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Complainant,

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Defendant

Docket No. 42069

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MAR 15 2004

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TABLE OF CONTENTS

	<u>Page</u>
PREFACE AND SUMMARY OF ARGUMENT	1
ARGUMENT	2
A. Traffic and Revenue	2
1. Duke and CP&L's 2002-2004 Traffic Levels	3
2. The Board's 2002 SARR Traffic Levels are not Erroneous	5
3. The Board's Use of the EIA AEO 2003 Report Does Not Constitute Material Error	6
B. Road Property Investment	11
1. Rejection of NS Excavation Equipment	11
a. 3 CY Shovel	11
b. NS's Backhoe Excavator	14
2. Hauling Costs	15
3. Clearing and Grubbing Costs	17
C. Operating Plan and Costs	18
1. SARR Operating Expenses	18
2. Retrofitting NS Locomotives for DP Operations	19
3. Locomotives for SARR MOW Work Trains	20
CONCLUSION	20
CERTIFICATE OF SERVICE	22

DUKE ENERGY CORPORATION	)	
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Complainant,	)	
	)	
v	)	Docket No. 42069
	)	
NORFOLK SOUTHERN RAILWAY	)	
COMPANY,	)	
	)	
Defendant.	)	
	)	

Duke Energy Corporation (“Duke”) hereby files this Reply to Norfolk Southern Railway Company’s (“NS”) February 23, 2004 Petition for Reconsideration.

NS's Petition seems designed to divert the Board's attention from the major decisional errors which benefit NS by challenging a hodge-podge of minor alleged errors in the Decision which collectively have little impact on the Board's ultimate findings. The Petition is largely cumulative of arguments which the Board has already considered and rejected in its Decision for sound reasons. For example, NS again claims that the Board should have adopted NS's unsound approach to determining SARR base year traffic levels, but offers no new justification for its position. Instead, NS seeks to gain support for its flawed traffic evidence (Pet. at 3) by restating its former reasons for limiting the SARR's traffic group to specific O/D pairs. As Duke shows infra, NS's argument does not provide a new basis for a reversal of the Board's ruling as it fails to

identify any material errors in the Board's previous analysis of this claim.

NS also argues that the Board was obligated to update the coal traffic forecasts on which it based its Decision, and that, even now, the Board remains obligated to continue to update the calculations underlying its Decision using new EIA forecasting data released only after the date of the Decision. See Pet. at 2, 4-7. The standard that NS advocates is inconsistent with Board and Supreme Court precedent and would lead the Board into an unending cycle of periodic updates to its rate case decisions.

NS's Petition also re-urges adoption of NS's overpriced and inappropriate backhoe excavator for use in SARR roadway construction, claiming that it is appropriate for the relevant territory. See Pet. at 8-13. The Board has correctly rejected this argument not only in the Decision, but also in Docket No. 42070, Duke Energy Corp. v. CSX Transp., Inc. (STB served Feb. 4, 2004) at 79 ("Duke/CSXT") and Docket No. 42072, Carolina Power & Light Co. v. Norfolk Southern Ry. (STB served Dec. 23, 2003), at 81 ("CP&L"). NS advances no valid basis for revisiting this issue.

ARGUMENT

Under 49 C.F.R. § 1115.3(b), reconsideration is appropriate only where: (1) the prior action will be affected materially because of new evidence or changed circumstances; and/or (2) the prior action involves material error. See Docket No. 42006, Omaha Pub. Pwr. Dist. v. Union Pac. R.R. (STB served Nov. 15, 2000), at 2.

A. Traffic and Revenue

NS seeks reconsideration of three findings underlying the Board's traffic and revenue conclusions. See Pet. at 1-7. Duke will address each, in turn.

1. Duke and CP&L's 2002-2004 Traffic Levels

First, NS claims that the Board improperly used NS's internal business forecasts for the Duke and Carolina Power & Light Company ("CP&L") traffic moving over the SARR in 2002-2004 despite language in the Decision indicating an intent to use EIA data to forecast all coal volumes for that time span. NS also complains that the Board's use of the NS internal business forecasts to project the Duke and CP&L traffic was inappropriate because the EIA forecasts used by the Board "already reflect EIA's projected changes in Duke and CP&L traffic." Id. at 1.

In its Reply in this case, NS submitted more refined information in its traffic analysis evidence regarding Duke's and CP&L's traffic levels than it submitted for other SARR shippers. Specifically, NS made certain forecast adjustments regarding the Duke and CPL traffic.¹ The Board's decision to apply the NS internal forecast to the Duke and CP&L traffic, but reject it as to other shippers, is entirely supported in the record. The Board rejected the general use of NS's internal forecast because of concern that NS's forecast improperly limited the SARR traffic group to traffic that moved between the same origin and destination in each year. This concern, however, was not present implicated in the Duke and CP&L traffic. As reflected in NS's Reply workpapers, all of the NS internal forecasts for 2002-2004 included all the O/D pairs for

¹ See NS Reply electronic workpaper "ACC Coal Traffic Forecast NS Revised xls," at sheets "Index" and "NS Forecast" for specific information pertaining to the Duke and CP&L movements, respectively. NS manually adjusted the tonnage forecasts in Columns AB through AG of Lines 36, 38, 42, 43, 45 and 47.

the Duke and CP&L traffic.² Accordingly, there does not appear to be any adverse material impact from the use of these NS forecasts similar to those which led the Board to reject the use of the NS internal forecasts on the balance of the traffic group

