from each region change at different rates and different times. Getting the rates of change correct for each coal producing region served by the DRR is important because the DRR serves so many different regions. The following Table III-A-11 lists base year volumes of DRR coal by coal origin region.

Table III-A-11
DRR Coal Origin Regions

	2010 Shipments (000s)	% of Total
CAPP	517.8	44%
NAPP	278.5	23%
PRB	217.1	18%
Eastern Interior	102.9	9%
Coke/Pet Coke	47.0	4%
SAPP	10.3	1%
MT	8.9	1%
Iron Ore	2.6	0%
Import/Other	1.7	0%
Rocky Mt	0.5	0%
Total	**1,187.3**	**100%**

Because no single region originates even half of the DRR coal volume, and four distinct regions originate substantial coal volumes, using a single aggregated growth (or negative growth) rate would inevitably distort DRR volumes and their distribution. The following Graph III-A-12 depicts EIA's projected growth rates for the top three DRR origin regions. As the graph shows, EIA projects CAPP coal to decline by more than 50% during the analysis period, while NAPP coal volumes are projected to grow by nearly 30%.

Graph III-A-12
EIA AEO 2012 Coal Production Forecasts (Indexed, 2010=100)



DuPont's proposed approach is a blunt instrument that blurs those differences and therefore mis-states anticipated coal volumes originating from each region, thereby mis-stating SARR volumes from those regions. Such errors affect not only SARR revenues but also potentially peak traffic on different parts of the DRR network and thus DuPont's Operating Plan and costs, as well as the location and cost of required road property investment. Thus, even if NS's outdated 2010 forecast were otherwise accurate, DuPont's approach would still distort and mis-distribute DRR coal traffic volumes, with ripple effects for the entire SAC analysis.

DuPont's claim that the Board approved this approach in *CP&L* ignores important differences between that case and the present case. The primary difference is that all coal origins in the *CP&L* case were in a single region, CAPP. *See CP&L*, 7 S.T.B. at 248. Thus, confusion of coal volume rates of growth between different regions was not a concern in that case. Here, the SARR moves numerous different types of coal originating in eight different and geographically dispersed regions, ranging from CAPP to PRB to the Rocky Mountains. *See supra* Table III-A-11. In fact, coal from different regions has different characteristics that make it unsuitable for use by certain power plants and units at other ultimate destinations.

Accordingly, the rationale in *CP&L* does not apply to this case. As the Board explained in a case conducted at the same time as *CP&L,*

> When a utility purchases coal from a particular mine, it generally does so for a specific reason. The utility may have a favorable coal supply contract, perhaps even a requirements contract. Moreover, coal is neither perfectly fungible nor perfectly homogeneous; there can be important differences that affect how the coal burns. Shippers pay a premium for coal with higher BTU content or for other specific characteristics. For example, coal with a low sulfur content is at times used as a "sweetener," blended together with other, higher sulfur coal so the power plant's emissions will comply with Clean Air Act requirements. A shipper seeking 20 carloads of low-sulfur coal would not want to receive 20 carloads of lower quality coal from another mine.

Duke/CSXT, 7 S.T.B. at 119. DuPont's aggregated and undifferentiated approach assumes coal is both homogeneous and fungible, and it is not. Different shippers require different types of coal and DuPont's approach would obliterate that distinction and thereby distort varying coal demand projections for different coal regions and different shippers.

Second, the Board's ruling in *CP&L* was tailored to the unusual coal sourcing patterns in certain mine districts of the CAPP region. The Board noted that shippers who obtain coal in the CAPP mine districts or groups often shift from one mine origin to another nearby origin in the same district, and then may shift back again. *See CP&L*, 7 S.T.B. at 249. The Board was concerned that "freezing" the SARR traffic group by confining it only to origin-destination pairs used in the base year would artificially reduce SARR coal volumes because it would not account for such origin shifting. Here, DuPont's approach would result in wholesale *region* shifting, without providing any evidence or argument that: (i) such shifting occurs, let alone with any frequency; or (ii) that NS, EIA, or anyone else has forecast such region shifting.

NS rejects DuPont's approach of using a single aggregated growth factor for coal. Instead, NS has developed DRR coal volumes by origin region using the EIA's 2012 Annual

Energy Outlook for each of the last 8 ½ years of the analysis period (2011-2019). As demonstrated above, this approach more accurately reflects market conditions and changes over the last two years, and projections of changes in coal volumes in the coming years, based on new market conditions and changes in other relevant factors and expectations. As previously shown, the Board commonly uses the independent, neutral and authoritative EIA AEO forecasts as its preferred and primary source of forecasts in SAC cases—particularly where, as here, the carrier's internal forecasts are inaccurate, outdated, or unreliable.[45]

vii. Projecting DRR Coke and Iron Ore Volumes.

Another problem with DuPont's aggregate single-growth rate for NS commodity groups is that it applies that growth rate to commodities and traffic that have little to do with changes in coal demand, such as iron ore. For example, changes in PRB coal transportation volumes will

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[45] NS also rejects DuPont's attempt to reallocate coal shipment volumes between power plants whose capacity factors limit their use of coal to power plants that have not reached their capacity levels. *See* DuPont Opening III-A-11 to III-A-12. While DuPont is correct that the Board has previously held that coal volume growth at certain generating plants should be capped at a level sufficient to achieve 85% of capacity generation at those plants, its attempt to shift projected tons from a capped plant to an entirely different plant that has not reached its capacity level is unprecedented and has never been allowed by the Board. In a case like this in which the SARR moves coal that originates in many different coal regions, the effect of such an approach would be to shift coal volumes between regions. For example, because Plant Scherer in Georgia is capped, DuPont's approach would shift coal traffic from its source region—the Power River Basin—to eastern regions. But PRB coal is much different from eastern coal, and Plant Scherer is configured to use lower-sulfur PRB coal. As previously discussed, such coal region shifting has distorting effects that ripple through the entire SAC analysis. *See supra* III-A-48 to III-A-49. Further, recent studies have shown that an 85% capacity factor assumption is too high. *See, e.g.,* STAN M. KAPLAN, CONG. RESEARCH SERV., R41027 DISPLACING COAL WITH GENERATION FROM EXISTING NATURAL GAS-FIRED POWER PLANTS 8 (2010) (using EIA data to determine that average capacity factor of 298 largest coal-fired power plants in U.S. was 75%). Despite the fact that an 85% capacity factor assumption very likely overstates the consumption of coal by plants whose coal the DRR would move, NS conservatively applies the 85% capacity factor that the Board has applied for more than 15 years. *See, e.g., West Texas,* 1 S.T.B. at 663-64; NS Reply WP "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx." Because coal volumes are projected to decline significantly during the SAC analysis period, application of an 85% capacity factor has a relatively limited effect in this case.

have little effect on the level of iron ore transportation volumes. NS rejects DuPont's approach. Instead, consistent with NS's internal forecast, this Reply Evidence holds constant iron ore, coke and pet coke volumes, throughout the SAC analysis period. While those commodities are included in NS's commodity group 80, they are not included in EIA coal forecasts. Keeping volumes of those commodities flat reflects volume projections for those commodities in NS's internal forecast, which—unlike coal traffic volumes—should not be affected materially by all of the power generation coal market changes. *See* NS Reply WPs "COAL Forecast 2010 2011.xlsx" and "2012-2015 Forecast.xlsx."

b. Non-Coal Traffic Volumes.

With a few exceptions, NS generally accepts DuPont's approach for determining DRR volumes for non-coal traffic through 2015, using NS actual volumes for selected traffic for 2009 and 2010, and applying volume change indices based on NS forecasts to project traffic volumes for 2011 through 2015. *See generally* DuPont Opening III-A-7 to III-A-8.[46] As discussed below, however, DuPont's use of an amalgamated CAGR for projecting SARR traffic from 2016 through 2019 (including peak year traffic) is an error that would artificially inflate projected DRR traffic volumes during those years.

[46] NS does not accept DuPont's assertion that the coal volume projection approach adopted by the Board in the unique context and circumstances of the *CP&L* case should be expanded to all coal volume forecasts in SAC cases. Moreover, there is no basis to extend the logic of *CP&L* coal volume projections for certain closely grouped coal mine origin clusters in Central Appalachia to all rail freight traffic, and DuPont provides none. *See* DuPont Opening III-A-8 (offering only conclusory—and demonstrably false—assertion that "there is no difference between coal" and all other freight traffic for projections purposes). Indeed, the Board has made clear its preference for O-D-specific forecasts where such forecasts are available and accurate. Because the application of NS forecasts for other commodities on a non-O-D-specific basis appear reasonably accurate here, NS does not object to the use of commodity-based annual growth rate projections to project DRR non-coal traffic volumes in this case.

i. TCS Traffic.

NS rejects DuPont's selection of certain TCS movements for which NS does not collect any rail line haul revenues. Some of waybills for this traffic show zero NS line haul revenues and zero net tons. These waybills are duplicate waybills representing the non-NS portion of an interline move. That those waybills are duplicates is clearly demonstrated by are the fact that DuPont selected more than 309,200 TCS shipments on the DRR (*see* DuPont Opening WP "2010 IM.xlsx"), even though DuPont's own workpapers show that TCS only shipped 262,000 units in 2010. *See* DuPont Opening WP "TCS Revenue Data.xlsx." All of the waybills with zero line haul revenues and zero net tons originate from three locations—East Minneapolis, MN, Toronto, ON, and Saginaw, TX—none of which are on the NS system. NS has corrected that error by removing these non-NS duplicate shipments from the DRR traffic base in this Reply Evidence.

ii. Projected Traffic Volumes in 2016-2019.

As it did with coal traffic, DuPont projected volumes of all other DRR traffic using a CAGR commencing in 2009, the bottom of the recession and NS's lowest traffic volume year in the last several years. Using the 2009 low traffic watermark as the baseline for developing a mean growth rate for NS rail traffic overstates the likely growth rate in future years because it assumes that the rate of growth in traffic during the rebound from the recession will continue at the same rate from 2016 to 2019. There is no reason to anticipate that traffic growth would continue at the pace it followed coming out of the recession, and DuPont proffers none in its evidence. To NS's knowledge, the Board has never followed the CAGR escalation approach DuPont proposes in this case, and DuPont cites no authority to the contrary.[47]

[47] Without any explanation whatsoever, DuPont included a footnote in its traffic volume narrative reading in its entirety "*See AEPCO* at 23." DuPont Opening III-A-9. Review of the

To correct this distorting approach, NS has derived from its 2010 forecast a year-over-year 2014-2015 growth rate for each category of traffic, and applied that rate as the projected annual growth rate for each of those types of traffic for the subsequent years 2016 to mid-2019. *See* NS Reply WP "DRR Traffic Revenue Forecast – REPLY.xlsx." This approach of using the final year growth rate in the forecast for the remaining years of the SAC analysis period has been accepted in prior cases. For example, complainants used that approach for BNSF consumer and industrial traffic in the *AEPCO 2011* case, defendants accepted the approach, and the Board applied the approach in its SAC analysis. *See AEPCO 2011,* STB Docket No. 42113, at 23. Applying these growth rates to the 2015 volumes for each of the corresponding traffic types, NS developed a more reasonable and accurate projection of DRR non-coal traffic volumes.

iii. Leapfrog Cross-Over Traffic.

DuPont's SAC presentation is heavily reliant on cross-over traffic for most SARR revenue.[48] According to DuPont, approximately 79% of DRR traffic by revenue is cross-over traffic. *See* DuPont Opening III-A-18, Table III-A-7. While DuPont's SAC presentation relies so heavily on cross-over traffic and car-load traffic for SARR revenue, it fails to account for the operational requirements essential to make such a network work and adequately serve its

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Board's 2011 decision in the *AEPCO* case shows the cited page contains no mention, let alone discussion, of a CAGR approach to longer term carload traffic projections. *See AEPCO 2011,* STB Docket No. 42113, at 23. Instead, the Board discusses the parties' dispute about which long-term "top down" forecasts should be used for agricultural commodities, and decides to use a government (USDA) forecast. *See id.* This provides *no support whatsoever* for DuPont's unprecedented "CAGR" gambit in this case. To the limited extent it may be relevant, the Board's discussion on the cited page of the *AEPCO 2011* decision shows that it does *not* use—nor even consider –an average of an amalgam of past years traffic data and limited shorter term projections (let alone an average that is likely unrepresentative) to project future traffic growth in the long term.

[48] *See infra* Section III-C.

customers.[49] This fundamental flaw severely undermines DuPont's entire SAC analysis. To complicate matters further, however, DuPont attempts to introduce an entirely unprecedented new variant on cross-over traffic that stretches the concept past its breaking point. *See infra* Section III-C-A-5 (additional discussion of "Leapfrog Traffic" internal cross-over traffic distortion employed by DuPont).

DuPont proposes to expand the construct of cross-over traffic dramatically to allow the DRR to interchange the same traffic to the residual NS multiple times, forcing NS to move the traffic on as many as three separate, discrete segments, notably including segments within the geographic footprint of the SARR network. *See, e.g.,* DuPont Opening III-C-22-24. NS refers to these movements as "Leapfrog" trains, because the SARR effectively seeks to leap over difficult or costly segments in the interior of the SARR network. DuPont heavily relies on this impermissible traffic in its SAC evidence.

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[49] As the Board has recognized, the use of cross-over traffic in a complex network carrying significant volumes of carload and multi-car traffic may cause significant distortion of SAC analysis and results. *See, e.g., Rate Regulation Reforms*, STB Ex Parte No. 715, at 15-17 (served July 25, 2012). DuPont has postulated the largest and most complex SARR network ever presented. The DRR network consists of 8091 route miles, which dwarfs any other SARR network the Board has previously analyzed. See DuPont Opening III-B-1-4. The 23 separate main lines and 36 branch lines of the DRR cover 20 States and claim to replicate the heart of the NS system. *See id.*; DuPont Opening Ex. III-A-1. Moreover, the core network is a carload or general freight network—not a unit train network—which requires extensive yard operations, collecting cars from customers, building blocks, combining blocks into trains, moving those trains to yards to be broken apart and reclassified into new blocks and trains, and delivery to customers. DuPont's operating plan and associated operating parameters and costs fail to model such a network in a meaningful or coherent way, and even the over-simplified operating "plan" it does present is riddled with flaws and errors. *See generally* Section III-B. If this abject failure of proof does not result in the outright dismissal of the case, it will necessarily force the Board to adopt the operating plan posited by NS in this Reply Evidence. Because DuPont has wholly failed to provide an operating plan that could handle the cross-over traffic on the complex DRR network, its heavy reliance on cross-over traffic magnifies the analytical distortion about which the Board has expressed concern in recent cases and in the pending *Rate Regulation Reforms* rulemaking.

As the following Table III-A-13 demonstrates, the "Leapfrog" trains represent 26% of Reply DRR traffic in the peak year and 22% of its revenues.[50]

Table III-A-13
DRR "Leapfrog" Traffic and Revenue as a Percent of Total

Commodity Group		Shipments	Revenue
10	Ag	16%	17%
20	Metals	12%	15%
25	Construction	15%	19%
30	Paper	27%	31%
40	Chemicals	17%	15%
60	Auto	38%	43%
80	Coal	1%	1%
99	Intermodal	35%	35%
Total		**26%**	**22%**

By assuming that NS would move DRR traffic over certain interior segments, DuPont seeks to avoid the costs of building, maintaining, and operating expensive segments of what should be the SARR network. For example, in a routing followed by several different "Leapfrog" trains, one of several segments that DuPont carves out of the DRR network (and therefore leaves for the residual NS to handle) traverses the most difficult terrain of the "Heartland Corridor," between Roanoke, VA, and Chillicothe, OH. *See* DuPont Opening III-C-23. That segment—on which NS recently completed a very expensive project to open the route

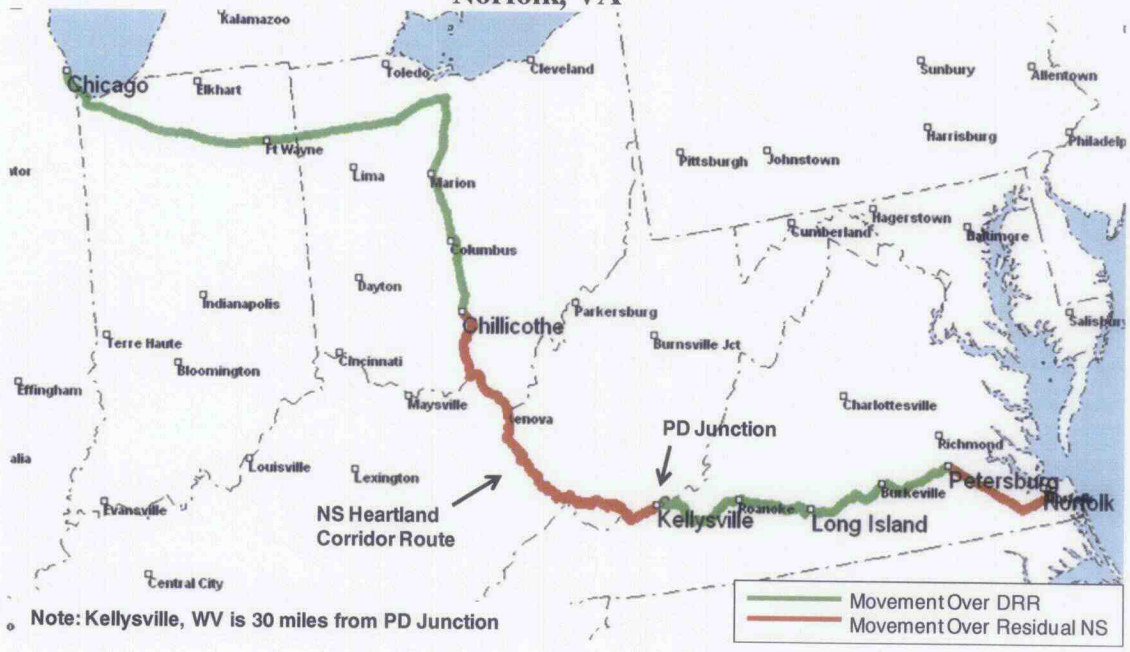
[50] It would be appropriate for the Board to exclude from the SAC analysis all such inappropriate internal cross-over "Leapfrog" traffic, which includes approximately 16,700 DRR trains in the base year of operations. NS has calculated the DRR revenue that should be disallowed should the Board determine that exclusion of revenue attributable to that traffic is the appropriate remedy. *See* NS Reply WPs "2010 AG 10 Reply.xlsx"; "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx"; "2010 Gen Merch 20_25_30 Reply.xlsx"; "2010 IM Reply.xlsx."(listing leapfrog shipments and associated DRR revenue). NS has not calculated the operating and investment expenses associated with this traffic, because to do so would require a substantial undertaking akin to a mini-SAC analysis, including running a separate RTC analysis and possibly making adjustments to the operating plan and SARR configuration and re-calculating corresponding operating and investment costs. Should the Board agree with NS that this Leapfrog traffic should be excluded from the SAC analysis, the parties would need to conduct such analyses and calculations to determine the costs associated with that traffic.

to higher speed, double-track trains—goes through very mountainous terrain, with steep grades and challenging curves, and it contains numerous tunnels and bridges.[51]

One example of DRR Leapfrog trains that traverse the Heartland Corridor are trains that run between Chicago and Norfolk. The #234 is an eastbound train that originates in Chicago, runs over the DRR to Bellevue OH, turns south to Chillicothe, OH, where the DRR would hand the train back to NS, which would carry the train over the Heartland Corridor to PD Junction, WV, where the train would be interchanged back to the DRR, to move to Petersburg, VA, where the DRR would then hand the train back to NS for movement to Norfolk and its destination. *See* DuPont Errata WP "Link between RTC and NS Train Names.xlsx." This particular Leapfrog movement is illustrated on the following map.

[51] *See* NS Reply Exhibit III-A-2 "Heartland Corridor DVD."

Leapfrog Train #234 Example:
Chicago, IL-DRR-Chillicothe, OH-NS-PD Junction, WV-DRR-Petersburg, VA-NS-Norfolk, VA



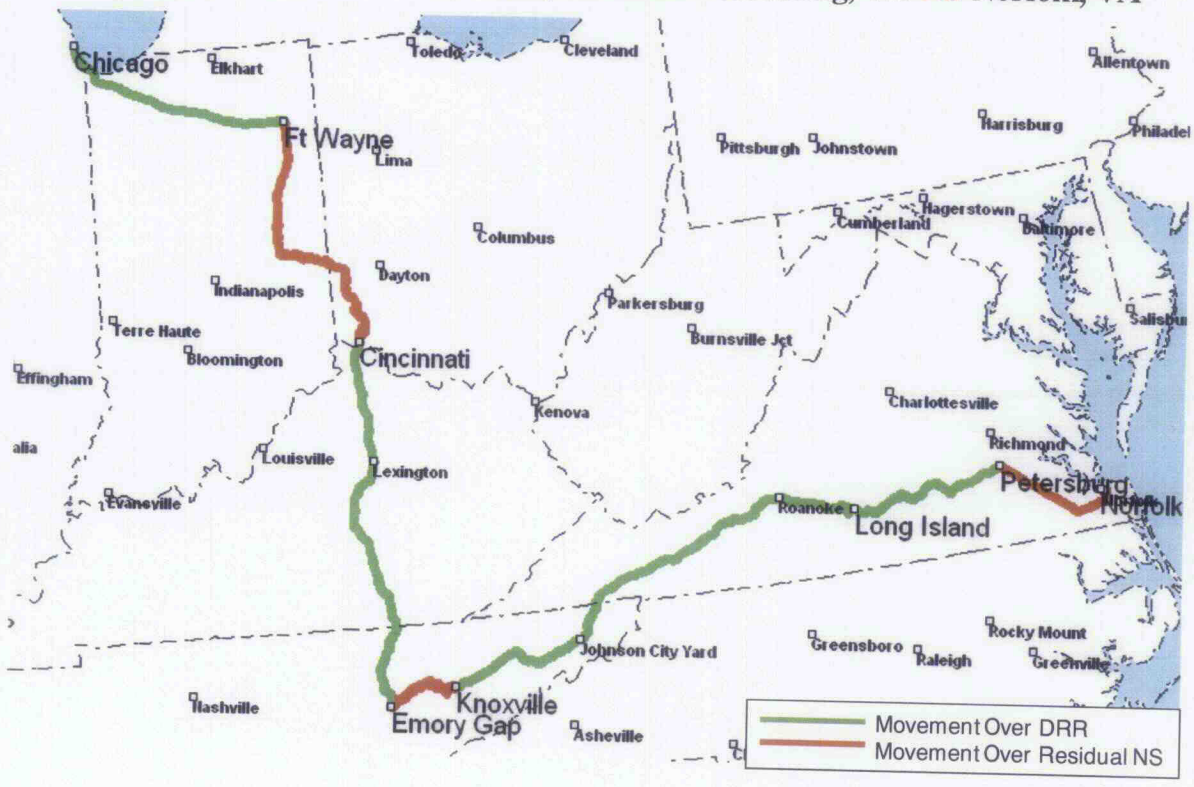
Positing that NS would build and operate the Heartland Corridor would allow the DRR to avoid the very substantial costs of constructing and operating that line (which includes numerous tunnels that would be costly to replicate), while still allowing the DRR to collect revenues from moving traffic over less expensive segments of the route.[52] Carried to its logical conclusion, this tactic could allow a complainant to avoid any expensive segment or facility on its SARR network traversed by non-issue traffic (even a single expensive bridge or tunnel), simply by assuming the residual incumbent will construct and operate that facility, and act as a bridge carrier for the SARR.

