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October 3, 2003

BY HAND

The Honorable Vernon A. Williams
Secretary
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423

Re: Duke Energy Corporation v. CSX Transportation, Inc.,
STB Docket No. 42070

Dear Secretary Williams:

We write in response to Duke counsel's letter objecting to CSXT's use at oral argument of certain counsel's exhibits as an aid to the Board's understanding of the evidence previously submitted by the parties in the above-captioned proceeding. See Letter from William L. Slover to Secretary Williams (Oct. 1, 2003) (the "October 1 Letter"). Contrary to Duke's assertions, CSXT's demonstrative exhibits were entirely accurate, appropriate, and based upon evidence already in the record in this case (or, in a few instances, in the public record). See, e.g., Transcript of Oral Argument at 81 (Sept. 10, 2003) (CSXT counsel advised that the slides were "counsel's exhibits," intended to summarize and illustrate evidence and arguments already in the record). CSXT used demonstrative exhibits (based on record evidence) primarily to address erroneous claims that Duke improperly raised for the first time on Rebuttal or on brief.

For example, Duke claimed for the first time in its Brief (without citation to the record or other evidentiary support) that the operating costs per ton-mile calculated by CSXT for the "optimally efficient" ACW exceeded CSXT's actual system average costs per ton-mile. See Duke Brief at 31, n.39 (claiming CSXT's actual costs were 13 mills per ton-mile).¹ As Chairman Nober's questions at argument indicated, were this claim true, it would be troubling. Duke's claim, however, is patently untrue, and is readily refuted by information in the Board's own public records. Because Duke first asserted this unsupported claim in its brief, CSXT was obliged to correct it at oral argument, in order to ensure the Board was not misled on this important point. See Oral Arg. Tr. at 72-74 (CSXT counsel responding to question regarding Duke's claim) (copy attached as Exhibit A hereto). CSXT calculated its actual system average

¹ CSXT Slide 21 incorrectly identified the source of Duke's claim (as "Duke Rebuttal at 31"). Duke asserted this claim in its brief, and the correct source is Duke Brief at 31, and n.39.

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operating costs per ton-mile, based entirely on publicly available data contained in CSXT's Forms R1 (data that was not generated for purposes of this case), and illustrated that straightforward calculation in a demonstrative slide. *See* CSXT Oral Arg. Slide 21 (showing that CSXT's actual system average costs were about 27 mills per ton-mile, substantially higher than the costs CSXT calculated for the hypothetical optimally efficient ACW).²

Despite its rhetoric, Duke's letter offers only one substantive objection to CSXT's oral argument exhibits. As explained below, that objection cannot withstand scrutiny. Duke's real complaint is that CSXT's demonstrative exhibits effectively illustrated what CSXT had already demonstrated in its evidentiary submissions and brief – that, even if accepted, the new evidence Duke improperly submitted on Rebuttal would not satisfy Duke's burden of proof or resurrect its fundamentally flawed SAC presentation. Below, CSXT sets the record straight with respect to the specific claims in Duke's letter.

First, Duke claims CSXT's use of demonstrative slides was somehow inappropriate, because "Duke had no opportunity to respond to those slides, especially considering the constraints Duke faced for its oral rebuttal." October 1 Letter at 1. This assertion is wholly without merit. The majority of the slides CSXT used at oral argument were used to respond to new evidence and claims that Duke improperly raised for the first time in its Rebuttal presentation (e.g. Duke's substitution of a new earthmoving equipment package in its Rebuttal submission and its incorrect and misleading claim that its Rebuttal evidence corrected the errors in its string diagram model and resulting SARR configuration and operating plan) or on brief (e.g., Duke's submission of inaccurate and irrelevant "ton-mile operating costs" from prior SAC cases). See generally, CSXT Brief at 3-22, 35-39 (describing several of the numerous instances in which Duke introduced new evidence for the first time on rebuttal).³

Duke's suggestion that it somehow did not have a fair and adequate opportunity to address the points set forth in CSXT's counsel's exhibits is hard to fathom. Each side had the same amount of time in which to present its case to the Board, and Duke counsel had the procedural advantage of opening and closing the argument. Duke counsel took full advantage of that opportunity, by taking the unusual step of reserving nearly half of his allotted time for rebuttal argument. *See* Oral Argument Tr. 10 (reserving 20 of 45 minutes for rebuttal); *see also id* at 94-95 (Chairman Nober authorized counsel for Duke to "take the time you need to finish up your presentation."). Duke faced no unfair "constraints" on its rebuttal argument.

²CSXT's use of this information was entirely appropriate, because it is well-established that the Board may take official notice of matters in its own records. *See, e.g.*, 49 C.F.R. §§ 1114.1 – 1114.6.

³ The remainder of the slides, to which Duke asserts no specific objection, were simply excerpted from the evidence submitted by the parties during the course of this proceeding.