Moreover, the Board's electronic spreadsheets demonstrate the Board's full awareness that the treatment of the SARR's Duke and CP&L traffic differed from that of the other SARR traffic. In particular, the Board's spreadsheet "Revenues and Tons Straight Mile Blocks without 88 Reroutes.xls," which the Board relied on in its November 5, 2003 Decision, and the Board's spreadsheet "New Revised Rev and Tons Tech Corrections.xls," which the Board relied on in its February 3, 2004 Decision, both contain special sheets separately treating the Duke and CP&L volumes

NS's claim that reconsideration is warranted because "the EIA forecasts already reflect EIA's projected changes in Duke and CP&L traffic" (Pet. at 1) also is mistaken. The Board applied the rate of growth projected in the EIA AEO 2003 Report to the traffic volumes for shippers other than Duke and CP&L. The EIA AEO 2003 Report does not project growth rates for coal traffic on a shipper-by-shipper basis, and as a result, there is no error associated with applying the EIA's regional forecast to the balance of the traffic group. In addition, NS does not indicate whether removing Duke's and CP&L's "share" of the EIA forecast would increase or decrease the aggregate EIA figure. While the Decision did not offer a detailed explanation of the treatment of the Duke and CP&L traffic volumes for this period, it is apparent that the Board intended to

² See NS Reply electronic workpaper "ACC Coal Traffic Forecast NS Revised.xls" worksheet "ACC Coal Traffic Forecast," at column E.

treat those volumes differently. As noted above, the Board had good cause to do so.

2. The Board's 2002 SARR Traffic Levels are not Erroneous

NS next argues that the Board erred by not accepting NS's approach for calculating SARR traffic levels for 2002. See Pet. at 2-6. In its Decision, the Board concluded that NS's approach restricted the SARR traffic group in a manner that is inconsistent with the constantly shifting traffic patterns in the Central Appalachian ("CAPP") coal region served by the SARR so as to guarantee a continual and artificial decline in tonnage. See Feb. 3 Decision at 4.

In its February 3 Decision, the Board developed SARR tonnage for 2002 by applying EIA's 2001-2002 rate of change for CAPP region tonnage to Duke's 2001 base tonnage. Id. NS objects to this approach and claims that the Board's rejection of NS's lower 2002 SARR tonnage claim was based on a finding that "NS did not include all of the coal that could have moved over the lines replicated by the [SARR]." See Pet. at 3. That was not at all the basis for the Board's rejection of NS's flawed forecasting approach. Rather, the Board rejected the NS approach because it did not reflect the known dynamics of the CAPP marketplace. As the Board explained, "to restrict the traffic group to the exact origin/destination pair matches reflected in one particular year, as NS did, is unduly restrictive and does not fairly reflect the traffic that would likely be available to the SARR in any given year." See Feb. 3 Decision at 4.

NS's request for reconsideration of this consequential issue is simply a rehash of NS's failed attempt to persuade the Board to ignore the phenomenon of customary origin shifting in the CAPP region. NS offers no new evidence or reasoning to

support reconsideration. Instead, it focuses on a fact that was never in dispute, i.e., that Duke's stand-alone traffic group did not include all of the coal moved on NS, and mischaracterizes why the Board rejected NS's approach

NS's additional convoluted attempt (Pet at 3) to bootstrap acceptance of its under-inclusion of traffic in the 2002 traffic base by arguing that its internal forecast of CAPP coal volumes was "overly optimistic" is equally lacking in merit. Towards this end, NS notes that it applied an internal forecast that showed increasing traffic volumes in the third and fourth quarter of 2002 to its reduced tonnage volumes for the first two quarters. Id. NS further notes that, by contrast, the EIA data showed a decline in the third and fourth quarters and that, accordingly, the overstated third and fourth quarter forecasts "offset" any understatement that results from NS's exclusion of traffic resulting from origin shifting. Id.

The EIA data that NS cites adds nothing to NS's argument. The Board applied the 2002 forecast data to the entire year, not the third and fourth quarters alone, and applied the percent of change in that data to the 2001 traffic volumes. Thus, NS mixes apples and oranges in trying to rehabilitate its faulty O/D pair approach through reference to actual third and fourth quarter data. NS's claims do not warrant reconsideration of the Board's conclusions as to the appropriate 2002 traffic volumes to be used in the SAC analysis.

3. The Board's Use of the EIA AEO 2003 Report Does Not Constitute Material Error

Third, NS contends that in a variety of different instances, the Board erred in its SARR volume forecasts by using EIA's AEO 2003 Report instead of either "actual"

volume data or more recently published EIA volume forecasts. In this regard, NS states (Pct at 5) that “[t]o the extent the Board takes ‘official notice’ of government data as the best evidence of actual traffic moving during 2002, it should clearly rely upon the most current and complete government data available.” Similarly, with respect to 2003 traffic levels, NS states that “it is indefensible and contrary to Board precedent to rely upon forecasts when actual production data for the same period are available (and demonstrate that the forecasts were significantly inaccurate).” Id. at 6. Finally, NS encourages the Board to use even different data – i.e., the AEO 2004 data (published in January of 2004) – to help it “decide what projections in the record [as to 2004-2021 traffic levels] are most reasonable and what adjustments to those projections (if any) may be appropriate.” Id. at 7.³

Contrary to NS’s statements, ample precedent recognizes that it is fundamentally necessary and appropriate for an agency in complex and lengthy agency proceedings to have the discretion to cut off the record at some point in order to avoid a never-ending need to reconsider or reopen and update its decisions. See, e.g., Bowman Transp., Inc. v. Arkansas-Best Freight System, Inc., 419 U.S. 281, 294 (1974); ICC v. Jersey City, 322 U.S. 503, 514 (1944), accord Illinois Comm. Comm’n v. United States, 292 U.S. 474, 480 (1934); Nance v. EPA, 645 F.2d 701, 717 (9th Cir. 1981). While NS claims in passing that it “does not suggest that the Board change its DCF numbers every time EIA issues new production numbers or a new forecast,” that nevertheless is precisely

