

**CITGO Petroleum Corporation**

P.O. Box 4689  
Houston, TX 77210-4689

CERTIFIED MAIL – RETURN RECEIPT

March 13, 2006

Mr. Sam Napolitano  
Director, Clean Air Markets Division  
U.S. Environmental Protection Agency  
OAP - Office of Air and Radiation  
Mail Code 6204J  
1200 Pennsylvania Avenue  
Washington, DC 20460

Dr. Mike McDaniel  
Secretary, Louisiana Department of Environmental Quality  
P. O. Box 4301  
Baton Rouge, LA 70821-4301

Re: Non-Applicability of Clean Air Interstate Rule to Cogeneration Units  
Nelson Industrial Steam Company  
Westlake, Louisiana

Dear Mr. Napolitano and Dr. McDaniel:

The Nelson Industrial Steam Company ("NISCO") respectfully requests that the U.S. Environmental Protection Agency ("EPA") and the Louisiana Department of Environmental Quality ("LDEQ") each confirm that NISCO's facility in Westlake, LA is exempt from the Clean Air Interstate Rule ("CAIR"). CAIR does not apply to the facility because the facility qualifies as a cogeneration unit that is exempt from the CAIR.

### **Background**

The NISCO facility is located at the Roy S. Nelson station in Westlake, LA, approximately 10 kilometers (km) northwest of the City of Lake Charles and about 40 km east of the Texas-Louisiana border. The facility consists of two 130-megawatt (MWe) generators that produce steam and electrical power for its primary owners, which are CITGO Petroleum Corporation, Sasol North America, Inc. and ConocoPhillips Company. Entergy also owns a 1% share in NISCO and operates the facility, but does not receive electrical power or steam from the facility.

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The facility is a Qualifying Facility as defined in the Clean Air Act and the Acid Rain rules. The facility also qualifies as a cogeneration unit under the Public Utility Regulatory Policies Act ("PURPA"). The facility burns petroleum coke; has a combined electric gross output capacity of 260 MW/hr; has a steam capacity of 1.95 MMlbs/hr; and sells less than one third of its output commercially.

On March 10, 2005, EPA finalized the CAIR. The CAIR is EPA's program to reduce and permanently cap emissions of sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxides ("NO<sub>x</sub>") from fossil fired electric generating units in the eastern United States, including Louisiana. On August 1, 2005, EPA proposed a federal implementation plan ("FIP") as a backstop to ensure that power plants affected by the CAIR reduce emissions on schedule. Regulatory requirements in the CAIR apply to units generating electricity, but certain cogeneration units are exempt for purposes of the CAIR.

#### Analysis

NISCO's facility constitutes a cogeneration unit under the CAIR. The CAIR defines "cogeneration unit" as the following:

a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine: (1) Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and (2) Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after which the unit first produces electricity (i) For a topping-cycle cogeneration unit, (A) Useful thermal energy not less than 5 percent of total energy output; and (B) Useful power that, when added to one-half of useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy output, if useful thermal energy produced is less than 15 percent of total energy output . . . . 40 C.F.R. §§ 51.123(cc) and 51.124(q)

As noted above, the NISCO facility is a stationary fossil-fuel-fired boiler that burns petroleum coke. Furthermore, under PURPA, the NISCO facility is considered a topping, waste-fired cogeneration unit with no efficiency requirements as defined in 18 C.F.R. Part 292. See Attachment A (Annual FERC Efficiency Reports). Furthermore, FERC has certified this facility as a cogeneration unit. See Attachment B (FERC Certification).

The NISCO facility also meet the CAIR requirements for the exemption that applies to cogeneration units. With respect to cogeneration units, in relevant part, the CAIR states the following:

For a unit that that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity and continues to qualify as a cogeneration unit and serves at any time a generator with a nameplate capacity of more than 25 MWe and supplies in any calendar year more than one-third of the unit's

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potential electric output capacity or 219,000 MWe, whichever is greater, to any utility power distribution system for sale. - 40 C.F.R. §§ 51.123(cc) and 51.124(q)

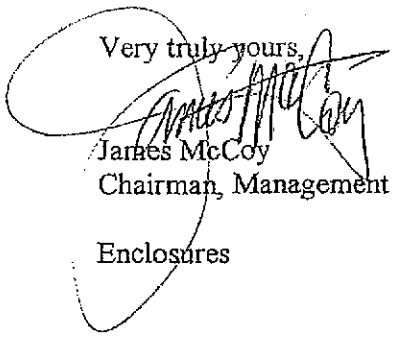
NISCO's facility serves a generator with a nameplate capacity of more than 25 MWe, but does not supply power to any utility power distribution system for sale. Power generated by NISCO is distributed to each partner, except Entergy, as specified in the Partnership Agreement. See Attachment C (Partnership Agreement and Power Distribution Charts). No power is distributed or sold to Entergy, as specified in Section XIV of the Partnership Agreement.

### Conclusion

NISCO respectfully requests that both EPA and LDEQ issue determination letters confirming that the NISCO facility is exempt from the CAIR. NISCO understands that it may not be possible for the Agencies' to finalize these determinations until the Federal Implementation Plan and Louisiana's State Implementation Plan implementing the CAIR are finalized. On the assumption that these actions do not materially alter the relevant applicability provisions and associated definitions, however, NISCO would appreciate receiving a preliminary determination as soon as practicable.

If you have any questions or need additional information, please call Allen Hile, NISCO Technical Manager, at (337) 494-6089.

Very truly yours,



James McCoy  
Chairman, Management Committee

Enclosures

APPENDIX A

Typical FERC efficiency reports for NISCO

ISSUED

03/02/06

Preliminary JANUARY 2006

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

PRESSURE	TEMP	ENTHALPY
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EXPORT STEAM DELIVERED TO VISTA	348.49	486.80	1243.12
EXPORT STEAM AT ORIGIN (COLD REHEAT)	511.28	742.84	1380.82
TURBINE WORK OF EXPORT STEAM AVAILABLE WC			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE W/			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	24	575.4	69,899	219	5,169.0	17637	72	537	18245	2.94	28.18
2	25	801.9	84,140	218	5,171.0	17643	75	562	18280	3.07	28.06
3	28	672.4	63,638	210	5,184.0	17688	84	828	18369	3.41	28.40
4	30	729.5	63,418	217	5,208.0	17773	91	681	18645	3.67	28.71
5	33	781.2	35,694	217	5,207.0	17768	87	729	18593	3.52	31.09
6	35	853.0	32,150	222	5,329.0	18109	104	777	19084	4.08	33.09
7	36	832.7	32,672	220	5,281.0	18019	104	777	18900	4.11	33.83
8	35	840.6	32,783	217	5,215.0	17734	104	785	18683	4.20	33.79
9	33	830.7	32,004	215	5,159.0	17803	104	781	18488	4.22	35.00
10	39	707.4	32,723	105	2,509.0	8557	99	744	9401	7.92	27.59
11	37	881.0	39,574	106	2,532.0	8639	110	822	9571	8.59	23.15
12	39	945.3	52,551	105	2,514.0	8578	118	882	9578	9.21	17.99
13	42	1,007.4	60,308	103	2,503.0	8620	125	940	9586	9.51	15.81
14	38	917.8	62,390	107	2,573.0	8779	114	857	9750	8.78	14.84
15	39	921.5	63,024	107	2,569.0	8731	118	899	9718	8.94	14.73
16	49	1,030.9	66,897	107	2,568.0	8728	128	982	9818	9.80	13.89
17	47	1,138.2	60,821	107	2,568.0	8728	141	1062	9832	10.70	15.48
18	47	1,134.8	62,420	104	2,489.0	8499	141	1059	9680	10.83	14.87
19	47	1,137.8	62,149	105	2,518.0	8591	141	1082	9765	10.84	14.91
20	47	1,138.4	62,430	105	2,509.0	8581	141	1081	9789	10.87	14.78
21	47	1,138.9	61,987	105	2,521.0	8602	141	1081	9804	10.82	14.97
22	47	1,137.5	61,540	106	2,534.0	8645	141	1082	9849	10.78	15.14
23	47	1,135.8	60,187	105	2,523.0	8608	141	1090	9818	10.81	15.42
24	47	1,118.9	61,219	104	2,491.0	8499	139	1044	9839	10.78	14.98
25	43	1,032.3	61,464	98	2,387.0	8078	128	864	9166	10.91	14.13
26	45	1,088.1	61,273	108	2,587.0	8827	135	1018	9079	10.19	15.48
27	49	1,029.9	61,987	170	4,089.0	13662	128	981	15041	6.39	23.90
28	43	1,032.1	62,330	218	5,232.0	17882	128	963	18943	8.09	28.62
29	43	1,030.7	63,144	220	5,282.0	18022	128	982	19112	5.03	29.61
30	43	1,030.7	62,879	220	5,279.0	18012	128	982	19102	5.04	29.62
31	45	1,080.9	62,903	219	5,264.0	17951	134	1009	19104	5.28	29.57
TOTAL AVG	40	29,614	1,727,369	185	114,995	382,383	3,881	27,641	423,688	6.82%	23.73
PREV YTD		0	0		0	0	0	0	0	0.00%	0
TOTAL YTD		29,614	1,727,369		114,995	382,383	3,881	27,641	423,688	6.82%	23.73
9% STEAM	59	28,650	1,727,369	185	114,995	382,383	3300	21123	410,787	5.07	