Another example is Train #236, which also departs from Chicago, IL on the DRR. The DRR would move the train to Fort Wayne, IN, where it would be forwarded to the residual NS.

[52] The costs NS incurred in connection with the recent Heartland Corridor project were to expand the clearance of existing tunnels. The cost to build the tunnels in the first instance would, of course, be significantly higher.

The train would then move over a Leapfrog segment on the residual NS from Fort Wayne, IN, to Cincinnati, OH, where it would be interchanged back to the DRR. Next, the DRR would operate the train to Emory Gap, TN, where it would be forwarded to the residual NS again, for movement over another Leapfrog segment, from Emory Gap, TN, to Knoxville, TN. At Knoxville, TN, the train would be interchanged back to the DRR, for movement to Petersburg, VA, where the DRR would again transfer the train to the residual NS. After three different segments on the DRR and five interchanges between the DRR and the residual NS, the third segment handled by the residual NS would move the train to its destination at Norfolk, VA. As the following map illustrates, the DRR fails to construct or operate three interior segments of that lane, assuming the residual NS would incur all of the costs necessary to move the traffic over those segments.

Leapfrog Train #236 Example: Chicago, IL-DRR-Ft Wayne, IN-NS-Cincinnati, OH-DRR-Emory Gap, TN-NS-Knoxville, TN-DRR-Petersburg, VA-NS-Norfolk, VA



This new gamesmanship goes much too far and employs a gambit that has never been recognized by the Board. It must not be allowed. If this sort of "cross-over" traffic were to become common, it would knock the legs out from under SAC principles and analysis and render the SAC process and test meaningless. This is distortion and abuse of the cross-over traffic device beyond any the Board has previously contemplated. The Board should nip this attempted manipulation of the process in the bud by clearly and unequivocally prohibiting cross-over traffic in which the SARR uses the residual incumbent as a bridge or overhead carrier on a segment or line of railroad that is internal to the SARR.

3. Revenues (historical and projected).

a. Single-Line.

NS largely accepts DuPont's calculations of historical and projected rates (revenues) for the DRR traffic group, with a few important exceptions. As detailed below, this Reply Evidence corrects errors in DuPont's calculation of actual and projected revenues from coal traffic, certain intermodal traffic, and fuel surcharges.

i. Coal

NS has made two adjustments to the coal revenue calculations DuPont presented in its Opening Evidence. *First*, NS used the final EIA AEO transportation rate escalator to update projected rate increases for coal traffic. *See* NS Reply WP "DRR Traffic Revenue Forecast – REPLY.xlsx." DuPont filed its opening evidence in April 2012, before EIA issued the AEO 2012 Final Release, and thus used the preliminary 2012 AEO early release rate escalator. *See* DuPont Opening III-A-16, Table III-A-6. Because NS is filing this evidence after EIA has issued its final 2012 AEO, and the Board generally prefers to use the most recent available AEO, NS has updated coal transportation rate escalations using the 2012 Transportation Rate Escalator.

See NS Reply WP "DRR Traffic Revenue Forecasts – REPLY.xlsx"; *see AEPCO* 2011, STB Docket No. 42113, at 22.

Second, NS corrected a spreadsheet look-up mistake that resulted in the erroneous addition of a 100% fuel surcharge to certain coal traffic. DuPont's opening revenue workpaper "2010 Coal 80-Chem 40-Auto 60.xlsx" contained an erroneous lookup in its fuel surcharge calculations. DuPont calculates the fuel surcharge for each move in the "Coal 80-Chem 40 - Auto 60" tab of the spreadsheet by using Excel's vlookup function. The formula uses the Contract Code or Commodity Group value for each movement to look up the corresponding Fuel Surcharge Index for each year of the SARR in a vertical Table in the "Growth Factors" tab. *See* DuPont Opening WP "2010 Coal 80-Chem 40-Auto 60.xlsx." The first column (column S of this Table) serves as the lookup value for the formula to match the corresponding Contract Code or Commodity Group value.[53] DuPont assigned transportation contracts individual code numbers from 1 to 134. *See id.* Each of those individual contract numbers is assigned percentage values corresponding to the contract's fuel surcharge indices for each year of the analysis period.

Above and preceding the individual contract fields in the same "Growth Factors" tab of DuPont's revenue spreadsheet is a series of "1" values, covering 10 columns and 9 rows (cells S17 to AC25). *See id.* These entries are not associated with any contracts and appear to have been input by mistake or as filler for unused cells in the spreadsheet. Because the vlookup function sequentially searches values in the table, however, when it sought the Fuel Surcharge Index for movements under Contract Code 1, it pulled in the values (also "1") in the first row of

[53] DuPont used contract fuel surcharge indices produced in discovery for some traffic, and default commodity-based average indices for fuel surcharges for all other DRR traffic. *See* DuPont Opening WPs "2010 Ag 10.xlsx"; "2010 Coal 80-Chem 40-Auto 60.xlsx"; "2010 Gen Merch 20_25_30.xlsx"; "2010 IM.xlsx."

"1" values (row 17), rather than the fuel surcharge indices corresponding to Contract Code 1 in row 29. The result is application of a fuel surcharge ratio of 100% of the base rate for all DRR movements under Contract Code 1 for all years of the SAC analysis period. To correct this error, NS deleted the "1" values in column S rows 17-25, to allow the vlookup to use the Growth Factor percentages corresponding to Contract Code 1. *See* NS Reply WP "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx." This correction reduced DuPont's overstatement of DRR fuel surcharge revenues by an average of $30 million per year. *See* NS Reply WP"2010 Coal 80-Chem 40-Auto 60 Reply.xlsx." (reduction of FSC revenues in various years ranging from $24 to $41 million per year).

ii. Intermodal.

(a) Because the DRR Does Not Account For the Costs of Certain Services Provided by TCS and TDIS, It May Not Claim the Revenues Generated by Those Services.

TCS and Thoroughbred Direct Intermodal Services ("TDIS") are providers of intermodal and logistics services. Although TCS and TDIS technically are subsidiaries of NS, they function as customers of NS that purchase rail transportation services from NS. The revenue the DRR would obtain by "stepping into NS's shoes" would be the rail line haul revenue NS collects for the rail segment of those intermodal movements. However, rather than treating TCS and TDIS as customers of NS and accepting the revenues that TCS and TDIS pay to NS, DuPont replaced the revenue NS collects from these customers (*i.e.*, the line haul revenue) with the total revenue collected by TCS and TDIS for the various services they provide to third parties (including, for example, trucking services from origin to the intermodal facility, revenues for rail line-haul services provided by NS as well as rail carriers other than NS, intermodal lifts, trucking

services from the intermodal facility to the final destination, etc.). *See* DuPont Opening Ex. III-A-2 at 14-15.

With the exception of drayage costs, DuPont's SAC evidence does not assume the costs of facilities, equipment, personnel, materials and other expenses necessary to provide the services required to earn the revenues earned by TCS and TDIS. DuPont failed to include large operating costs that TCS and TDIS incur each year in order to provide non-rail line haul services. The accounts payable files NS produced in discovery show that TCS paid out over {{ }} in 2010 and TDIS paid {{ }} in 2010. *See* NS Reply WP "TCS TDIS AP Summary.xlsx." DuPont also ignored the following data produced in discovery:

- TCS pays foreign railroads {{ }} each year ({{ }} in 2010) to move TCS customers' shipments over non-NS lines (*See* NS Reply WP "TCS TDIS AP Summary.xlsx.");
- TCS pays {{ }} each year to contractors who operate terminals for TCS (*See* NS Reply WP "TCS TDIS AP Summary.xlsx.");
- TCS and TDIS incur significant payroll expenses
    - TCS has {{ }} employees, costing nearly {{ }} in salary and benefits (*see* NS Reply WP "Triple Crown Employee Data.xlsx")
    - TDIS has {{ }} employees, costing over {{ }}in salary and benefits (*see* NS Reply WP "TDIS Personnel.xlsx");
- TCS and TDIS lease office space for their employees (*see* NS Reply WPs "TCS Leases.xlsx" and "TDIS Leases.xlsx");
- TCS also leases intermodal facilities and buildings it uses for its operations (*see* NS Reply WP "TCS Leases.xlsx");
- TCS and TDIS paid Transworks over {{ }} for IT system expenses (*See* NS Reply WP "TCS TDIS AP Summary.xlsx."); and
- TDIS leases over {{ }} trailers. (*see* NS Reply WP "TDIS Equipment Lease.xlsx").

Further, DuPont failed to include capital investment costs paid by TCS to allow it to conduct its business and support its operations. For example, TCS owns equipment, including 4,000 bogies and over 6,000 trailers, with an original book value of over {{ }} *See* Reply WP "TCS Fixed Assets.xlsx." In addition to the initial cost of purchasing this equipment, TCS incurs ongoing costs to maintain and replace this equipment.

Ignoring these costs while incorporating TCS's and TDIS's total revenues violates fundamental SAC principles, Board precedent, and basic economic principles, and must be rejected. It is axiomatic that a complainant's SAC presentation must account for the costs of constructing, operating, and maintaining the facilities necessary to generate the revenues claimed by its SARR. *See, e.g. Coal Rate Guidelines,* 1 I.C.C.2d 520, 542-43; *AEPCO 2011,* S.T.B. Docket No. 42113, at 4-5 (SAC analysis must develop and present "investment requirements and operating expense requirements (including such expenses as . . . personnel, material and supplies, and administrative and overhead costs) in order to generate the revenue requirements of the SARR).[54] DuPont's failure to account for the costs of TDIS and TCS services compels the exclusion of revenues for those services.

Surprisingly, DuPont's evidence makes no attempt whatsoever to explain or justify its fallacious assumption that the DRR could collect the revenues earned by TCS and TDIS without incurring all of the costs necessary to generate them. Instead, DuPont simply states that, for its selected traffic, it summed all TCS or TDIS revenues to produce DRR revenue. *See* DuPont

[54] The DRR "operating plan" also does not provide for the operation of over-the-road trucking and other non-rail services provided by TCS and TDIS. Here again, if the DRR is to obtain revenues from these two entities' non-rail services, its operating plan must either account for the DRR's performance of those non-rail services or assume that TCS and TDIS would perform those services and charge the DRR for them. DuPont's evidence does neither, effectively assuming for both operational and cost purposes that those services would be performed by a third party that effectively would donate the resulting revenues to DRR.

Opening III-A-15. DuPont's case-in-chief thus utterly failed to meet its burden of proof—indeed it has not even met the threshold requirement of producing *any* evidence or argument—regarding the costs associated with attributing to the DRR all of TCS's and TDIS's revenues.

(b) Attributing to the DRR Revenues from Traffic that Use Facilities that are not Shared by the Issue Traffic Would Create an Impermissible Cross-Subsidy.

Because the over-the-road truck hauling, rail movements on systems other than the DRR and other non-rail services provided by TDIS and TCS use facilities that are not shared by the issue traffic, attributing revenues from those services to the DRR would constitute an impermissible cross-subsidy of the issue traffic. As the Board has explained, just as issue traffic may not be forced to cross-subsidize non-issue traffic by paying for facilities that it does not use, it is also impermissible for non-issue traffic to cross-subsidize issue traffic by paying for facilities that non-issue traffic does not use. *See PPL Montana, LLC v. BNSF Ry. Co.*, 6 S.T.B. 286, 293-95 (2002); *Otter Tail*, STB Docket No. 42071, at 23-30. In both *PPL Montana* and *Otter Tail*, the Board dismissed a rate reasonableness case based on a finding that a segment of the SARR that did not share facilities with the issue traffic would cross-subsidize the issue traffic. At minimum, the Board should reject DuPont's similar attempt to attribute to the DRR revenues for services it would not provide, and the resulting overstatement of DRR revenues.

As the Board explained in *Otter Tail,* "a complainant may share the cost of the infrastructure required to serve it only with other shippers using those same facilities." *Otter Tail,* STB Docket No. 42071, at 24. The trucking segments of TDIS and TCS movements do not share facilities with the issue traffic. As demonstrated in the previous section, DuPont tacitly assumes the DRR would not pay for TDIS and TCS non-rail facilities, equipment, and services. Therefore, attribution of any net revenue generated by TDIS or TCS trucking services to the

DRR would constitute a subsidy of the issue traffic by the trucking and supply chain management services provided by TCS and TDIS. The Board could thus dismiss this case altogether because the non-rail TCS/TDIS revenues DuPont attributed to the SARR in its case in chief constitute a cross-subsidy of the issue traffic by traffic and services that share no facilities with the issue traffic.

Together, DuPont's inclusion of TCS and TDIS revenues to which the DRR would not be entitled overstates DRR revenues by $168 million in 2010. See NS Reply WP "2010 IM Reply.xlsx." To correct the DRR revenue overstatement, NS unwound DuPont's substitution of TCS and TDIS revenues for NS's rail line haul revenues for affected movements. First, NS subtracted DuPont's TCS and TDIS overall revenue calculations from DuPont's Total Revenues for 2009 and 2010. *See* NS Reply WPs "2009 Reply.xlsx;" "2010 IM Reply.xlsx." NS next applied DuPont's waybill aggregation method to the original TCS and TDIS waybills to recapture the rail line haul revenues for each TCS/TDIS movement on the DRR. *See id.* Finally, NS used the resulting rail line haul revenue figures to restore the correct line haul revenue data for those movements in the spreadsheets used to calculate SARR revenues. *See id.*

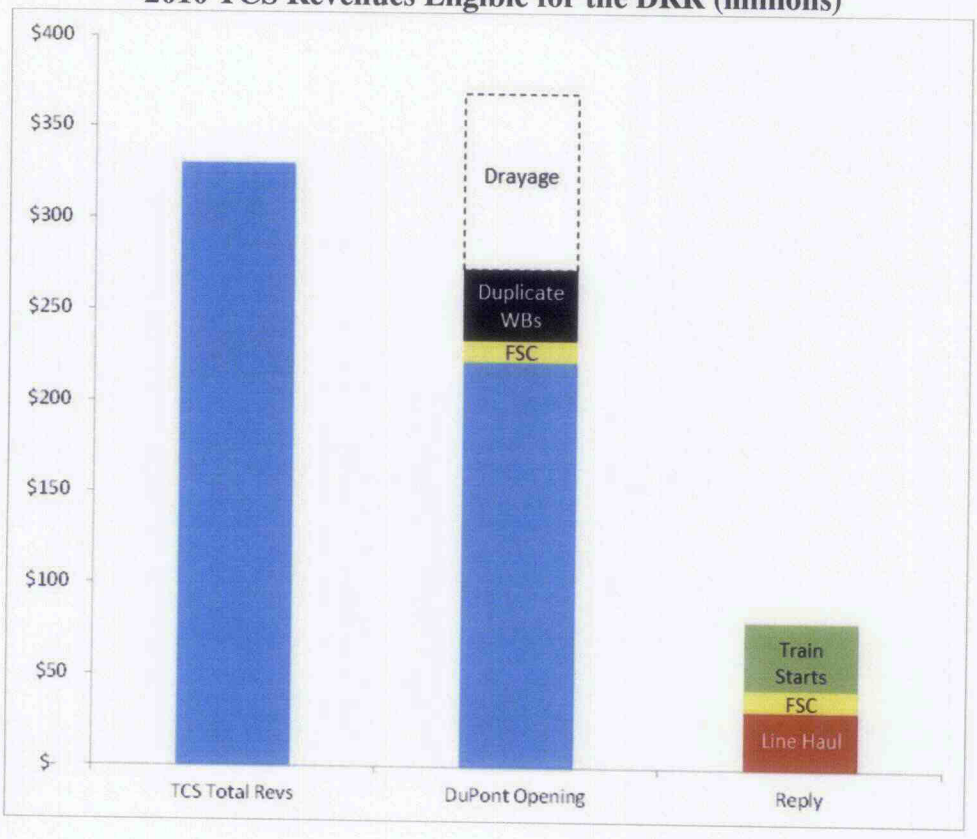
In addition, while DuPont greatly overstated TCS revenues, it failed to include TCS miscellaneous waybills in DRR revenues. These waybills represent train start revenues that TCS pays to NS. NS bills these charges for various TCS lanes once per month, totaling {{ }} each year in 2009 and in 2010. Because the waybills do not specify the location of these charges to TCS, NS allocated them to the DRR based on the ratio of line haul revenues and train start revenues in each year. See NS Reply WPs "TCS Misc WBs.xlsx;" "2009 Reply.xlsx;" and "2010 IM Reply.xlsx."

(c) TCS Traffic Having No NS Rail Revenue.

As discussed above, NS hasF excluded from the DRR traffic group TCS movements that have no NS line haul revenue and zero tons. *See supra* III-A-2-b-i. Despite these being duplicate waybill records with no NS revenue, DuPont assigned the average total TCS revenues to these moves. As a result, not only does DuPont assign revenue to which the DRR is not entitled, but for these moves it effectively double-counts the revenues that TCS actually received. The total amount of this double-count is $45.2 million in 2010. Using this and other overreaches, DuPont "assumed" for the DRR more revenues (minus drayage) than TCS actually collected in 2010. NS has addressed this revenue overstatement by eliminating this traffic from the DRR and then restoring the correct line haul revenues for TCS moves. *See* NS Reply WP "2010 IM Reply.xlsx."

If the Board decides dismissal of this case in its entirety is not an appropriate remedy for DuPont's misattribution of revenues, it must nonetheless correct DuPont's substantial overstatement of TCS and TDIS revenues and, at a minimum, adopt NS's calculation of revenues for TCS and TDIS traffic in 2009 and 2010. This reduction to TCS revenues eligible for the DRR in 2010 is $192 million as illustrated in the following Table III-A-14.

Table III-A-14
2010 TCS Revenues Eligible for the DRR (millions)



(d) DuPont Also Miscalculated TCS Revenue Growth from 2010 through 2011.

DuPont made a related, further error in calculating revenue growth rates for TCS traffic in 2011. The error—using a different and incorrect data source for 2010 NS rail revenues—resulted in a substantial understatement of growth in TCS in calendar year 2011. Instead of using NS's actual rail revenues reported in the NS waybill revenue files for TCS traffic, DuPont instead used gross intermodal revenue data reported in an *NS Quarterly Financial Review* for the fourth quarter of 2010. Using that data, DuPont derived an estimated average revenue per ton for TCS traffic for 2010. *See* DuPont Opening WP "DRR Traffic Revenue Forecast—OPENING.xlsx." DuPont then used NS's internal revenue forecast to calculate intermodal revenue per ton for TCS. *See id.* Because NS's forecast projects only the revenue that NS itself

receives (in the case of TCS, the NS rail line haul revenue) and does not include the revenues generated and collected by TCS for non-line-haul services, DuPont was comparing apples and oranges. The result of DuPont's comparison of gross intermodal revenue for 2010 with rail line-haul intermodal revenue for 2011 was an apparent negative growth rate of 17.6% for TCS revenues in 2011. This, in turn, results in a significant understatement of 2011 revenues for the TCS traffic selected for the DRR traffic group.

NS has corrected this error by using the TCS and intermodal revenues reported in the revenue waybill data for 2010 and 2011 that it produced to DuPont in discovery, rather than the document DuPont relied upon, which was prepared for different purposes and reports different data. NS determined the revenue per ton for TCS traffic in 2010, used its forecast to determine the projected TCS revenue per ton for 2011, and calculated a growth rate based on the difference between revenue per ton in the two years. *See* NS Reply WP "DRR Traffic Revenue Forecast - REPLY.xlsx."[55] This corrected growth calculation changes TCS revenue per ton in 2011 from the 17.6% *decrease* presented in DuPont's opening evidence to a 4.4% *increase,* thereby substantially increasing revenues for the TCS traffic selected for the DRR. Table III-A-15 reflects this NS correction of DuPont's calculation of 2011 DRR revenues.

Table III-A-15
2011 Corrected DRR Revenues

	2010	**2011**	**Increase/ Decrease**
Opening	$533	$439	-17.6%
Reply	430	439	4.4%

[55] For the forecast years after 2011, DuPont developed an accurate projected growth rate for TCS traffic using the NS December 2010 forecast.

iii. Fuel Surcharge.