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Second, Duke's sole substantive objection – that CSXT's slides did not accurately depict one of the new pieces of earthmoving equipment that Duke introduced for the first time on rebuttal – is erroneous, and cannot be reconciled with Duke's own evidence. Remarkably, the basis for Duke's unfounded claim that CSXT's slide inappropriately introduced new evidence at oral argument is a new source that Duke did not cite, submit, or mention in its evidentiary submissions or even in its brief, but instead raised for the first time in its post-argument October 1 Letter. Duke's entire attack on CSXT's demonstrative exhibit is thus based on citations to a new source that Duke expressly admits is "not in evidence." October 1 Letter at 2. Moreover, as explained below, the shovel portrayed by CSXT is the type of equipment on which Duke based its Rebuttal earthmoving costs.

On Rebuttal, Duke changed its earthmoving unit costs and methods (substituting a shovel for the scraper it had specified in its case-in-chief), thereby denying CSXT the opportunity to submit an evidentiary response. *See* Duke Rebuttal at III-F-46. The new unit cost proffered in Duke's Rebuttal is listed in Means under "shovels." *See* Duke Rebuttal WP Vol. 1, p. 0153 (Means Heavy Construction Cost Data (2002) Item No. 022315 400 3900). According to Means, that cost is based on a B-12T crew configuration. *See id.* The corresponding tables in the same Means publication indicate that the piece of equipment associated with the Means unit cost Duke selected (using a B-12T crew) is a "75-ton crawler crane" with a "lattice boom," using a 3 cubic yard bucket attachment. *See* RS Means Heavy Construction Cost Data at 399, 26 (Cost Data Item 01590 600 1100) (copies attached as Exhibit B).⁴ The demonstrative slides CSXT used to depict Duke's crawler crane shovel were computer-generated images of that 75-ton piece of equipment, taken from specification sheets provided by the equipment manufacturer. *See* CSXT Slides 12-14; Oral Arg. Tr. at 81-82.

In support of Duke's newly minted claim that it intended a different shovel than that specified in its own workpapers, Duke offers a separate and different Means publication, which neither Duke nor CSXT cited or purported to rely upon in the evidence submitted in this proceeding, the "Means Heavy Construction Handbook."⁵ *See* October 1 Letter. Duke's new

⁴ Contrary to Duke's suggestion, CSXT did not at any time refer to the equipment Duke substituted on rebuttal as a "dragline." Compare October 1 Letter at 2 with CSXT Brief at 11, n.21. The "dragline" characterization is Duke's label for the equipment depicted in CSXT's slide.

⁵ Duke expressly defined the term "2002 Means Handbook" as referring collectively to "the 2002 RS Means Heavy Construction Cost[] [Data] and the 2002 RS Means Building Construction Costs." Duke Rebuttal III-F-214, n.6. Until October 2003 (nearly eleven months after the parties submitted their final round of evidence), Duke did not claim that it was relying on the separate publication, "Means Heavy Construction Handbook," which appears to be a primer that describes, in general, non-specific terms, the functions and uses of various categories of construction equipment. *See* October 1 Letter (conceding that the Means Heavy Construction Handbook is "not in evidence.")

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source appears to set forth general, summary descriptions of broad categories of equipment, without any indication of specific requirements, parameters, costs, or production rates of any specific piece of equipment. *See* October 1 Letter, Exhibits II, IV. Those exhibits contain no cross-reference to the specific Means cost and productivity data – nor any indication whatsoever of how, or even if, the general descriptions in those exhibits might correspond to specific equipment – set forth in the Means cost data that Duke relied upon in its evidence. Thus, even if the Board were to accept Duke's unsupported and untimely claim that it meant to select some other piece of equipment than that specified in its Rebuttal workpapers, the earthwork costs it used in its SAC presentation would be incorrect because they were based on the unit costs for the equipment specified in Duke's workpapers.

Third, Duke claims that it was improper for CSXT (using publicly available turning distance data published by the equipment manufacturer) to use a demonstrative exhibit that illustrated the infeasibility of the hauler Duke also introduced for the first time in its Rebuttal. Here again, Duke asks the Board both to ignore its procedural rules and to insulate Duke from the consequences of its own actions and tactical decisions. Duke introduced radically new and different earthwork equipment for the first time on Rebuttal, when CSXT had no opportunity to submit an evidentiary response. *See* CSXT Brief at 11. In addition to demonstrating that the Board should disregard Duke's attempt to significantly revise its case-in-chief on rebuttal, CSXT also described several reasons that the oversized and ill-suited equipment Duke substituted on rebuttal was physically infeasible and could not work. *See id.*⁶ The two slides to which Duke now objects simply illustrate (using the equipment manufacturer's publicly available data and specifications) what CSXT's brief discussed – the oversized quarrying and mining hauler Duke proposed on Rebuttal would be infeasible for constructing a SARR in the mountains of Central Appalachia. *Compare id.* at n.21 (Duke's rebuttal hauler's turning distance is 3-times greater than the width of the ACW roadbed) *with* CSXT Oral Argument Slide 17 (illustrating the infeasibility of such a turning distance).