ISSUED 03/02/06

Final DECEMBER 2005

### NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	344	483	1,220.3
EXPORT STEAM AT ORIGIN (COLD REHEAT)	512	746	1,382.6
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			13.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFICI. STAND. PERCENT
1	38	865.4	87,424	224	5,388.3	18310	108	818	19232	4.24	30.15
2	26	612.7	63,177	225	5,388.8	18389	75	578	19042	3.04	28.89
3	26	617.8	62,786	220	5,283.9	18029	75	583	18657	3.12	28.90
4	27	653.7	63,810	221	5,305.6	18103	80	617	18799	3.28	28.98
5	42	1,043.8	63,207	225	5,397.2	18415	124	858	19456	4.82	30.09
6	41	878.7	63,669	228	5,424.8	18509	119	921	19550	4.71	29.97
7	34	810.2	62,635	224	5,375.7	18342	98	784	19205	3.98	30.03
8	28	609.8	60,821	224	5,378.3	18344	74	576	18683	3.03	27.89
9	26	604.7	61,012	225	5,388.9	18414	74	570	18659	2.88	30.32
10	25	611.1	64,854	224	5,372.0	18329	75	578	18680	3.04	28.78
11	25	603.2	64,623	224	5,376.9	18353	74	572	18690	3.01	28.98
12	25	608.3	65,044	224	5,384.7	18304	74	574	18652	3.03	28.70
13	25	605.0	63,418	223	5,360.3	18290	74	574	18636	3.03	28.41
14	41	969.3	64,141	220	5,290.4	18051	121	933	19105	4.88	29.08
15	57	1,363.5	65,105	224	5,372.1	18330	188	1266	19732	6.50	28.40
16	57	1,359.6	64,583	224	5,378.3	18344	188	1282	19762	6.48	28.85
17	43	1,091.4	63,037	221	5,365.9	18309	133	1030	19471	5.29	30.03
18	30	725.0	63,980	224	5,365.4	18307	88	694	19079	3.58	29.33
19	25	602.3	62,898	224	5,371.1	18328	73	568	18668	3.00	28.88
20	25	604.8	61,461	214	5,144.3	17652	74	571	18197	3.14	28.14
21	30	725.8	63,990	223	5,368.3	18276	88	685	19048	3.59	29.23
22	29	684.5	62,988	223	5,363.2	18265	84	646	18884	3.40	28.88
23	27	682.7	63,870	221	5,315.9	18138	80	618	18833	3.27	28.01
24	30	717.2	62,189	220	5,283.6	17976	88	677	18741	3.61	28.59
25	30	713.0	62,500	221	5,314.9	18134	87	673	18884	3.58	28.50
26	28	707.8	63,539	222	5,321.9	18158	89	689	18913	3.53	29.24
27	25	609.8	63,147	219	5,289.6	17946	74	573	18565	3.08	28.09
28	18	400.1	60,749	220	5,298.1	17970	57	440	18475	2.36	28.84
29	21	602.3	63,148	221	5,313.7	18130	61	474	18885	2.54	29.05
30	20	488.8	64,352	219	5,248.0	17908	60	461	18427	2.50	28.28
31	20	470.7	62,866	219	5,250.0	17918	59	462	18427	2.48	28.91
TOTAL/AVG	30	22,894	1,970,869	222	165,350	564,174	2,768	21,388	588,340	3.64%	28.31

PREV YTD		332,124	18,034,891		1,518,047	5,182,989	41,589	311,129	6,536,677	5.62%	29.83
TOTAL YTD		354,608	20,005,760		1,684,387	5,747,183	44,327	332,528	8,124,018	5.43%	29.78

5% STEAM 51 38,300 1,970,869 222 165,350 564,174 4874 29912 598,780 5.00

EXCESS STEAM THIS MONTH (15,615) PLUS YTD (12,228) YIELDS A TOTAL EXCESS STEAM TO DATE OF Mlbs (27,841)

198022 012505

FINAL December 2004

## NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISITA	353	453	1,221.0
EXPORT STEAM AT ORIGIN (COLD REHEAT)	527	741	1,579.1
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENERAL MW/HR	DAILY NET POWER GENERAL MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY KMMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	33	789.5	60,028	219	5,261.0	17951	58	742	18788	3.95	30.38
2	27	841.5	58,238	219	5,261.0	17918	78	803	18898	3.24	30.37
3	27	848.0	61,797	219	5,258.0	17858	79	807	18819	3.28	29.84
4	38	912.0	61,877	218	5,263.0	17889	111	857	18857	4.54	29.88
5	48	1,032.8	51,537	214	5,142.0	17345	128	978	18541	5.28	28.49
6	43	1,058.7	51,347	213	5,114.0	17449	128	973	18548	5.28	29.18
7	43	1,029.2	51,347	217	5,201.0	17748	128	958	18629	5.09	29.82
8	23	868.8	60,586	218	5,174.0	17684	84	648	18288	3.52	29.01
9	27	858.8	62,425	214	5,147.0	17582	81	620	18282	3.38	28.75
10	26	834.2	62,548	218	5,200.0	17947	77	588	18220	3.28	28.29
11	28	881.8	63,909	218	5,287.0	17971	77	598	18841	3.18	30.81
12	31	742.8	63,088	217	5,213.0	17734	81	686	18582	3.78	28.98
13	30	928.0	61,128	218	5,247.0	17803	113	873	18888	4.82	30.18
14	38	928.3	61,118	219	5,287.0	17874	113	870	18884	4.58	29.34
15	37	876.6	61,827	218	5,280.0	17847	107	824	18878	4.88	28.87
16	34	821.8	49,289	174	4,189.0	14228	100	772	15087	5.11	29.89
17	34	824.1	62,058	174	4,182.0	14288	101	774	15144	5.11	28.35
18	34	819.3	61,287	215	5,106.0	17422	100	770	18242	4.21	29.22
19	37	741.0	80,838	215	5,188.0	17828	80	656	18413	3.78	28.68
20	31	732.0	81,407	218	5,172.0	17847	88	688	18426	3.74	28.44
21	28	876.7	62,848	218	5,240.0	17918	83	638	18627	3.41	29.13
22	28	818.0	64,524	219	5,258.0	17838	75	579	18837	3.11	28.88
23	38	888.8	62,157	223	5,344.0	18234	74	573	18881	3.08	28.32
24	23	604.1	63,413	222	5,319.0	18148	74	588	18788	3.02	28.18
25	26	604.8	62,458	222	5,335.0	18203	74	588	18848	3.02	28.72
26	30	718.0	62,388	214	5,144.0	17691	87	687	18305	3.84	28.82
27	28	488.4	63,388	220	5,282.0	18022	80	488	18541	2.48	28.58
28	21	493.3	64,076	220	5,298.0	18028	80	488	18552	2.51	29.58
29	21	807.5	63,855	217	5,218.0	17884	82	477	18343	2.58	28.31
30	32	763.8	64,484	214	5,140.0	17638	88	718	18349	3.91	27.91
31	23	708.2	64,258	215	5,188.0	17637	88	668	18388	3.58	28.88
<b>TOTAL AVG</b>	<b>31</b>	<b>22,882</b>	<b>1,987,182</b>	<b>218</b>	<b>158,838</b>	<b>545,371</b>	<b>2,734</b>	<b>21,488</b>	<b>568,883</b>	<b>3.77%</b>	<b>28.51</b>

PREV YTD	328,779	16,481,341		1,827,454	4,870,473	41,072	307,894	5,219,238	5.80%	30.83	
TOTAL YTD	361,581	18,338,473		1,887,293	5,418,844	45,885	329,198	5,788,982	5.88%	30.07	
6% STEAM	88	37,888	1,887,132	218	158,838	545,371	4818	28912	578,881	5.88	
EXCESS STEAM THIS MONTH		(14,118)	PLUS YTD	(69,326)	YIELDS A TOTAL EXCESS STEAM TO DATE OF MRS.					(83,443)	

Walt Drury

ISSUED

02/05/04

FINAL DECEMBER 2003

### NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	360	485	1,242.5
EXPORT STEAM AT ORIGIN (COLD REHEAT)	504	740	1,379.7
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTUD	AVERAGE NET POWER GENER. MW/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTUD	CALC. USEFUL TURBINE MMBTUD	CALC. USEFUL THERMAL MMBTUD	CALC. USEFUL ENERGY MMBTUD	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	47	1,129.8	59,817	208	4,985.0	17009	140	1043	18203	5.79	29.55
2	47	1,122.9	59,198	209	5,018.0	17111	138	1048	18297	5.72	30.54
3	47	1,120.7	59,607	209	5,010.0	17094	139	1048	18278	5.72	29.75
4	47	1,117.4	59,216	209	5,019.0	17125	139	1042	18308	5.69	30.03
5	40	963.9	58,976	211	6,068.0	17251	120	899	18270	4.92	30.22
6	39	801.8	59,008	211	5,089.0	17295	112	841	18248	4.81	30.21
7	38	812.1	59,517	211	5,088.0	17258	113	850	18222	4.87	29.90
8	39	937.7	59,497	209	5,018.0	17118	117	874	18183	4.83	29.72
9	42	1,017.9	59,967	208	4,967.0	17016	128	940	18091	5.25	29.83
10	43	1,021.4	59,388	210	5,039.0	17198	127	932	18272	5.21	29.99
11	42	1,011.9	58,736	210	5,043.0	17207	128	944	18274	5.19	30.51
12	42	1,018.4	58,736	210	5,041.0	17200	129	948	18278	5.19	30.51
13	43	1,027.4	59,245	209	5,005.0	17077	128	959	18168	5.27	29.85
14	43	1,023.9	59,280	208	4,999.0	17095	127	955	18118	5.27	30.27
15	43	1,022.4	57,685	207	4,964.0	16997	127	953	18018	5.29	30.47
16	43	1,020.3	40,337	209	5,001.0	17099	127	951	18141	5.24	29.18
17	43	1,038.3	58,678	209	5,019.0	17125	129	968	18222	5.34	30.23
18	43	1,027.9	53,933	192	4,618.0	15750	129	858	16829	5.69	30.33
19	41	872.1	53,729	189	4,318.0	14753	121	907	15761	5.76	28.48
20	43	1,029.0	64,690	187	4,735.0	16105	128	969	17243	5.24	28.83
21	43	1,032.9	47,980	191	4,592.0	15888	128	983	16759	6.75	33.94
22	38	828.4	60,867	209	4,962.0	16999	115	866	17980	4.81	29.77
23	34	813.8	58,787	211	5,063.0	17275	101	759	18135	4.18	29.70
24	34	814.9	58,106	213	5,102.0	17408	101	760	18289	4.16	30.79
25	34	817.7	59,390	211	5,053.0	17241	102	752	18105	4.21	29.87
26	34	818.9	59,347	209	5,068.0	17009	102	704	17948	4.25	29.50
27	34	818.8	69,937	208	4,991.0	17029	101	782	17902	4.25	29.22
28	34	812.5	68,626	207	4,888.0	16951	101	758	17809	4.25	29.83
29	34	810.8	59,156	210	5,040.0	17227	101	758	18084	4.18	29.93
30	34	808.1	59,056	211	5,054.0	17244	101	754	18089	4.17	29.99
31	34	810.2	59,785	209	5,015.0	17111	101	735	17957	4.20	30.89
TOTAL AVG	40	20,721	1,616,738	207	163,864	524,964	3,893	27,712	556,389	4.98%	29.88
PREV YTD		289,934	17,012,371		1,427,268	4,888,766	35,473	282,863	5,172,122	5.16%	29.62
TOTAL YTD		316,655	18,829,109		1,581,117	6,354,770	39,166	294,576	5,728,511	5.14%	29.84
5% STEAM	47	85,000	1,816,738	207	153,864	524,964	4340	27832	557,165	5.00	

EXCESS STEAM THIS MONTH (5,279) PLUS YTD (84,204) YIELDS A TOTAL EXCESS STEAM TO DATE OF MMBtu.