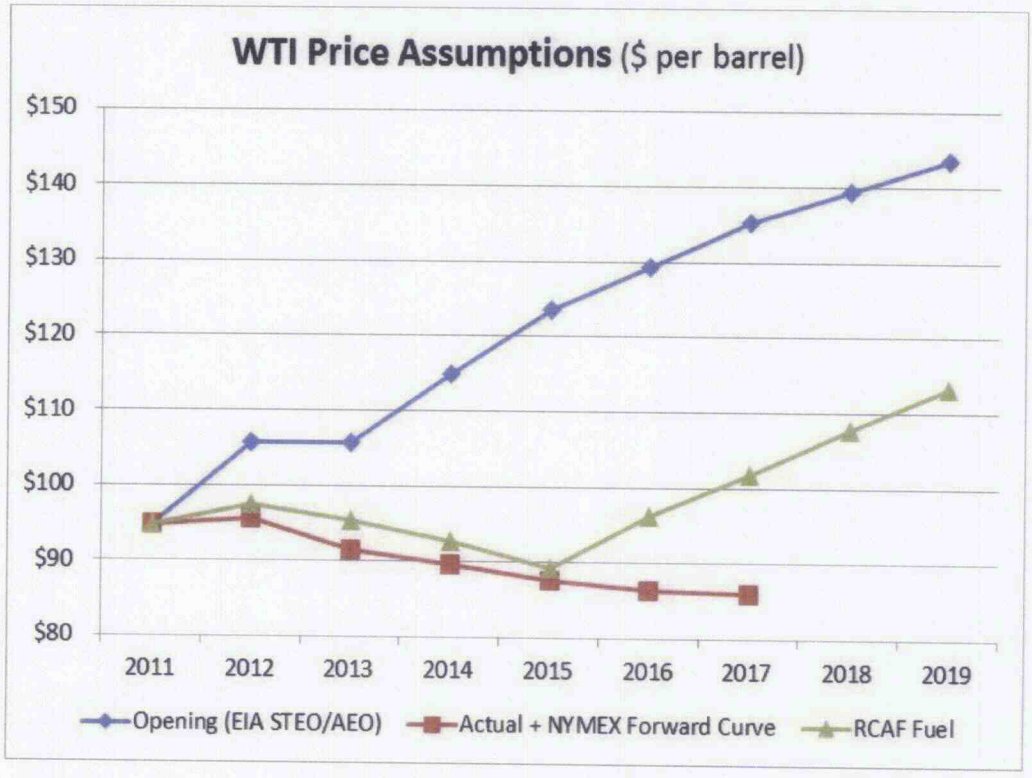
DuPont introduces a significant distortion into its SAC evidence by using two different indices to project changes in the price of diesel fuel. To minimize DRR fuel *costs*, DuPont used an index that predicts that the price of diesel fuel will be flat or decreasing over the relevant time period. But to maximize DRR fuel surcharge *revenues*, DuPont uses an index that predicts that the price of that very same diesel fuel will increase significantly over the identical time period. A proper SAC analysis must make consistent fuel price escalation assumptions for the SARR's own fuel costs and for its fuel surcharge revenues. NS's Reply Evidence corrects DuPont's self-serving attempt to have it both ways.

Consistent with Board precedent, DuPont uses a hybrid RCAF-A/RCAF-U index for projecting fuel costs as a component of SARR operating expenses. *See Major Issues*, Ex Parte 657 (Sub-No. 1), at 39-47. That index predicts diesel fuel prices to be flat initially and ultimately to decline from current levels. However, rather than adopting the same diesel fuel price assumptions for purposes of forecasting the DRR's fuel surcharge revenues, DuPont instead makes the self-serving choice of using EIA data that instead forecasts the very same diesel fuel costs to increase over the SAC period, resulting in dramatically higher fuel surcharge revenues than would be derived from the hybrid RCAF-A/RCAF-U index.

Specifically, in calculating fuel surcharge revenues, DuPont used EIA's Short Term Energy Outlook to project fuel prices for the 2011-2013 period and EIA's Annual Energy Outlook for 2014 through 2019. *See* DuPont Opening III-A-17; DuPont Opening WP "WTI & FSC Calc.xlsx." The EIA forecasts used by DuPont project a substantial increase in fuel prices between 2011 and 2019—amounting to a cumulative increase of 54% by the end of the SAC analysis period. This substantial increase in diesel fuel prices contrasts starkly with other reputable independent sources, which forecast fuel prices to increase at a much lower rate and

even to decline over the next decade. By way of example, Graph III-A-16 shows the divergence between EIA's projection and the projections of Global Insight and of the New York Mercantile Exchange ("NYMEX").

Graph III-A-16
EIA, Global Insight, and NYMEX Fuel Price Projections[56]



Graph III-A-16 shows that, while the index DuPont chose to use projects a substantial, steady increase in fuel prices to unprecedented levels, two other respected indices alternatively predict that fuel prices will be largely flat or in decline modestly through 2019. The Global Insight forecast is of particular significance because it is used to determine the fuel component in the RCAF-A and RCAF-U fuel cost projections that DuPont used for its fuel costs. *See* NS Reply WP "GI Email.pdf."

The primary problem with DuPont's approach is not simply that it chose an outlier forecast for fuel price escalation. The fundamental problem is that it uses the EIA forecast to

[56] Source: NS Reply WP "WTI & FSC Calc Reply.xlsx"

escalate DRR fuel surcharge *revenues* while using a different forecast predicated on lower fuel prices to escalate DRR fuel *expenses*. Specifically, DuPont's discounted cash flow model for the DRR "applies Global Insight's March 2012 RCAF-U and RCAF-A forecasted indexes" to escalate DRR operating expenses from the third quarter of 2012 until 2019. DuPont Opening III-G-7. As demonstrated above, Global Insight projects that fuel prices will not significantly increase between 2012 and 2019, and uses that assumption to develop its RCAF projections. DuPont is therefore relying on one set of fuel price assumptions for fuel surcharge revenue projections and another substantially different set of assumptions for fuel expense projections. DuPont seeks to have it both ways by assuming that rising fuel prices would allow the DRR to generate additional DRR fuel surcharge revenues, but that the prices the DRR actually would pay for fuel would remain flat. The Board must not tolerate this transparent attempt to game the SAC analysis.

NS's Reply Evidence corrects the mismatch in DuPont's projections by using the same fuel price index for both fuel surcharge revenue and fuel expenses. Specifically, NS uses the actual WTI prices available from the EIA through 2012 and uses Global Insight's RCAF Fuel component forecast to index DRR fuel surcharge revenues for remaining years.[57] *See supra* III-A-69 to III-A-71; NS Reply WP "WTI & FSC Calc Reply.xlsx." As discussed above, Global Insight's RCAF Fuel forecast is based on its Diesel PPI forecast. *See* NS Reply WP "GI Email.pdf." And while NS's fuel surcharge is based on WTI prices rather than diesel, WTI prices

[57] NS also updated DuPont's flawed FSC calculation by using the most recent EIA Short-Term Energy Outlook from November, 2012. The EIA's updated WTI forecasts significantly lower DuPont's WTI prices for 2012 and 2013 respectively from $104 and $106 per barrel to $95 and $88 per barrel. The lower 2013 price lowers prices in the remaining years of the DRR since 2013 as the base year for the AEO forecast.

and diesel prices are highly and closely correlated. *See* NS Reply WP "Fuel Price Indices.xlsx" (demonstrating a correlation coefficient of 95% for WTI prices and the Diesel PPI since 2008).

Use of the Global Insights forecast for both fuel costs and fuel surcharges is the only way to correct the mismatching issue consistent with the Board's rules and regulations. As noted above, the *Major Issues* rulemaking mandated the use of a hybrid RCAF-A/RCAF-U index for projecting SARR operating expenses. *See Major Issues*, Ex Parte 657 (Sub-No. 1), at 39-47. Using a different index to escalate operating expenses (or creating an altered RCAF index with higher fuel cost assumptions) would be an impermissible collateral attack on *Major Issues*. In order to calculate DRR fuel surcharge revenues and fuel expenses in a consistent manner, it is therefore necessary to use the fuel component of the RCAF to index DRR fuel surcharge revenues. Accordingly, NS uses this reasonable and consistent approach in this Reply Evidence.

DuPont may attempt to counter that EIA data was used to estimate future fuel surcharge revenues in a prior case. *See AEPCO 2011*, STB Docket No. 42113, at 26-28. But because all parties in *AEPCO 2011* accepted the use of EIA data for this purpose (although they differed on how to properly weight the EIA's STEO and AEO), the Board's decision in *AEPCO 2011* had no occasion to address the mismatch between the use of EIA forecast data for SARR fuel surcharges and the use of RCAF projections to calculate SARR fuel costs. And *AEPCO 2011*'s admonition that parties use "reasonably accurate estimates" of fuel costs plainly does not allow DuPont to use EIA data projecting dramatic fuel price increases in order to inflate fuel surcharge *revenues,* while using a separate different data source that assumes that fuel prices will stay the same or decline to minimize DRR fuel *costs*. *See id.* at 28.

Forecasts are inherently uncertain, and there is no way to determine with any accuracy today whether EIA is correct that future fuel prices will spike upward, whether NYMEX is right

that future fuel prices will steadily decline, or whether Global Insights is right that future fuel prices will remain essentially flat in coming years. But what is essential to a coherent analysis is that the same fuel price projections be used for forecasting both DRR revenues and DRR operating expenses. SAC complainants may not take flatly inconsistent positions by using high projections for fuel surcharge revenues and low projections for fuel expenses. The Board should reject DuPont's attempt to game the SAC result, and adopt the consistent and coherent approach NS uses in this Reply Evidence.

b. Divisions—Existing Interchanges.

DuPont's Opening Evidence substantially understated the payments NS made to handling and switching carriers for the traffic selected for the DRR, thereby substantially overstating DRR revenues in the first year of its operation and every year thereafter. These overstatements resulted from DuPont's technical implementation errors despite NS's clear instructions for calculating the payments. Pursuant to the Board's decision in *IPA,* "[t]he complainant cannot claim that a technical error, brought on by the complainant's own mistake, is grounds for it to modify a core part of its evidence after the carrier has [] filed a reply to that evidence." *IPA*, STB Docket No. 42127, at 3. NS's Reply corrects those errors, resulting in an initial year reduction in DRR revenues of approximately $87 million.

i. Handling Carrier Payments.

The source of DuPont's error is its method of matching NS car and waybill records for purposes of identifying NS payments to handling and switching carriers. More specifically, DuPont's fundamental error was its failure to use a date *range* to match car, equipment, and waybill records with interchange dates in the NS handling records. DuPont's insufficient matching process used the Equipment Initial, Equipment Number, and *Waybill Date* in the NS LEAD_UNIT waybill file to match to the Car Initial, Car Number, and *Interchange Date* in the

NS handling records. The problem with this approach is that for any given car, block of cars, or even full unit train, the waybill date, and the interchange date usually are not the same. This makes sense, because most rail car shipments from origin to destination take place over more than one day. Application of DuPont's truncated approach identified only a small percentage of all handling records—those for which the handling interchange occurred on the same date as the waybill issuance date.

DuPont acknowledged in its Opening Evidence that NS's instructions that accompanied its production of the relevant records and data expressly advised that a date *range* must be used in the matching process.[58] Despite this acknowledgement, DuPont made no effort to actually use a date range. DuPont's incomplete approach fails to take into account the fact that the waybill date should not be expected to match the interchange date, especially when—as is often the case—the handling event occurs on the termination. The waybill date is the date the movement (car, cars, or train) originates. The Interchange Date, in contrast, is the date when a car is interchanged with the handling carrier. Assuming the car takes several days to reach its destination, the Interchange Date will be several days after the waybill date. If a car dwells in a yard or elsewhere during a move, the difference between the waybill date and the interchange date could be several weeks. Similarly, even when the handling by another carrier takes place at the origination of the movement, the interchange date is sometimes recorded a few days before or after the waybill date.[59]

As a result of DuPont's narrow and incomplete matching approach, it matched records accounting for a mere $17.3 million {{ }} handling payments NS

[58] DuPont Opening Ex. III-A-2, at 11.

[59] The date differences may occur for a variety of reasons, including for example delayed data entry by the handling carrier, cars dwelling on the handling carrier system, and difficulties in data transmission or exchange between carriers.

incurred in 2010. At the same time, DuPont selected 86% of all NS non-intermodal cars for inclusion in the DRR traffic group.[60] Thus, while DuPont selected 86% of NS traffic, it applied only {{ }} of NS's handling payments for that traffic, resulting in a significant understatement of payments NS made to handling carriers for DRR traffic.[61]

NS has corrected DuPont's deficient approach by using a date range surrounding the waybill date to match to the corresponding interchange date and handling records. In this Reply Evidence, NS has used a date range for the waybill date/interchange date to improve the match rate.[62] The date range NS used was from one day before the waybill date (-1) through 30 days after the waybill date (+30). *See* NS Reply WP "NS ATC SQL Scripts.xlsx." Using a wider range of dates would have captured additional records, but NS conservatively used a 31 day period. NS's matching process resulted in $122 million in handling payments for the DRR records (before ATC). *See id.* The corrected handling carrier payment amount derived by NS on Reply represents {{ }} of NS's total handling payments and over $100 million more than DuPont identified. NS has appropriately applied those handling carrier payments to reduce DuPont's overstatement of DRR revenues. *See* NS Reply WPs "2010 AG 10 Reply.xlsx"; "2010 Coal 80-Chem 40-Auto 60 Reply.xlsx"; "2010 Gen Merch 20_25_30 Reply.xlsx"; "2010 IM Reply.xlsx."

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[60] NS does not use handling carriers for intermodal traffic, so that traffic is appropriately excluded from this calculation of the percentage of traffic DuPont selected for the DRR.

[61] Assuming that handling carrier activity is fairly evenly distributed across NS traffic, it would be reasonable to expect that 86% of NS traffic would involve a roughly similar proportion of NS handling carrier interchanges and payments. Even if handling carrier activity distribution is not entirely even across NS traffic, it is very unlikely that nearly nine in ten NS movements account for only one in ten handling carrier payments.

[62] NS used a slightly different matching process whereby it first matched the handling records to the full NS waybill file and then joined those results using DuPont's Lead_Unit waybill approach.

ii. Switching Carrier Payments.

DuPont's switching carrier record matching approach also resulted in an overstatement of DRR revenues. Moreover, although DuPont purported to follow the method NS provided for purposes of illustration in its attack on NS's data, it did not even *attempt* to follow that approach in the calculations it actually used to determine DRR revenue. *Compare* DuPont Opening Ex. III-A-2 *with* DuPont Opening WP "Filing - DRR Traffic Selection Methodology scripts and tables_vF.xlsx, Traffic Selection Methodology tab, Step 10."[63] As DuPont's Opening Exhibit III-A-2 notes, NS provided a 3-step process for matching switching data to waybill data.

Matching Criteria:

> 1. Match WB SERIAL, CAR INITIAL and CAR NUMBER from switching file to WBSN, EQINIT and EQNUM on large revenue file.
>
> 2. Match WB SERIAL, CAR INITIAL and CAR NUMBER from switching file to MCXREFSN, EQINIT and EQNUM on large revenue file.
>
> 3. Match CAR INITIAL, CAR NUMBER and WB DATE from switching file to EQINIT, EQNUM and WBDT on large revenue file. (Note: Need to use a date range for waybill date on step 3).[64]

For purposes of its actual SAC analysis, however, DuPont only used a version of the first step, matching records based on waybill serial numbers. DuPont failed to make any effort

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[63] NS explains the flaws in the approach DuPont used to attempt to illustrate—using a single month's data—the purported difficulties in matching waybill and switching records in its refutation of DuPont's complaints about alleged deficiencies in NS data. *See* NS Reply Ex. III-C-7. It is important to emphasize, however, that the approach DuPont used for its actual SARR revenue calculations and SAC analysis did not even apply the approach DuPont used in its illustration. The approach DuPont used in its Exhibit, while still flawed, was more accurate than the approach it used in its actual case-in-chief. But, DuPont declined to use that approach because it found the appropriate date range "surprisingly long" and "cumbersome." *See* DuPont Opening Ex. III-A-2, at 11.

[64] DuPont Opening Ex. III-A-2, at 9.

whatsoever to follow steps 2 and 3. Because it did not follow Step 3, DuPont also failed to include a date range for that essential step. As a result, DuPont only matched approximately one-half of the total switching payments of {{ }}on the entire NS system.

To correct DuPont's understatement of switching carrier payments, NS's Reply Evidence follows all three steps set forth in the instructions it provided to DuPont. First, NS matched records based on waybill serial number. Second, NS matched the waybill serial number and car initial and number in the switching data file to the multi-car serial number (MCXREFSN) on the revenue waybill file. Finally, NS used the Equipment Initial, Equipment Number, and Waybill Date in the revenue waybill file to match to the Car Initial, Car Number, and Waybill Date in the switching file. *See* NS Reply WP "NS ATC SQL Scripts.xlsx." The third and final step is similar to the proper matching of handling records, and NS used the same date range it used for handling records—one day before the waybill date (-1) through 30 days after the waybill date (+30).[65] NS's approach identified $88 million in net switching payments for the traffic DuPont selected for the DRR.[66] *See* NS Reply WP "Revenue Waybill Summary.xlsx." NS used the resulting switching payments to correct DuPont's understatement of those payments and reduce the resulting overstatement of DRR revenues. *See id.*

c. Divisions—Cross-Over Traffic.

This Reply corrects two primary errors in DuPont's allocation of revenues from cross-over traffic, which accounts for approximately 79% of DRR traffic by revenue. *See* DuPont Opening III-A-18, Table III-A-7. *First,* DuPont grossly understated the off-SARR miles for many cross-over movements, which resulted in over allocation of cross-over revenues to the

[65] As with handling, the process NS first matched the switching records to the full NS waybill file and then joined those results using DuPont's Lead_Unit waybill approach. *See* NS Reply WP "NS ATC SQL Scripts.xlsx."

[66] NS used the same process to match switching receivable records.

DRR regardless of which revenue allocation is applied. *Second,* DuPont used the so-called "Modified ATC" revenue allocation approach that the Board created as an *ad hoc* method in a single individual case. That amended method was rejected and remanded to the Board by the D.C. Circuit *before* DuPont filed this case, and the Board's decision attempting to resurrect that amended approach and re-apply it was issued *after* DuPont filed the final version of its Opening Evidence. The Board's decision seeking to re-apply the method previously rejected by the D.C. Circuit is again pending on appeal to that Court. *See BNSF Ry. Co. v. Surface Transp. Bd., et al.,* D.C. Circuit No. 12-1327 (July 23, 2012) (appealing *Western Fuels v. BNSF Ry. Co.,* STB Docket No. 42088 (June 15, 2012)). Thus, at all times relevant to DuPont's filing of its evidence, the only properly adopted and judicially approved revenue allocation methodology was the original ATC method adopted in *Major Issues*. Moreover, even if the modified cross-over revenue allocation rule the Board sought to apply in *Western Fuels* were substantively adequate and reasonable, the Board's independent failure to conduct notice-and-comment rulemaking to promulgate a substantive amendment to the ATC rule adopted in such a rulemaking would render that amendment invalid under the Administrative Procedure Act. NS corrects DuPont's erroneous application of an invalid and unlawful revenue allocation approach by applying original ATC to allocate cross-over traffic revenues. *See* NS Reply WP "DRR_2010_TRAFFIC_ATC_OPENING_v1_041412 Reply.xlsx."[67]

[67] The Board has proposed a new cross-over traffic revenue allocation methodology in a pending rulemaking. *See* Rate Regulation Reforms, STB Ex Parte No. 715, at 6-9. Because the Board may determine it is appropriate to apply that methodology, NS has developed revenue allocations applying that method as well. *See* NS Reply WP "DRR_2010_TRAFFIC _ATC_OPENING_v1_041412 Reply.xlsx." And, NS has provided revenue allocation calculations using the so-called "Modified ATC" approach that could be applied in the unlikely event that the Board were to apply that invalid and discredited approach in this case. *See id.*

i. DuPont's Significant Mileage Errors.

As explained below, DuPont made technical errors that resulted in substantial understatement of off-SARR miles for cross-over traffic that in turn caused over-allocation of cross-over traffic revenues to the DRR and under-allocation to residual incumbent NS. NS has corrected those errors in its Reply Evidence.

In order to develop its URCS variable costs calculations for use in applying its cross-over traffic revenue allocation approach, DuPont calculated on-SARR and off-SARR mileages for each DRR waybill. To calculate DRR and residual NS miles, DuPont matched the event records for each waybill with data it generated from PC Miler, in order to determine the distance between Standard Point Location Code ("SPLC") pairs along the NS system. DuPont's erroneous implementation of this attempted process caused significant understatement of off-SARR miles for cross-over traffic.[68] As explained and illustrated below, DuPont incorrectly joined two SQL tables, which resulted in the elimination—from DuPont's total miles calculations—of any line segments that did not include DRR mileages. *See* DuPont Opening WP SQL file: tmp_ATC_REV_SPLC_Pair_DRR_Summary. This pervasive error affected the mileage calculation for nearly every cross-over move.

DuPont used the event records to determine the SPLC pairs between which each shipment traveled. DuPont flagged each SPLC pair that contained a DRR station with a "1." It identified any SPLC pair that does not include a DRR station with a "0" (zero). DuPont then grouped SPLC pairs (which are typically less than ten miles long) into larger segments that it labeled "Line IDs") covering the route. DuPont then created a temporary Table for each cross-

[68] For purposes of cross-over traffic revenue allocation, NS accepts the on-SARR mileages presented by DuPont in its opening evidence. Also for that purpose, NS accepts DuPont's fixed cost calculations.

over move containing the total Line IDs and the total miles for each line segment. *See id.* DuPont created another temporary Table with all of the line segments on the DRR and corresponding DRR miles. *See id.* DuPont's error appears to have occurred when it joined the two tables to determine the total miles for a cross-over movement. *See id.* Using that total miles calculation, DuPont then subtracted the DRR miles to calculate the residual miles. DuPont's erroneous approach, however, only calculated total miles for those Line IDs that are at least partially on the SARR. *See id.* As a result, all Line IDs that did not include DRR miles were excluded from the total miles calculation. Subtracting the DRR miles from the understated total miles resulted in a consistent, substantial understatement of the miles of a cross-over movement handled by the residual incumbent. These mileage errors, in turn, skewed the revenue allocation calculations and resulted in over-allocation of cross-over revenues to the DRR.[69]

The following illustrative example considers a cross-over movement of chemicals that travels from {{ }}, on the NS system. The DRR segment of the move is from {{ }}. After interchanging at {{ }} the movement travels off the SARR on the residual NS for 262 miles to {{ }} However, DuPont's ATC calculation used only *19* total miles on the residual NS for this move. This is obviously wrong because {{ }}, is at least 200 miles from any point on the DRR.

[69] This computational error would result in an erroneous revenue allocation under ATC, "Modified ATC," or any other cross-over revenue allocation method that uses on- and off-SARR mileages as an input.

Table III-A-17:
On-SARR and Off-SARR Miles for {{ }} Move

	DRR	Residual	Total	DRR %
Actual	616	**262**	878	70%
DuPont	616	**19**	635	97%

{{ }}

The following Table III-A-18 illustrates how DuPont's erroneous process excluded these 243 miles that traveled on the residual NS. Because Line IDs 9-12 did not have any DRR miles, DuPont's SQL Table join did not account for those miles in the total miles calculation for the move.

Table III-A-18:

{{

}}

DuPont's failure to account for the overwhelming majority of miles traveled by cross-over movements on the residual incumbent's network (such as that illustrated above) led to a significant overstatement of DRR revenues. Because the residual mileages are significantly understated and mileages are a primary input into the URCS variable costs calculations used to allocate revenues in ATC, the result of DuPont's mileage errors is a systematic under-allocation of cross-over traffic revenues to the residual NS.