⁶ Thus, Duke asks the Board to accept new evidence it introduced on rebuttal, while at the same time precluding CSXT from even attempting to respond to that untimely new evidence. Duke's letter even objects to the limited responses to Duke's improper rebuttal contained in CSXT's brief. Duke did not raise this objection in a timely manner (i.e. within 10 days of the April 14, 2003 filing of the final brief in this matter), but instead waited nearly six months to assert this belated objection. It would be difficult to imagine a more clear-cut, stark illustration of the unfairness of allowing a party to revise its case-in-chief by submitting material new evidence on rebuttal. *See* Decision, *Duke Energy Corp. v. CSXT*, STB Doc. No. 42070 (March 25, 2003) (striking as improper new evidence Duke submitted on rebuttal in this case). If the Board agrees with CSXT that Duke improperly substituted new equipment on rebuttal, there would be no need to reach the question of whether CSXT's demonstrative slides accurately depict the physical infeasibility of that equipment.

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Fourth, Duke's vague allegation that CSXT's calculations of SAC operating costs "rest on confidential data" is unsupported, and ignores the fact that it was Duke that proffered the irrelevant operating cost comparisons from prior cases in the first instance. CSXT believes that such comparisons are not relevant considerations in a SAC analysis, and the Board's maximum rate reasonableness determination in this case should be based solely on the SAC evidence developed and submitted in this record. But in insisting that the Board consider such comparisons, Duke must accept that any such comparisons must be made on an apples-to-apples basis by considering SARRs that traversed terrain similar to that at issue in this case.

In its brief, Duke offered a chart that purported to compare the operating costs per ton-mile of the hypothetical stand-alone railroads in prior SAC cases. *See* Duke Brief at 20, Chart II. Duke provided no specific citation to the record in those cases, nor any other explanation of how it calculated those costs, so CSXT could not determine the source or accuracy of those calculations. With one exception, however, all of the operating costs Duke calculated referred to SARRs that traversed the relatively accommodating terrain of the plains and prairies of the West.⁷ In response to the skewed SARR cost comparison chart Duke offered on brief, CSXT calculated the operating costs per ton mile adopted by the Board in Eastern cases involving SARRs that traversed terrain similar to that involved in the instant case. *See* CSXT Slide 23. Then, to facilitate a better "apples-to-apples" comparison, CSXT indexed the costs in all of those cases to constant 2002 dollars, using the Board's RCAF. *See* CSXT Slide 24.

If the Board has any questions about the matters discussed in this letter, we would be pleased to address them.

Very truly yours,



G. Paul Moates
Paul A. Hemmersbaugh

Attachments

cc: William L. Slover, Esq.

⁷ The single exception was DPL (STB Doc. No. 37063), which settled before the Board issued a decision. Thus, by definition, whatever data Duke used to calculate its ton-mile operating costs for the SARR in DPL was "data not included in [a] reported agency decision[]." *See* October 1 Letter at 2.

A

1 witnesses with spreadsheet analyses that have
2 developed all the operating statistics for the
3 railroad. You can rely on that. They haven't been
4 able to attack that.

5 The only thing that those operating
6 statistics - excuse me - that the RTC model was used
7 for was to develop the cars and the crew times, and
8 everything else we have backup for in spreadsheet
9 analysis.

10 CHAIRMAN NOBER: Again, I don't want to
11 belabor this, but our job is to evaluate whether a
12 hypothetically efficient railroad could operate more
13 efficiently than CSX. The plan that you've put in is
14 less efficient than the existing CSX.

15 MR. MOATES: No. Absolutely not, Mr.
16 Chairman. That's absolutely incorrect. The plan that
17 we put in is for a railroad that is significantly more
18 efficient than CSX. Let me get to that. Yeah, let's
19 go to slide 21 real quick. We're out of order here
20 but I see this is bothering you, so let's try to clear
21 this up.

22 All right. They say our own operating

UNITED STATES OF AMERICA

+ + + + +

OFFICE OF CONGRESSIONAL AND PUBLIC SERVICES

SURFACE TRANSPORTATION BOARD

+ + + + +

ORAL ARGUMENT

+ + + + +

|-----+
|

DUKE ENERGY CORPORATION, |

Complainant, |

| STB Docket No. 42070

v. |

CSX TRANSPORTATION, INC., |

Defendant. |

|-----+
|

Wednesday,

September 10, 2003

Washington, D.C.

The oral argument came to order in the Board's
Hearing Room, 7th Floor, 1925 K Street, N.W., at 10:00
a.m., Roger Nober, Chairman, presiding.

1 costs are 13 mils per ton-mile, and that's the way he
2 builds this thing. Let's see about that. What are
3 CSX' own operating costs? You can go calculate this.
4 This is from the R-1. It's on file right here. The
5 2000 operating costs were \$27.1 mils per ton-mile,
6 2001 - 27.2. We don't know how they did this
7 calculation. They drop a footnote, but it doesn't
8 make any sense.

9 I think what they've done is they've used
10 their way of calculating operating costs for CSX to a
11 few of the mines in this case. That's not the real
12 honest to God CSX system operating cost.

13 CHAIRMAN NOBER: That's system average.

14 MR. MOATES: That's system average, and
15 that's what they're claiming this is. That's what
16 they claim.

17 CHAIRMAN NOBER: So you're saying 27.1 and
18 27.2 are system average costs.

19 MR. MOATES: Those are the right numbers.
20 If you took depreciation out, it would drop maybe 2
21 cents, but those are the comparative numbers. So I
22 want to say this one more time. We absolutely did not

1 design a Stand-Alone railroad that is less efficient
2 than CSX. That's just not true.