*Walt D...*  
 (88,493)



ISSUED 02/11/03

FINAL DECEMBER 2002

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BT/LB)
EXPORT STEAM DELIVERED TO VISTA	343	508	1,287.3
EXPORT STEAM AT ORIGIN (COLD REHEAT)	508	733	1,375.6
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK *			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK *			84.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MW/HR	DAILY NET POWER GENER. MW/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	20	630.5	57,057	223	5,357.0	18278	79	582	18999	3.07	32.70
2	20	619.6	57,505	222	5,328.0	18172	78	572	18822	3.04	32.23
3	48	1,147.3	58,714	218	5,224.0	17824	144	1059	19027	5.57	32.82
4	58	1,384.0	58,949	217	5,217.0	17800	170	1250	19220	6.50	32.85
5	58	1,355.2	58,480	221	5,314.0	18131	170	1251	19353	6.40	33.51
6	58	1,355.0	58,040	220	5,298.0	18038	170	1251	19467	6.48	33.80
7	58	1,352.8	58,587	217	5,219.0	17807	170	1249	19226	6.48	32.87
8	58	1,383.0	57,448	220	5,271.0	17985	170	1249	19404	6.44	32.88
9	90	1,448.1	58,210	219	5,258.0	17833	182	1357	19482	6.87	32.87
10	58	1,363.0	58,392	218	5,228.0	17831	175	1286	19232	6.88	38.07
11	81	1,468.5	58,512	217	5,208.0	17783	183	1348	19282	6.98	33.54
12	88	1,577.8	58,040	215	5,158.0	17599	198	1458	19254	7.88	33.05
13	88	1,573.2	58,218	212	5,078.0	17328	188	1452	18978	7.88	33.05
14	88	1,574.0	58,832	211	5,068.0	17286	188	1458	18838	7.87	33.33
15	88	1,573.1	58,274	210	5,040.0	17198	188	1452	18848	7.70	32.20
16	88	1,571.8	57,301	211	5,072.0	17308	188	1451	18954	7.85	31.81
17	88	1,572.8	58,849	212	5,088.0	17353	188	1452	19003	7.84	32.88
18	88	1,573.8	58,812	208	4,998.0	17037	188	1453	18707	7.77	32.99
19	88	1,574.3	58,245	208	5,001.0	17083	188	1453	18714	7.78	31.98
20	88	1,575.1	58,089	210	5,041.0	17200	188	1454	18862	7.71	32.38
21	88	1,577.4	58,218	205	4,918.0	16773	188	1458	18428	7.80	32.05
22	88	1,578.4	58,002	207	4,973.0	16888	188	1456	18521	7.81	30.33
23	88	1,578.1	58,418	208	4,985.0	16838	188	1457	18493	7.88	30.41
24	0	0.0	397	11	275.0	938	0	0	938	0.00	239.39
25	0	0.0	397	-5	(118.8)	-368	0	0	-368	0.00	-100.28
26	0	0.0	397	-4	(107.0)	-385	0	0	-385	0.00	-91.98
27	2	38.0	397	-8	(109.2)	-373	5	33	-335	-8.82	-88.54
28	1	20.9	397	-5	(121.0)	-418	8	18	-391	-4.85	-100.02
29	7	187.8	8,519	7	159.0	543	21	155	718	21.58	8.73
30	33	784.6	28,028	80	1,988.0	6514	88	724	7330	9.87	24.89
31	31	751.2	35,285	161	3,871.0	13208	94	693	13998	4.05	38.35
TOTAL AVG	48	34,125	1,378,888	197	124,027	423,181	4,291	37,407	458,688	6.88%	32.19
PREV YTD		288,595	14,787,032		1,528,868	5,289,640	35,851	269,905	5,512,597	4.84%	38.38
TOTAL YTD		222,720	18,183,891		1,650,885	5,832,821	40,142	289,402	5,971,366	5.00%	38.02
5% STEAM	44	32,800	1,378,889	167	124,027	423,181	4099	28233	483,519	8.78	

EXCESS STEAM THIS MONTH

1,525 PLUS YTD

YIELDS A TOTAL EXCESS STEAM TO DATE OF MDS

1,525

*Walt Deal*  
*Tracy King*

ISSUED 01/24/02

FINAL DECEMBER 2001

### NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	347.52	493.90	1,229.84
EXPORT STEAM AT ORIGIN (COLD REHEAT)	534.42	714.86	1,363.33
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MW/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	35	851.9	31,955	124	2,079.2	10143	105	784	11034	7.11	33.30
2	31	735.8	51,432	219	5,107.6	17427	80	878	18196	3.72	34.72
3	34	826.7	51,872	217	5,211.1	17780	102	761	18643	4.08	35.21
4	38	828.0	53,104	218	5,192.8	17717	114	859	18588	4.58	34.38
5	38	834.3	37,880	148	3,587.4	17144	114	857	18113	4.73	34.04
6	38	829.4	46,554	199	4,753.0	18217	114	858	19215	8.51	33.75
7	36	831.0	53,341	271	5,058.5	17293	114	857	17187	4.98	33.82
8	36	832.2	51,255	218	5,175.4	17882	115	858	18233	4.70	34.02
9	36	830.4	51,901	218	5,198.0	17702	114	857	18638	4.81	35.52
10	39	828.8	51,784	213	5,117.9	17482	114	859	18673	4.59	35.16
11	39	830.8	53,514	215	5,188.2	17827	114	859	18439	4.85	34.77
12	39	830.1	63,573	218	5,230.1	17846	114	858	18570	4.55	33.88
13	39	830.7	62,928	219	5,287.9	17974	114	858	18245	4.62	34.88
14	39	830.1	62,988	215	5,188.5	17828	114	859	18589	4.80	34.29
15	39	830.4	53,357	214	5,131.3	17588	114	857	18479	4.84	33.60
16	39	830.4	52,940	218	5,187.2	17899	114	857	18970	4.59	34.62
17	39	828.4	62,810	218	5,232.2	17382	114	858	18822	4.85	34.83
18	40	882.5	51,754	217	5,209.8	17778	118	888	18781	4.72	35.43
19	41	882.5	52,825	220	5,284.2	18030	122	914	19088	4.79	36.29
20	41	883.2	53,617	220	5,271.4	17988	122	914	19223	4.81	34.83
21	41	888.8	38,144	147	3,597.8	12070	121	908	13100	8.84	33.15
22	41	894.6	53,250	218	5,232.2	17882	122	918	18822	4.85	34.81
23	40	853.7	62,834	221	5,298.7	18079	117	878	19075	4.80	35.41
24	39	832.0	62,048	220	5,279.4	18073	115	858	18949	4.52	35.85
25	28	830.0	62,282	220	5,285.1	18033	77	580	18890	3.10	35.19
26	28	803.9	51,868	218	5,248.7	17912	82	611	18805	3.28	35.20
27	24	569.5	52,517	219	5,251.4	17910	70	524	18512	2.83	34.75
28	23	550.8	58,970	220	5,278.2	18002	88	507	18577	2.73	31.07
29	23	551.7	52,253	220	5,280.8	18018	88	508	18594	2.73	35.10
30	23	551.1	45,712	221	5,301.8	18080	88	507	18685	2.72	40.28
TOTAL AVG	38	83,765	1,575,082	208	188,851	530,871	3,284	24,680	558,545	4.40%	34.63

PREV YTD	305,722	18,187,381		1,493,821	5,098,917	30,101	282,285	5,417,283		5.21%	32.59
TOTAL YTD	532,427	17,782,463		1,843,362	5,827,588	41,388	308,854	5,975,828		6.13%	32.78
5% STEAM	48	35,785	1,675,082	209	185,531	530,871	4401	28168	583,238	5.00	
EXCESS STEAM THIS MONTH			(9,080)	PLUS YTD	(34,453)	YIELDS A TOTAL EXCESS STEAM TO DATE OF MIB#					(43,533)

ISSUED 01/31/01

FINAL DECEMBER 2000

### NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	349	454	1,220.6
EXPORT STEAM AT ORIGIN (COLD REHEAT)	534	730	1,372.80
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			84.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURNS/HR	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	22	527.9	59,210	217	5,211.0	17780	84	493	18397	2.88	30.55
2	22	833.5	59,594	220	5,275.0	17998	85	498	18561	2.88	30.73
3	32	775.4	59,034	218	5,234.0	17859	95	724	18977	3.87	31.02
4	38	885.8	52,200	188	4,501.0	16357	108	808	18271	4.97	30.40
5	39	797.3	30,230	105	2,512.0	8571	87	744	8443	7.81	28.91
6	32	779.9	30,054	107	2,572.0	8776	85	728	8599	7.58	30.73
7	31	782.5	30,811	108	2,597.0	8881	92	702	8655	7.27	30.39
8	28	700.2	30,318	109	2,619.0	8936	85	693	8676	6.75	30.89
9	34	822.0	31,874	109	2,602.0	8707	100	787	9575	8.01	28.80
10	34	824.0	30,083	101	2,424.0	8271	101	769	9140	8.41	29.18
11	34	920.4	30,888	105	2,506.0	8597	100	768	9429	8.12	29.27
12	28	874.5	34,142	111	2,668.0	9095	82	820	9508	8.42	27.81
13	22	516.9	47,312	169	4,054.0	13832	83	482	14377	3.35	29.75
14	31	740.8	54,308	201	4,826.0	16468	91	697	17254	4.04	30.79
15	36	885.3	67,832	219	5,108.0	17428	106	807	18342	4.40	31.02
16	41	896.2	58,882	218	5,188.0	17695	121	929	18745	4.68	31.18
17	38	870.1	38,770	222	5,317.0	18142	108	812	18000	4.26	31.74
18	49	1,028.1	57,870	218	5,179.0	17671	126	960	18787	5.12	31.52
19	43	1,028.1	59,210	220	5,283.0	18028	125	958	19111	5.02	31.47
20	43	1,028.0	48,009	171	4,098.0	13979	128	958	15088	6.36	31.85
21	47	1,125.8	42,288	140	3,369.0	11495	137	1051	12683	8.28	28.75
22	44	1,064.2	58,330	219	5,248.0	17899	130	893	19022	5.22	31.78
23	43	1,025.9	58,887	220	5,269.0	17978	128	957	19040	5.02	31.58
24	43	1,028.0	58,535	220	5,275.0	17988	128	987	19081	5.02	31.78
25	42	1,009.8	59,298	219	5,258.0	17940	122	837	18990	4.93	31.25
26	49	1,180.7	58,301	218	5,182.0	17881	144	1102	18927	5.82	31.82
27	49	1,180.0	58,477	218	5,233.0	17865	144	1101	19100	5.76	31.72
28	49	1,171.8	59,621	218	5,233.0	17865	143	1093	19081	5.73	31.10
29	47	1,134.7	68,008	218	5,223.0	17821	138	1050	19018	5.57	31.87
30	48	1,108.1	58,858	220	5,284.0	18028	135	1032	19196	5.38	31.74
31	42	1,013.9	67,218	221	5,310.0	18118	124	948	18188	4.89	32.71
TOTAL AVG	38	27,883	1,548,945	182	135,602	482,874	3,418	28,113	482,203	5.31%	30.97