On Reply, NS has corrected DuPont's methodology to include all Line IDs in the calculation of total miles and residual miles. As a result of this correction, overall ton miles traveled over the residual NS in the ATC calculations more than double, from 22 billion to 49 billion, and the DRR ton miles as a percentage of the total ton miles for DuPont selected traffic drop from 86% to 74%.

Table III-A-19
DRR Traffic Ton Miles (billions)[70]

	DRR	Residual	Total	DRR %
Corrected	137	49	186	74%
DuPont	137	22	159	86%

DuPont relies upon its erroneous off-SARR mileage calculations to adjust the Local designation for re-routes. In DuPont's mileage calculations, which rely upon actual routings in the event records, mileages on rerouted segments are calculated as off-SARR. DuPont makes an adjustment in its ATC workpapers to designate a move as Local if the calculated off-SARR miles are less than or equal to the mileage of the re-routed segment, presuming that all of the off-SARR mileages are the result of the re-routed segment. Here again, DuPont's off-SARR mileage errors cause its approach to break down. Because its off-SARR miles are understated, the off-SARR miles for many moves are lower than the re-routed segment mileage—not because the off-SARR miles are wholly the result of the re-route—but because DuPont under-calculated the off-SARR miles. For example, DuPont designates approximately 1.4 million re-routed tons originating or terminating in Norfolk, VA, as Local, because their off-SARR mileage

[70] Sources: DuPont Opening WP "DRR_2010_TRAFFIC_ATC_OPENING_v1_041412.xlsx"; NS Reply WP "ATC Waybill Summary Reply."

calculations are lower than the re-route distance, even though Norfolk, VA, is clearly not on the SARR.[71]

NS's correction of DuPont's off-SARR mileage errors reduces the percent of shipments that are Local from the 30% DuPont presented on opening to only 20%. *See* NS Reply WP "DRR_2010_TRAFFIC_ATC_OPENING_v1_041412 Reply.xlsx."

In addition to correcting the off-SARR mileage algorithm, NS adjusted the mileages for re-routes (shifting miles from off-SARR to on-SARR) in the URCS input spreadsheets so that URCS would more accurately reflect the mileages over the DRR. In cases where waybill data for tons, miles, or fixed costs were missing, NS used averages for similar moves so that each move could be costed in URCS. For revenue empty shipments and delivered railcars with zero lading weights, NS set the tons per car to one.

As a result of these adjustments to mileages and other URCS inputs, revenues are reduced by 633 million in 2010. *See* NS Reply WP "DRR_2010_TRAFFIC_ATC_OPENING_ v1_041412 Reply.xlsx."

ii. The Board Must Apply the "Average Total Cost" Rule and Methodology to Allocate Crossover Traffic Revenues in this Case.

To allocate cross-over traffic revenues in this case the Board should apply the Average Total Cost ("ATC") rule it adopted in the *Major Issues* rulemaking, and reject DuPont's effort to apply an amended revenue allocation approach with which the Board experimented in the individual *Western Fuels* rate case (the so-called "Modified ATC" rule). The ill-considered *ad*

[71] Despite claiming in its narrative that intermodal and auto traffic would not be subject to the Bannon, OH, to Kellysville, WV re-route (*see* DuPont Opening III-A-5), DuPont flagged intermodal and auto traffic as re-routed in its ATC workpapers. NS has changed this designation on reply. See NS Reply WP "DUPONT_ATC_URCS_VARIABLE_COST_INPUTS_2010_ 040912_Reply.xlsx."

hoc alternative method the Board created in the individual *Western Fuels* case was rejected by the D.C. Circuit and has not been valid law at any time relevant to this case. As a matter of sound policy and economics, "original" ATC is more consistent with SAC principles and rules; more fair and logical than the *ad hoc* amended rule the Board created and applied in *Western Fuels*; and was adopted through proper notice-and-comment rulemaking in which all interested parties had an opportunity to participate.

As a legal matter, because "Modified ATC" sought to amend in an individual adjudication a legislative rule adopted in notice-and-comment rulemaking, that amended rule violates the Administrative Procedure Act ("APA") and is invalid and unenforceable. Under the APA, the Board could not amend the ATC methodology—a legislative rule adopted through the *Major Issues* notice-and-comment rulemaking—without conducting another rulemaking. Thus, even if the D.C. Circuit were to find in the pending *Western Fuels* appeal that the Board's decision on remand offered an adequate justification for amending ATC by adopting "Modified ATC," making that change in an adjudication would nonetheless be invalid. The APA requires notice-and-comment rulemaking to amend a legislative rule. Because the Board failed to comply with that requirement, Modified ATC is invalid. It cannot be applied in this or any other case unless and until it is adopted through notice-and-comment rulemaking. As a matter of law, policy, and fairness, the Board should not—and may not—apply the "Modified ATC" approach that DuPont proposed in its Opening Evidence. In its Reply Evidence, NS has adjusted cross-over revenue allocations by applying the ATC rule. *See* NS Reply WP "DRR_2010_TRAFFIC_ ATC_OPENING_ v1_041412 Reply.xlsx."

The following argument consists of several parts. *First,* NS briefly summarizes the background facts and procedures through which the Board promulgated ATC and "Modified

ATC." *Second,* NS shows that at all times relevant to this case, the only lawful and applicable cross-over traffic revenue allocation rule was ATC. Because DuPont knew, or should have known, that ATC was the only valid method at all relevant times, there would be no undue or unfair prejudice to DuPont as a result of applying the ATC rule in this case. *Third,* NS demonstrates in a series of arguments that ATC is a substantive rule; that the APA requires that an amendment to such a substantive rule may be adopted only through notice-and-comment rulemaking; and that because the Board did not conduct such a rulemaking to adopt Modified ATC, that amended rule is invalid. Thus, as a matter of law, Modified ATC may not be applied in this case and original ATC must be applied to allocate cross-over traffic revenue.

(a) Background

The Board adopted the ATC crossover traffic revenue allocation rule in an extensive notice-and-comment rulemaking proceeding that included three full rounds of extensive comments comprised of thousands of pages of argument and expert testimony; the submission of written and live witness testimony; and a Board hearing. *See Major Issues*, STB Ex Parte 657 (Sub-No. 1).[72] Based on its evaluation of the extensive record, the Board adopted ATC as the best method for allocating crossover traffic revenue. *See id.* at 31. On judicial review, the D.C. Circuit upheld the new rules in their entirety. *See BNSF Ry. Co. v. Surface Transp. Bd. et al.,* 526 F.3d 770 (D.C. Cir. 2008). With respect to ATC, the Court concluded that the Board had developed a reasonable method to allocate crossover revenues while properly taking into account economies of density. *See id.*

[72] NS actively participated in the *Major Issues* rulemaking, and DuPont's interests were represented by its trade association, the National Industrial Transportation League. During the proceeding, all interested parties had more than ample opportunity to comment and provide input.

In the *Western Fuels* individual rate case, both parties submitted evidence applying the ATC revenue allocation approach adopted in *Major Issues*. But the Board *sua sponte* applied a substantially changed, amended approach that deviated from the judicially approved ATC methodology and significantly diluted the effect of economies of density, the critical feature and innovation of ATC. *See WFA I*, STB Docket No. 42088, at 14 (announcing new revenue allocation rule); *WFA II*, STB Docket No. 42088, at 13 (applying that new "Modified ATC" rule to new traffic group and SAC presentation by complainant). NS was not a party to the *Western Fuels* litigation, and thus had no opportunity to comment on the Board's attempted amendment of the ATC rule. "Modified ATC" was rejected by the D.C. Circuit on appeal.[73] Today, original ATC remains the only valid crossover traffic revenue allocation methodology, adopted in notice-and-comment rulemaking and judicially affirmed.[74]

(b) The Board Must Apply the ATC Rule Because at All Times Relevant to this Case, ATC Has Been the Only Legally Valid Rule and Methodology Governing Cross-over Traffic Revenue Allocation.

At all times relevant to this case, the only legally valid rule that could be applied to allocate cross-over traffic revenues was the ATC rule adopted in *Major Issues,* Ex Parte No. 657 (Sub-No. 1). Conversely, as demonstrated below, the "Modified ATC" approach the Board applied in the individual *Western Fuels* case was *not* a lawful or valid revenue allocation method

[73] As discussed, on appeal the D.C. Circuit affirmed the Board's *Western Fuels* decision on all issues except one—the Board's creation and application of a new revenue methodology, which it labeled "Modified ATC." *See BNSF Railway Co. v. Surface Transp. Bd. et al.,* 604 F.3d 602 (D.C. Cir. 2010). On that issue, the Board granted the Petition for review, rejecting "Modified ATC" as inadequately explained and supported, and remanding the case to the Board for further proceedings.

[74] The Board nominally applied "Modified ATC" in the *AEPCO 2011* decision, but only because the parties agreed it made no difference in that case. *See AEPCO 2011*, STB Docket No. 42113, at 3. NS does not agree to the use of any revenue allocation methodology other than the ATC rule.

at any relevant time.[75] Disregarding the state of the law, DuPont applied the invalid "Modified ATC" approach in its case-in-chief, instead of the governing ATC rule. *See, e.g.,* DuPont Opening III-A-20. Because it was clear that "Modified ATC" was not a valid, permissible methodology at any relevant time prior to DuPont's filing of its Opening Evidence, the Complainant's use of that approach was without legal basis and erroneous. Accordingly, the Board should reject DuPont's proffered revenue allocation approach and adopt the application of (original) ATC presented by NS in this Reply Evidence.[76]

On May 11, 2010, the D.C. Circuit issued its decision in BNSF's appeal of the Board's *WFA II* decision. *See BNSF v. Surface Transp. Bd.,* 604 F.3d 602 (D.C. Cir. 2010). That decision granted BNSF's petition for review with respect to the Board's application of the new revenue allocation methodology it created in that case, "Modified ATC." *See id.* at 613. The D.C. Circuit rejected "Modified ATC" as explained by the Board, and remanded the case to the Board for further consideration. *See id.* The result of the Court's rejection of Modified ATC

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[75] The Board created and applied "Modified ATC" in two parallel cases decided on the same day. Because the Board had adopted this new revenue allocation methodology late in those cases, the Board offered complainants (Western Fuels Association and AEP Texas North) an opportunity to select a new traffic group and present new SAC evidence to be evaluated using "Modified ATC." Western Fuels accepted the invitation and filed new evidence, but AEP Texas North declined. Thus, while the Board applied "Modified ATC" in two individual adjudications simultaneously, the only case in which the "Modified ATC" method was contested or appealed was *Western Fuels*. Because NS was not a party to those rate cases, this case presents Ns's first opportunity to address the amended rule the Board announced in *Western Fuels* ("modified ATC").

[76] The state of the law when DuPont filed its Opening Evidence was that Original ATC was the only judicially approved, valid allocation method—DuPont was obliged to apply that method. Even if the Board were allowed to amend ATC without notice-and-comment rulemaking—which it is not—DuPont would have the burden of proving any alternative method it proposed to use is superior to the ATC rule. DuPont used Modified ATC in its case-in-chief, but failed to make any argument or present any evidence to support its use of a methodology rejected by the D.C. Circuit. Thus, even if the Board were allowed to amend the ATC rule in this individual adjudication, DuPont failed to carry its burden of showing that the Board should apply a revenue allocation methodology other than the ATC rule adopted in *Major Issues* and affirmed by the D.C. Circuit.

was that original ATC remained the only valid cross-over traffic revenue allocation rule. *See, e.g., Action on Smoking and Health v. C.A.B.,* 713 F.2d 795, 797 (D.C. Cir. 1983) (Where a new agency rule (including a modified or amended rule) is rejected and remanded on judicial review, the effect is to "*reinstat[e] the rules previously in force.*") (emphasis added); *Georgetown Univ. Hosp. v. Bowen,* 821 F.2d 750, 757 (D.C. Cir. 1987) (same). From that point forward—unless and until the Board developed and presented a complete, sound, and non-arbitrary explanation and justification for creating and applying "Modified ATC" and judicial challenges to that method had been exhausted— "Modified ATC" was not a valid method and could not be applied in a SAC case.

Five months later, DuPont filed the present rate case against Norfolk Southern. *See* Complaint, *DuPont v. NS*, STB Docket No. 42125 (Oct. 7, 2010). There can be no dispute that DuPont knew, or should have known, of the D.C. Circuit decision and remand of *Western Fuels* at the time it filed this case. After extensive discovery, and after two substantial extensions of the procedural schedule, DuPont filed its Opening Evidence on April 30, 2012, eighteen months after its original Complaint. On May 17, 2012, DuPont filed an extensive Errata making changes to the evidence it had filed on April 30. Importantly, as of May 17, the Board had not issued any decision in the remanded *WFA II* case. When DuPont filed its Errata, the *Western Fuels* remand had been pending for more than two years. It was not until June 15, 2012—six weeks *after* DuPont filed its Opening Evidence, and well over two years after the D.C. Circuit had remanded *Western Fuels* to the Board—that the Board issued its remand decision attempting to explain its application of "Modified ATC" in *Western Fuels. See* Decision, *Western Fuels v. BNSF Ry. Co.,* STB Docket No. 42088 (served June 15, 2012) ("*WFA Remand Decision*"). Defendant BNSF has appealed the remand decision, and the validity of the amended rule in *Western Fuels* will be

addressed in that appeal. *See BNSF Ry. Co. v. Surface Transp. Bd.*, D.C. Circuit No. 12-1327 (July 23, 2012).

Thus, in the spring, summer, and fall of 2010, when DuPont and NS were engaged in rate negotiations, and when DuPont was conducting its pre-complaint investigation and evaluation, ATC—*not* Modified ATC—was the law. When DuPont filed this case, ATC was the law. During the entire 14 months that DuPont conducted discovery, ATC was the law. When DuPont developed its SAC evidence and case-in-chief, including the selection of its SARR traffic and employing the cross-over device for four-fifths of that traffic, ATC was the law. When DuPont filed its Opening Evidence and later when it filed its extensive Errata to that evidence, ATC was the law. In sum, at all times relevant to DuPont's development of its case, including discovery, its selection of traffic, its design of the DRR to include large volumes of crossover traffic,[77] its selection of interchange points between the DRR and the residual NS, and its preparation and filing of its opening evidence and case-in-chief, "Modified ATC" was *not* a valid method of allocating cross-over traffic revenue. Today, when NS files its Reply Evidence, ATC—and *not Modified ATC*—remains the law.[78] Because ATC has been the governing revenue allocation rule

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[77] It is doubtful that crossover traffic revenue allocation methodology played any significant role in DuPont's traffic selection. Based on NS's review, it appears that DuPont selected as crossover traffic virtually every movement that touched lines of the SARR, with little or no regard for its relative revenue contribution to the SARR.

[78] After DuPont filed its evidence, the Board issued a decision on remand in *Western Fuels,* in which it provided a limited further explanation and rationale for the Modified ATC method it applied in that case. *See WFA Remand Decision*, STB Docket No 42088. The defendant carrier has appealed the remand decision to the D.C. Circuit and that appeal is pending. *See BNSF Ry. Co. v. Surface Transp. Bd.*, D.C. Circuit No. 12-1327 (July 23, 2012). The opening brief in that appeal is scheduled to be filed on December 5, 2012. Thus, even in the individual adjudication in which the Board created and applied the "Modified ATC" method, the status of the approach is that the D.C. Circuit rejected it, the Board proffered a rationale attempting to reinstate the approach, and the Court will consider whether that rationale is sufficient over the course of the coming year. Original ATC remains the only valid, judicially upheld revenue allocation rule.

at every relevant juncture—and remains governing law today—the Board must apply that rule to allocate cross-over traffic revenue in this case.

Application of the ATC rule in this case would be neither unfair nor unduly prejudicial to the complainant. DuPont knew the status of "Modified ATC" when it filed its evidence, and applied that invalid approach nonetheless. DuPont certainly could have applied ATC to allocate cross-over traffic revenue, but it declined to do so.[79] Rejection of DuPont's proffered revenue allocation approach in favor of the only validly adopted and judicially approved revenue allocation rule available (the ATC approach adopted in the *Major Issues* rulemaking) is entirely appropriate and fair and would cause no undue prejudice.

(c) As a Matter of Administrative Law, the Board Must Apply the ATC Rule in All SAC Cases Unless and Until it Has Completed a Full Notice-and-Comment Rulemaking that Adopts a Different Rule.

An independently sufficient legal reason that the Board may not apply the Modified ATC rule adopted in *Western Fuels* is that the Board adopted it in violation of the APA. Regardless of the Board's rationale for creating and applying a new revenue allocation methodology in *WFA II,* adoption of that new rule in an individual adjudication violated the APA and renders "Modified ATC" unlawful and void. Under the APA, a "legislative" (*i.e.* substantive) rule such as ATC may not be substantially revised or amended in an individual adjudication, as the Board attempted to do in *Western Fuels.* A federal administrative agency like the Board may make a

[79] In its opposition to NS's Motion seeking to hold this matter in abeyance until the Board promulgated a new revenue allocation rule in *Rate Regulation Reforms,* DuPont took the position that it did not matter to the outcome of this case whether the Board applied ATC, Modified ATC, or the alternative proposed in Ex Parte 715. *See* DuPont Reply in Opposition to NS Motion to Hold Case in Abeyance, STB Docket No. 42125, at 30-31 (Aug. 27, 2012) ("DuPont Reply to NS Abeyance Motion"). Taking DuPont's position at face value, it has no basis to claim that application of ATC would cause it *any* prejudice, let alone undue or unfair prejudice.

substantial change or amendment to a legislative rule adopted through a rulemaking proceeding *only* in another rulemaking proceeding, and not in an individual adjudication. *See* APA, 5 U.S.C. §§ 551(5), 553(b)(3)(A). Because the "Modified ATC" rule did not go through the required notice-and-comment rulemaking process, it is invalid and unenforceable and may not be applied to allocate cross-over traffic revenues in this case.

The following discussion demonstrates that Modified ATC is procedurally invalid and thus lawfully may not be applied to this case. The first subsection briefly summarizes applicable law holding which holds that a "legislative rule" adopted by an agency in notice-and-comment rulemaking may be amended only in another notice-and-comment rulemaking. The second section shows that the ATC method, adopted in a rulemaking, is a legislative rule as that term has been defined by federal courts including the D.C. Circuit. The third section demonstrates that, for several independently sufficient reasons, "Modified ATC"—which the Board adopted in an individual adjudication without conducting a rulemaking—was an attempted substantive amendment to the ATC legislative rule, and such amendments may be adopted only through a rulemaking. That section also demonstrates that Modified ATC does not satisfy any of the narrow exceptions to the governing notice-and-comment rulemaking requirement of the APA. Finally, the fourth section demonstrates that an agency may not avoid the APA notice-and-comment requirement by attempting to amend a rule in an individual adjudication.

(i) The APA Requires that Legislative (Substantive) Rules Be Adopted, Amended, and Repealed in Notice-and-Comment Rulemakings.

A substantive or "legislative" agency rule—such as ATC—may be amended only in a notice-and-comment rulemaking. "Modified ATC" sought to amend the ATC legislative rule, and therefore it could have been adopted lawfully only through notice-and-comment rulemaking.

Because the Board issued Modified ATC without conducting the required rulemaking, Modified ATC is invalid, has no force or effect, and may not be applied in this case.

The D.C. Circuit has consistently held that, under the APA, an amendment to a legislative rule requires a notice-and-comment rulemaking proceeding. *See, e.g., American Mining Congress v. Mine Safety & Health Administration et al,* 995 F.2d 1106, 1112 (D.C. Cir. 1993). A rule that "effectively amends a prior legislative rule" is itself a legislative rule requiring notice-and-comment rulemaking under the APA. *See United States Telecom Ass'n v. FCC,* 400 F.3d 29, 34-35 (D.C. Cir. 2005) (new rules that make substantive changes to existing rules or regulations are legislative rules, subject to APA notice-and-comment requirements); *Sprint Corp. et al. v. FCC et al.,* 315 F.3d 369, 374 (D.C. Cir. 2003); *American Mining Congress,* 995 F.2d 1106, 1112-13.

Both ATC and "Modified ATC" are legislative rules[80] (as opposed to interpretive rules) because they have the force and effect of law; affect persons' rights and obligations; were enacted pursuant to the Board's delegated general power and responsibility to determine whether a challenged rate is reasonable; and do not fit into the APA's narrow exception to the notice-and-comment rulemaking requirement that applies to interpretive rules, policy statements, and "rules of agency organization, procedure, or practice." *See James V. Hurson Assocs. Inc. v. Glickman,* 229 F.3d 277, 280 (D.C. Cir. 2000) (quoting 5 U.S.C. § 553(b)(3)(A)); *Appalachian Power Co. v. EPA,* 208 F.3d 1015, 1024-25 (D.C. Cir. 2000); *National Org. of Veterans Advs.*, 260 F.3d at

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[80] Some federal courts use the term "substantive rule" instead of legislative rule. The terms are interchangeable. *See National Org. of Veterans Advs. Inc. v. Secretary of Veterans Affairs*, 260 F.3d 1365, 1375 (Fed. Cir. 2001) ("Substantive rules [are] those that effect a change in existing law or policy or which affect individual rights or obligations. 'Interpretative rules,' on the other hand, clarify or explain existing law or regulation and are exempt from notice-and-comment under Section 553(b)(3)(A). An interpretative statement . . . . does not intend to create new rights or duties, but only reminds affected parties of existing duties.").

1375. Below, NS demonstrates that Modified ATC is a legislative rule that lawfully could only be adopted through a notice-and-comment rulemaking. *First*, NS confirms that ATC was a legislative rule. *Second,* NS shows that, as its label suggests, "Modified ATC" was an attempt to modify or amend the ATC legislative rule—not an interpretation or clarification of that rule—that lawfully could be adopted *only* through notice-and-comment rulemaking. "Modified ATC" therefore is an invalid rule and it may not be applied to allocate cross-over traffic revenue in this case. Accordingly, the Board should apply the ATC rule to allocate cross-over traffic revenues in this case.