3 They designed a Stand-Alone railroad that
4 is ridiculous. It's a fantasy railroad. It doesn't
5 work. It doesn't take into account all kinds of real
6 world demands of the customers in the coal fields, and
7 how to operate a railroad; like, how you gather those
8 cars, how you load the cars, how you have to have a
9 crew and a train at the mine while the cars are
10 loaded. They just disappear and come back a day or
11 two later.

12 CHAIRMAN NOBER: And did your's take into
13 account all of the -- did you provide a gathering yard
14 in, for example?

15 MR. MOATES: We absolutely did. We put
16 that in there. We put in all kinds of detailed
17 information about the loading at the mines. Let me
18 show you just one --

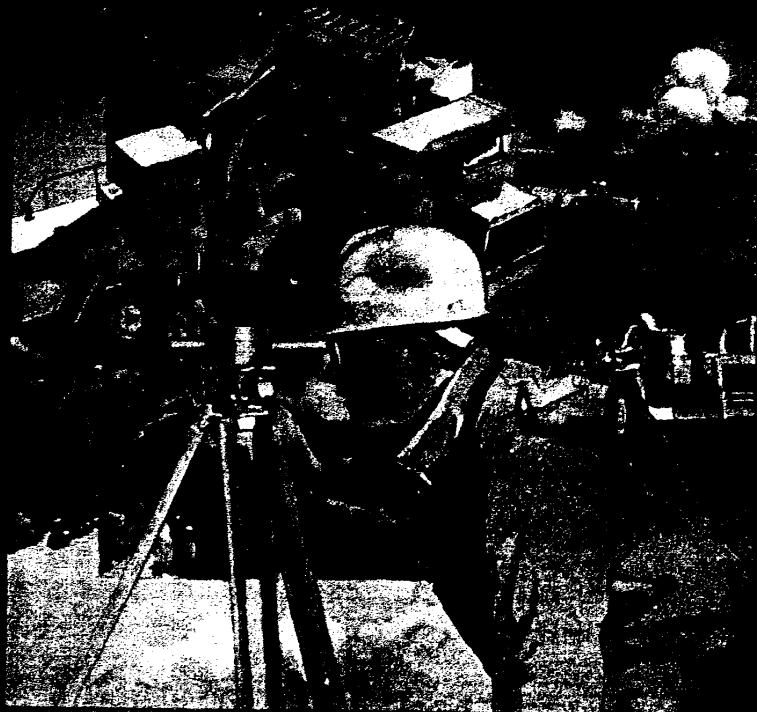
19 CHAIRMAN NOBER: Are you sure about that,
20 that you put in gathering yards, and that you --