PREV YTD	238,780	12,942,312		1,102,402	4,088,879	29,293	216,651	4,313,922	5.01%	32.9	
TOTAL YTD	284,742	14,489,256		1,328,084	4,831,383	32,700	242,064	4,808,125	5.04%	32.33	
5% STEAM	42	31,484	1,548,945	182	135,602	482,874	3840	24578	491,094	5.00	

EXCESS STEAM THIS MONTH (8,481) PLUS YTD (101,841) YIELDS A TOTAL EXCESS STEAM TO DATE OF MRS. (108,422)

*Handwritten initials/signature*

ISSUED 02/01/00

FINAL DECEMBER 1999

### NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	348.77	508.44	1,287.43
EXPORT STEAM AT ORIGIN (COLD RE-HEAT)	320.00	748.00	1,388.88
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			84.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM (M LBS/HR)	DAILY EXPORT STEAM (M LBS/D)	DAILY TOTAL FIRED DUTY (MMBTU/D)	AVERAGE NET POWER GENER. (MMW/HR)	DAILY NET POWER GENER. (MMW/D)	CALC. USEFUL POWER (MMBTU/D)	CALC. USEFUL TURBINE (MMBTU/D)	CALC. USEFUL THERMAL (MMBTU/D)	CALC. USEFUL ENERGY (MMBTU/D)	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	37	688.1	27,212	98	2,288.0	7841	113	828	8790	8.81	30.78
2	38	801.0	28,227	98	2,288.0	7790	113	839	8748	8.90	28.38
3	37	877.2	27,213	95	2,284.0	7788	110	817	8720	8.97	30.84
4	38	900.8	27,388	98	2,273.0	7783	113	839	8708	9.68	30.28
5	37	889.5	27,535	95	2,282.0	7788	113	839	8737	9.50	30.21
6	37	898.0	27,124	98	2,305.0	7885	113	838	8814	9.48	30.85
7	37	888.3	27,388	98	2,308.0	7875	113	837	8824	9.48	30.88
8	14	343.8	27,212	88	2,308.0	7888	43	320	8221	8.88	28.88
9	0	0.0	26,743	87	2,318.0	7908	0	0	7902	0.00	28.88
10	38	837.0	27,330	95	2,281.0	7817	105	780	8708	8.97	30.42
11	48	1,143.8	27,852	95	2,280.0	7813	144	1087	8824	11.82	30.71
12	48	1,102.8	27,887	98	2,272.0	7782	140	1083	8881	12.06	30.28
13	49	1,188.0	27,711	95	2,293.0	7790	148	1078	8911	11.88	30.58
14	48	1,140.9	27,154	93	2,272.0	7776	143	1082	8882	11.88	31.12
15	48	1,140.4	28,083	94	2,288.0	7728	143	1082	8933	11.88	28.94
16	48	1,140.4	28,832	95	2,273.0	7785	143	1082	8861	11.88	28.84
17	47	1,128.2	28,444	92	2,288.0	7823	142	1048	8774	12.00	28.78
18	47	1,128.8	28,210	88	2,140.0	7302	141	1048	8488	12.32	28.84
19	47	1,118.1	27,873	89	2,131.0	7271	141	1041	8483	12.32	28.35
20	48	1,080.8	28,708	87	2,088.0	7182	138	1008	8304	12.12	27.17
21	47	1,121.0	28,503	88	2,143.0	7313	141	1044	8487	12.28	27.88
22	47	1,124.2	42,172	88	2,348.0	8011	141	1047	8200	11.38	28.57
23	47	1,118.3	48,891	158	3,780.0	12831	141	1041	14113	7.88	28.75
24	47	1,117.8	50,238	180	4,321.0	14743	141	1041	15928	8.84	30.88
25	47	1,118.8	47,838	182	4,388.0	14803	141	1042	18147	8.48	30.88
26	47	1,120.2	52,986	182	4,378.0	14821	141	1043	18048	8.48	32.88
27	48	1,108.2	41,878	182	3,838.0	12418	139	1030	13582	7.58	31.20
28	47	1,118.1	28,820	94	2,283.0	7887	141	1041	8888	11.74	28.17
29	47	1,121.1	28,850	89	2,132.0	7274	141	1044	8489	12.34	27.70
31	47	1,120.3	38,370	137	3,289.0	11258	141	1043	12440	8.38	30.27
TOTAL/AVG	42	37,084	1,010,384	111	82,220	280,838	3,910	28,865	318,400	8.38	28.38

PREV YTD ##### 10,238,320 2,773,102 9,481,928 88,168 516,364 ##### 5.14% 34.23

TOTAL YTD ##### 18,249,704 2,855,322 9,742,380 72,078 548,319 ##### 5.28% 32.88

5% STEAM 25 18,518 1,010,384 111 82,220 280,538 2329 14802 287,708 8.00

EXCESS STEAM THIS MONTH 12,578 PLUS YTD (78,340) YIELDS A TOTAL EXCESS STEAM TO DATE OF Mlbs. (85,764)

*[Handwritten signatures and initials]*

Mar. 2. 2006 6:42PM

LC LANIER FAX LAB TRAINING X2120

No. 0130 P. 9/19

ISSUED 01/10/89

FINAL DECEMBER 1988

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	354	447	1,215.00
EXPORT STEAM AT ORIGIN (COLD REHEAT)	401	727	1,372.30
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			54.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRE DUTY MMBTU/D	AVERAGE NET POWER GENERAL MW/HR	DAILY NET POWER GENERAL MMW/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	39	840.0	55,172	107	4,478.0	15272	114	878	18296	5.40	28.08
2	39	841.8	55,026	106	4,446.0	15165	114	881	18181	5.48	28.57
3	39	842.0	55,149	108	4,482.0	15224	114	881	18220	5.43	28.52
4	39	840.0	54,852	104	4,417.0	15071	114	879	18064	5.47	28.58
5	39	830.7	54,837	104	4,414.0	15061	114	879	18053	5.47	28.42
6	39	841.8	54,716	102	4,398.0	14907	114	881	18002	5.54	28.26
7	39	839.0	54,957	105	4,430.0	15116	114	878	18107	5.45	28.50
8	39	840.3	54,703	107	4,488.0	15340	114	878	18034	5.38	28.08
9	39	846.7	55,143	108	4,819.0	15405	115	884	18404	5.38	28.98
10	38	847.5	58,558	108	4,613.0	15390	115	888	18398	5.40	28.15
11	40	830.0	54,554	100	4,472.0	15258	115	888	18252	5.48	28.94
12	38	804.8	54,816	105	4,437.0	15138	110	848	18093	5.26	28.70
13	38	827.8	58,092	105	4,448.0	15180	113	888	18180	5.37	28.04
14	38	831.5	47,887	100	3,837.0	13092	113	871	14070	5.18	28.44
15	37	888.1	28,246	90	2,184.0	7884	108	830	8322	8.08	27.08
16	37	890.8	28,480	92	2,205.0	7623	108	833	8465	9.04	28.28
17	37	882.3	22,920	83	2,237.0	7633	108	834	8578	8.73	28.21
18	37	890.8	28,384	89	2,118.0	7210	108	833	8151	10.22	27.30
19	40	884.8	38,687	124	2,804.0	10181	117	802	11201	8.05	27.15
20	40	889.5	53,877	178	4,273.0	14578	118	907	15804	5.81	28.23
21	40	870.8	57,021	188	4,454.0	15197	118	908	18223	5.80	27.85
22	40	888.2	54,850	197	4,488.0	15318	117	803	18338	6.52	28.88
23	40	951.2	54,967	188	4,453.0	15238	117	898	18254	5.53	28.73
24	40	958.1	54,880	182	4,358.0	14983	118	898	15875	5.84	28.13
25	40	957.7	54,987	180	4,473.0	15282	118	898	16274	5.50	28.78
26	40	804.8	58,044	188	4,473.0	15282	117	902	18281	6.54	28.81
27	40	884.4	48,221	163	4,380.0	14945	117	902	18864	5.85	28.17
28	40	887.1	53,237	181	4,354.0	14888	118	898	15887	5.84	28.88
29	40	898.2	53,784	183	4,385.0	14882	118	898	15974	5.81	28.89
30	40	882.4	63,047	181	4,348.0	14835	118	891	15842	6.82	28.70
31	40	888.1	53,149	180	4,322.0	14747	115	804	18787	5.87	28.81
TOTAL AVG	38	29,184	1,588,468	170	126,208	430,822	3,647	27,289	401,468	5.92%	28.53

PREV YTD	278,859	18,843,040		1,362,338	4,548,281	34,188	257,384	4,939,848	5.21%	28.91	
TOTAL YTD	308,083	18,212,508		1,488,544	5,078,813	37,713	284,603	5,401,317	5.27%	28.68	
5% STEAM	40	29,418	1,588,489	170	126,208	430,822	3574	22878	457,072	5.00	
EXCESS STEAM THIS MONTH				(225)	PLUS YTD	(30,222)	YIELDS A TOTAL EXCESS STEAM TO DATE OF MBL				(30,447)