(ii) ATC is a Legislative Rule that May Be Amended Only Through Notice-and-Comment Rulemaking.[81]

In close cases, it may be difficult to distinguish between a legislative (substantive) rule and an interpretive rule. For several reasons discussed below, ATC as promulgated by the Board does not present a close question.[82] First, promulgation of ATC was an exercise of the Board's

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[81] The ATC rule adopted through notice-and-comment rulemaking is a legislative/substantive rule and DuPont has not contended otherwise. NS filed a motion to hold this case in abeyance pending a rulemaking the Board is conducting aimed at, *inter alia,* developing and adopting a new or amended rule to govern cross-over traffic revenue allocation. DuPont raised a variety of arguments in opposition to the motion, but it did not contend that the ATC rule adopted in *Major Issues* was not a substantive rule. *See, e.g.,* DuPont Reply to NS Abeyance Motion, at 23-30 (contending only that agencies are not required to engage in rulemaking to alter a substantive rule if the change fits into the narrow APA exception for interpretive or procedural rules). DuPont did contend, however, that the Board's attempted *amendment* to ATC in *Western Fuels* (creating Modified ATC) was not a legislative rule, but merely an interpretive rule. *Id.* at 24-30. NS includes this additional discussion to further support the conclusion that the ATC rule is a legislative rule, and to guard any attempt by DuPont to reverse its position and contend that the ATC cross-over traffic revenue allocation rule the Board adopted in the *major issues* notice-and-comment rulemaking was somehow not a legislative rule.

[82] One reason it is important to establish that ATC is a legislative rule is that, under the APA, any modification or amendment to a legislative rule is itself deemed a legislative rule requiring notice-and-comment rulemaking. *See, e.g., American Hosp. Ass'n v. Bowen*, 834 F.2d at 1044; *American Mining Congress,* 995 F.2d at 1109; 5 U.S.C. § 553. Accordingly, if ATC is a legislative rule and Modified ATC modified or amended that legislative rule, Modified ATC

authority delegated to it by Congress, to develop standards for ensuring that rail rates are reasonable. Second, the Board's own actions and statements in adopting ATC in the *Major Issues* rulemaking demonstrate that the Board intended ATC to be a substantive, legislative rule. Third, application of the authoritative test established by the D.C. Circuit in *American Mining Congress* demonstrates that ATC is a legislative rule, and not an interpretive rule.

First, in adopting the ATC revenue allocation rule, the Board acted under its general statutory authority and responsibility to establish rules and methods to evaluate whether rail rates are reasonable. *See* 49 U.S.C. §§ 10701, 10702, 10704. As the D.C. Circuit has explained, a substantive or legislative rule creates, "*modifies* or *adds* to a legal norm based on the agency's *own authority.*" *Syncor International Corp. v. Shalala,* 127 F.3d 90, 95 (D.C. Cir. 1997) (emphasis in original). In promulgating a legislative rule, an administrative agency effectively "legislates" matters over which Congress has given it general authority but has not provided specific details or requirements. *See, e.g., id.* (An agency's authority to promulgate legislative rules flows from congressional delegation of power "to engage in supplementary lawmaking. And, it is because the agency is engaged in lawmaking that the APA requires it to comply with notice-and-comment."). The D.C. Circuit has further explained that an agency rule is a legislative rule if it has the "force of law"—a rule has such force "if Congress has delegated legislative power to the agency and if the agency intended to exercise that power in promulgating the rule." *American Mining Congress,* 995 F.2d at 1109 (internal citations omitted). Plainly, in adopting ATC, the Board was engaged in an exercise of its delegated legislative power to implement the general rate reasonableness mandates of the Commerce Act, including Sections 10701-10704.

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would be valid only if it were adopted in notice-and-comment rulemaking. *See* 5 U.S.C. §§ 551, 553.

Moreover, Courts have further explained that if the statutory authority the agency is applying uses general terms "like 'equitable' or 'fair'," leaving the agency to provide the substantive content of those terms, then the implementing regulation is likely a substantive regulation. *Syncor International,* 123 F.3d at 94, n.6. In adopting (and later amending) ATC, the Board engaged in administrative legislation, exercising its delegated powers to give substantive meaning and content to the statutory directive that rail rates must be "reasonable." *See generally Major Issues,* STB Ex Parte No. 657 (Sub-No.1) at 5-7, 24-26 (citing statutes delegating to STB duty to determine rate reasonableness, and explaining the ATC rule it adopted as part of its implementation of that general authority and responsibility). The ATC rule established how revenues will be allocated in an integral part of the SAC analysis that the Board established to fulfill its general mandate to ensure that challenged rail rates are reasonable. Thus, the ATC rule is plainly a legislative rule, which could be adopted only through notice-and-comment rulemaking.

Interpretive rules, in contrast to legislative rules, are designed to provide an agency's interpretation of a specific legal norm or requirement established by a statute. *See Syncor,* 127 F.3d at 94. An agency issuing an interpretive rule is *not* "exercising authority to . . . make positive law." *Id.* (citing *United Technologies Corp v. EPA,* 821 F.2d 714, 719 (D.C. Cir. 1987); *Conn. Dep't of Children and Youth Servs. v. Health & Human Servs.,* 9 F.3d 981, 984 (D.C. Cir. 1993)). Instead, it is defining or construing specific statutory terms and provisions, including ambiguous statutory terms. *See Erringer v. Thompson,* 371 F.3d 625, 630 (9th Cir. 2003) ("[I]nterpretive rules merely explain, but *do not add to, the substantive law that already exists in* the form of a statute or *legislative rule.* Legislative rules, on the other hand, create rights,

impose obligations, or effect a change in existing law pursuant to authority delegated by Congress.") (emphasis added).

As the D.C. Circuit summarized decades ago, "substantive rules or 'legislative rules' are those which create law, usually implementary to an existing law, whereas interpretive rules are statements as to what [an] administrative [agency] thinks the statute or regulation means." *Gibson Wine Co. v. Snyder,* 194 F.2d 329, 331 (D.C. Cir. 1952); *see also American Hosp. Ass'n v. Bowen,* 834 F.2d at 1045 (Generally, interpretive rules "merely explicat[e] Congress' desires" while substantive rules involve the agency "adding substantive content of its own.").

Applying those standards, it is clear that ATC is a legislative rule, and not an interpretive rule. Nowhere does the Interstate Commerce Act *mention* "cross-over" traffic, let alone division of cross-over revenues between the SARR and the residual incumbent. Thus, in *Major Issues* the Board was not "interpreting" or explaining a statutory term such as "cross-over traffic," or "cross-over revenue allocation," because the Interstate Commerce Act's rate reasonableness provisions are general and do not approach that level of specificity. Rather, the statute generally charges the Board with determining whether challenged rail rates are reasonable and where necessary to prescribe a maximum reasonable rate, leaving the Board to develop substantive rules to implement those general statutory requirements. *See, e.g.*, 49 U.S.C. §§ 10701, 10704. The Board, like the ICC before it, issues legislative rules to implement those very general statutory mandates. *See, e.g., Coal Rate Guidelines,* 1 I.C.C.2d 520 (1984); *Major Issues,* STB Ex Parte No. 657 (Sub-No. 1).

In *Major Issues,* the Board made clear both that it was promulgating new substantive standards and that it was exercising its (legislative) power and judgment to implement general statutory mandates from Congress. *See, e.g., Major Issues,* STB Ex Parte No. 657 (Sub-No. 1) at

4 ("The Board's responsibility is to exercise its own judgment on how best to carry out its charge from Congress."). This is the very essence of legislative rulemaking. *See, e.g., United Technologies,* 821 F.2d at 720 (noting that legislative rules are "based on an agency's power to exercise its judgment as to how best to implement a general statutory mandate").

Thus, the Board adopted ATC in the *Major Issues* rulemaking in the exercise of its delegated legislative power necessary to implement its general statutory mandate to determine whether certain rail rates are reasonable. *See, e.g., Major Issues* STB Ex Parte No. 657 (Sub-No. 1) at 4-5; *Syncor,* 127 F.3d at 95; *American Mining Congress,* 995 F.2d at 1106. The ATC rule, which replaced a series of *ad hoc* approaches the Board previously had applied in individual cases, undeniably affected substantive rights and obligations of individual litigants, as well as the Board's rate reasonableness analysis and determinations. *See, e.g., National Org. of Veterans Advs.*, 260 F.3d at 1375 ("Substantive rules [are] those that effect a change in existing law or policy or which affect individual rights or obligations"). Plainly, ATC—which the Board adopted through extensive notice-and-comment rulemaking—is a substantive, legislative rule that "creates rights . . . [and] effect[s] a change in existing law pursuant to authority delegated by Congress" and *not* merely a definition or explanation of ambiguous statutory terms. *See Syncor,* 127 F.3d at 94; *see also Erringer,* 371 F.3d at 630; *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1045; *Gibson Wine,* 194 F.2d at 331.

Further, the Board expressly stated that its purpose in conducting the *Major* Issues rulemaking was to resolve several important issues that had been litigated repeatedly without consistent definitive resolution, and thereby avoid continuing litigation over those same issues in future rate cases. *See Major Issues* at 3, 76-77 (expressing Board's intention to adopt rules that would finally "resolve these issues" not be re-litigated in each subsequent case). As the D.C.

Circuit has found, an agency's characterization of its own action is important to the determination of whether it created a legislative rule. *See, e.g., Pacific Gas & Elec. v. Fed. Power Comm'n,* 506 F.2d 33, 39 (D.C. Cir. 1974). ATC is a legislative rule that may be adopted, modified, or repealed only through notice-and-comment rulemaking.

Second, the Board itself obviously found it necessary and appropriate to promulgate the ATC rule through notice-and-comment rulemaking. *See Major Issues,* STB Ex Parte No. 657 (Sub-No. 1) at 4-9, 24-39. The Board's decision to conduct a rulemaking in order to adopt a cross-over traffic revenue allocation rule demonstrates the agency's contemporaneous view that it was exercising the legislative function of implementing its general statutory mandate, which requires notice-and-comment rulemaking. And proceeding by rulemaking was plainly the correct and proper approach. There is no question that a change from the Modified Straight-Mileage Prorate ("MSP") allocation method the Board had recently used to ATC was a significant substantive change in cross-over traffic revenue allocation. *See id.* at 24-26. No one would seriously contend that the ATC rule adopted in *Major Issues* was simply an "interpretation" of the MSP allocation rule, because ATC was an entirely different and much more sophisticated methodology that had little in common with MSP or other revenue allocation formulas the Board had applied in previous cases.

The Board further confirmed that cross-over traffic revenue allocation rules (such as ATC) must be adopted or modified in a rulemaking, when it rejected commenters' proposal that the Board consider different allocation methodologies and making further changes to the ATC rule in the context of future individual adjudications. *See id.* at 76-77 (rejecting proposal that the Board not established firm final rules in *Major Issues,* stating "[w]e believe that further debate of these . . . issues within the context of an individual case would defeat much of the purpose of this

rulemaking").[83] The Board made it very clear that changes to the ATC rule would *not* be considered in individual adjudications, and that if experience identified a systematic bias resulted from the approach,

> the affected party may file a petition to institute a rulemaking (or [the Board] may do so on our own initiative so that the broader affected public is again provided an opportunity to comment on the proposal before changes of industry-wide importance to our ratemaking methodology are implemented.

Major Issues, STB Ex Parte No. 657 (Sub-No. 1) at 77 (emphasis added). Together, the Board's decision to proceed by rulemaking to adopt a new cross-over traffic revenue allocation rule; its rejection of requests that it instead develop alternatives through individual litigation; and its express ruling that any future changes to the ATC rule it adopted could be made only in another rulemaking, demonstrate that ATC is a legislative rule. *See* 5 U.S.C. §§551, 553; *Pacific Gas & Elec.,* 506 F.2d at 39. The APA requires notice-and-comment rulemaking to create, amend, or repeal the substance of a legislative rule. *Western Fuels* was an individual adjudication, not a rulemaking. Accordingly, based on the Board's own actions and rulings and the APA, the substantive change to the ATC rule imposed in *Western Fuels*—"Modified ATC"—is invalid and the only valid and lawful cross-over traffic revenue allocation rule that may be applied in this case is (original) ATC.

Third, application of the four-prong test established by the D.C. Circuit for distinguishing legislative rules from interpretive rules independently demonstrates that ATC is a legislative rule

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[83] That concern proved prescient when the Board disregarded its own ruling in *Major Issues* and created a new cross-over revenue allocation rule in *Western Fuels.* Adoption of that new amended rule in an individual adjudication—which violated the Board's own express holding that any changes to ATC would be considered only in the context of another rulemaking—led to five more years of further litigation over that rule in *Western Fuel.* Ultimately, the *ad hoc* modification the Board attempted to apply in the individual *Western Fuels* adjudication caused the Board to convene a new rulemaking to attempt, for the second time in five years, to develop a new cross-over traffic revenue allocation rule. *See Rate Regulation Reforms,* STB Ex Parte 715.

subject to APA notice-and-comment rulemaking requirements. In *American Mining Congress,* the D.C. Circuit recognized that prior cases had created some confusion and a "fuzzy" line between interpretive and legislative rules, and acted to reconcile those cases and establish a clear test for determining whether a rule is legislative. *See American Mining Congress*, 995 F.2d at 1108.[84] The now-standard test, applied by both the D.C. Circuit and other federal courts of appeals, established that if the answer to *any one* of four questions is affirmative, the rule in question is *legislative,* not interpretive:

> (1) [W]hether in the absence of the rule there would not be an adequate legislative basis for enforcement action or other agency action to confer benefits or ensure the performance of duties; (2)whether the agency has published the rule in the Code of Federal Regulations; (3) whether the agency has explicitly invoked its general legislative authority; or (4) whether the rule effectively amends a prior legislative rule.

Id. at 1112. The third factor is perhaps the most clearly and directly satisfied here. The preamble and introduction to the *Major Issues* Final Rule described and discussed the Board's general statutory authority and mandates from Congress; cited the statutory provisions and express statutory requirements it intended to implement in the rulemaking; discussed the history of existing legislative rules; and explained that it had concluded changes to implementing rules were necessary to better implement congressional intent and the Board's statutory mandates

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[84] In opposition to NS's Motion to hold this case in abeyance pending the completion of the pending *Rate Regulation Reforms* rulemaking, DuPont asserted that courts had previously stated that the distinction between legislative rules and interpretive rules was "hazy" and "enshrouded in considerable smog," citing *American Mining Congress. See* DuPont Reply to NS Abeyance Motion, at 24. What DuPont neglected to note was that in *American Mining Congress*, the D.C. Circuit rectified that situation by surveying appellate court cases that had addressed the distinction; reconciling those cases; and distilling a clear four-factor test for determining whether a rule in question was a legislative rule or an interpretive rule. *See generally American Mining Congress,* 995 F.2d at 1106. The test enunciated by *American Mining Congress* has since been widely accepted and applied by federal courts. In this discussion, NS demonstrates that application of the *American Mining Congress* test proves that the ATC Rule is a legislative rule.

regarding rate reasonableness determinations. *See Major Issues,* STB Ex Parte No. 657 (Sub-No. 1) at 3-8. Thus, the Board clearly invoked its general legislative authority to promulgate and apply rules to evaluate rate reasonableness. *See id.* The third *American Mining Congress* factor is satisfied, so the ATC rule is legislative. *See American Mining Congress*, 995 F.2d at 1112.[85]

The Board does not publish substantive standards, methods, and rules for rate cases in the Code of Federal Regulations. *See generally* 49 C.F.R. §§ 1000–1147 (providing procedural requirements and rules of practice applicable to rate cases, but containing no provisions specifying substantive standards applied to evaluate reasonableness of challenged rate or practice). Thus, the second factor of the *American Mining Congress* is not directly applicable to the Board's rules concerning rate case standards, methods, and analyses (such as the SAC test and its components). However, the Board's CFR rules do distinguish between procedural requirements for interpretive rules, policy statements and rules of agency procedure on one hand, and those for APA notice-and-comment rulemakings on the other hand. For non-substantive rules that fall in the exceptions to the notice-and-comment requirements, including interpretive rules, the Board's regulations provide for their issuance "as final without notice or other public rulemaking proceedings." 49 C.F.R. § 1110.3(a). General rulemaking proceedings used to consider legislative rules, in contrast, require publication of a notice in the Federal Register that includes invitation for public participation, an explanation of the proposals, provision for comments, and significant additional information and actions. *See* 49 C.F.R. § 1110.3(b). Thus, had the ATC rule or other rules adopted in *Major Issues* been merely interpretive or rules or

[85] Because only one of the factors need be satisfied in order to establish that a rule is legislative and not interpretive, satisfaction of the third factor is completely sufficient to show ATC is a legislative rule and no further showing is necessary. Nonetheless, NS briefly discusses how *Major Issues* and the ATC rule it adopted also satisfy alternative prongs of the *American Mining Congress* test.

practice or procedure, the Board need not have provided any notice or engaged in any of the notice-and-comment rulemaking provisions that apply only to legislative rules. For example, the Board published its notice of the *Major Issues* rulemaking in the Federal Register, which it would not have done were it simply issuing an interpretation. *See, e.g.,* NPRM, *Major Issues in Rail Rate Cases,* STB Ex Parte No. 657 (Sub-No. 1), at 39 (Feb. 27, 2006). Nor would the Board have taken several rounds of comments, held public hearings, or conducted a rulemaking at all. Such time-and-resource-intensive efforts are neither necessary nor appropriate for interpretations or rules of agency organization and practice. Thus, the fact that the Board engaged in extensive notice-and-comment rulemaking further supports the conclusion that ATC, adopted in the *Major Issues* rulemaking, is a legislative rule.

Subsequent actions by the Board also indirectly support an affirmative finding under the fourth *American Mining Congress* factor (rule that amends a prior legislative rule is itself a legislative rule). As discussed in more detail below, it is well established that a legislative rule adopted in an informal rulemaking may only be amended or repealed in another notice-and-comment rulemaking. Several months ago, the Board commenced a new rulemaking proceeding, intended in part to consider amendments to its cross-over traffic revenue allocation rule. *See Rate Regulation Reforms,* STB Ex Parte No. 715. The Board's determination that it should consider changes to its revenue allocation rule in a rulemaking proceeding rather than simply announcing them without notice, or amending the rule in the context of an individual rate case indicates its recognition of the fact that ATC is a legislative rule and such rules may only be amended through notice-and-comment rulemaking. *See, e.g., American Mining Congress,* 995 F.2d at 1112 (rule that effectively amends a prior legislative rule is itself a legislative rule requiring notice-and-comment rulemaking); *National Family Planning & Reproductive Health*

Ass'n Inc. v. Sullivan, 979 F.2d 227, 235 (D.C. Cir. 1992); *see also* 49 C.F.R. §§ 1110.3(a), (b). Thus, the Board's initiation of the pending *Rate Regulation Reforms* rulemaking to consider a proposal to amend ATC further supports the conclusion that the original ATC was a legislative rule.

ATC is a legislative rule. Despite having an opportunity, DuPont has not contended that ATC is not a legislative rule.[86] Because ATC was properly adopted through notice-and-comment rulemaking in accordance with the APA and affirmed on judicial review, ATC is a valid rule that should be applied to allocate cross-over traffic revenue in this case. An agency may only amend, repeal or replace a legislative rule through notice-and-comment rulemaking. Accordingly, as demonstrated below, the Board may not apply a new or amended cross-over traffic revenue allocation (such as the amended rule the Board attempted to apply in *Western Fuels*, so-called "Modified ATC") in this case unless and until it has adopted such a new rule through notice-and-comment rulemaking.

(iii) Modified ATC—Which Sought to Amend the ATC Rule—May Not Be Applied to this Case, Because it Was Not Adopted in a Notice-and-Comment Rulemaking and Thus is Not a Valid Substantive Rule.

The Board may not apply in this case the amended revenue allocation rule it imposed in *Western Fuels,* because that amended rule ("Modified ATC") was not the product of a notice-and-comment rulemaking proceeding as required by the APA. *See* 5 U.S.C. §§ 551(5), 553. The APA requires that agencies conduct notice-and-comment rulemaking in order to adopt substantive rules and amendments to such rules. *See American Hosp. Ass'n v. Bowen,* 834 F.2d

[86] To be clear, DuPont has not contended that "original" ATC was not a substantive or legislative rule. As discussed in the next section, what DuPont effectively has claimed is that the Board's *amendment* of ATC in *Western Fuels* (creating "Modified ATC") was not a legislative rule, but rather an interpretive rule.

at 1044 ("Section 553 of the [APA] requires agencies to afford notice of a proposed rulemaking and an opportunity for public comment prior to a rule's promulgation, *amendment, modification,* or repeal.") (emphasis added); *see* 5 U.S.C. §§ 551(5) (expressly includes amending and repealing rules in definition of rulemaking), 553. The statute provides a few very narrow exceptions to the rulemaking requirement, for "interpretative rules, general statements of policy, or rules of agency organization, practice, or procedure." *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044; 5 U.S.C. § 553(b)(3)(A).[87]

In its opposition to NS's motion to hold this case in abeyance pending the completion of the *Rate Regulation Reforms* rulemaking (which includes an APA-compliant proposal to amend the ATC rule), DuPont contended that the Board's amendment of the ATC rule in *Western Fuels* was merely an "interpretive rule"[88] and therefore excepted from the rulemaking requirement. *See* DuPont Reply to NS Abeyance Motion, at 24-27.[89] However, an argument that "Modified ATC" is not a legislative rule cannot withstand scrutiny. As demonstrated below, Modified ATC very substantially altered the ATC rule methodology. And, any rule that amends or modifies a legislative rule is itself a legislative rule, subject to notice-and-comment rulemaking requirements. *See, e.g., American Mining Congress,* 995 F.2d at 1112 (a rule that "effectively amends a prior legislative rule. . . . [is] a legislative, not an interpretive rule.").

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[87] The statute provides for one other exception is not implicated here. *See* 5 U.S.C. § 553(b)(3)(B).

[88] The APA provides an exception for "interpretive" rules. DuPont's Reply referred to the exception as applying to "interpretive" rules. The words mean the same thing, but the statute uses the older, and today less-favored, spelling "interpretative."

[89] DuPont did not contend that the new revenue allocation method announced in *Western Fuels* was a rule of "agency organization, practice or procedure," nor could it. DuPont also did not contend that the new rule was a "general statement of policy," which it clearly was not. Thus, the only possible exception to the APA rulemaking requirement at issue is the exception for interpretive rules.