³ In Duke/CSXT at 47, the Board recently noted that it would not apply the EIA 2004 forecast because it was “released too late to be relied upon.”

the implication of NS's Petition

The Board is under no obligation to continuously reach outside the record to update data that it may rely upon in performing its calculations. Indeed, the Board recognized in CP&L that "there must be a clearly defined cut-off point, after which the record of the proceeding is closed." See CP&L (STB served May 12, 2003) at 1 (striking NS's attempt to submit revised 2002 traffic data in conjunction with its February 28, 2003 brief), accord Finance Docket No. 34013, B. Willis, C P A., Inc. – Petition for Declaratory Order (STB served July 26, 2002) at 3 ("The limitations in our rules against the introduction of new evidence reflect the need for finality in the administrative process.")

Even if the Board were to agree with NS that it erred in not using EIA final 2002 actual production data and January through December 2003 actual production data that only recently became available, NS has incorrectly applied that data. Specifically, NS calculated volumes as follows:

TABLE 1
Application of EIA Forecast of Central Appalachian Coal Production

<u>Item</u> (1)	<u>2001</u> (2)	<u>2002</u> (3)	<u>2003</u> (4)	<u>2004</u> (5)	<u>2005</u> (6)	<u>2006</u> (7)
1 EIA AEO 2003 Forecast	266 95	252 35	252 96	251 93	252 61	258 26
2 Percent Change Line 1 as Used In Duke Decision	xxx	-5 5%	0 2%	-0 4%	0 3%	2 2%
3 EIA Production Data Released Since Duke Evidence and used in NS Petition	266 95	245 9	xxx	xxx	xxx	xxx
4 Percent Change Line 3	xxx	-7 9%	xxx	xxx	xxx	xxx
5 EIA Production Data for January - Dec 20, 2002 and 2003 used in NS Petition	xxx	240 4	223 5	xxx	xxx	xxx
6 Percent Change Line 5	xxx	xxx	-7 0%	xxx	xxx	xxx
7 NS Procedures That They Claim are EIA Procedures	266 95	245 9 1/	228 6 2/	xxx	xxx	xxx
8 Percent Change Line 7 applied to 2001-03 Percent Change Line 2 for 2004 and beyond applied to Line 7 NS 2003 tons	xxx	-7 9%	-7 0%	-0 4% 3/	0 3% 3/	2 2% 3/
9 Correct EIA Procedure using Line 3 and Line 5 for 2002 and 2003 and Line 1 for 2004-6	266 95	245 9 1/	228 6 2/	251 93 4/	252 61 4/	258 26 4/
10 % Change from Correct EIA Procedure (Line 9) to be applied to SARR tonnages	xxx	-7 9%	-7 0%	10 2%	0 3%	2 2%
1/ From Line 3						
2/ Column (3) x (1 0 + Line 6, Column (4))						
3/ NS does not recalculate the productions to reflect the revised data for 2002 and 2003 changes						
4/ Change from prior year and result shown on line 10						

As Table 1 demonstrates, NS has taken actual production data for 2002 and 2003 that was not available at the time the AEO 2003 Report was prepared by EIA and calculated the percent change from the 2001 base year. NS then, however, ignored the AEO 2003 forecasts of Central Appalachian coal volumes for 2004 and subsequent years,

and adjusted volume levels by applying the percent changes found in that forecast to its reduced tonnage levels for 2002 and 2003. NS has not provided any justification for this procedure, and there is none. The Board has recently rejected similar efforts to modify forecasts with information that was not available at the time the forecast was originally prepared. In Duke/CSXT, the Board noted that it was improper to apply forecasts prepared with one base year, to data from a different base year. Id. at 45.

A similar conclusion is warranted with respect to the manner in which the parties differ in their application of the AEO 2003 forecast. NS's approach is similar to CSXT's approach in Docket No. 42070. NS relies upon 2002 and 2003 actual production data that was below the original forecast for these periods. NS then applies the percent change for each year subsequent to 2003 derived from the 2004 to 2021 tonnage figures in the AEO 2003 forecast. In doing so, however, NS applies the percent change to the reduced tonnage levels for 2003, rather than reverting to the tonnage levels used by EIA for the 2004-2021 period in its 2003 forecast – apples and oranges!

Finally, NS's additional suggestion that the Board should rely upon the AEO 2004 forecast is without merit. As noted above, there is ample precedent confirming that the Board need not continually update the record as new forecasts become available after the close of the record, much less after the date of the decision.⁴

⁴ While claiming the Board should use the EIA AEO 2004 forecast, NS actually used EIA's AEO 2003 forecast to project tonnages for 2004-2021. Pet. at 7 n.11.

B. Road Property Investment

1. Rejection of NS's Excavation Equipment

NS's Petition suggests that Duke did not meet its burden of proof to demonstrate that its 3 Cubic Yard ("CY") shovel for common earth grading and loading of blasted rock was feasible and realistic or that the hydraulic backhoe excavator and blasted rock loading costs selected by NS were not feasible and realistic. See Pet at 8. As to both points, the Board has already determined that Duke did in fact meet its burden of proof See Decision at 94

a. 3 CY Shovel

Contrary to NS's statements (Pet at 12), Duke did not concede on Rebuttal that its Opening equipment selections were improper. Rather, Duke merely demonstrated that different, larger equipment than it utilized in its Opening Evidence could also do much of the same work for similar costs. See Duke Reb. at III-F-36 to 38. Indeed, the Board properly recognized the similarities in cost and equipment by accepting Duke's 3 CY power shovel as the appropriate equipment for common earthwork west of Roanoke and for excavating and loading blasted rock. As demonstrated below, the Board's Decision on these issues is well supported.⁵

⁵ The Board has again approved the use of the 3 CY Shovel in Duke/CSXT (at 79). Notably, in its presentation at oral argument and in its subsequent submissions to the Board, CSXT raised the same arguments that NS raises in its Petition. Those arguments were rejected by the Board.