21 MR. MOATES: I'm sorry. We did not put
22 gathering yards. I'm thinking what we did was, we

B

RSMeans®

2002



02300 Earthwork												
02315 Excavation and Fill				CREW	DAILY OUTPUT	LABOR HOURS	UNIT	2002 BARE COSTS				TOTAL INCL O&P
								MAT.	LABOR	EQUIP.	TOTAL	
400	1050	1-1/2 C.Y. cap. = 65 C.Y./hr.	RO2315-400	B-12P	520	.031	C.Y.		.91	1.61	2.52	3.14
	1100	3 C.Y. cap. = 112 C.Y./hr.		B-12V	900	.018			.52	1.30	1.82	2.22
	1200	Front end loader, track mtd., 1-1/2 C.Y. cap. = 70 C.Y./hr.	RO2315-450	B-10N	560	.021			.61	.47	1.08	1.45
	1250	2-1/2 C.Y. cap. = 95 C.Y./hr.		B-10O	760	.016			.45	.66	1.11	1.41
	1300	3 C.Y. cap. = 130 C.Y./hr.		B-10P	1,040	.012			.33	.66	.99	1.23
	1350	5 C.Y. cap. = 160 C.Y./hr.		B-10Q	1,280	.009			.27	.76	1.03	1.25
	1500	Wheel mounted, 3/4 C.Y. cap. = 45 C.Y./hr.		B-10R	360	.033			.95	.60	1.55	2.10
	1550	1-1/2 C.Y. cap. = 80 C.Y./hr.		B-10S	640	.019			.54	.43	.97	1.30
	1600	2-1/4 C.Y. cap. = 100 C.Y./hr.		B-10T	800	.015			.43	.46	.89	1.16
	1601	3 C.Y. cap. = 140 C.Y./hr.		"	1,120	.011			.31	.33	.64	.83
	1650	5 C.Y. cap. = 185 C.Y./hr.		B-10U	1,480	.008			.23	.53	.76	.93
	1800	Hydraulic excavator, truck mtd, 1/2 C.Y. = 30 C.Y./hr.		B-12J	240	.067			1.97	3.07	5.04	6.35
	1850	48 inch bucket, 1 C.Y. = 45 C.Y./hr.		B-12K	360	.044			1.31	2.41	3.72	4.63
	3700	Shovel, 1/2 C.Y. capacity = 55 C.Y./hr.		B-12L	440	.036			1.07	.80	1.87	2.50
	3750	3/4 C.Y. capacity = 85 C.Y./hr.		B-12M	680	.024			.69	.80	1.49	1.93
	3800	1 C.Y. capacity = 120 C.Y./hr.		B-12N	960	.017			.49	.72	1.21	1.53
	3850	1-1/2 C.Y. capacity = 160 C.Y./hr.		B-12O	1,280	.013			.37	.72	1.09	1.35
	3900	3 C.Y. cap. = 250 C.Y./hr.		B-12T	2,000	.008			.24	.65	.89	1.07
	4000	For soft soil or sand, deduct									15%	15%
	4100	For heavy soil or stiff clay, add									60%	60%
	4200	For wet excavation with clamshell or dragline, add									100%	100%
	4250	All other equipment, add									50%	50%
	4400	Clamshell in sheeting or cofferdam, minimum		B-12H	160	.100			2.95	4.39	7.34	9.30
	4450	Maximum		"	60	.267			7.85	11.70	19.55	25
8000	For hauling excavated material, see div. 02320-200											
410	0010	EXCAVATING, BULK, DOZER Open site	RO2315-400									
	2000	75 H.P., 50' haul, sand & gravel		B-10L	460	.026	C.Y.		.75	.63	1.38	1.84
	2020	Common earth			400	.030			.86	.73	1.59	2.11
	2040	Clay			250	.048			1.37	1.17	2.54	3.37
	2200	150' haul, sand & gravel			230	.052			1.49	1.27	2.76	3.66
	2220	Common earth			200	.060			1.72	1.46	3.18	4.22
	2240	Clay			125	.096			2.75	2.33	5.08	6.75
	2400	300' haul, sand & gravel			120	.100			2.86	2.43	5.29	7.05
	2420	Common earth			100	.120			3.43	2.91	6.34	8.45
	2440	Clay			65	.185			5.30	4.48	9.78	13
	3000	105 H.P., 50' haul, sand & gravel		B-10W	700	.017			.49	.62	1.11	1.43
	3020	Common earth			610	.020			.56	.71	1.27	1.64
	3040	Clay			385	.031			.89	1.12	2.01	2.60
	3200	150' haul, sand & gravel			310	.039			1.11	1.40	2.51	3.23
	3220	Common earth			270	.044			1.27	1.60	2.87	3.70
	3240	Clay			170	.071			2.02	2.54	4.56	5.90
	3300	300' haul, sand & gravel			140	.086			2.45	3.09	5.54	7.15
	3320	Common earth			120	.100			2.86	3.61	6.47	8.35
	3340	Clay			100	.120			3.43	4.33	7.76	10
	4000	200 H.P., 50' haul, sand & gravel		B-10B	1,400	.009			.25	.59	.84	1.02
	4020	Common earth			1,230	.010			.28	.67	.95	1.17
	4040	Clay			770	.016			.45	1.07	1.52	1.86
	4200	150' haul, sand & gravel			595	.020			.58	1.38	1.96	2.40
	4220	Common earth			516	.023			.67	1.60	2.27	2.77
	4240	Clay			325	.037			1.06	2.53	3.59	4.40
	4400	300' haul, sand & gravel			310	.039			1.11	2.66	3.77	4.61
	4420	Common earth			270	.044			1.27	3.05	4.32	5.30
	4440	Clay			170	.071			2.02	4.84	6.86	8.45
	5000	300 H.P., 50' haul, sand & gravel		B-10M	1,900	.006			.18	.54	.72	.88
	5020	Common earth			1,650	.007			.21	.63	.84	1.01

Crews

Crew No.	Bare Costs		Incl. Subs O & P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew B-12J						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Grapple, 3 Ton, 5 C.Y.		736.40		810.05	46.03	50.63
16 L.H., Daily Totals		\$1208.40		\$1523.25	\$75.53	\$95.21
Crew B-12K						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Grapple, 3 Ton, 1 C.Y.		868.60		955.45	54.29	59.72
16 L.H., Daily Totals		\$1340.60		\$1668.65	\$83.79	\$104.30
Crew B-12L						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Power Shovel, 5 C.Y.		311.75		342.95		
1 F.E. Attachment, 5 C.Y.		38.80		42.70	21.91	24.10
16 L.H., Daily Totals		\$822.55		\$1098.85	\$51.41	\$68.68
Crew B-12M						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Power Shovel, 75 C.Y.		502.10		552.30		
1 F.E. Attachment, 75 C.Y.		43.80		48.20	34.12	37.53
16 L.H., Daily Totals		\$1017.90		\$1313.70	\$63.62	\$82.11
Crew B-12N						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Power Shovel, 1 C.Y.		640.80		704.90		
1 F.E. Attachment, 1 C.Y.		50.20		55.20	43.19	47.51
16 L.H., Daily Totals		\$1163.00		\$1473.30	\$72.69	\$92.09
Crew B-12O						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Power Shovel, 1.5 C.Y.		809.20		890.10		
1 F.E. Attachment, 1.5 C.Y.		110.00		121.00	57.45	63.20
16 L.H., Daily Totals		\$1391.20		\$1724.30	\$86.95	\$107.78
Crew B-12P						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Crawler Crane, 40 Ton		809.20		890.10		
1 Dragline Bucket, 1.5 C.Y.		29.60		32.55	52.43	57.67
16 L.H., Daily Totals		\$1310.80		\$1635.85	\$81.93	\$102.25
Crew B-12Q						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Hyd. Excavator, 5/8 C.Y.		393.20		432.50	24.58	27.03
16 L.H., Daily Totals		\$865.20		\$1145.70	\$54.08	\$71.61
Crew B-12R						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Hyd. Excavator, 1.5 C.Y.		705.00		775.50	44.06	48.47
16 L.H., Daily Totals		\$1177.00		\$1488.70	\$73.56	\$93.05