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FINAL DECEMBER 1997

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	242	465	1,226.0
EXPORT STEAM AT ORIGIN (COLD REHEAT)	490	728	1,387.0
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			84.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRE DUTY MMBTU/D	AVERAGE NET POWER GENER. MW/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	38	800.2	49,852	188	4,488.0	15278	110	825	18182	8.10	31.57
2	38	801.5	53,595	192	4,818.0	15757	110	828	18892	4.88	30.32
3	38	800.5	53,754	193	4,838.0	15818	110	825	18753	4.82	30.40
4	38	807.5	53,431	195	4,870.0	15858	111	831	18887	4.82	30.86
5	38	805.0	52,375	194	4,851.0	15903	111	828	18843	4.82	31.57
6	37	898.2	58,607	198	4,874.0	16848	110	823	18880	4.87	30.72
7	38	900.7	52,881	194	4,868.0	15883	110	825	18818	4.81	30.88
8	50	1,448.0	53,507	192	4,597.0	15885	177	1328	17789	7.72	30.83
9	50	1,410.0	53,098	191	4,582.0	15834	178	1282	17088	7.56	30.84
10	50	1,339.8	52,588	188	4,637.0	15821	164	1227	17213	7.13	31.50
11	50	1,338.7	52,558	194	4,654.0	15879	164	1228	17270	7.10	31.83
12	50	1,388.7	53,548	194	4,647.0	15838	184	1228	17248	7.11	31.00
13	18	481.8	26,585	85	2,028.0	6828	55	414	7382	5.60	28.07
14	8	114.8	29,281	87	2,318.0	7902	14	105	8022	1.31	27.21
15	28	704.2	52,688	194	4,844.0	15848	88	648	16877	3.88	30.84
16	28	878.4	53,314	198	4,888.0	15888	83	621	16883	3.72	30.78
17	28	878.4	52,891	198	4,882.0	15878	83	622	16881	3.73	30.89
18	18	431.0	28,088	148	3,547.0	12102	68	398	12550	2.16	31.50
19	18	380.4	38,581	149	3,588.0	12187	48	368	12873	2.84	31.33
20	20	487.1	51,608	198	4,642.0	15888	80	448	16344	2.73	31.24
21	20	488.8	54,516	194	4,844.0	15848	80	448	16383	2.78	28.89
22	20	486.8	53,480	195	4,881.0	15872	80	448	16478	2.78	30.38
23	20	478.0	52,881	188	4,818.0	15418	58	438	15916	2.78	28.82
24	20	488.8	53,108	194	4,888.0	15820	80	448	16428	2.73	30.51
25	20	487.7	54,047	198	4,888.0	15885	80	447	16502	2.71	30.12
26	20	488.2	53,888	198	4,884.0	16018	80	448	16821	2.70	30.18
27	20	484.8	52,881	195	4,875.0	15851	80	444	16458	2.70	30.83
28	20	488.4	52,888	194	4,855.0	15883	80	448	16388	2.72	30.88
29	20	488.8	50,807	193	4,882.0	15884	80	448	16310	2.73	31.88
30	20	488.8	53,284	198	4,875.0	15881	80	448	16487	2.71	30.47
31	20	488.4	53,372	195	4,881.0	16008	80	447	16513	2.71	30.32
TOTAL/AVG	30	22,478	1,586,518	184	138,828	488,881	2,753	20,887	480,201	4.20%	30.88

PREV YTD	300,248	17,240,077		1,458,380	4,858,834	87,371	276,997	5,272,304		6.25%	28.78
TOTAL YTD	322,723	18,808,588		1,600,208	5,425,788	40,125	288,884	5,782,508		6.18%	28.85
% STEAM	0	0	1,586,518	184	138,828	488,881	0	0	488,881	0.00	
EXCESS STEAM THIS MONTH		22,478	PLUS YTD		10,238	YIELDS A TOTAL EXCESS STEAM TO DATE OF MDR.					40,711

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FINAL DECEMBER 1996

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	330	485	1,241.8
EXPORT STEAM AT ORIGIN (COLD REHEAT)	478	735	1,377.8
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MMW/HR	DAILY NET POWER GENER. MMW/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	36	841.2	54,270	184	4,632.0	15894	104	783	16774	4.67	30.19
2	37	881.0	54,691	184	4,648.0	15852	108	820	16781	4.69	29.88
3	48	1,114.1	53,883	192	4,813.0	16740	133	1037	16915	8.13	30.64
4	50	1,200.0	54,592	192	4,818.0	15780	149	1117	17028	8.58	30.16
5	53	1,283.8	54,858	184	4,648.0	16340	160	1134	17203	8.94	30.27
6	52	1,241.8	54,651	183	3,904.0	13320	154	1158	14830	7.90	25.71
7	48	1,096.5	48,188	178	4,142.0	14133	138	1020	15288	8.87	30.08
8	34	828.6	53,018	185	4,888.0	15831	103	768	16902	4.58	30.45
9	34	827.9	53,302	184	4,880.0	15868	103	770	16739	4.60	30.68
10	36	838.6	54,123	182	4,868.0	15858	104	778	16371	4.70	29.80
11	38	864.1	53,067	180	4,854.0	16038	108	795	16436	4.83	30.23
12	38	863.4	52,850	190	4,563.0	15835	107	803	16446	4.80	30.80
13	34	821.8	53,530	191	4,581.0	15830	102	793	16497	4.83	30.10
14	34	818.8	53,588	191	4,573.0	15803	101	780	16485	4.82	30.03
15	32	774.9	53,887	180	4,858.0	15545	98	721	16362	4.41	30.15
16	27	682.8	54,504	185	4,870.0	15966	81	607	15843	3.65	29.98
17	28	680.8	53,830	185	4,880.0	15988	82	615	15683	3.89	30.37
18	28	688.7	53,290	185	4,878.0	15933	78	597	16038	3.42	29.60
19	38	901.0	55,114	186	4,873.0	15944	112	838	16896	4.98	29.73
20	43	1,040.3	57,281	186	4,708.0	16083	129	988	17151	5.64	28.11
21	51	748.2	48,878	173	4,182.0	14167	93	684	14854	4.64	31.16
22	34	828.3	53,841	93	2,238.0	7839	103	789	8501	9.05	28.15
23	35	835.5	51,838	83	2,221.0	7378	104	777	8459	9.10	28.36
24	28	681.8	49,122	185	3,953.0	13488	88	644	14217	4.53	28.29
25	27	638.0	33,473	187	4,478.0	15272	79	596	15848	3.73	28.28
26	31	737.5	54,822	182	4,608.0	15722	92	686	16900	4.16	28.58
27	36	829.7	54,892	192	4,814.0	15743	103	771	16817	4.64	28.73
28	33	845.4	53,738	194	4,848.0	15858	105	787	18761	4.70	29.35
29	28	684.8	55,179	194	4,864.0	15814	89	637	16835	3.83	29.57
30	26	620.5	54,416	184	4,648.0	15862	78	586	16516	3.55	28.81
31	24	587.9	54,827	184	4,648.0	15862	73	547	16482	3.32	28.58
TOTAL/AVG	35	28,187	1,818,283	183	138,238	484,837	3,253	24,378	492,488	4.95	29.88

PREV YTD 294,288 18,483,795 1,331,304 4,542,410 38,840 271,031 4,850,083 5,588,182 30.44

TOTAL YTD 328,483 17,104,058 1,487,540 5,007,247 39,893 296,409 5,342,560 8.63 30.37

5% STEAM 42 31,020 1,918,263 183 138,238 484,837 3852 24653 493,343 5.00

EXCESS STEAM THIS MONTH (4,823) PLUS YTD (1,440) YIELDS A TOTAL EXCESS STEAM TO DATE OF MAR. (6,263)

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FISCAL DECEMBER 1988

**NISCO/FERC OPERATING & EFFICIENCY STD. REPORT**

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	351	482	1,258.7
EXPORT STEAM AT ORIGIN (COLD REHEAT)	409	734	1,477.8
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			84.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL PIPED DUTY LBMS/D	AVERAGE NET POWER GENER MMW/HR	DAILY NET POWER GENER MMW/D	CALC. USEFUL POWER MMW/D	CALC. USEFUL TURBINE MMW/D	CALC. USEFUL THERMAL MMW/D	CALC. USEFUL ENERGY MMW/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	39	804.4	64,188	188	4,888.0	16033	112	718	18883	4.28	30.48
2	38	900.4	53,718	188	4,890.0	18888	112	714	18784	4.28	30.80
3	37	998.4	52,781	184	4,844.0	16845	111	713	18808	4.28	30.82
4	37	892.5	56,831	184	4,848.0	15882	111	708	18681	4.24	29.35
5	42	098.8	54,353	182	4,803.0	16705	124	781	18620	4.78	28.78
6	38	912.7	64,703	189	4,841.0	18484	113	724	18321	4.43	29.18
7	37	883.0	28,800	114	2,720.0	9301	111	709	10120	7.00	38.71
8	37	883.9	28,820	91	2,180.0	7438	111	708	8258	8.58	28.79
9	38	907.3	28,280	91	2,182.0	7448	112	720	8277	8.70	30.16
10	38	912.4	28,446	92	2,198.0	7488	113	728	8337	8.70	30.18
11	38	909.4	27,084	92	2,207.0	7530	113	722	8365	8.63	29.54
12	38	913.8	20,027	93	2,220.0	7878	113	725	8413	8.62	30.23
13	38	918.7	34,671	89	2,138.0	7288	114	727	8128	8.95	22.40
14	38	918.8	42,153	115	2,750.0	8383	113	728	10223	7.11	23.38
15	38	913.6	80,872	185	4,436.0	15132	113	728	15970	4.54	30.82
16	39	808.4	52,721	193	4,825.0	16791	112	717	18808	4.32	30.82
17	38	912.4	53,308	188	4,789.0	18087	113	724	18904	4.28	31.08
18	38	907.1	53,853	187	4,781.0	18108	112	720	18840	4.25	30.73
19	38	808.7	63,358	197	4,725.0	18122	112	718	18884	4.24	31.10
20	38	815.3	27,008	147	3,532.0	12081	113	728	12881	8.83	48.39
21	39	913.7	35,883	97	2,321.0	7018	113	725	8757	8.28	23.38
22	39	925.8	43,993	103	2,481.0	8488	118	735	9314	7.88	20.34
23	38	922.2	48,558	182	4,378.0	14928	114	782	15784	4.84	31.11
24	38	818.3	63,467	200	4,784.0	18357	114	728	17200	4.24	31.48
25	38	812.9	54,428	200	4,800.0	18378	113	724	17218	4.21	30.88
26	38	823.0	85,118	201	4,828.0	18483	114	732	17310	4.28	30.74
27	38	828.1	64,220	200	4,783.0	18384	116	735	17283	4.27	31.08
28	39	925.3	54,383	188	4,772.0	18282	115	736	17132	4.29	30.83
29	38	924.2	54,879	200	4,802.0	18384	115	733	17232	4.26	30.73
30	38	921.8	34,897	200	4,790.0	18343	114	731	17188	4.28	30.85
31	38	921.8	54,041	189	4,781.0	18313	114	731	17158	4.28	31.07
TOTAL/AV	38	28,382	1,418,111	182	120,887	411,918	3,518	22,583	437,827	6.14	30.08
PREV YTD	308,571	18,108,610		1,383,643	4,720,988	37,303	271,084	5,028,857	5.38	30.20	N/A
TOTAL YTD	323,833	17,523,821		1,504,246	5,132,007	41,419	298,588	6,487,784	6.37	30.88	
5% STEAM	37	27,850	1,418,111	182	120,887	411,018	3418	21858	437,082	6.00	
EXCESS STEAM THIS MONTH			812	PLUS YTD	3,139	YIELDS A TOTAL EXCESS STEAM TO DATE OF MAR					4,051



# NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	381	480	1,238.3
EXPORT STEAM AT ORIGIN (COLD REHEAT)	484	724	1,371.5
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			10.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	38	918.7	50,778	187	4,497.0	18344	113	725	18182	4.48	31.18
2	38	918.4	50,840	188	4,334.0	18470	113	724	18307	4.44	31.49
3	38	920.8	40,225	142	3,414.0	11848	114	728	12491	5.88	30.16
4	38	907.8	28,868	91	2,188.0	7469	112	718	8299	8.85	28.44
5	38	910.0	27,387	84	2,298.0	7687	113	720	8520	8.48	29.79
6	38	909.4	27,338	84	3,255.0	7894	113	720	8520	8.44	29.87
7	38	908.8	27,185	84	3,247.0	7667	112	717	8498	8.44	29.57
8	38	900.1	27,521	88	2,288.0	7800	111	712	8528	8.28	30.04
9	37	897.0	26,815	85	2,288.0	7790	111	710	8510	8.24	30.78
10	38	902.5	27,098	90	2,158.0	7297	112	714	8223	8.89	28.03
11	38	910.1	27,488	93	2,220.0	7575	118	720	8407	8.57	29.28
12	38	908.5	27,397	98	2,911.0	7885	112	718	8718	8.25	30.80
13	38	905.0	27,329	98	2,308.0	7878	112	718	8708	8.22	30.58
14	38	903.0	30,059	92	2,202.0	7513	112	714	8388	8.57	28.55
15	38	908.8	41,874	144	3,452.0	11778	112	717	12608	5.88	29.39
16	38	903.4	33,485	104	4,667.0	18990	112	718	18716	4.28	30.60
17	38	901.8	34,111	106	4,780.0	18241	111	718	17086	4.18	30.88
18	38	901.7	34,880	107	4,732.0	18148	111	713	18971	4.20	30.44
19	38	902.5	34,727	107	4,788.0	18140	112	714	18975	4.21	30.38
20	38	900.8	34,498	106	4,745.0	18180	111	713	17014	4.18	30.60
21	37	899.2	34,573	107	4,784.0	18152	111	711	16873	4.19	30.29
22	38	903.3	33,905	108	4,787.0	18285	112	715	17081	4.18	31.04
23	38	907.2	34,920	200	4,804.0	18301	112	718	17221	4.17	30.70
24	38	908.1	33,943	100	4,787.0	18383	112	718	17184	4.19	31.15
25	38	905.7	33,006	100	4,785.0	18528	112	717	17155	4.18	30.52
26	38	904.0	32,470	200	4,792.0	18350	112	715	17177	4.18	32.03
27	38	903.9	33,018	100	4,782.0	18916	112	718	17143	4.17	30.51
28	38	904.8	33,922	100	4,772.0	18282	112	718	17110	4.18	31.07
29	38	910.2	48,114	185	3,988.0	13538	113	720	14572	5.01	30.38
30	38	918.4	39,258	138	3,238.0	11048	114	727	11889	6.12	29.86
31	38	917.9	1,328,478	138	4,748.0	18190	113	728	17080	4.28	1.28
TOTAL/AVG	38	28,113	2,805,029	154	114,421	390,404	3,476	22,244	418,124	5.38	18.58
PREV YTD		333,572	18,708,858		1,327,818	4,529,882	41,397	288,209	4,837,637		
TOTAL YTD		361,885	19,310,881		1,442,099	4,920,288	45,073	288,483	5,258,761	5.49	28.46
3% STEAM	35	28,200	2,805,029	154	114,421	390,404	3239	20730	414,374	5.00	
EXCESS STEAM THIS MONTH			1,013	PLUS YTD		92,242	YIELDS A TOTAL EXCESS STEAM TO DATE OF Mba.				34,158

01/08/94

FINAL DECEMBER 1998

# NISCO/FERC OPERATING & EFFICIENCY STD. REPORT

	PRESSURE (PSIG)	TEMP (DEG F)	ENTHALPY (BTU/LB)
EXPORT STEAM DELIVERED TO VISTA	354	475	1,232.4
EXPORT STEAM AT ORIGIN (COLD REHEAT)	489	719	1,388.5
TURBINE WORK OF EXPORT STEAM AVAILABLE WORK =			16.00%
THERMAL WORK OF EXPORT STEAM AVAILABLE WORK =			64.00%

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MMBTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/D	CALC. USEFUL POWER MMBTU/D	CALC. USEFUL TURBINE MMBTU/D	CALC. USEFUL THERMAL MMBTU/D	CALC. USEFUL ENERGY MMBTU/D	OPER. STAND. PERCENT	EFFIC. STAND. PERCENT
1	41	990.3	51,722	191	4,585.0	15844	122	781	16547	4.72	31.24
2	41	988.0	51,690	191	4,592.0	15889	122	779	16589	4.70	31.18
3	41	988.8	51,683	189	4,549.0	15801	122	778	16431	4.75	30.98
4	41	984.8	51,828	190	4,551.0	15828	121	777	16428	4.78	30.98
5	41	988.1	52,305	191	4,577.0	15817	121	775	16519	4.70	30.88
6	41	984.3	51,700	191	4,583.0	15844	121	776	16542	4.69	31.24
7	41	984.9	52,254	193	4,832.0	15804	121	775	16702	4.85	31.22
8	41	984.9	51,901	190	4,588.0	15586	121	777	16494	4.71	30.88
9	41	973.2	52,098	190	4,561.0	15562	120	769	16450	4.87	30.84
10	37	888.6	51,638	190	4,558.0	15832	109	699	16390	4.27	31.01
11	39	795.0	51,848	193	4,825.0	16781	98	627	16508	8.80	31.17
12	33	793.3	51,756	192	4,817.0	15783	98	628	16477	8.80	31.23
13	33	796.5	51,914	193	4,890.0	15798	98	628	16524	8.80	31.22
14	39	794.5	52,887	192	4,819.0	15760	98	627	16488	8.80	30.86
15	34	825.5	52,166	187	4,494.0	15934	102	631	16088	4.05	30.21
16	35	847.3	51,840	193	4,622.0	15770	104	699	16543	4.04	31.27
17	35	848.5	52,279	192	4,602.0	15702	105	699	16478	4.08	30.87
18	38	858.1	52,042	192	4,602.0	15702	109	673	16450	4.08	30.87
19	35	847.4	51,837	191	4,592.0	15834	104	688	16407	4.07	31.02
20	35	850.4	51,803	191	4,577.0	15817	105	671	16392	4.09	31.00
21	35	847.3	52,147	191	4,586.0	15847	104	683	16420	4.07	30.85
22	35	871.4	51,797	191	4,585.0	15844	107	687	16439	4.18	31.11
23	38	872.3	51,573	190	4,567.0	15583	109	699	16378	4.20	31.08
24	38	875.1	52,185	191	4,577.0	15817	108	690	16415	4.21	30.79
25	38	873.7	52,413	190	4,570.0	15893	108	689	16390	4.20	30.81
26	38	875.7	52,187	191	4,587.0	15851	108	691	16449	4.20	30.88
27	37	874.7	52,702	192	4,605.0	15712	109	692	16512	4.19	30.87
28	38	875.9	50,571	188	4,321.0	15428	108	681	16224	4.25	31.40
29	38	888.2	51,295	189	4,329.0	15435	107	683	16243	4.21	31.00
30	38	865.8	51,967	190	4,556.0	15345	107	683	16335	4.18	30.78
31	38	869.3	51,885	190	4,583.0	15569	107	685	16362	4.19	31.01
TOTAL/AVG	37	27,569	1,809,327	191	141,868	484,365	8,398	21,745	508,537	4.27	30.99
PREV YTD		352,188	14,811,209		1,306,283	4,457,037	43,949	281,369	4,782,251		
TOTAL YTD		379,727	18,420,598		1,448,251	4,941,432	47,346	309,008	5,291,783	5.73	31.30
3% STEAM	44	32,600	1,609,337	191	141,968	484,308	4018	25719	514,125	5.00	
EXCESS STEAM THIS MONTH			(5,051) PLUS YTD		58,313	YIELDS A TOTAL EXCESS STEAM TO DATE OF Mlbs.					51,282

Mar. 2. 2006 6:45PM

LC LANIER FAX LAB TRAINING X2120

No. 0130 P. 15/19

ISSUED 01/25/93

FORECAST DECEMBER 1992

NELSON/FERO OPERATING & EFFICIENCY STANDARD REPORT

482 PSIG, 685 F COLD REHEAT STEAM H= 1,357.3  
 EXPORTED STEAM SAME CONDITIONS AS COLD REHEAT STEAM AT START  
 EXPORT STEAM AT 521 F AND 335 PSI TO VISTA H= 1,265.8  
 TURBINE WORK OF EXPORT STEAM AVAILABLE WORK = 10 %  
 THERMAL WORK OF EXPORT STEAM AVAILABLE WORK = 84 %

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM M LBS/D	DAILY TOTAL FIRED DUTY MM BTU/D	AVERAGE NET POWER GENER MMW/HR	DAILY NET POWER GENER MMW/DAY	CALC. USEFUL POWER MM BTU/D	CALC. USEFUL TURBINE MM BTU/D	CALC. USEFUL THERMAL MM BTU/D	CALC. USEFUL ENERGY MM BTU/D	OPER. STD. PERCENT	EFF. STD. PERCENT
1	49	1,170.8	49,878	184	4,419.0	18078	148	848	18174	5.88	31.48
2	48	1,145.8	51,150	187	4,488.0	15909	148	828	16379	5.87	31.12
3	47	1,118.0	51,871	188	4,462.0	15224	142	808	16273	5.87	30.81
4	49	1,184.9	52,359	193	4,620.0	15763	160	960	16878	5.89	31.31
5	49	1,183.8	52,895	191	4,588.0	15854	150	881	16785	5.79	30.79
6	53	1,293.8	52,998	193	4,633.0	15908	160	1024	16991	6.02	31.10
7	49	1,186.4	52,787	88	2,214.0	7534	120	881	8655	11.09	28.00
8	47	1,182.7	52,184	120	2,888.0	9847	143	918	10008	6.41	28.88
9	49	1,188.8	52,108	188	4,511.0	16382	148	947	16488	5.74	30.73
10	52	1,257.3	53,487	193	4,638.0	15982	184	984	16988	6.00	30.82
11	51	1,214.7	53,313	194	4,648.0	15982	184	984	17000	5.79	30.86
12	49	1,173.9	53,420	198	4,623.8	15774	148	960	16873	5.83	30.70
13	50	1,211.5	53,779	171	4,098.0	13982	133	981	15117	6.48	27.20
14	51	1,213.4	54,816	210	5,048.0	17227	184	983	18384	6.33	32.72
15	51	1,217.8	53,774	192	4,610.0	15729	154	987	16870	5.85	30.49
16	51	1,220.7	48,502	173	4,140.0	14128	158	888	15289	6.43	30.40
17	51	1,214.3	28,509	85	2,042.0	8867	154	984	8106	12.14	28.72
18	51	1,213.0	28,478	90	2,180.0	7370	154	983	8206	11.85	30.27
19	51	1,218.7	28,291	90	2,163.0	7348	154	988	8486	11.82	30.40
20	52	1,280.0	28,883	90	2,183.0	7380	158	1021	8580	11.32	30.64
21	83	1,278.2	34,434	90	2,184.0	7384	162	1034	8879	12.08	23.41
22	58	1,273.4	18,443	88	2,059.0	7025	161	1032	8218	12.55	41.78
23	53	1,276.1	27,502	78	1,878.0	6891	162	1024	7888	13.83	25.70
24	53	1,281.8	37,121	127	3,059.0	10437	182	1036	11838	8.92	28.88
25	53	1,278.5	28,812	88	2,065.0	7048	182	1087	8244	12.57	29.14
26	53	1,283.8	28,445	89	2,133.0	7278	182	1040	8490	12.28	30.10
27	54	1,289.3	30,708	93	2,238.0	7898	183	1045	8844	11.81	27.10
28	53	1,281.5	49,428	177	4,251.0	14811	182	1038	15712	6.81	30.74
29	54	1,284.1	51,528	189	4,529.0	15453	183	1040	16856	6.25	31.31
30	53	1,278.8	51,581	148	3,495.0	11925	182	1038	13123	7.89	24.45
31	48	1,157.1	51,758	225	5,402.0	18432	146	937	19515	4.80	36.80
TOTAL avg.	51	37,931	1,313,978	148	110,408	378,716	4,801	30,728	412,245	7.45	30.20
PREV YTD		212,587	10,168,828		810,722	2,755,180	25,308	181,048	2,973,538		
TOTAL YTD		250,498	11,482,503		821,131	3,142,801	31,109	211,774	3,385,784	8.25	28.58
5% STEAM	33	24,700	1,313,978	148	110,408	378,716	3,127	20,010	389,832	5.00	
EXCESS STEAM THIS MONTH			13,231	PLUS YTD	41,078	YIELDS A TOTAL EXCESS STEAM TO DATE OF Mlbs.					84,504