First, Duke notes that NS apparently has abandoned its erroneous position that it took in its Petition for Reconsideration in the CP&L case (i.e., that Duke's 3 CY shovel is a crane and not a shovel) NS now takes a new and untenable position that a shovel is not capable of both excavating common earth and loading blasted rock into dump trucks NS's new argument is without merit

NS suggests that Duke has not shown that a 3 CY shovel is suitable for loading blasted rock. However, in its January 15, 2003 Brief (at 26), NS argued (albeit for other purposes) that Duke's Rebuttal earthmoving equipment was improper for use by the SARR because it was designed for quarrying operations. Quarrying, of course, consists principally of moving rock, but now for the purposes of reconsideration, NS suggests that the shovel is inadequate for the very purpose NS previously specified. Even beyond NS's contradictory positions, Means itself notes the shovel's suitability for loading blasted rock. In particular, Means states that "[p]ower shovels are primarily used for earth, sidehill cuts; unrippable, blasted, solid rock cuts; and mixed rock/large boulder/earth cuts." See Means Heavy Construction Handbook at 240 (attached hereto as Exhibit 1) (emphasis added)

NS also claims that Duke has wrongly assumed that the cost and production rates of using the 3 CY shovel for both activities would be similar. The record shows otherwise. In particular, Duke used two different Means costs for the 3 CY shovel. (i) line item 2315-400-3900, 3 CY shovel for excavating, which assumed a cost of \$1.07 per

CY and a daily output of 2,000 CY; and (ii) line item 02315-340-5200, excavate and load blasted rock, 3CY power shovel, which assumed a cost of \$1 40 per CY (or 31% greater) and a daily output of 1,530 CY. See Duke Reb. Workpapers Vol. 7, pp 7256 and 7255, respectively Duke selected the proper cost item in each case. NS's suggestion that the Means costs and production rates are wrong, simply because they are somewhat similar, has no basis and should be rejected.

Mindful that it made no attempt to justify its very high costs for moving rock in its Petition for Reconsideration in CP&L, NS now attempts to bolster its position by arguing, as it did in its Reply Evidence in this case, that Duke's SARR would have to move boulders and not blasted rock. See NS Reply at III-F-32 to 33 and Duke Reb. at III-F-49 for Duke's response. NS's attempt to revert to its boulder loading costs should be rejected because: (a) the Board accepted Duke's solid rock costs, which included moving blasted rock not boulders (see Decision at 82), and (b) NS has raised no new arguments justifying its boulder-loading approach.

Duke also notes that NS's boulder moving costs do not assume the moving of blasted rock at all. Rather, NS's costs merely assume the excavating and loading of boulders – apparently without the benefit of blasting. Duke's costs, on the other hand, are based on the excavating and loading of blasted rock without any specific rock size limit. Since Duke has included the considerable costs associated with blasting, its costs for loading that blasted rock are entirely appropriate.

As mentioned supra, NS is once again positing that Duke's SARR would have to move a wide range of sizes of rock after blasting, and therefore, that the Board should use the cost of moving boulders. This is the exact argument NS raised in its Reply Evidence, and which the Board rejected. Briefly summarized, the act of blasting rock makes it much easier to excavate and load, hence the lower unit cost for that activity in Means. NS has failed to offer any new rationale as to why that cost is inapplicable to the blasting the SARR will perform – except to proffer its costs for excavating unblasted boulders.

Finally, Duke notes that the 3 CY shovel is even better suited to moving the occasional larger rock than the 2 ½ cubic yard front-end loader used by NS, because its bucket is larger, it can swivel on its base rather than having to turn around to load and dump as the front-end loader does, and it excels at rock face work, as NS itself conceded in its brief (at 36).

b. NS's Backhoe Excavator

NS also suggests that the Board should revisit its acceptance of Duke's equipment selections because Duke failed to meet its burden of proof by demonstrating that NS's proposed 3 CY hydraulic backhoe excavator was infeasible and unrealistic. See Pet at 13.⁶ As Duke stated in its Rebuttal at III-F-43, however, and as the Board

⁶ NS's Petition attempts to transform "infeasible" into "impossible," rather than "impracticable," and it further suggests that Duke's agreement that using a backhoe was possible was tantamount to agreeing it was feasible or even desirable. While Duke does

recognized in its Decision, the primary use for a backhoe excavator is digging below grade. Therefore, it would be “relatively inefficient for other types of excavation,” including the excavation required here, which is almost exclusively at or above grade. See Decision at 94; see also Duke/CSXT at 79.

The Board’s view is overwhelmingly supported by third-party sources. For example, the Means Heavy Construction Handbook states that a backhoe “is used to cut trenches for pipe or other longitudinal structures, to dig foundations, or to do other digging that permits pulling the bucket close to the chassis ” See Exhibit 2 hereto The Handbook even notes that a “backhoe can reach high enough to dump the bucket into many types of hauling machines (though not as efficiently as shovels/loaders)” – the very point the Board and Duke have already made. Id. (emphasis added) ⁷

2. Hauling Costs

NS’s Petition raises no new arguments to support its unnecessary additive to hauling costs As explained in Duke’s Rebuttal, NS’s evidence on this point was inadequate because: (1) NS did not provide any documentation from the Means

not deny that is *possible* to use a backhoe excavator to do the work for the SARR, it is not practical, realistic or economical for a project such as this.