Crew No.	Bare Costs		Incl. Subs O & P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew B-12S						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Hyd. Excavator, 2.5 C.Y.		1700.00		1870.00	106.25	116.88
16 L.H., Daily Totals		\$2172.00		\$2583.20	\$135.75	\$161.46
Crew B-12T						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Crawler Crane, 75 Ton		1103.00		1213.30		
1 F.E. Attachment, 3 C.Y.		193.20		212.50	81.01	89.11
16 L.H., Daily Totals		\$1768.20		\$2139.00	\$110.51	\$133.69
Crew B-12V						
1 Equip. Oper. (crane)	\$32.35	\$258.80	\$48.90	\$391.20	\$29.50	\$44.58
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Crawler Crane, 75 Ton		1103.00		1213.30		
1 Dragline Bucket, 3 C.Y.		64.80		71.30	72.99	80.29
16 L.H., Daily Totals		\$1639.80		\$1997.80	\$102.49	\$124.87
Crew B-13						
1 Labor Foreman (outside)	\$25.45	\$203.60	\$39.60	\$316.80	\$25.46	\$39.25
4 Laborers	23.45	750.40	36.50	1168.00		
1 Equip. Oper. (crane)	32.35	258.80	48.90	391.20		
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Hyd. Crane, 25 Ton		724.80		797.30	12.94	14.24
56 L.H., Daily Totals		\$2150.80		\$2995.30	\$38.40	\$53.49
Crew B-13A						
1 Foreman	\$25.45	\$203.60	\$39.60	\$316.80	\$26.39	\$40.44
2 Laborers	23.45	375.20	36.50	584.00		
2 Equipment Operator	31.20	499.20	47.15	754.40		
2 Truck Drivers (heavy)	25.00	400.00	38.10	609.60		
1 Crane, 75 Ton		1103.00		1213.30		
1 F.E. Lder, 3.75 C.Y.		971.20		1068.30		
2 Dump Trucks, 12 Ton		706.40		777.05		
56 L.H., Daily Totals		\$4258.60		\$5323.45	\$76.04	\$95.06
Crew B-13B						
1 Labor Foreman (outside)	\$25.45	\$203.60	\$39.60	\$316.80	\$25.46	\$39.25
4 Laborers	23.45	750.40	36.50	1168.00		
1 Equip. Oper. (crane)	32.35	258.80	48.90	391.20		
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Hyd. Crane, 55 Ton		972.40		1069.65	17.36	19.10
56 L.H., Daily Totals		\$2398.40		\$3267.65	\$42.82	\$58.35
Crew B-13C						
1 Labor Foreman (outside)	\$25.45	\$203.60	\$39.60	\$316.80	\$25.46	\$39.25
4 Laborers	23.45	750.40	36.50	1168.00		
1 Equip. Oper. (crane)	32.35	258.80	48.90	391.20		
1 Equip. Oper. Oiler	26.65	213.20	40.25	322.00		
1 Crawler Crane, 100 Ton		1383.00		1521.30	24.70	27.17
56 L.H., Daily Totals		\$2809.00		\$3719.30	\$50.16	\$66.42
Crew B-14						
1 Labor Foreman (outside)	\$25.45	\$203.60	\$39.60	\$316.80	\$24.84	\$38.44
4 Laborers	23.45	750.40	36.50	1168.00		
1 Equip. Oper. (right)	29.80	238.40	45.05	360.40		
1 Backhoe Loader, 48 H.P.		178.60		196.45	3.72	4.09
48 L.H., Daily Totals		\$1371.00		\$2041.65	\$28.56	\$42.53