Below, NS presents several arguments showing that Modified ATC was an attempt to adopt a substantive amendment to the ATC legislative rule. *First,* NS explains that the "interpretation" exception to the general notice and comment requirement is very narrowly construed and does not apply to the new "Modified ATC" rule adopted in *Western Fuels.* Contrary to DuPont's contention, Modified ATC was not merely an "interpretation," or clarification that simply explained what the ATC rule had required all along. *Second,* NS shows that the Board's decisions in *Western Fuels* demonstrate that it intended to make a substantive change and amendment to the ATC rule. *Third,* NS shows that the Board's rationale and explanations of Modified ATC make clear that the Board intended Modified ATC as a substantive change and addition to the ATC rule, designed to allocate cross-over traffic revenue in a significantly different manner and to implement additional requirements, goals, and standards the Board had not discussed in *Major Issues.* Such changes are permissible only if accomplished through notice-and-comment rulemaking, a step the Board did not follow when it created Modified ATC in *Western Fuels.* Because Modified ATC was an invalid attempted amendment to the ATC rule, the Board must reject DuPont's proposed application of "Modified ATC," and apply the original ATC rule to allocate cross-over traffic revenues in this case.

(1) Exceptions to the APA Rulemaking Requirement Must Be Construed and Applied Very Narrowly

The overriding principle and consideration in determining whether a rule is legislative (and thus may be adopted only through notice-and-comment rulemaking) or fits into one of the exceptions for interpretive or procedural rules is that the exceptions must be narrowly construed and applied. *See, e.g., American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044 ("Congress intended the exceptions to [APA] § 553's notice-and-comment requirements to be narrow ones."); *Alcaraz v. Block,* 746 F.2d 593, 612 (D.C. Cir. 1984) ("The exceptions to section 553 [notice-and-

comment rulemaking requirement] will be narrowly construed and only reluctantly countenanced."); *National Ass'n of Home Health Agencies v. Schweiker,* 690 F.2d 932, 949 (D.C. Cir. 1982), *cert denied,* 459 U.S. 1205 (1983) (exceptions to notice-and-comment provisions are recognized "only reluctantly" in order to advance the "salutary purposes behind the [notice-and-comment] provisions"); *New Jersey v. Envtl. Prot. Agency,* 626 F.2d 1038, 1045 (D.C. Cir. 1980) (exceptions to the notice-and-comment rulemaking requirement are narrowly construed). Thus, agency rules are presumed to be legislative unless they are clearly shown to be within the narrow exceptions for interpretive or procedural rules. Congressional intent that exceptions be narrowly construed and rarely applied is an important factor in the evaluation of whether a particular rule is legislative or interpretive.

(2) The Board Intended to Make a Substantive Amendment to the ATC Rule in Western Fuels.

When the Board created and applied the "Modified ATC" rule in *Western Fuels,* it clearly indicated that it intended a substantive change to the ATC rule—a change it regarded as an improvement, but a substantive change all the same. *See generally WFA Remand Decision,* STB Docket No 42088. At no time did the Board suggest it was merely "clarifying" or "explaining" the ATC rule, or that it was otherwise providing its "interpretation" of the ATC rule adopted in *Major Issues. See id; cf. Caraballo v. Reich,* 11 F.3d 186, 195 (D.C. Cir. 1993) (interpretive rule "simply indicates an agency's reading of a statute or a rule . . . [and] only reminds affected parties of existing duties" under existing law or rule); *Splane v. West,* 216 F.3d 1058, 1063 (Fed. Cir. 2000) (interpretive rule merely "represents the agency's reading of statutes and rules rather than an attempt to make new law or modify existing law"); *Blackwell Health Center for Women v. Knoll,* 61 F.3d 170, 181 (3d Cir. 1995) (interpretive rule "merely clarifies or explains existing law or regulations"); *General Motors Corp. v. Ruckelshaus,* 742 F.2d 1561,

1565 (D.C. Cir. 1984) (interpretive rule only indicates agency's reading of a statute or rule, it does not alter the rule or create new rights or duties).

Instead, the Board made abundantly clear that it was *changing* the ATC rule it had previously adopted because it had determined that certain applications and features of the rule could create substantive consequences that the Board had not previously contemplated. *See, e.g., WFA Remand Decision*, STB Docket No 42088, at 2-9. The Board stated that it had found a substantive "problem" with ATC, and that therefore the ATC rule required "modification." *See id.* at 5-9. The Board concluded that because the change it made to the ATC rule addressed a perceived problem the Board had identified, the new "modified ATC methodology is preferable to the original ATC methodology." *Id.* at 2. Nowhere did the Board purport to be simply explaining, clarifying, or otherwise "interpreting" ATC. Rather, the Board intended to substantively–and did–change the ATC rule. *See WFA Remand Decision*, STB Docket No. 42088, at 12 (Board announced intention to conduct rulemaking to consider "other approaches" and modifications to the ATC rule, and stated that it considered holding *Western Fuels* in abeyance until it could promulgate an alternative new cross-over traffic revenue allocation rule).[90] Together, the Board's several *Western Fuels* decisions made clear that it had identified

[90] The two-member majority of the Board decided to apply its *ad hoc* modification of the ATC rule to the *Western Fuels* case based on case-specific circumstances and findings. *Cf. id. at* 13-14 (dissenting member would have held case in abeyance, conducted necessary rulemaking, and applied resulting revenue allocation rule to that case). While NS does not necessarily agree that the case-specific factors cited by the Board justified its decision to modify the ATC rule and apply it in the context of the individual *Western Fuels* adjudication (*i.e.*, without first conducting a rulemaking), it does not take a position on the Board's decision in that prior case to which NS was not a party. However, NS does note that none of the unique factors the Board cites in support of its decision to apply an amended rule without notice-and-comment rulemaking applies in the present case. Nor would any of the arguments made by the Board in support of *Western Fuels* approach be sufficient to overcome the requirements of the APA as applied to this case. The only way the Board lawfully may amend the ATC rule and apply the amended rule to SAC cases would be to adopt such an amendment through notice-and-comment rulemaking.

what it regarded as a substantive flaw in the ATC rule that had not been considered or addressed in the *Major Issues* rulemaking. And, the Board concluded it was necessary and appropriate to amend the ATC rule to address that flaw and problem. *See WFA Remand Decision*, STB Docket No. 42088, at 2, 9 (modification of ATC rule was necessary to address unanticipated substantive problem with that rule). It was entirely within the Board's power to commence a rulemaking to address what it perceived as an new and unanticipated "problem" with ATC, and to consider amending the ATC rule after consideration of the input of interested parties. Indeed, that is what the Board belatedly determined was necessary when it commenced the pending *Rate Regulation Reforms* rulemaking. But what the Board may not do is what it did in *Western Fuels*—adopt a substantive modification of a legislative rule without conducting a full notice-and-comment rulemaking. *See* 5 U.S.C. § 553.

(3) The Changes Made to the ATC Rule by "Modified" ATC Further Demonstrate it Was a Substantive Amendment, Subject to Notice-and-Comment Rulemaking Requirements.

The change to ATC imposed by the Board in *Western Fuels* was an amendment because it made a substantive change to the ATC rule and thus to the SAC test and analysis. *See Sprint,* 315 F.3d at 374 ("new rules that work substantive changes in prior regulations are subject to the APA procedures ... [W]hen an agency changes the rules of the game ... more than a clarification has occurred."); 5 U.S.C. §§ 551(5), 553(b)(3). Further, the new rule adopted in *Western Fuels* modified the Board's revenue allocation rule in a manner that is inconsistent with the original ATC. *See American Mining Congress*, 995 F.2d at 1109 *("*[i]f a second rule repudiates or is irreconcilable with a prior legislative rule, the second rule must be an amendment of the first," subject to notice-and-comment requirements); *id.* at 1112 (rule that "effectively amends a prior legislative rule" is itself a legislative rule); *see also National Org. of Veterans Adv.,* 260 F.3d at

1375 (legislative or substantive rules "make new law or *modify* existing law") (emphasis added); *American Hosp. Ass'n v. Bowen,* 834 F.2d at 1044 (rulemaking requirement applies to amendment or *modification* of a rule).

Comparison of the provisions and application of the ATC rule and the "Modified ATC" rule conclusively demonstrate that the Board's modification of the ATC rule in *Western Fuels* effected an amendment and substantive change to that rule. ATC allocated all cross-over revenues based upon average total cost of the movements and the carrier's "relative average [total] costs of providing service over the two segments." *Major Issues,* STB Ex. Parte No. 657 (Sub-No. 1) at 31. The method established by the ATC rule used average total cost to properly allocate all cross-over revenues in a manner that adequately accounts for "the defining characteristic of the railroad industry—economies of scale, scope, and density." *Id.* at 25. As the Board explained, allocating revenues based upon variable costs alone fails to take into account the critical role of economies of density. *See id.* The ATC approach also implemented the Board's primary goal in allowing the use of cross-over traffic—to "make the analysis more manageable without introducing bias." *Id.* at 24.

The new amended rule materially changed each of the above-described parameters of ATC rule and methodology. *First,* the ATC and Modified ATC formulas are based on two different measures—average total costs versus variable costs. ATC uses a single step process to allocate revenues, while Modified ATC separates costs of a cross-over movement into variable costs and fixed costs, and treats each differently in a separate allocation. Indeed, the term "average total costs" does not accurately describe the new formula the Board imposed in the *Western Fuels* case, as "Modified ATC" does not apply average total costs (fixed costs plus

variable costs) to allocate all cross-over revenue.[91] The new Modified ATC rule does not purport to allocate the total revenues generated by a movement based on average total cost. Rather, it allocates only revenue *contribution*—revenues in excess of URCS variable costs—on that basis. *See, e.g., Rate Regulation Reforms,* Ex Parte No. 715, at 8.

Second, the Board created an entirely new and heretofore unknown substantive element for cross-over revenue allocation: the amount of revenue allocated to the SARR segment of the movement must be greater than or equal to *the incumbent carrier's URCS variable costs. See WFA II,* STB Docket No. 42088, at 14. Moreover, that new substantive requirement was deemed so important that it must be satisfied *before*—and in some circumstances in lieu of—the ATC criteria. *See id.*[92] *Third,* instead of allocating *all* cross-over revenues in accordance with the relative average total costs of the on-SARR and off-SARR segments, the new rule used ATC to allocate *only* those *revenues left over* after sufficient revenues had been allocated to the on-SARR segment to cover the defendant carrier's URCS variable costs for that segment. Thus, under the new rule, the primary allocation of revenues would have nothing to do with average total costs or even with relative costs of the two segments, but instead would allocate revenues based on URCS *variable costs* of the on-SARR segment only. *See id. Fourth,* the new rule's allocation of revenues to cover the URCS variable costs attributed to the on-SARR segment fails to take into account economies of density—"the defining characteristic of the railroad industry."

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[91] Thus, the term "Modified ATC" is a misnomer, as the two-step formula used in *Western Fuels* does not use unified average total costs to allocate all cross-over traffic revenue.

[92] This substantive requirement was so novel and outside the existing ATC rule that no party to the case had proposed or apparently even contemplated it. The parties raised several other issues concerning the proper application of the ATC rule, but none sought a threshold requirement that the revenue allocation must first and foremost cover the variable costs of the movement over the segment the complainant chose to include as part of its SARR network. *See WFA II,* STB Docket No. 42088, at 12-13. Rather, the Board created this entirely new substantive requirement *sua sponte. Id.* at 14.

Compare Major Issues, Ex Parte No 657 (Sub-No. 1) at 25 *with WFA II*, STB Docket No. 42088, at 14. This represents a major departure from the ATC rule, whose primary innovation and feature was that it allocated all cross-over revenues in a manner that accounted for economies of density. *See, e.g., BNSF Ry. Co. v. Surface Transp. Bd.*, 526 F.3d at 782-83.[93] *Finally*, the new rule "introduced bias" to the cross-over traffic analysis by allocating to the SARR revenue sufficient to cover the variable costs of its segment regardless of the resulting under-allocation of revenue to the off-SARR segment and the fact that the complainant alone had chosen to include as cross-over traffic movements that generated revenue-to-URCS-variable-cost-ratios of 100% or less. Although the Board apparently believed this was justifiable bias, its new rule nonetheless introduced bias to a method whose previous goal was to simplify the analysis *without* introducing bias.

Because the Board's new cross-over revenue allocation rule amended and substantively modified the ATC rule adopted in the *Major Issues* rulemaking, that amendment could only be adopted in a notice-and-comment rulemaking. *See, e.g., American Mining Congress*, 995 F.2d at 1112 (reconciling cases and distilling four circumstances in which a rule is "legislative" or substantive, meaning that the APA requires notice-and-comment rulemaking for its adoption, including where "the rule effectively amends a prior legislative rule."). However, the Board created its new rule in an individual *adjudication*, *not* in a rulemaking. Courts have consistently held that an agency may not avoid notice-and-comment rulemaking requirements by adopting a *de facto* amendment to a substantive "legislative" rule in an individual adjudication. *See, e.g., Marseilles Land and Water Co. v. FERC,* 345 F.3d 916, 920 (D.C. Cir. 2003). Accordingly, the

[93]The Board has effectively acknowledged that the amended rule and formula it adopted in *Western Fuels* substantially reduces the effect of economies of density on its allocation of revenues, a primary aim of a cost-based allocation method. *See Rate Regulation Reforms,* Ex Parte 715, at 18.

so-called "Modified ATC" rule is invalid because it violated the rulemaking requirement of the APA. Application of that invalid rule to this case would render any decision issued in this case invalid and subject to reversal.

(4) "Modified ATC" was an Amendment to the ATC Rule that Modified that Rule.

It is telling that the Board consistently refers to its new rule as "Modified ATC," and obviously views the new approach it adopted in *Western* Fuels as a "modification" of the prior ATC rule. *See generally WFA Remand Decision*, STB Docket No 42088, at 2-12 (containing numerous references to the new rule as "modified ATC"); *see also Rate Regulation Reforms,* Ex Parte 715, at 7, 17 (describing both the change made in *Western Fuels* and the change proposed in Ex Parte 715 as "modifications" of the ATC rule). The D.C. Circuit has frequently held that an agency must engage in rulemaking in order to "modify" a legislative rule. *See, e.g., City of Idaho Falls v. FERC*, 629 F.3d 222, 227 (D.C. Cir. 2011) (agency that adopts through rulemaking a methodology "may *modify* that methodology *only*" through notice-and-comment rulemaking) (emphasis added); *Alaska Professional Hunters Ass'n v. FAA*, 177 F.3d 1030, 1034 (D.C. Cir, 1999) ("Rulemaking, as defined in the APA, includes not only the agency's process of formulating a rule, but also the agency's process of modifying a rule," and agency may only change interpretation of regulation through notice and comment rulemaking); *Paralyzed Veterans of America v. D.C. Arena*, 117 F.3d 579, 586 (D.C. Cir. 1997) (agency modification of previous interpretation of substantive regulation requires notice-and-comment rulemaking).

The D.C. Circuit has further instructed that an agency's own characterization of an order or decision is important in determining whether the agency created a legislative rule. *See, e.g., Pacific Gas & Elec.*, 506 F.2d at 39. Here, the Board expressly intended its action to "modify" the existing ATC rule. Because modifications of legislative rules may be undertaken only in

notice-and-comment rulemaking, the adoption of "Modified ATC" could be valid only if it were adopted in such a rulemaking.

In making its *sua sponte* modification of the ATC rules in *Western Fuels*, the Board stated that the modification was needed to respond to what it perceived as a deficiency in the existing ATC methodology. *See generally WFA Remand Decision*, STB Docket No. 42088; *WFA I*, STB Docket No. 42088; *WFA II*, STB Docket No. 42088. This explanation is similar to that offered by the Federal Motor Carrier Administration when it modified a method it used for determining truck driver hours of service, noting that the change was "the agency's response to an important defect in its previous methodology identified" after the agency had adopted the method. *See Owner-Operator Independent Drivers Association v. Federal Motor Carrier Safety Administration,* 494 F.3d 188, 200-202 (D.C. Cir. 2007). The *Independent Drivers Ass'n* Court held that the modification triggered APA rulemaking requirements and the agency's failure to fully comply with those requirements required that the modification of the methodology be vacated. *See id.* at 207, 212. Similarly, the Board's self-described modification and amendment of the cross-over traffic revenue allocation rule and methodology with notice-and-comment rulemaking violated the APA and renders the modification void. *See id.*; *see also City of Idaho Falls v. FERC*, 629 F.3d at 227; *Auer v. Robbins,* 519 U.S. 452, 459 (1997).

(iv) An Agency May Not Avoid Notice-and-Comment Requirements by Acting in an Adjudication.

As demonstrated, the federal courts of appeals have established that an agency may not amend a legislative rule, or adopt a new position that is inconsistent with an existing legislative rule, without first conducting a notice-and-comment rulemaking. Nor may an agency evade the APA's rulemaking requirement by modifying or amending in an adjudication a legislative rule that was adopted in notice-and-comment rulemaking. As the D.C. Circuit admonished, "an

administrative agency may not slip by the notice-and-comment rule-making requirements needed to amend a rule by merely adopting a *de facto* amendment to its regulation through adjudication." *Marseilles Land and Water Co.*, 345 F.3d at 920; *see Shalala v. Guernsey Mem'l Hosp.*, 514 U.S. 87, 100 (1995) (an agency interpretation that "adopt[s] a new position inconsistent with . . . existing regulations" must follow APA notice-and-comment procedures).

The Board's attempt to amend the ATC rule in the individual *Western Fuels* adjudication without comment or participation by other interested and affected parties violated the APA's rulemaking requirements. As demonstrated above, the W*estern Fuels* decision amended and *substantially changed the ATC methodology* in a manner inconsistent with that existing rule, in part by substantially reducing the effect of economies of density on the allocation of crossover revenues, which in most instances will result in over-allocation of those revenues to the SARR. For all of the reasons discussed above, ATC and Modified ATC are two distinct and irreconcilable rules that allocate revenues using different principles and methods. *See American Mining Congress,* 995 F.2d at 1109 ("If a second rule repudiates or is irreconcilable with [a prior legislative rule], the second rule must be an amendment of the first; and, of course, an amendment to a legislative rule must itself be legislative.") (citations omitted); *see Shalala v. Guernsey Mem. Hosp.*, 514 U.S. at 100 (APA requires rulemaking where an agency seeks to "adopt[] a new position inconsistent with . . . . existing regulations."). Under the APA, the Board's attempted amendment of the ATC rule was unlawful and ineffective, because a legislative rule may not be amended in an individual adjudication such as *Western Fuels. See American Mining Congress,* 995 F.2d at 1109, 1112; 5 U.S.C. §§ 551(5), 553.

The Board's own subsequent actions seem to indicate that it has recognized that, in its haste to conclude a case that had been pending for eight years, it failed to follow the salutary

notice-and-comment approach mandated by the APA. The dissenting commissioner in the Board's *WFA Remand Decision* recognized the basic precept that amendment of a legislative rule should be undertaken in a rulemaking proceeding, stating, "I do not believe that "Modified ATC", which was developed *after* the conclusion of *Major Issues*, and without an opportunity for public comment, provides for the unbiased revenue allocation approach that was intended." *WFA Remand Decision*, STB Docket No 42088, at 13. The Board majority announced in the same decision that it intended to conduct a rulemaking to develop a new revenue allocation rule. *See WFA Remand Decision*, STB Docket No 42088, at 12. Shortly thereafter, the full Board commenced the *Rate Regulation Reforms* rulemaking, apparently recognizing that in order to amend the crossover traffic revenue allocation rule, it must conduct a rulemaking proceeding that gives all interested parties an opportunity to comment. *See* NPRM, *Rate Regulation Reform*, Ex Parte 715 (July 25, 2012) (commencing rulemaking to consider *inter alia,* changes to cross-over revenue allocation rule).

In sum, the only cross-over traffic revenue allocation rule that lawfully may be applied to this case at the present time is "original" ATC. As demonstrated, both governing law and good regulatory policy require that, when the Board adopts a rule through notice-and-comment rulemaking, any substantial changes or amendments to that rule also must be undertaken only in such a rulemaking, not in an individual adjudication. *See* 5 U.S.C. §§ 551(5), 553. Unless and until the Board adopts a new or amended rule in a rulemaking proceeding, it must apply the original ATC revenue allocation rule to this case. Application of any rule or method that is substantively different from the ATC rule (such as the "Modified ATC" rule the Board sought to apply in *Western Fuels*), without first conducting a rulemaking proceeding and promulgating a new rule, would be unlawful.

(d) Equal Application of ATC to all Cross-over Traffic is Logical, Fair and Fully Consistent With SAC Rules and Theory.

The application of the sound, judicially approved ATC revenue allocation rule to the traffic selected in the sole discretion of the complainant is neither "illogical" nor "unfair," and the results of neutral application of that method provide no reason to change the ATC rule and methodology. The concern that led the Board to substantially change the ATC rule and methodology—not raised by any party to the case—was that application of the methodology to some low-rated SARR traffic might result in the on-SARR segment of that traffic not covering the incumbent carrier's real world variable costs. *See WFA I,* STB Docket No. 42088, at 14.[94] The Board's solicitude for SARR traffic is unnecessary, because a SAC complainant has the right and discretion to select only the traffic it wishes to include in its SARR:

> Because a SAC analysis is a means of eliminating existing inefficiencies and cross-subsidies between different traffic, the complaining shipper can select any subset of available traffic to determine the least cost at which that subset of traffic could be served independently of other traffic.

West Texas, 1 S.T.B. at 657.[95]

Because the complainant has sole, full control over the traffic it selects for its SARR, inclusion of traffic whose revenue cannot cover its variable cost is entirely the product of the

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[94] Ironically, DuPont's analysis would generate maximum reasonable rates for a number of movements that would not recover the variable costs of those movements in later years of the SAC analysis period.

[95] *See Major Issues,* STB Ex Parte No. 657 (Sub-No. 1) at 25; *Western Fuels Ass'n et al. v. BNSF Ry. Co.,* STB Docket No. 42088, at 2 (served Mar. 14, 2005) ("It is a longstanding principle of SAC cases that the shipper has the right to select its SARR traffic group."); *Duke/NS*, 7 STB at 115 ("a [SAC] complainant may select a subset of the defendant's traffic . . . in order to realize the benefit of economies of scale, scope, and density inherent in the railroad industry"); *Arizona Public Service Co. v. Atchison, Topeka & Santa Fe Railway Co.,* 2 S.T.B. 367, 381 (1997) ("the complaining shipper may select any subset of available traffic to determine the least cost at which that subset of traffic could be served").

complainant's decision. ATC is a neutral formula for allocating cross-over traffic revenues in a manner that accounts for economies of density, a defining characteristic of railroad economics. The reason a complainant is allowed to select whatever portion of the defendant's traffic it wishes for its SAC presentation is to allow the complainant to "*realize the benefits of economies of* scale, scope, and *density* inherent in the railroad industry." *Duke/NS*, 7 S.T.B. at 115 (emphasis added). A complainant also has sole power to determine whether to configure its SARR to handle its selected traffic as cross-over traffic, and if so, how. Because the complainant knows how cross-over revenues will be allocated under the ATC rule, it may factor that allocation into its traffic selection.[96] The neutral ATC should be uniformly applied to all cross-over traffic selected by the complainant, without regard to the R/VC ratio of the segment the complainant selected for inclusion in the SARR traffic group.