⁷ NS has also suggested that its equipment is feasible because it is listed in the same earthmoving category in Means as Duke’s 3 C’Y shovel. This distinction is not relevant because there is little doubt that the excavator can move common earth Here the question is whether that earth is below grade, which it is not Consequently, NS’s equipment is not particularly suited to this task, even though it is listed amongst the same earthmoving equipment as Duke’s shovel.

Handbook, or any other evidence, supporting the use of this additive, (ii) as part of the construction of the SARR, Duke's excavating equipment will establish a fairly level roadbed that would be used as a haul road, and (iii) the Means Handbook lists three production factors that address hauling: (a) length of haul; (b) condition of haul road, and (c) accessibility of site, none of which was problematic in this case. See Duke Recb at III-F-43 to 44. In fact, Duke showed that the hauls will be short, the condition of the haul road will be good as it will be mostly prepared roadbed, and the accessibility to the site will be good as it will follow along from railheads. Id. at III-F-44.

NS's Petition does not even consider any of the Means criteria. As for Duke's Rebuttal points, NS merely suggests that the trucks will sometimes move excavated materials to an area that might require a fill, or that initially the roadbed may not be level. See Pet. at 14. This hardly justifies the additive because the trucks are following behind the earthmoving equipment that is establishing the basic grade of the roadbed, and when a fill is required, the trucks would typically back up to the bank and dump the material. There is, therefore, no need for the trucks to regularly traverse "steep hills and valleys" as NS suggests. Id. Moreover, NS could have made any of these points in its Reply testimony, but it failed to do so.

Finally, NS's suggestion that the Board might have thought NS intended to apply the additive to all grading costs rather than merely to hauling costs (id. at 14 n.15) is both irrelevant and wrong. There is no indication in the Decision that the Board

premised its rejection of NS's proposed hauling additive on such a misunderstanding

3. Clearing and Grubbing Costs

NS's Petition seeks an additional \$42.8 million for clearing and grubbing of trees greater than 12" in diameter Id. at 15 NS's request is unfounded and contrary to the evidence presented, and does not meet the standards for reconsideration. Therefore, the Board should affirm its Decision on this issue. See Duke/CSXT at 76.

As the Board is aware, Duke is the only party to submit any actual evidence with respect to the size of the trees in the SARR territory That evidence demonstrated that more than 70% of the trees on the right-of-way are 12" or less in diameter.

Consequently, Duke used the costs for clearing and grubbing of 12" trees as a reasonable average because, while some trees were larger than 12", others were smaller.

Notwithstanding that evidence, NS now asks the Board to cost 30% of the total clearing and grubbing quantities using the costs for 24" diameter trees because some trees were larger than 12". Id. NS's request is improper for at least two reasons.

First, NS completely ignores the fact that many trees were smaller than 12". Second, NS does not even mention the substantial evidence submitted by Duke demonstrating that trees even 10" and greater are highly sought after by lumber companies – so much so, that several different lumber companies said they would clear the trees at no cost to the landowner. See Duke Reb. at III-F-26 to 27

Duke submits that, in fact, it overpaid for clearing 30 percent of the railroad

because it included the 12" diameter clearing and grubbing cost when it could have had the larger trees cleared for free Duke's treatment was clearly conservative. In any event, NS has failed to present any reason for the Board to reconsider this issue

C. Operating Plan and Costs

1. SARR Operating Expenses

NS claims that the Board understated the SARR operating expenses by \$3 7 million per year due to two technical errors None of NS's operating points changes the absurd circumstance that the SARR's operating costs (15 2 mills per net ton-mile) exceed NS's fully allocated costs (11 9 mills per net ton-mile) for Duke's large move from the High Power Mountain origin to its Belews Creek station ⁸ First, NS claims that the Board developed peak-year operating statistics based on NS's estimate of peak-year traffic rather than from the Board's restatement of SARR traffic volumes (i.e., from 85.9 million tons to 88.1 million tons). See Pct. at 16. Second, NS claims the Board applied an incorrect ratio to those peak-year operating statistics in calculating the SARR's base-year operating statistics Id. at 16-17 (contending that the Board should have based its ratio on

⁸ The variable costs for the High Power Mountain to Belews Creek move, less return and depreciation on road property, equal \$324 69 per car (Duke Reb. Exh. II-A-117, page 17) The net ton-miles equal 36,272 (111 4 tons per car x 325 6 loaded miles – Duke Reb. Exh. II-A-116, page 5). The variable costs per net ton-mile (8 95 mills) were multiplied by the NS fully allocated ratio of 1.3255 shown in the URCS formula at D8L617C1 As shown in Duke Reb. Exh. II-A-120, the volume from High Power Mountain to Belews Creek equals 2,138,282 tons, the largest movement to any of Duke's plants

the 2002 to 2008 relationship in the evidence).

Duke agrees that the Board has erred with respect to the ratio issue, but not the peak year issue. The Board correctly developed the peak year 2003 statistics based on its restated tonnages, but in adjusting the statistics to reflect base year 2002 operations, the Board used a ratio based on NS's 2002 and 2003 Reply tonnages. This understated the ratio and understated the base year operating statistics. The correct ratio should be developed based on the relationship of the Board's 2003 and 2002 restated tonnages.⁹ When the Board corrects the peak year to base year ratio calculation, the impact on the annual operating costs should flow through the calculations.