CREWS

01500 | Temporary Facilities & Controls

01590 Equipment Rental			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	CREW EQUIPMENT COST/DAY		
500	1000	Chemical spreader, 3 C.Y.	R01590 -100	Ea.	1.25	120	360	1,075	82	
	1900	Hammermill, traveling, 250 HP			37.85	1,600	4,820	14,500	1,267	
	2000	Horizontal borer, 3" diam, 13 HP gas driven			2.20	56.50	170	510	51.60	
	2200	Hydromulchers, gas power, 3000 gal., for truck mounting			8.80	298	895	2,675	249.40	
	2400	Joint & crack cleaner, walk behind, 25 HP			1.80	83.50	250	750	64.40	
	2500	Filler, trailer mounted, 400 gal., 20 HP			4.15	175	525	1,575	138.20	
	3000	Paint striper, self propelled, double line, 30 HP			3.80	245	735	2,200	177.40	
	3200	Post drivers, 6' I-Beam frame, for truck mounting			7.25	455	1,370	4,100	332	
	3400	Road sweeper, self propelled, 8' wide, 90 HP			16.15	300	905	2,725	310.20	
	4000	Road mixer, self-propelled, 130 HP			14.15	595	1,780	5,350	469.20	
	4100	310 HP		↓	30.70	1,775	5,350	16,100	1,316	
	4200	Cold mix paver, incl pug mill and bitumen tank,								
	4220	165 HP		Ea.	36.15	1,975	5,910	17,700	1,471	
	4250	Paver, asphalt, wheel or crawler, 130 H.P., diesel			32.70	1,725	5,140	15,400	1,290	
	4300	Paver, road widener, gas 1' to 6', 67 HP			18.60	635	1,910	5,725	530.80	
	4400	Diesel, 2' to 14', 88 HP			27.15	1,025	3,040	9,125	825.20	
	4600	Slipform pavers, curb and gutter, 2 track, 75 HP			15.05	620	1,855	5,575	491.40	
	4700	4 track, 165 HP			21.35	1,075	3,230	9,700	816.80	
	4800	Median barrier, 215 HP			21.25	1,025	3,080	9,250	786	
	4901	Trailer, low bed, 75 ton capacity			7.10	320	960	2,875	248.80	
	5000	Road planer, walk behind, 10" cutting width, 10 HP			1.45	42	126	380	36.80	
	5100	Self propelled, 12" cutting width, 64 HP			4.35	475	1,420	4,250	318.80	
	5200	Pavement profiler, 4' to 6' wide, 450 HP			84.90	2,850	8,560	25,700	2,391	
	5300	8' to 10' wide, 750 HP			139	4,400	13,180	39,500	3,748	
	5400	Roadway plate, steel, 1"x8"x20'			.05	9	27	81	5.80	
	5600	Stabilizer, self-propelled, 150 HP			18.10	675	2,020	6,050	548.80	
	5700	310 HP			32.85	1,125	3,360	10,100	934.80	
	5800	Striper, thermal, truck mounted 120 gal. paint, 150H.P.			30.05	390	1,175	3,525	475.40	
	6000	Tar kettle, 330 gal., trailer mounted			2.41	38.50	115	345	42.30	
	7000	Tunnel locomotive, diesel, 8 to 12 ton			14.35	575	1,730	5,200	460.80	
	7005	Electric, 10 ton			12.40	505	1,510	4,525	401.20	
	7010	Muck cars, 1/2 C.Y. capacity			1	20	60	180	20	
	7020	1 C.Y. capacity			1.15	29	87	261	26.60	
	7030	2 C.Y. capacity			1.20	35	105	315	30.60	
	7040	Side dump, 2 C.Y. capacity			1.35	50	150	450	40.80	
	7050	3 C.Y. capacity			1.80	56.50	170	510	48.40	
	7060	5 C.Y. capacity			2.55	76.50	230	690	66.40	
	7100	Ventilating blower for tunnel, 7-1/2 H.P.			1.27	29.50	88	264	27.75	
	7110	10 H.P.			1.46	31	93	279	30.30	
	7120	20 H.P.			2.36	30.50	91	273	37.10	
	7140	40 H.P.			4.12	50	150	450	62.95	
	7160	60 H.P.			6.26	71.50	215	645	93.10	
	7175	75 H.P.			8.03	98.50	295	885	123.25	
	7180	200 H.P.			17.80	114	342	1,025	210.80	
	7800	Windrow loader, elevating		↓	16.40	1,100	3,310	9,925	793.20	
600	0010	LIFTING AND HOISTING EQUIPMENT RENTAL	R01590 -100							
	0100	without operators		Ea.	14.95	625	1,870	5,600	493.60	
	0120	Aerial lift truck, 2 person, to 80'			3.25	172	515	1,550	129	
	0140	Boom work platform, 40' snorkel			8.95	223	670	2,000	205.60	
	0150	Crane, flatbed mntd, 3 ton cap.			41.15	1,275	3,830	11,500	1,095	
	0200	Crane, climbing, 106' jib, 6000 lb. capacity, 410 FPM		↓	46.25	1,625	4,850	14,600	1,340	
	0300	101' jib, 10,250 lb. capacity, 270 FPM								
	0400	Tower, static, 130' high, 106' jib,								
	0500	6200 lb. capacity at 400 FPM		Ea.	44.15	1,475	4,430	13,300	1,239	
	0600	Crawler, cable, 1/2 C.Y., 15 tons at 12' radius			4.97	455	1,360	4,075	311.75	
0700	3/4 C.Y., 20 tons at 12' radius		22.76	535	1,600	4,800	502.10			
0800	1 C.Y., 25 tons at 12' radius	↓	30.35	665	1,990	5,975	640.80			