ISSUED 01/30/92

FINAL DECEMBER 1991

NELSON/FERC OPERATING & EFFICIENCY STANDARD REPORT

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 432 PSIA, 729 F COLD REHEAT STEAM H= 1,376.7  
 EXPORTED STEAM SAME CONDITIONS AS COLD REHEAT STEAM AT START  
 EXPORT STEAM AT 561°F AND 354 PSI TO VISTA H= 1,288.2  
 TURBINE WORK OF EXPORT STEAM AVAILABLE WORK = 10 %  
 THERMAL WORK OF EXPORT STEAM AVAILABLE WORK = 64 %

DAY OF THE MONTH	AVERAGE STEAM H LBS/HR	DAILY EXPORT STEAM H LBS/D	DAILY TOTAL FIRED DUTY MM BTU/D	AVERAGE NET POWER GENER. MWH/HR	DAILY NET POWER GENER. MWH/DAY	CALC. USEFUL POWER MM BT/D	CALC. USEFUL TURBINE MM BT/D	CALC. USEFUL THERMAL MM BT/D	CALC. USEFUL ENERGY MM BT/D	OPERATING STANDARD PERCENT	EFFIC. STANDARD PERCENT
1	44	1,052.0	52,215	188	4,504.5	15369	136	960	16465	5.83	30.61
2	44	1,062.4	52,408	190	4,554.2	15539	137	970	16646	5.83	30.84
3	50	1,194.5	52,812	192	4,601.3	15700	154	1090	16944	6.44	31.05
4	50	1,191.5	52,664	192	4,610.8	15732	153	1088	16973	6.41	31.20
5	49	1,187.8	52,200	191	4,592.5	15669	153	1084	16907	6.41	31.35
6	52	1,244.4	52,558	189	4,533.4	15468	160	1136	16764	6.78	30.82
7	52	1,246.2	51,486	189	4,525.6	15441	161	1138	16740	6.80	31.41
8	51	1,233.0	51,953	189	4,529.6	15455	159	1126	16740	6.72	31.14
9	53	1,264.0	53,208	190	4,370.7	15595	163	1154	16912	6.82	30.70
10	53	1,272.7	53,040	193	4,620.8	15766	164	1162	17092	6.80	31.13
11	52	1,240.0	52,494	191	4,373.7	15626	160	1132	16918	6.69	31.15
12	54	1,292.0	42,587	189	4,539.5	15489	166	1180	16835	7.01	38.14
13	53	1,270.2	52,989	189	4,540.5	15491	164	1160	16815	6.90	30.64
14	55	1,312.1	53,301	193	4,629.1	15793	169	1198	17162	6.98	31.08
15	51	1,222.3	53,249	194	4,645.0	15860	157	1116	17133	6.51	31.13
16	49	1,171.6	53,018	194	4,565.2	15918	151	1070	17138	6.24	31.32
17	47	1,139.9	52,796	194	4,647.0	15856	147	1041	17044	6.11	31.30
18	48	1,146.8	52,359	199	4,772.6	16284	148	1047	17479	5.99	32.26
19	49	1,173.9	52,865	192	4,503.7	15708	151	1074	16933	6.34	31.01
20	50	1,210.6	52,820	192	4,609.5	15727	156	1105	16988	6.51	31.12
21	49	1,186.9	52,076	188	4,307.7	15380	153	1084	16617	6.52	30.87
22	47	1,120.0	51,149	186	4,434.5	15198	144	1022	16365	6.25	31.00
23	48	1,158.2	52,059	187	4,484.1	15301	149	1057	16507	6.41	30.69
24	47	1,122.4	51,607	187	4,478.7	15281	145	1025	16451	6.23	30.88
25	46	1,093.6	51,855	183	4,447.5	15175	141	998	16314	6.12	30.50
26	44	1,062.2	52,926	193	4,641.2	15905	143	1014	17062	5.94	30.99
27	46	1,110.3	53,413	194	4,661.5	15905	143	1014	17062	5.94	30.99
28	45	1,090.6	53,271	194	4,651.2	15870	140	996	17004	5.85	30.99
29	42	1,017.2	52,850	193	4,641.2	15836	131	929	16896	5.50	31.09
30	43	1,033.7	53,086	193	4,621.3	15768	133	944	16845	5.60	30.84
31	44	1,059.8	52,983	192	4,615.4	15748	137	968	16892	5.74	30.89
TOTAL/avg	49	36,185	1,620,504	191	142,083	484,787	4,661	33,035	522,483	6.32	31.22
PREV YTD		365,244	16,273,085		1,392,114	4,749,890	46,138	337,271	5,133,299		
TOTAL YTD		401,429	17,893,589		1,534,197	5,234,677	50,799	370,306	5,653,782	6.55	30.57
5% STEAM	38	28,150	1,620,504	191	142,083	484,787	3,626	25,699	514,113	5.00	
EXCESS STEAM THIS MONTH			8,035	PLUS YTD	92,556	YIELDS A TOTAL EXCESS STEAM TO DATE OF Mlbs.			100,591		

ISSUED 01/30/91

FINAL DECEMBER 1990

NELSON/FERC OPERATING & EFFICIENCY STANDARD REPORT

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 445 PSIA, 737 F COLD REHEAT STEAM H= 1,380.4  
 EXPORTED STEAM SAME CONDITIONS AS COLD REHEAT STEAM AT START  
 EXPORT STEAM AT 517 F AND 354 PSI TO VISTA H= 1,261.7  
 TURBINE WORK OF EXPORT STEAM AVAILABLE WORK = 10 %  
 THERMAL WORK OF EXPORT STEAM AVAILABLE WORK = 64 %

DAY OF THE MONTH	AVERAGE EXPORT STEAM H LBS/HR	DAILY EXPORT STEAM H LBS/D	DAILY TOTAL FIRED DUTY MM BT/D	AVERAGE NET POWER GENER. HMB/HR	DAILY NET POWER GENER. MWH/DAY	CALC. USEFUL POWER MM BT/D	CALC. USEFUL TURBINE MM BT/D	CALC. USEFUL THERMAL MM BT/D	CALC. USEFUL ENERGY MM BT/D	OPERATING STANDARD PERCENT	EFFICIENCY STANDARD PERCENT
1	50	1,202.0	50,429	189	4,546.5	15513	192	1113	16778	6.64	32.17
2	50	1,194.4	51,456	188	4,520.4	15424	151	1106	16680	6.63	31.34
3	49	1,176.8	51,823	189	4,545.1	15308	148	1090	16746	6.51	31.26
4	50	1,199.9	51,798	193	4,633.7	15810	151	1111	17073	6.51	31.89
5	49	1,180.6	52,286	193	4,642.3	15840	149	1093	17082	6.40	31.62
6	59	1,410.5	51,844	193	4,636.8	15821	178	1306	17305	7.55	32.12
7	66	1,381.2	52,431	192	4,613.8	15742	199	1464	17404	8.41	31.80
8	68	1,632.4	52,350	194	4,663.3	15911	206	1512	17629	8.58	32.23
9	69	1,648.9	51,925	194	4,648.1	15859	208	1527	17595	8.68	32.41
10	69	1,658.1	51,527	193	4,632.5	15806	209	1536	17551	8.75	32.57
11	57	1,372.9	51,805	193	4,628.2	15791	173	1272	17236	7.38	32.04
12	43	1,036.5	51,526	195	4,674.1	15948	131	960	17039	5.63	32.14
13	41	984.0	51,114	191	4,592.3	15649	124	911	16705	5.46	31.79
14	48	1,143.7	51,773	192	4,597.4	15686	144	1039	16990	6.27	31.60
15	47	1,130.9	51,539	191	4,580.8	15630	143	1047	16820	6.23	31.62
16	48	1,141.1	50,389	191	4,590.1	15641	144	1057	16862	6.27	32.62
17	48	1,146.2	51,781	190	4,566.4	15581	145	1062	16787	6.32	31.39
18	47	1,134.8	52,312	193	4,635.2	15815	143	1051	17010	6.18	31.51
19	45	1,083.5	52,212	194	4,651.2	15870	137	1004	17010	5.90	31.62
20	44	1,062.5	51,941	192	4,596.1	15682	134	984	16800	5.86	31.40
21	43	1,027.6	46,172	147	4,005.1	13665	130	952	14747	6.45	30.91
22	44	1,066.2	53,154	193	4,684.1	15982	135	987	17104	5.77	31.25
23	45	1,083.8	51,665	195	4,687.3	15993	137	1004	17136	5.84	32.19
24	46	1,103.2	43,297	157	3,764.9	12844	139	1022	14807	7.29	31.17
25	46	1,092.1	55,232	196	4,711.6	16074	138	1012	17225	5.87	30.27
26	44	1,058.2	51,784	196	4,703.2	16047	134	980	17161	5.71	32.19
27	44	1,067.0	51,797	193	4,682.8	15978	135	988	17100	5.78	32.06
28	44	1,058.8	52,028	194	4,657.7	15892	134	981	17006	5.77	31.74
29	43	1,031.6	51,343	192	4,598.9	15691	130	955	16777	5.69	31.75
30	42	1,003.1	49,364	191	4,579.7	15626	127	929	16682	5.57	32.85
31	46	1,105.2	26,787	119	2,850.5	9726	139	1024	10889	9.40	38.74
TOTAL/avg	49	36,818	1,566,888	188	140,120	478,089	4,645	34,100	516,834	6.60	31.90
PREV YTD		390,894	16,011,527		1,418,378	4,839,508	49,117	361,359	5,269,983		
TOTAL YTD		427,712	17,578,415		1,558,498	5,317,597	53,762	395,459	5,766,817	6.86	31.68
3% STEAM	37	27,375	1,566,888	188	140,120	478,089	3,434	25,354	506,897	5.00	
EXCESS STEAM THIS MONTH			9,443	PLUS YTD	113,454	YIELDS A TOTAL EXCESS STEAM TO DATE OF					122,897