2. Retrofitting NS Locomotives for DP Operations

NS contends (Pet. at 17-19) that the Board should have included \$24.6 million in costs for retrofitting NS's locomotives to operate in a DP configuration while on the SARR's lines.¹⁰ NS contends that the Board improperly assumed that the SARR would be able to provide DP service from all but six of the SARR's 39 mine origins even without retrofitting the NS locomotives that would run-through on the SARR. Id. at 18.

⁹ NS's argument that the statistics need to be based on the "revised" peak year of 2008 has no merit. As long as the ratio between 2003 and 2002 is calculated properly, the costs for the ensuing years that are impacted by volumes are correctly increased (or decreased) based on the relationship of the tonnage volumes each year. To the extent that 2008 volume is higher, the operating costs will be correspondingly higher.

¹⁰ NS argued in its evidence that Duke's SARR should be required to retrofit 263 NS locomotives (out of the 504 NS locomotives that operated 500 miles or more in Duke service during 2001). See NS Reply at III-D-4. The Board found that the SARR itself would require a total of 154 road locomotives. See Decision at 68.

According to NS, Duke's SARR would "obviously" need a larger fleet than the Decision contemplated, and that absent such a larger fleet, 290 of the NS locomotives "would have to be equipped for DP operations." Id. at 19

While NS contends that this requirement is "obvious," NS offers no specific proof that Duke's SARR would be unable to provide service to its customers as the SARR was constituted by the Board. In fact, the Board itself explicitly recognized that the SARR would operate a mix of DP and non-DP locomotives. See Decision at 70 ("NS's proposed operating plan for the [SARR] assumed that residual NS locomotives would not operate in DP service and would allow time for exchanging [SARR] and residual NS locomotives.") Given this accepted level of flexibility, NS's unsubstantiated claim of "obvious" error is insufficient to warrant reconsideration.

3. Locomotives for SARR MOW Work Trains

NS claims that its evidence required four locomotives to power MOW trains, and that the Board accepted NS's operating plan generally (and therefore should have accepted the MOW locomotives as well) See Pet. at 19-20. NS's Petition, however, fails to identify a specific intent on the Board's part to include these trains in its cost calculation, and instead suggests only that its evidence had demonstrated that such locomotives were necessary. NS's conclusory statement does not offer any basis for the Board to reconsider other than what it already rejected.

CONCLUSION

Except as otherwise specifically noted above, the Board should deny NS's requests for the correction of technical error, and should deny in their entirety NS's requests for reconsideration of the Decision

Respectfully submitted,

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Date Due March 15, 2004

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CERTIFICATE OF SERVICE

I hereby certify that this 15th day of March, 2004, I have caused copies of the foregoing Reply to Petition for Reconsideration to be served by hand on counsel for defendant Norfolk Southern Railway Company as follows:

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Andrew B. Kolesar III

Means Heavy Construction Handbook

A practical guide to:

- Estimating and Accounting Methods
- Operations/Equipment Requirements
- Hazardous Site Evaluation/Remediation



Richard C. Ringwald, PE



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Richard C. Ringwald, PE

Contributing Author: Francis J. Hopcroft, PE

Chapter 27

Power Shovels and Off-Road Haulers

Shovels Certainly scrapers are the dominant method of moving earth on larger jobs, but there are other special situation earthmovers with which the heavy construction manager must also be familiar. Among these, the power shovel is the most used.

Scrapers could be considered *surface* excavators since they fill their bowls from the surface of an earth mass. In Chapter 29, subsurface excavators, like the familiar backhoe, are discussed. That leaves *above surface* machines, like the shovel and endloader, that reach for a load above the surface they rest on.

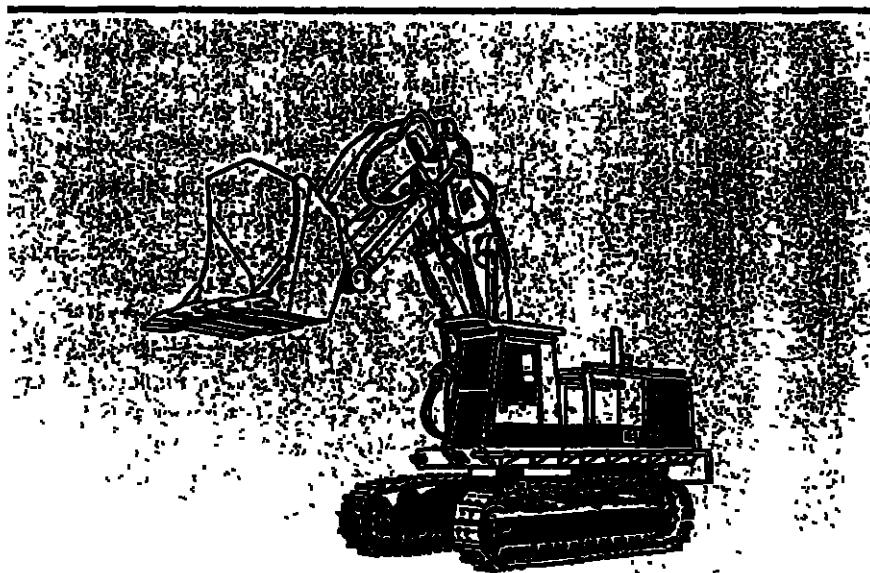
Power shovels are primarily used for earth, sidehill cuts, unrippable, blasted, solid rock cuts, and mixed rock/large boulder/earth cuts, none of which lend themselves to efficient scraper loading.