GENERAL REQUIREMENTS

01500 | Temporary Facilities & Controls

01590 | Equipment Rental

01590 Equipment Rental		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	CREW EQUIPMENT COST/DAY
600	0900 Crawler mounted, lattice boom, 1-1/2 C.Y., 40 tons at 12' radius	Ea.	31.15	935	2,800	8,400	809.20
	1000 2 C.Y., 50 tons at 12' radius		41.90	1,150	3,460	10,400	1,027
	1100 3 C.Y., 75 tons at 12' radius		45.10	1,225	3,710	11,100	1,103
	1200 100 ton capacity, standard boom		54.40	1,575	4,740	14,200	1,383
	1300 165 ton capacity, standard boom		79.70	2,700	8,115	24,300	2,261
	1400 200 ton capacity, 150' boom		81.45	2,800	8,400	25,200	2,332
	1500 450' boom		119.60	3,825	11,440	34,300	3,245
	1600 Truck mounted, lattice boom, 6 x 4, 20 tons at 10' radius		19.32	725	2,170	6,500	588.55
	1700 25 tons at 10' radius		24.63	965	2,890	8,675	775.05
	1800 8 x 4, 30 tons at 10' radius		29.10	760	2,280	6,850	688.80
	1900 40 tons at 12' radius		34.95	945	2,840	8,525	847.60
	2000 8 x 4, 60 tons at 15' radius		39.56	1,175	3,540	10,600	1,024
	2050 82 tons at 15' radius		42.83	1,650	4,940	14,800	1,331
	2100 90 tons at 15' radius		46.38	1,750	5,250	15,800	1,421
	2200 115 tons at 15' radius		51.75	1,875	5,590	16,800	1,532
	2300 150 tons at 18' radius		56.90	2,050	6,175	18,500	1,690
	2350 165 tons at 18' radius		64.15	2,400	7,225	21,700	1,958
	2400 Truck mounted, hydraulic, 12 ton capacity		31.70	590	1,770	5,300	607.60
	2500 25 ton capacity		33.10	765	2,300	6,900	724.80
	2550 33 ton capacity		35.80	950	2,855	8,575	857.40
	2600 55 ton capacity		41.55	1,075	3,200	9,600	972.40
	2700 80 ton capacity		55.70	1,525	4,550	13,700	1,356
	2720 100 ton capacity		68.15	2,125	6,410	19,200	1,827
	2740 120 ton capacity		72.05	2,300	6,870	20,600	1,950
	2760 150 ton capacity		76.35	2,625	7,890	23,700	2,189
	2800 Self-propelled, 4 x 4, with telescoping boom, 5 ton		13.55	345	1,035	3,100	315.40
	2900 12-1/2 ton capacity		20.15	520	1,560	4,675	473.20
	3050 20 ton capacity		22.80	645	1,930	5,800	568.40
	3100 25 ton capacity		24.80	720	2,155	6,475	629.40
	3150 40 ton capacity		44.10	1,050	3,140	9,425	980.80
	3200 Derricks, guy, 20 ton capacity, 60' boom, 75' mast		12.07	315	938	2,825	284.15
	3300 100' boom, 115' mast		19.59	540	1,620	4,850	480.70
	3400 Stiffleg, 20 ton capacity, 70' boom, 37' mast		13.97	405	1,210	3,625	353.75
	3500 100' boom, 47' mast		21.97	655	1,960	5,875	567.75
	3550 Helicopter, small, lift to 1250 lbs. maximum, w/pilot		64.13	2,525	7,590	22,800	2,031
	3600 Hoists, chain type, overhead, manual, 3/4 ton		.05	5.35	16	48	3.60
	3900 10 ton		.25	24.50	73	219	16.60
	4000 Hoist and tower, 5000 lb. cap., portable electric, 40' high		4.03	180	541	1,625	140.45
	4100 For each added 10' section, add		.08	14	42	126	9.05
	4200 Hoist and single tubular tower, 5000 lb. electric, 100' high		5.43	252	755	2,275	194.45
	4300 For each added 6'-6" section, add		.14	24	72	216	15.50
	4400 Hoist and double tubular tower, 5000 lb., 100' high		5.81	277	831	2,500	212.70
	4500 For each added 6'-6" section, add		.16	26.50	79	237	17.10
	4550 Hoist and tower, mast type, 6000 lb., 100' high		6.29	287	862	2,575	222.70
	4570 For each added 10' section, add		.10	17.35	52	156	11.20
	4600 Hoist and tower, personnel, electric, 2000 lb., 100' @ 125 FPM		12.77	765	2,290	6,875	560.15
	4700 3000 lb., 100' @ 200 FPM		14.65	865	2,600	7,800	637.20
	4800 3000 lb., 150' @ 300 FPM		16.20	970	2,910	8,725	711.60
	4900 4000 lb., 100' @ 300 FPM		16.83	990	2,970	8,900	728.65
	5000 6000 lb., 100' @ 275 FPM		18.24	1,050	3,120	9,350	769.90
	5100 For added heights up to 500', add	L.F.	.01	1.67	5	15	1.10
	5200 Jacks, hydraulic, 20 ton	Ea.	.05	12.35	37	111	7.80
	5500 100 ton		.15	35	105	315	22.20
	6000 Jacks, hydraulic, climbing with 50' jackrods						
	6010 and control consoles, minimum 3 mo. rental						
	6100 30 ton capacity	Ea.	1.56	104	311	935	74.70
	6150 For each added 10' jackrod section, add		.05	3.33	10	30	2.40
	6300 50 ton capacity		2.50	167	500	1,500	120

GENERAL REQUIREMENTS