A complainant has the right, and in some instances may have good reasons, for including traffic with low revenue to variable cost ratios in its SARR traffic group. The Board should not alter its sound, objective rules and methodology to shield the complainant from the results of its own traffic selection.[97] It is the Complainant's prerogative to select whatever traffic it wishes, but it must live with the application of known rules to the traffic it selects.

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[96] A complainant's manifest ability to avoid selection of traffic that does not contribute to fixed costs is illustrated by *Western Fuels,* where the complainant's second traffic selection eliminated from its first traffic group the overwhelming majority of traffic whose on-SARR ATC revenue division did not exceed its URCS variable costs. Complainant's revised traffic group in *Western Fuels* had only three movements whose ATC division would not cover URCS variable costs, accounting for only .3 (three-tenths) of one percent of SARR revenue.

[97] Indeed, the Board's amendment of the ATC rule to ensure that on-SARR portions of cross-over movements covered URCS variable costs violated a basic tenet of cross-over traffic: cross-over traffic is a modeling device that allows simplification of a SAC presentation *without introducing bias* to the SAC analysis. What the Board did by applying Modified ATC was to introduce bias, effectively putting a thumb on the revenue allocation scale in favor of the complainant. If cross-over traffic methodology introduces bias to the analysis, the predicate condition for allowing its use would be eliminated.

(i) Application of ATC to Low R/VC Movements is Not "Illogical," and the Concern that Led the Board to Modify the ATC Rule is Not Present Here.

In *Western Fuels*, the Board was concerned that ATC revenue allocation would result in a consequence that it speculated the Complainant may not have intended: revenues for some movements that do not contribute to their fixed costs. The Board expressed concern that such a result was illogical. But such a result is an entirely logical result of application of the sound ATC rule to certain low-rated traffic that the Complainant may choose to include in its SARR traffic group.

In many instances, selection of some low-rated movements for inclusion in SARR traffic is in the complainant's best interest and entirely logical. Generally, because revenue generated by other movements on a SARR's high density lines are more than sufficient to cover SARR total costs on those lines, the SARR has every incentive to add as much revenue-generating traffic as possible. Under such circumstances, even traffic that does not cover its URCS variable costs still contributes additional SARR revenue. Moreover, SARR traffic group movements whose revenues would not cover the incumbent's system average URCS variable costs nonetheless generally make contribution above the optimally efficient SARR's variable costs.

Perhaps even more fundamentally, a comparison of on-SARR segment revenues to the real-world incumbent carrier's URCS system average variable costs for that segment makes little sense and proves even less. *First,* SARR costs, including variable costs, are those costs that would be incurred by a hypothetical least cost, optimally efficient carrier. By definition, those costs will necessarily be lower than the actual variable costs incurred by a real world carrier that is not optimally efficient. Thus, comparing real world URCS costs for a segment to SARR revenues generated by that segment does not generate a meaningful SARR R/VC ratio. Such a

comparison would invariably overstate SARR variable costs and thus understate the SARR R/VC ratio. The fact that such an apples-to-oranges exercise generates an R/VC ratio of less than 100% is meaningless.

Second, even if a defendant carrier's actual variable costs were a relevant or appropriate measure of the minimum revenue that should be allocated to the SARR for its portion of a cross-over movement, URCS system average variable costs do not measure the actual variable costs for any specific movement. Rather, they are system *average* costs, representing an average of the costs of movements across the carrier's network, which do not attempt to reflect numerous variations in individual movements that affect their actual variable costs. Thus, URCS system average variable costs do not accurately represent the real world carrier's actual costs of any specific movement, let alone the SARR's variable costs.

Third, as the Board has acknowledged, the fact that a movement generates an URCS-based R/VC ratio below 100% does not always mean that movement is losing money. *See, e.g., Rate Guidelines—Non-Coal Proceedings*, 1 S.T.B. 1004, 1028-29 (1996) ("an R/VC ratio below 100% does not necessarily reflect improper pricing or money-losing service."). There are multiple reasons for this, including the fact that "URCS costs may include a significant portion of what may actually be unattributable joint and common costs." *See id,* 1 S.T.B. at 1028.

Moreover, complainants' own self-interested actions further demonstrate that even movements whose total revenues do not cover their URCS variable costs may nonetheless make a positive contribution to SARR revenues as cross-over traffic. In *Western Fuels,* for example, the complainants were well aware of the original ATC rule when they included in their revised traffic group a small volume of cross-over traffic that would not contribute the SARR's fixed costs. In this case, DuPont knowingly selected a large volume of cross-over traffic whose

revenues would not contribute to fixed costs even under the Board's Modified ATC rule, because the entire movement (*i.e.*, both on-SARR and off-SARR segments) does not generate revenue greater than its variable costs. Indeed, fully *fourteen percent* of the movements DuPont selected for inclusion in its SARR traffic group would not cover their URCS system average variable costs. *See* DuPont Opening WP "DRR_2010_TRAFFIC_ATC_OPENING_v1_041412.xlsx." Given this fact, it is clear that including substantial volumes of traffic that do not cover NS's URCS variable costs was an *intended* consequence of DuPont's traffic selection. Because the optimally efficient SARR benefits from revenue allocations that would not cover the incumbent's URCS variable costs, such allocations are entirely logical and provide no basis in law or policy to abandon the ATC rule and methodology.[98]

(ii) Application of ATC to Low-Rated Cross-over Traffic Selected by a Complainant is Not Unfair.

There is also nothing "unfair" about the uniform neutral application of the "original" ATC formula to all cross-over traffic revenue. As the Board and the D.C. Circuit both found, by allocating revenues in accordance with average total costs (*i.e.*, simultaneously considering both fixed and variable costs), original ATC properly accounts both for the relative mileage of on- and off-SARR segments, and for economies of density, a "defining characteristic" of railroad economics. *See, e.g., BNSF Ry. Co. v. Surface Transp. Bd.*, 526 F.3d at 782-84; *Major Issues,* STB Ex Parte 657 (Sub-No. 1) at 25. Depending on the revenue generated by a given

[98] Moreover, even assuming *arguendo* that revenue allocations for low-rated traffic selected by the incumbent should be adjusted to ensure that the revenue allocated to the on-SARR segment of a cross-over movement covers the incumbent's URCS variable cost of that movement, the Modified ATC approach the Board applied in *Western Fuels* is grossly over-inclusive because it applied to all cross-over movements and not just the small fraction of those movements that would not cover their URCS variable costs under an ATC allocation. The result was a significant over-allocation of revenues to the SARR, well beyond that necessary to achieve the Board's objective of ensuring that on-SARR segments of cross-over traffic cover the incumbent's URCS variable costs.

movement, costs attributable to that movement, and the relative lengths of haul and densities of the segments handled by the SARR and the residual incumbent, cross-over revenue allocations will vary. Similarly, the portion of variable and fixed costs covered by the revenue allocation to a segment of a cross-over movement will also vary. Such variation is an intended, appropriate, and necessary result of a cost-based allocation method that takes into account economies of density.

It is emphatically *not* "unfair" that in some instances some cross-over traffic revenue allocations—either to the SARR or to the residual incumbent—may be lower than the incumbent's URCS variable costs for that segment of the movement. Most plainly, application of "original" ATC is in no way unfair to a complainant. The complainants in *Western Fuels* were well aware of the ATC rule when they made their revised traffic selection and submitted new SAC evidence specifically intended to take that then-new rule into account. Similarly, unless and until a new revenue allocation rule is adopted in notice-and-comment rulemaking, DuPont and other complainants should know that ATC is the law of the land that will be used to allocate cross-over revenues. Because complainants may select or reject any of the defendant's traffic they wish, *and* establish hypothetical cross-over interchange points with the residual incumbent wherever they wish, complainants have every opportunity to make traffic selections and designate cross-over traffic under the rules that will most advantage them in a SAC presentation.[99] If there is any unfairness in this process, it is to the defendant carrier who has no control over traffic selection or SARR network design and must accept the resulting cross-over traffic revenue allocation. However, NS is not asserting in this case that either the application of

[99] In many instances, cross-over revenue allocations may not be the most important consideration in complainants' traffic selection or SARR configuration. Rather, a complainant can be expected to make its traffic selections and design its SARR in the manner that, taking all relevant factors into account, most favors its case and likelihood of obtaining a rate prescription or reparations.

well-established SAC rules or of the ATC revenue allocation the Board adopted in a rulemaking is unfair. What would be unfair would be to apply an ill-considered modified rule that was hastily cobbled together and applied in an individual adjudication to address a non-existent problem. The Board should allocate cross-over traffic revenues using (original) ATC, which was adopted in notice-and-comment rulemaking, affirmed by the D.C. Circuit, and is fully consistent with a defining characteristic of railroad economics, economies of density.

(e) Recent Events Have Further Undermined the Amended/Modified ATC Rule the Board Created and Applied in *Western Fuels*.

The *WFA Remand Decision*, the ongoing second appeal of that decision, and the Board-initiated *Rate Regulation Reforms* rulemaking call into even further question the lawfulness of the application of Modified ATC in the individual *Western Fuels* case. More directly relevant here, those developments further demonstrate the infirmity of that *ad hoc* approach, and substantially reduce the likelihood that Modified ATC will ever be applied in any other case.[100]

First, it is not clear that the amended revenue allocation rule, which the Board created to address a perceived problem in an individual case, was *intended* to apply to future cases. *See, e.g., WFA I*, STB Docket No. 42088, at 14 (creating new method to address Board's concern in that particular case that the on-SARR revenue allocation for some low R/VC movements the complainant had selected would be insufficient to cover the defendant's URCS variable costs for the SARR segment); *WFA Remand Decision*, STB Docket No 42088, at 12 ("Modified ATC was

[100] By a 2-1 vote, the Board affirmed its application of Modified ATC in that specific adjudication. *See WFA Remand Decision*, STB Docket No 42088, at 12-13. The remand decision modestly expanded the Board's rationale for creating and applying a new revenue allocation rule, and attempted to address the new method's disproportionate allocation of revenue to the SARR and its diluted accounting for economies of density. *See id.* BNSF appealed that decision. *See BNSF Ry. Co. v. Surface Transp. Bd.*, D.C. Circuit No. 12-1327 (July 23, 2012).

the Board's solution to accommodate [] two competing principles . . . We do not suggest that this is the only solution or that there may not be other approaches that could better accommodate the two competing principles."). Moreover, while the *Rate Regulation Reforms* NPRM is not entirely clear on this point, it appears that the Board may intend to apply any new revenue allocation methodology it adopts in this rulemaking to pending cases. *See Rate Regulation Reforms*, Ex Parte 715, at 17, n.11 (stating that the Board does not intend to apply proposed new limitations on nature of cross-over traffic itself in pending cases, but making no similar statement with respect to any new cross-over traffic revenue allocation methodology it might adopt). Thus, even if the Board were to prevail in the renewed appeal of its application of Modified ATC in *Western Fuels*, it appears probable that it would apply that flawed method only to that single specific case.

Second, the Board's remand decision is vulnerable to reversal on appeal. In both the Board's *WFA Remand Decision,* and in the *Rate Regulations Reform* NPRM, the Board essentially endorsed the alternative revenue allocation method that BNSF had proposed in *Western Fuels*. *See WFA Remand Decision*, STB Docket No 42088, at 12; *Rate Regulation Reforms*, Ex Parte 715, at 17-18. And, the Board's rationale for refusing to consider BNSF's proposal on remand is questionable. *See WFA Remand Decision*, STB Docket No 42088, at 11-14. Moreover, as demonstrated above, any substantial change to ATC made in an individual adjudication would be unlawful under the APA.[101] Therefore, the only revenue allocation

[101] As demonstrated above, an administrative agency like the Board may make a substantial change or amendment to a substantive (or "legislative") rule adopted through notice and comment rulemaking—such as ATC—*only* in another rulemaking proceeding, and not in an individual adjudication. *See* Administrative Procedure Act, 5 U.S.C. §§ 551(5), 553(b)(3)(A). The D.C. Circuit has consistently held that an amendment to a legislative rule requires a notice-and-comment rulemaking proceeding. *See, e.g., American Mining Congress*, 995 F.2d at 1112-13; *United States Telecom Ass'n v. FCC,* 400 F.3d at 34-35; *Sprint Corp,* 315 F.3d at 374.

methodology the Board could apply in *Western Fuels*—or in this case—is ATC or an amended revenue allocation methodology developed through notice-and-comment rulemaking.

Third, the Board has effectively acknowledged that the Modified ATC approach is inferior to at least one other available approach. Modified ATC was an *ad hoc* attempt by the Board to create, on the fly and without benefit of comments from interested parties, a revised methodology that would both account for economies of density and address the perceived problem of allocations that would result in SARR revenue that is lower than the real world incumbent's URCS variable costs for the segment replicated by the SARR.[102] Even assuming, *arguendo,* that the Board's concern about original ATC were valid, it has now proposed an alternative method that addresses that perceived problem without doing as much harm to a primary goal of its cost-based allocation approach—accounting for economies of density. *See Rate Regulation Reforms*, Ex Parte 715, at 17-18. Consistent with governing administrative law, in this case the Board may either apply the revenue allocation methodology developed in the *Major Issues* rulemaking (ATC) or an amended method it adopts through notice-and-comment rulemaking. What it may not do is apply an amended allocation rule it created in an individual adjudication that had been rejected on appeal and was not in force at the time DuPont filed this case or when it filed its case-in-chief, and that is presently pending on appeal.

Because the Board's change to the substantive ATC rule was a substantive amendment, the Board erred in adopting it in an individual adjudication. Thus, even if the Board's rationale for adopting Modified ATC were otherwise sound, it would still have been adopted in violation of the APA and thus would be unlawful and inapplicable to this or any other case.

[102]The Board's creation application of Modified ATC was an unnecessary and distorting attempt to "remedy" a non-existent problem. As demonstrated, SARR revenue allocations below the incumbent's real world URCS costs are not inconsistent with SAC principles, implausible, unfair, illogical, or otherwise problematic. *See supra* III-A-24.

Table of Contents

Page

III. STAND-ALONE RAILROAD SYSTEM III-B-1

B. STAND-ALONE RAILROAD SYSTEM III-B-1

1. Routes and Mileage III-B-1

a. Main Line III-B-1

b. Branch Lines III-B-3

c. Interchange Points III-B-4

d. Total Route Mileage III-B-5

2. Track Miles and Weight of Track III-B-7

a. Main Lines III-B-11

b. Branch Lines. III-B-11

c. Sidings III-B-11

d. Other Tracks III-B-12

3. Yards III-B-13

a. Miles and Weight of Yard Track III-B-14

4. Other III-B-15

a. Joint Facilities III-B-15

b. Intermodal Facilities III-B-15

c. Automotive Facilities III-B-15

d. Transload Facilities III-B-16

e. Signal/Communications System III-B-16

f. Turnouts, FEDs and AEI Scanners III-B-17

g. RTC Model Simulation of DRR Configuration III-B-18

III. STAND-ALONE RAILROAD SYSTEM

B. STAND-ALONE RAILROAD SYSTEM

1. Routes and Mileage

The rail network that DuPont posited for the DRR totals 8,095.8 miles, including 7,276.94 miles of track constructed and owned by the DRR and 818.87 miles of track owned by other railroads (over which the DRR would operate pursuant to NS's existing trackage rights and joint facility agreements). DuPont Opening III-B-2. The DRR system includes 23 main line segments and 36 branch lines traversing 20 states. DuPont Opening III-B-1 to III-B-3. The DRR replicates much of the current NS system, extending from Chicago, IL, Detroit, MI, and Buffalo, NY, in the north to New Orleans, LA, and Mobile, AL, in the south, and from Oak Island, NJ, and Baltimore, MD, in the east to Memphis, TN, and Kansas City, MO, in the west. Although DuPont proposes to route certain traffic differently than NS does today, NS accepts the general scope and configuration of the DRR posited by DuPont.[1] NS Reply Ex. III-B-2 contains a set of maps depicting the DRR rail lines, yards, interchange points, and intermodal, automotive and transload facilities posited by NS.

a. Main Line

DuPont has included a total of 23 main line segments which include:

1. Chicago, IL east to Bellevue, OH;
2. Chicago, IL east to Cleveland, OH;
3. Calumet City, IL south to Bement, IL;
4. Kansas City, MO east to Mosser/Decatur, IL;
5. St. Louis, MO east to Fort Wayne, IN;

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[1]DuPont posits the existence of "internal cross-over" traffic that moves in trains that would "leapfrog" between the lines of the DRR and the residual NS at intermediate points within the DRR network. DuPont's physical plant does not include the residual NS segments over which such "leapfrog" trains would move. For the reasons discussed at III-C-102-115 below, "internal cross-over" traffic violates SAC principles and the Board's prior pronouncements regarding the proper use of cross-over traffic, and should not be permitted.

6. East St. Louis, IL east to Danville, KY;
7. Bellevue, OH north to Detroit, MI;
8. Bellevue, OH east to Harrisburg, PA;
9. Buffalo, NY east to Rockville, PA;
10. Harrisburg, PA east to Bayway, NJ;
11. Banks, PA east to Edgemoor, DE;
12. Harrisburg, PA south to Roanoke, VA;
13. Roanoke, VA east to Petersburg, VA;
14. Roanoke, VA southwest to Chattanooga, TN;
15. Bradley, TN south to Cohutta, GA;
16. Bellevue, OH south to Walton, VA;
17. Columbus, OH south to Chattanooga, TN;
18. Chattanooga, TN south to New Orleans, LA;
19. Chattanooga TN west to Memphis, TN;
20. Burstall, AL south to Mobile, AL;
21. Lynchburg, VA south to Atlanta, GA;
22. Austell, GA west to Birmingham, AL; and
23. Ooltewah, TN south to Mahrt, AL.

The main line segments posited by DuPont do not include certain main line tracks that are part of NS's Partially Owned Lines, including the Conrail Shared Asset Area, the Indiana Harbor Belt Railroad Company ("IHB"), The Belt Railway of Company of Chicago ("BRC"), and the Terminal Railroad Association of St. Louis ("TRRA"). DuPont's Opening Evidence fails to account for the cost of building those main line segments, which are used by the DRR. *See* NS Reply Section III-F ("Partially Owned Lines"). NS's Reply Evidence allocates to the DRR a percentage of the costs of building those main line segments—which the DRR would need to serve its selected traffic, including the issue traffic—based on NS's ownership stake in those facilities. *See infra* Table III-B-1-A. NS's proposed DRR configuration also includes NS's existing main line segment between Ashland Avenue Yard and Ogden Junction in Chicago, IL and six additional lead tracks required to serve DRR customers. As NS demonstrates below (at III-C-143-145), the DRR would need the Ashland Avenue – Ogden Junction line to interchange traffic with UP and BNSF in the Chicago area in a manner consistent with the operating practices of those railroads.

Moreover, NS's operating plan and RTC simulation (presented in Part III-C below) demonstrate that the track and yard capacity posited by DuPont are grossly inadequate to enable the DRR to provide the level of train service required by its customers. Moreover, DuPont's proposed DRR configuration does not account for the full costs of the intermodal terminals, automotive handling facilities, and transload facilities that the DRR would need to meet the requirements of general freight, automotive, and intermodal shippers. NS's Reply Evidence addresses those serious deficiencies in DuPont's SARR by providing (and accounting for the cost of) those facilities.

b. Branch Lines

DuPont's proposed DRR configuration includes a total of 36 branch lines. Of those 36 segments, 27 are branch lines constructed as part of the DRR's proprietary network, and nine are branch lines owned by other railroads over which the DRR would operate pursuant to NS's existing trackage rights and joint facility agreements. Those branch line segments are used by the DRR to serve general freight customers, coal mines, power plants, and other industrial destinations, and as interchange points with connecting carriers.

While DuPont's selected traffic group includes the vast majority (or all) of the traffic originating and/or terminating on many NS branch lines, DuPont did not include those branches in the DRR's track configuration. Rather, DuPont posits that the DRR would handle that traffic to the junction point between NS's current main line (which was replicated by DuPont) and the branch lines that DuPont elected to exclude. The DRR would interchange traffic moving to or from customers located along the excluded branch lines with the residual NS, which would bear the cost of originating and/or terminating that traffic while receiving a revenue division based on its limited haul over the branch line. This is an unfair and inappropriate assumption that DuPont clearly made in a calculated effort to avoid the costs that the DRR should be required to shoulder

if it is to be permitted to enjoy the revenues associated with such traffic – particularly where (as here) it selected all of the traffic moving to/from customers on a branch line. Nevertheless, NS accepts DuPont's assumption for purposes of this case, but addresses a separate issue that arises as a result of that assumption. DuPont's track configuration for the DRR does not include the tracks that would be required to interchange of traffic with NS at those branch line junctions. NS does not interchange traffic at those locations today, and therefore does not have tracks in place upon which such DRR-NS interchange could be accomplished. NS's track configuration for the DRR addresses this omission by incorporating an appropriate number of track feet of interchange trackage for use by the DRR and NS in transferring cars at those new interchange locations.

c. Interchange Points

DuPont posits that the DRR interchanges traffic with all seven Class I railroads and with various regional and short-line railroads with which NS interchanges traffic today.[2] DuPont's workpapers identify 66 "major" interchange points along the DRR network.[3] Based on the detailed operating plan required to serve the DRR's selected traffic, which NS presents in Part III-C below, NS determined that DuPont failed to account for a number of additional locations at which the DRR would interchange traffic with other carriers.

For example, DuPont did not account for several of the locations at which (DuPont posits) "internal cross-over" traffic would be transferred between the lines of the DRR and NS. Specifically, DuPont's list of "major" interchange points does not include Goshen, IN, Emory

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[2] DuPont's Opening Evidence makes inconsistent references to the number of Class I railroads with which the DRR would interchange traffic. *Compare* DuPont Opening III-B-4 (indicating that the DRR interchanges with all Class I carriers other than CP) *with* DuPont Opening III-C-3 (indicating that the DRR interchanges with all seven Class I railroads). DuPont workpaper "DRR Interchanges.xlsx" identifies multiple "Major Interchange Locations" with CP, and its selected traffic includes carloads that are interchanged with CP.