The power shovel (Figure 27-1) almost always has a crawler undercarriage plus two front arms and a digging bucket which is thrust ("crowded") into a near vertical face of soil or blasted rock pile. Ideally, the working face is of "optimum depth," whereby the bucket will be 100% filled by one complete, vertical pass through the face without undue crowding. If the face is higher than optimum, a shelf will develop above the machine reach which will eventually collapse onto the surface and retard, or even endanger, the operation. Similarly, if the cut is too shallow, the shovel will have to make more than one pass to get a bucketful. (Note: optimum depth does not apply to blasted rock.)

The shovel swings the bucket, and dumps it into the target hauler, usually an off-road hauler or – an ordinary dump truck. The greater the swing angle traversed by the bucket, the greater the swing time needed

Shovel size ratings are based on the LCY (struck and heaped) capacity of the bucket that the machine can handle efficiently. As with many other types of heavy equipment, there is a transportability problem once a certain size is exceeded. Shovels over 3/4 to 1 LCY in size are too wide and/or too heavy to be hauled on trailers over public highways, and therefore, have to be partially dismantled first, then reassembled at the destination. This process is too costly for short duration projects.

Most shovels have the same engine, cab, and undercarriages as a similarly-rated crane or backhoe.



(Courtesy Caterpillar Corporation)

Power Shovel

Figure 27.1

Thus, the front arms and bucket can be removed, and a crane boom or backhoe front-mounted in its place

Off-Road Haulers

Off-road haulers serve shovels, endloaders, or other loading machines when standard dump trucks are too small or too lightly built to do the job. Most large excavation projects require the use of rough, unpaved, job-site roads and loading of large rock, and thus are too much for ordinary dump trucks to handle. There are two types of off-road haulers. The rear-dump, (Figure 27.2) essentially a very heavy dump truck, is best-suited for rock and sticky soils. The bottom-dump (or "belly" dump) (Figure 27.3) discharges its load by opening under-mounted, longitudinal gates. It is best suited for dry, fast-moving materials. It leaves a longer, lower pile than a rear-dump.

Off-road haulers are rated by capacity in tons, LCY struck, and LCY heaped. The volumetric capacity can be increased by mounting side-boards, but this should not be done except to haul super-light materials such as coal. The excessive wear and tear costs, plus slower haul time engendered by exceeding the weight capacity, will not be compensated for by the extra load.

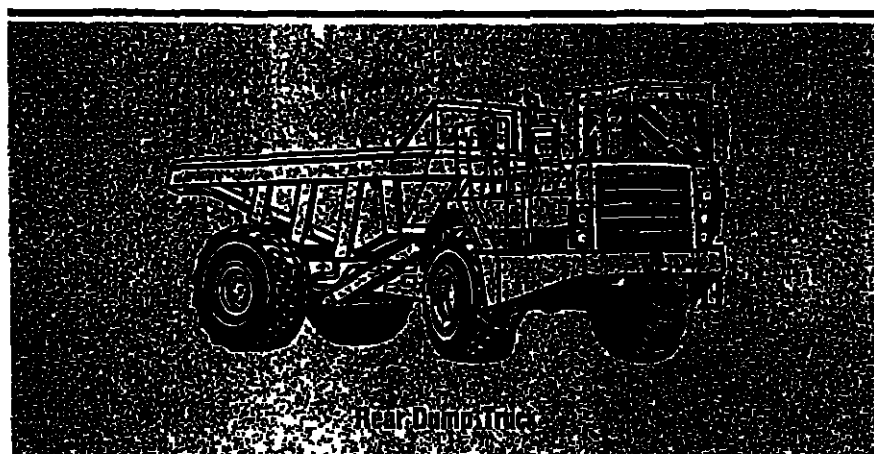


Figure 27.2

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Chapter 29

Backhoes, Draglines, Gradalls, and Trenchers

These excavators usually dig below their sitting plane, although the backhoe and gradall do have a limited capability of reaching above that surface. All can be either wheel- or crawler-mounted. All operate by pulling their buckets toward themselves rather than pushing, as is done by shovels and loaders.

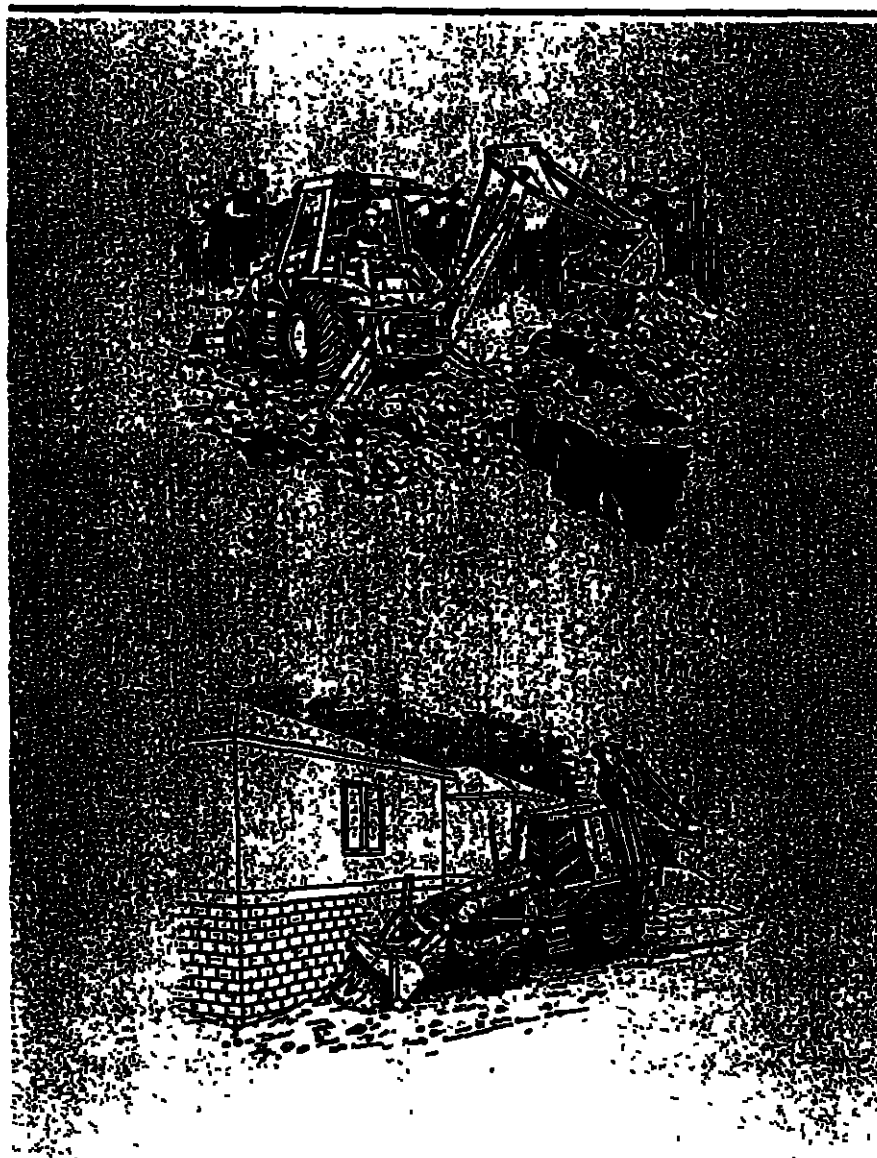
Backhoes

The backhoe (Figure 29 1) is the most commonly used, and horsepower for horsepower, can move the most CY/HR. It is used to cut trenches for pipe or other longitudinal structures, to dig foundations, or to do other digging that permits pulling the bucket close to the chassis. It can reach high enough to dump the bucket into many types of hauling machines (though not as efficiently as shovels/loaders). Narrow compacting devices (vibratory and impact) can be mounted in lieu of a bucket for consolidation of trench backfill or similar small area jobs. Some small endloaders can be equipped with a rear backhoe to become a versatile, small odd-job machine. A backhoe is generally rated by bucket LCY size, usually the same size as the shovel to which it can be converted (See Chapter 16, "Trenching and Pipes," for further information on the backhoe's role in pipe work.)

Draglines

The dragline is essentially a crane with cables contrived such that a dragline bucket can be used. The long reach, plus the rotation on the undercarriage, means that a large area can be excavated from one position. This feature is an

advantage in excavating swampy areas or lake/stream bottoms because the dragline can rest in a stable area and reach out to excavate around itself. Scrapers



Backhoe Loaders

(Courtesy Caterpillar Corporation)

Figure 29.1

— with the sometimes exception of crawler-pulled — would bog down in such conditions, and backhoes or gradalls lack the needed reach. The dragline can either load haul units with excavated material, or pile it up for future removal. Like the shovel, the dragline has an optimum face area in which it works best, as shown in the illustration. The operator can throw ("cast") the bucket beyond the point beneath the boom tip, but this practice is hard on the bucket, and reduces the CY/HR of production. (See Figure 29.2)

Gradalls The "gradall" (Figure 29.3) is a very versatile machine combining features of the backhoe, dragline, and motor grader. Like all versatile machines, however, its

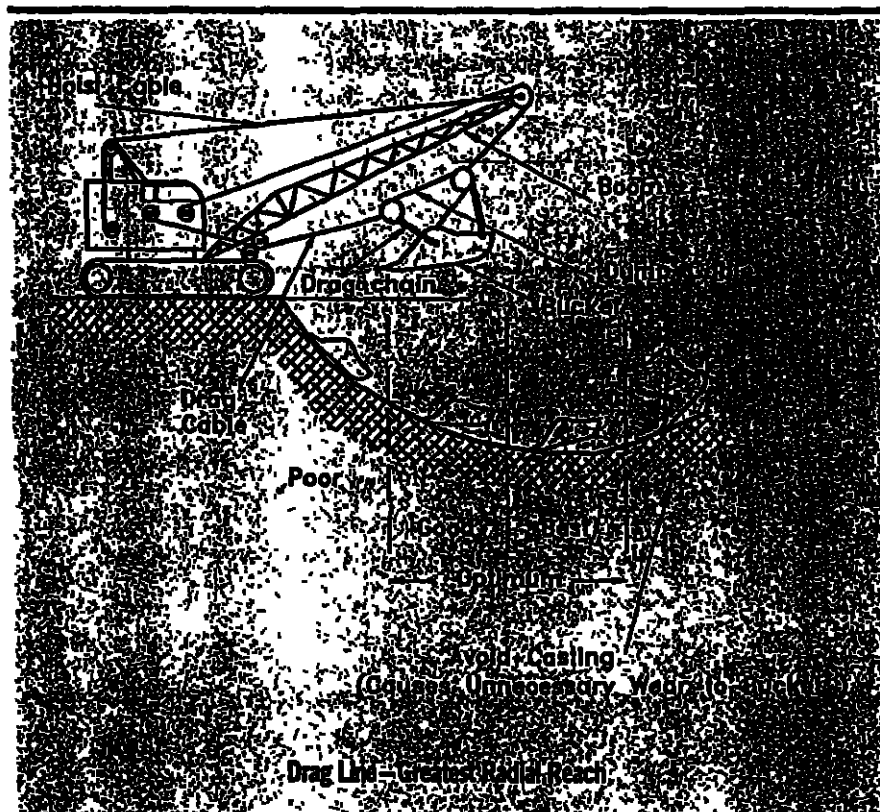


Figure 29.2