[3] *See* DuPont Opening WP "DRR Interchanges.xlsx."

Gap, TN, Salisbury, NC, or Asheville, NC, even though (according to DuPont) trains would "leapfrog" between the lines of the DRR and NS at those locations. *See infra* III-C-192. Nor does DuPont's operating plan account for the new interchange points necessitated by its decision not to include certain NS branch lines in the DRR network, even though DuPont selected virtually all of the NS traffic that moves to and from customers located along those branch lines. *See infra* III-C-186-187. Indeed, DuPont's operating plan necessitates the creation of 101 new interchanges at locations where NS does not interchange traffic today.[4] NS's Reply Evidence rectifies this omission by accounting for the time and resources required to interchange cars at all of the locations at which the DRR would be required to interchange its selected traffic (*see* Part III-C), and by including in the DRR's physical configuration all of the track facilities necessary to conduct those interchange operations (*see* Part III-F).[5]

d. Total Route Mileage

DuPont posits that the DRR would build and own a total of 7,276.94 route miles. Based upon NS's Operating Plan and RTC simulation, which address the numerous deficiencies in DuPont's Opening Evidence, NS posits that the DRR would, in fact, be required to construct 7,343.55 miles of main line and second main line track. The additional route miles posited by NS include main line track segments that are part of NS's Partially Owned Lines and NS's existing main line segment between Ashland Avenue Yard and Ogden Junction in Chicago, as well as on the six segments of lead track shown on Table III-B-1 below. Figure III-B-1

[4] *See* NS Reply WP "DUPONT RR Route Miles Opening Grading errata Reply," Tab "New Interchange Tracks."

[5] NS Reply Ex. III-B-3 is a list of the 143 locations at which NS witness Baranowski provided interchange tracks to support the DRR's interchanges. *See also* NS Reply WP "DuPont RR Route Miles Opening Grading errata Reply.xlsx," Tab "New Interchange Tracks."

summarizes the differences between the main line track facilities posited in DuPont's Opening Evidence and NS's Reply Evidence.

Table III-B-1
Reply DRR Constructed Route Mileage*

*NS accepts DuPont's posited Opening route miles with the following exceptions			
Segment Changes	**Open Constructed Miles**	**Reply Constructed Miles**	**Difference**
Extend Mainline to Ashland Avenue			
Chicago, IL east to Bellevue, OH	273.14	275.96	2.82
Add Lead Branches			
BELMONT LEAD: Belmont, NC - Allen Power Plant, NC	0.00	3.00	3.00
FAIRGROUNDS LEAD: Virginia Ave, KY to Cane River Power, KY	0.00	1.96	1.96
KINGSTON PLANT LEAD: Emory Gap, TN to Kingston Power, TN	0.00	5.20	5.20
BEAR CREEK LEAD: Coal Yard Terminal Access, MD	0.00	0.86	0.86
MONROE LEAD: Mainline to Monroe Power Plant, GA	0.00	1.62	1.62
SCHERER LEAD: Mainline to Scherer Power Plant, GA	0.00	1.38	1.38
Add Partial Ownership Track (Pro-Rated Share) - 1/			
Total (BRC, Conrail ,IHB, and TRRA)	0.00	49.77	49.77
TOTAL ROUTE MILES - 2/	**7,276.94**	**7,343.55**	**66.61**
1/ - See Table III-B-1-A for break down			
2/ - Reply Route Miles Equals Opening Route Miles Plus Total Difference from changes			
Source: NS Reply WP "DuPont RR Route Miles Opening errata Reply.xlsx," Tab "IIIB Tables"			

Table III-B-1-A
Reply DRR Constructed Route Mileage on Partially Owned NS Railroads

Railroad	Reply Operating Miles	Percent NS Ownership	Reply Constructed Miles - /1
Belt Railway Company of Chicago	16.20	25.00%	4.05
Conrail	69.70	58.00%	40.43
Indiana Harbor Belt Railway	15.60	25.00%	3.90
Terminal Railroad Assc. of St. Louis	9.78	14.29%	1.40
Total Partial Owned Route Miles	**111.3**		**49.8**
1/ DRR partially owned operating miles pro-rated by NS ownership share to calculate construction costs			
Source: NS Reply WP "DuPont RR Route Miles Opening errata Reply.xlsx," Tab "IIIB Tables"			

2. Track Miles and Weight of Track

DuPont assumes that the DRR would require a total of 11,390.91 miles of main line, interchange, helper pocket setouts, and yard tracks. *See* DuPont Opening Errata III-B-5, Table III-B-2. As NS demonstrates in Part III-C below, the track capacity and configuration posited by DuPont are based upon a fatally deficient operating plan and RTC simulation from which the outputs are meaningless. Among the most glaring deficiencies in DuPont's RTC simulation are (1) its failure to include 1,191 "peak period" trains—or 19% of the trains that the DRR would operate during the peak period; (2) its failure to model the movement of DRR road and local trains completely and accurately; (3) numerous operating assumptions that violate applicable laws and regulations, industry "best practices" and the laws of physics; and (4) its failure to account properly for train delays due to random outages, foreign train crossings, and restrictions on freight operations over Amtrak's Northeast Corridor. *See infra* III-C-117-152. In addition,

DuPont's yard service plan ignored entirely the need to classify and switch the nearly three million cars of general freight "carload" traffic that DuPont selected for the DRR. The result of those evidentiary failures was a massive understatement of the main line and secondary tracks, interchange tracks, and yard tracks required to support the DRR's train operations.

NS's Reply Evidence provides the additional main line, secondary track, interchange tracks, and yard tracks that the DRR would need to serve its selected traffic group. At the same time, NS eliminates waste and inefficiency in DuPont's spreadsheet-based Operating Plan by eliminating 45 yards posited by DuPont and adding small yards at 16 locations where traffic volumes require. In addition, NS replaces 20 yards with "industrial support" facilities that contain substantially less track capacity. NS's RTC simulation demonstrates that the physical plant posited by NS is required to accommodate the DRR's train service operations under real world conditions. As NS demonstrates below, the yards and intermodal, automotive, and transload facilities posited by NS are optimally sized and configured to support the DRR's train operations. *See* III-C-170-184, 189-202.

With the additions and modifications posited by NS, the DRR would have a total of 12,904.92 miles of track, consisting of 7,293.78 miles of 100% owned main line track, 3,345.59 miles of second main line track, 249.11 miles of interchange track, 203.84 miles of set out track, 1,538.16 miles of yard track, and 191.21 miles of customer access track. As discussed below, an additional 49.77 miles of partially owned route miles and 33.45 miles of additional mainline track is built, in order to account for the trackage rights operating miles used by the DRR, pro-rated by NS's ownership share of those lines.

Figure III-B-2 compares the track miles to be constructed and owned by the DRR, based upon DuPont's Opening Evidence, and the revised number of track miles resulting from NS's correction of the errors and omissions in DuPont's Opening Evidence.

Figure III-B-2
Reply DRR Constructed Track Miles

Type of Track	Open Constructed Miles	Reply Constructed Miles	Difference
Main line track—100% Owned			
Single first main track	7,276.94	7,293.78	16.84
Other main track	3,185.41	3,345.59	160.18
Total main line track	**10,462.35**	**10,639.37**	**177.02**
Main line track—Partially Owned 1/			
Single first main track	-	49.77	49.77
Other main track	-	33.45	33.45
Total main line—Partially Owned	**-**	**83.22**	**83.22**
Helper pocket and setout tracks			
Setouts and Helper Pockets	75.46	203.84	128.38
Customer Access Sidings	-	191.21	191.21
Total Helper pocket and setout tracks	**-**	**395.05**	**395.05**
Yard and Interchange Tracks			
Yard Tracks (Incl. IM/TBT/Auto)	853.10	1,538.16	685.06
Interchange Tracks	-	249.11	249.11
Total Yard and Interchange Tracks	**853.10**	**1,787.28**	**934.18**
Total track miles	**11,390.91**	**12,904.92**	**1,514.01**

1/ DRR partially owned operating miles pro-rated by NS ownership share to calculate construction costs. See Table III-B-1-A.

Source: NS Reply WP "DuPont RR Route Miles Opening errata Reply.xlsx," Tab "IIIB Tables"

a. Main Lines

DuPont posits that the DRR would construct and operate 23 main line segments, with 7,276.94 miles of first main line track and an additional 3,185.41 miles of second main line track and passing sidings. DuPont Opening Errata III-B-5, Table III-B-2. Based upon its Reply Operating Plan and RTC simulation, NS demonstrates that the DRR would, in fact, require 7,293.78 miles of 100% owned first main line track, and 3,345.59 miles of 100% owned additional main line track and passing sidings. Stick diagrams depicting the DRR main line tracks (including second main and passing sidings) are set forth in NS Reply Ex. III-B-1.

DuPont posits that DRR main line track and passing sidings carrying 20 million or more gross tons per year ("MGT") would be constructed with new 136-pound continuous welded rail ("CWR"). DuPont Opening III-B-5. Standard rail is used for all main line track, except that premium (head-hardened) rail is used on curves of three degrees of more, where rail wear is heaviest. Main line segments carrying less than 20 MGT (and all branch lines) would be constructed with new 115-pound CWR. *Id.* NS accepts DuPont's proposed specifications for main line tracks.

b. Branch Lines.

As described above, the DRR's track network includes 27 branch lines that would be constructed and owned by the DRR, and nine branch lines over which the DRR would operate pursuant to NS's existing trackage rights and joint facility agreements. Stick diagrams depicting the branch line tracks constructed by the DRR are set forth in NS Reply Ex. III-B-1.

c. Sidings

The DRR track configuration posited by NS would include 3,345.59 100% owned miles of second line main track and passing sidings. Stick diagrams depicting the DRR's second main line track and passing sidings are set forth in NS Reply Ex. III-B-1. Second main line track and

passing sidings on lines carrying at least 20 MGT would be constructed with new 136-pound continuous welded rail ("CWR"). Second main line track and passing sidings on lines carrying less than 20 MGT (and all branch lines) would be constructed with new 115-pound CWR. The second main line track and passing sidings posited by NS are depicted on the stick diagrams set forth in NS Reply Ex. III-B-1.

d. Other Tracks

DuPont's proposed DRR configuration includes certain other categories of track, including pocket tracks for helper locomotives and set-out tracks for bad order cars. NS's proposed track configuration likewise includes such facilities. The number of pocket tracks constructed by NS is greater than that posited by DuPont because DuPont failed to provide for helper service at many locations along the DRR where trains would require such assistance. *See infra* III-C-214-216. The DRR will require a total of 203.84 miles of pocket and setout tracks. Those tracks will consist of 115-pound new CWR. Pocket and setout tracks are double-ended and 735 feet in length. This provides 600 feet in the clear to accommodate both the occasional bad-order car and the temporary storage of maintenance-of-way ("MOW") equipment. The location of the pocket and setout tracks posited by NS are shown on the stick diagrams set forth in NS Reply Ex. III-B-1.

DuPont's track configuration does not include the railroad-owned industrial and/or spur tracks at any of the customer locations that the DRR must serve. The DRR clearly would need such facilities to pick up and set off cars at customer facilities. NS addresses this deficiency in DuPont's track configuration and Operating Plan by including in the DRR's physical plant the industry and/or spur tracks necessary to provide local service. NS witness Johnson calculated the number of track feet required at each industry and spur track location based upon weekly car volumes for pickups and setouts generated by the MultiRail simulation. Stick diagrams depicting

the industry and spur tracks included in NS's proposed DRR configuration are set forth in NS Reply Ex. III-B-1. Spur and industrial track would be constructed with 115-pound new rail.

3. Yards

As NS demonstrates (at III-C-36 to III-C-43), the location, sizing, and configuration of the DRR yards posited by DuPont were based entirely upon a series of unsupported mathematical calculations that are untethered to the workload that the DRR actually would have to perform at each facility. DuPont's narrative evidence and workpapers confirm that it gave no consideration whatsoever to the number of cars that the DRR would have to classify and block at intermediate yards in order to handle the 3 million "carload" shipments that it selected for the DRR's traffic group. *See infra* III-C-36-52. Indeed, DuPont failed to provide even one "hump" yard anywhere along the DRR's 7,276-mile proprietary network.[6] Virtually all of the medium and large yards posited by DuPont are woefully undersized to support the DRR's train operations. Conversely, DuPont's purely mathematical approach to yard sizing and configuration posits small yards at 45 locations where a yard is not actually necessary to support DRR service.

NS's Operating Plan addresses this fatal deficiency in DuPont's Opening Evidence by positing a group of yards that are optimally sized and configured to support the DRR's train operations.[7] Sufficient capacity is provided where the DRR would need it to classify and block its massive body of "carload" traffic. At the same time, NS eliminated smaller yards posited by

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[6] A hump yard is a large classification yard that contains a "hump track" that is elevated and connected to multiple classification tracks. A yard locomotive pushes cars up the front side of the hump. At the top, the car is released and gravity enables the car to roll down the back side of the hump. The car is "classified" by using a system of power switches to direct it onto the appropriate classification track with other cars headed to the same destination (or intermediate yard) further along the network.

[7] *See infra* III-C-170-184, 180-195.

DuPont where the functions contemplated at those locations can be accommodated by constructing one or more "industrial support" tracks rather than an entire yard facility.

Overall, NS's proposed DRR configuration includes a total of 71 yards, including eight "hump" yards, five large "flat switching" yards,[8] 13 medium "flat switching" yards, and 45 small "flat switching" yards.[9] In NS's proposed configuration, 45 yards posited by DuPont are eliminated or replaced by smaller facilities or industrial support tracks. NS's track configuration provides "industrial support" tracks at 70 locations, which are used to pick up and set off small numbers of cars. The location, size, and configuration of the DRR yards and industrial support tracks posited by NS are set forth in the stick diagrams in NS Reply Ex. III-B-1.

a. Miles and Weight of Yard Track

The DRR's 71 yards include a total of 1,382.9 miles of track. Details are shown in NS Reply WP "DRR Yard List Reply.xls"[10] The yard tracks have 115-pound new CWR. The main running tracks through the yards and the initial yard leads have the same weight and type of rail as the adjacent main line tracks. In addition, the DRR's industrial support tracks total 31.34 miles of track. Industrial support tracks have 115-pound new CWR. *See* NS Reply WP "DRR Yard List Reply.xls," Tab "Ind. Support Yards."

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[8] A "flat switching yard" consists of tracks on flat ground, and is not equipped with a hump track or power switches. Cars are classified manually by moving them between parallel tracks that are connected by "ladder" tracks at one or both ends. Flat switching is more time consuming and far less efficient than switching at a hump yard. At larger flat switching yards, specific tracks are designated for receiving, classifying or forwarding cuts of cars, while at smaller flat switching yards, tracks are used interchangeably for any of those tasks.

[9] *See* NS Reply WP "DRR Yard List Reply.xls."

[10] NS Reply WP DRR "Yard List Reply.xls," Tab "Main Yards and Facilities," Cell AB81.

4. Other

a. Joint Facilities

DuPont operates over 818.87 miles of trackage rights pursuant to NS's existing agreements with other railroads. DuPont asserts that the DRR "steps into the shoes of NS" under those agreements. DuPont Opening III-C-5. However, DuPont's operating plan violates the terms of NS's agreements in several ways, and claims rights for the DRR that NS does not currently enjoy. DuPont also incorrectly calculated the costs associated with its exercise of NS's trackage rights. Moreover, under DuPont's operating plan, the DRR operates over third party track along which NS does not have trackage rights, and where the DRR would have to build track in order to serve its selected traffic. *See* NS Reply at III-C-143-147 and Part III-D.

b. Intermodal Facilities

The DRR would need 31 intermodal facilities to handle the 5,179,800 units of intermodal traffic selected by DuPont.[11] *See* DuPont Opening III-A-13, Table III-A-5. Intermodal traffic constitutes 47% of all of DuPont's selected traffic, yet DuPont's SARR configuration did not include any DRR-owned intermodal terminals. NS addresses this glaring deficiency in DuPont's evidence by including in its DRR configuration the appropriate number (and size) of the intermodal facilities that the DRR would need. The intermodal facilities posited by NS are designed as either large, medium, or small facilities, based upon the volume of intermodal traffic handled at each location in the peak year. *See* NS Reply at III-C-195-197.

c. Automotive Facilities

DuPont's selected traffic group includes 97% of NS's real world automotive traffic. *See* NS Reply WP "DRR Selected NS Traffic.xlsx." However, DuPont's operating plan and DRR

[11] *See* NS Reply WP "DRR Facilities List Reply.xls," Tab "IM Facilities."

configuration fail to account for many of the physical facilities required to accommodate this business. NS provides for eight automotive terminals along the DRR network, at Buffalo, NY, Chicago, IL, Fostoria, OH, Hapeville, GA, Kansas City, MO, New Orleans, LA, Petersburg, VA, and Shelbyville, KY. Of these facilities, Voltz in Kansas City is the largest. Unlike the automotive terminals posited by DuPont, each of the terminals in NS's operating plan is equipped with all of the infrastructure that is necessary to handle automotive traffic in a manner consistent with customer requirements, including rail spur track, paved loading and unloading areas, guard rails and security fencing, storage areas for the haulage vehicles that load and unload new cars, and facilities for terminal personnel to perform the tasks associated with the transportation of automobiles.[12] *See* NS Reply III-C-197-200.

d. Transload Facilities

DuPont's selected traffic group includes commodities that move through the 14 "Thoroughbred Bulk Terminal" transload facilities that NS operates in the territory replicated by the DRR. However, the DRR configuration posited by DuPont does not include any transload facilities, nor does DuPont otherwise account for the costs for building or operating such facilities. *See* NS Reply III-C-66-68. NS's configuration for the DRR incorporates transload facilities at each of the 14 locations along the DRR at which transloading operations are conducted today.[13]

e. Signal/Communications System

In DuPont's configuration for the DRR, all main lines are equipped with a Positive Train Control ("PTC") system. As discussed at III-C-226 and Section III-F below, this assumption

[12] *See* NS Reply WP "DRR Facilities List Reply.xls," Tab "Auto Facilities."

[13] *See* NS Reply WP "DRR Facilities List Reply.xls," Tab "TBT Terminals."

ignores the reality that PTC has yet to be implemented by any railroad, and indeed that the technology does not currently exist in deployable form.

Consistent with conditions in the real world of railroading, NS's configuration for the DRR includes a Centralized Traffic Control ("CTC") system for the beginning of operations in 2009, and then assumes the overlay of a PTC system by December 31, 2015 (the current deadline established by Congress for railroads to implement PTC). This is necessary in large part because key elements of PTC do not exist even today in 2012. *See* Federal Railroad Administration, Report to Congress on Positive Train Control Implementation Status, Issues, and Impacts (August 2012) (included as NS Reply WP "2012 FRA PTC Report.pdf"). NS fully explains the costs and effects of this process in Section III-F.

DuPont has configured the DRR to conduct communications using a microwave system, with microwave towers at 20-mile intervals along the DRR. *See* DuPont Opening III-F-41. DuPont posits that locomotive engineers, dispatchers and field supervisory personnel would be equipped with radios connected to the microwave system. NS accepts DuPont's assertion that it will provide personnel with 7,500 "Field Force" Radios. Certain employees would also be equipped with cellular telephones for emergency use as a back-up to the radios. NS accepts the costs for material and installation of the DRR Communications and Microwave Systems. *See infra* Section III-F.

f. Turnouts, FEDs and AEI Scanners

DuPont specifies No. 20 turnouts for all turnouts between the DRR's main tracks in CTC territory. No. 20 turnouts also are used for yard lead tracks and the main running tracks at both ends of each of the DRR's 123 yards. DuPont specifies No. 14 turnouts between main tracks and all other tracks, including interchange tracks, the connections with origin and destination spurs (which DuPont did not build), and helper pocket tracks, where trains move at slower speeds.

No. 10 turnouts are used within yards and for setout and MOW equipment storage tracks. NS accepts these specifications.

However, NS rejects DuPont's placement of Failed Equipment Detectors ("FEDs") at 30-mile intervals along the DRR route. Placing FEDs every 30-miles is unreasonable, leaving twice the distance between FEDs as is NS's practice in the real-world. DuPont offers no reasoning for its decision to ignore NS's FED configuration. Thus, in NS's configuration for the DRR, FEDs, which include hot-bearing, dragging-equipment, cracked-wheel, and wide/shifted load detection systems, are spaced according to the actual FEDs on the current NS, as indicated in NS's track charts. The FEDs are spaced approximately every 15 miles. Each FED is accompanied by two setout tracks, each located within two miles on either side of the FED. *See infra* Section III-F. Each such track is a 735 foot single-ended track (with 600 feet in the clear) to facilitate the setout of bad-order cars from trains operating in either direction. These tracks are used primarily for temporary storage of bad-order cars detected by the FEDs, as well as for temporary storage of work equipment.

Automatic Equipment Identification ("AEI") scanners are located at or near each of the locations where the DRR interchanges trains with other railroads. A total of 108 AEI scanners have been provided. The AEI scanners have been placed so as to enable them to capture all train movements that occur on the DRR, including both local and interline movements.

g. RTC Model Simulation of DRR Configuration

A simulation of a SARR's operations can be used to test whether a complainant's proposed SARR configuration (including main line track capacity, yards and other facilities) are adequate to enable the SARR to provide the necessary level of service to its selected traffic

group.[14] NS conducted a simulation of the DRR's peak year operations utilizing the Rail Traffic Controller ("RTC") Model, based upon the physical infrastructure provided for in this Part III-B. The specific inputs to the RTC Model used by NS, and the results of that simulation, are discussed at III-C-227-241. NS's RTC simulation demonstrates that the track capacity and configuration posited by NS are both necessary and adequate to provide the services required to meet the needs of the DRR's customers, and that the track configuration posited by DuPont are not.

[14] *See, e.g.*, *WFA II*, STB Docket No. 42088, at 14 (RTC model enables complainant to "test the adequacy of the configuration (to make sure the [SARR] would have sufficient capacity to handle the peak forecast demand)"). Contrary to DuPont's assertions (DuPont Opening III-C-14 to III-C-17; DuPont Opening Ex. III-C-5), an RTC Model simulation of a SARR's operations cannot prove that the SARR's operating plan is "feasible." Rather, the Model used to perform an RTC simulation must incorporate all of the elements of a "feasible" operating plan in order for the simulation to generate valid results. *See infra* III-C-117-118.