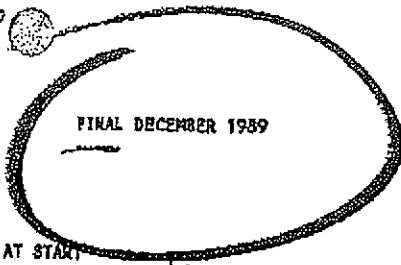
Mar. 2. 2006 6:46PM

LC LANIER FAX LAB TRAINING X2120

No. 0130 P. 18/19

ISSUED 01/23/90

8705 1/16



NELSON/FERC OPERATING & EFFICIENCY STANDARD REPORT

\*\*\*\*\*  
 426 PSIA, 728 F COLD REHEAT STEAM H= 1,376.5  
 EXPORTED STEAM SAME CONDITIONS AS COLD REHEAT STEAM AT START  
 EXPORT STEAM AT 543°F AND 357 PSI TO VISTA H= 1,278.5 ← 97lbs/lbs.  
 TURBINE WORK OF EXPORT STEAM AVAILABLE WORK = 10 %  
 THERMAL WORK OF EXPORT STEAM AVAILABLE WORK = 64 %

DAY OF THE MONTH	AVERAGE EXPORT STEAM H LBS/HR	DAILY EXPORT STEAM H LBS/D	DAILY TOTAL FIRED DUTY MM BTU/D	AVERAGE NET POWER GENER. MMH/HR	DAILY NET POWER GENER. MMH/DAY	CALC. USEFUL POWER MM BT/D	CALC. USEFUL TURBINE MM BT/D	CALC. USEFUL THERMAL MM BT/D	CALC. USEFUL ENERGY MM BT/D	OPERATING STANDARD PERCENT	EFFIC. STANDARD PERCENT
1	67	1,602.1	45,589	157	4,009.2	13679	203	1468	15352	9.56	32.07
2	68	1,595.7	43,504	167	4,017.0	13706	204	1463	15372	9.51	32.18
3	67	1,596.9	43,318	163	3,900.2	13308	204	1463	14975	9.77	32.88
4	67	1,613.6	43,283	162	3,879.2	13234	206	1478	14921	9.91	32.76
5	66	1,589.9	44,225	161	3,873.6	13217	203	1457	14877	9.79	31.99
6	67	1,609.7	44,410	162	3,888.4	13268	206	1475	14948	9.87	32.00
7	67	1,610.7	46,294	161	3,867.5	13196	206	1475	14878	9.92	31.92
8	67	1,610.2	44,263	163	3,903.6	13319	206	1475	15000	9.84	32.22
9	67	1,608.8	44,773	163	3,916.0	13361	206	1474	15041	9.80	31.95
10	67	1,619.1	44,735	162	3,893.6	13288	207	1483	14975	9.91	31.80
11	68	1,623.2	43,783	163	3,921.4	13380	208	1487	15075	9.87	31.30
12	68	1,631.7	45,715	168	4,042.4	13793	209	1495	15496	9.65	32.26
13	67	1,612.9	47,203	175	4,188.0	14290	206	1478	13974	9.25	32.27
14	68	1,621.2	46,623	173	4,208.7	14360	207	1485	16053	9.23	32.84
15	68	1,628.7	43,393	171	4,093.7	13968	208	1492	15668	9.52	32.87
16	67	1,607.1	44,940	171	4,093.2	13966	205	1472	15644	9.41	33.17
17	67	1,599.8	46,336	173	4,158.3	14183	205	1466	15858	9.24	32.64
18	67	1,608.2	46,970	176	4,315.3	14383	206	1474	16062	9.17	32.63
19	67	1,617.7	44,545	172	4,124.2	14072	207	1482	15761	9.40	33.72
20	67	1,611.6	43,481	161	3,874.6	13220	206	1477	14903	9.91	32.58
21	67	1,607.3	44,161	172	4,119.2	14055	205	1473	15733	9.36	33.96
22	68	1,630.0	35,331	111	2,664.6	9092	208	1493	10793	13.84	28.44
23	72	1,728.0	42,523	171	4,106.8	14012	221	1583	15817	10.01	35.33
24	71	1,710.0	37,244	124	2,971.5	10139	219	1567	11924	13.14	29.91
25	71	1,692.0	39,383	148	3,562.3	12154	216	1550	13921	11.14	33.38
26	66	1,590.0	36,316	130	3,111.7	10617	203	1437	12277	11.87	31.65
27	66	1,590.0	36,919	131	3,149.0	10744	203	1437	12405	11.74	31.63
28	67	1,596.3	40,333	140	3,357.8	11437	204	1463	13123	11.14	30.71
29	66	1,577.4	45,092	160	3,831.3	13072	202	1445	14719	9.82	31.04
30	69	1,661.0	46,309	168	4,037.9	13776	212	1522	15310	9.81	31.88
31	66	1,591.8	45,267	169	4,066.4	13874	204	1438	15536	9.39	32.73
TOTAL/avg	67	50,192	1,350,483	160	119,046	406,186	6,417	45,988	458,592	10.03	32.25
PREV YTD		519,853	17,063,715		1,498,220	5,111,929	66,023	473,238	5,651,190		
TOTAL YTD		570,045	18,414,198		1,617,266	5,518,115	72,440	519,226	6,109,782	8.50	31.77
EX STEAM	32	23,520	1,350,483	160	119,046	406,186	3,007	21,550	430,743	5.00	
EXCESS STEAM THIS MONTH			26,672	PLUS YTD	280,635	YIELDS A TOTAL EXCESS STEAM TO DATE OF	MIbs.			307,307	

ISSUED 01/04/89

FORECAST DECEMBER 1988

NELSON/FERC OPERATING & EFFICIENCY STANDARD REPORT  
 \*\*\*\*\*

425 PSIA, 705 F COLD REHEAT STEAM H= 1363  
 EXPORTED STEAM SAME CONDITIONS AS COLD REHEAT STEAM AT START  
 EXPORT STEAM AT POINT OF TRANSFER TO VISTA H= 1281  
 TURBINE WORK OF EXPORT STEAM AVAILABLE WORK 10 %  
 THERMAL WORK OF EXPORT STEAM AVAILABLE WORK 64 %

DAY OF THE MONTH	AVERAGE EXPORT STEAM M LBS/HR	DAILY EXPORT STEAM H LBS/D	DAILY TOTAL FIRED DUTY MH BTU/D	AVERAGE NET POWER GENER. MW/HR	DAILY NET POWER GENER. MWH/DAY	CALC. USEFUL POWER MH BT/D	CALC. USEFUL TURBINE MH BT/D	CALC. USEFUL THERMAL MH BT/D	CALC. USEFUL ENERGY MH BT/D	OPERATING STANDARD PERCENT	EFFIC. STANDARD PERCENT
1	65	1566	50234	196	4693	16013	201	1412	17623	8.01	33.68
2	66	1587	50234	196	4710	16071	203	1431	17703	8.08	33.82
3	67	1607	50029	195	4691	16006	205	1443	17856	8.18	33.83
4	67	1607	50520	196	4703	16067	206	1450	17702	8.19	33.61
5	68	1627	50488	198	4762	16248	208	1467	17926	8.19	34.05
6	73	1747	50433	197	4727	16129	224	1575	17928	8.79	33.99
7	79	1893	50562	196	4713	16081	243	1711	18035	9.49	33.98
8	79	1903	49712	191	4592	15668	244	1716	17628	9.74	33.73
9	78	1878	49701	194	4564	15914	241	1694	17848	9.49	34.21
10	73	1758	49993	195	4707	16060	225	1585	17870	8.87	34.16
11	73	1778	50116	197	4720	16103	228	1603	17926	8.94	34.19
12	78	1870	50157	195	4690	16002	246	1733	17982	9.41	34.06
13	80	1922	50183	195	4690	16002	246	1733	17982	9.41	34.06
14	80	1914	49791	197	4729	16139	243	1726	18107	9.53	34.63
15	79	1893	50296	196	4709	16067	242	1707	18017	9.48	34.12
16	81	1934	49011	193	4628	15791	248	1744	17783	9.81	34.30
17	77	1838	47530	188	4506	15376	235	1658	17268	9.60	34.59
18	79	1903	48355	191	4594	15673	242	1718	17637	9.74	34.70
19	80	1929	49529	191	4593	15678	247	1739	17865	9.85	33.91
20	81	1942	50431	193	4677	15958	249	1751	17958	9.73	33.86
21	83	1988	51305	197	4729	16135	253	1793	18183	9.86	33.56
22	83	1986	50613	193	4641	15833	254	1791	17881	10.02	33.43
23	76	1833	29073	108	2593	8847	233	1653	10735	15.40	34.08
24	76	1824	39294	144	3453	11782	234	1643	13660	12.04	32.67
25	76	1812	41219	132	3642	12427	232	1634	14293	11.43	32.69
26	79	1884	41362	152	3661	12423	241	1699	14363	11.83	32.67
27	80	1912	41486	151	3618	12343	243	1724	14314	12.03	32.42
28	77	1851	40404	152	3639	12416	237	1669	14323	11.63	33.38
29	77	1847	43228	165	3969	13342	237	1666	15445	10.79	33.80
30	76	1831	51766	199	4787	16333	235	1651	18219	9.08	33.60
31	75	1809	52640	201	4813	16422	232	1631	18285	8.92	33.19
TOTAL	76	56674	1480115	184	137023	467529	7260	31111	525900	9.72	33.80
PREV YTD		84615	3480101		310785	106399	10680	78266	1149342	6.81	31.9
TOTAL YTD		141289	4960216		447810	573928	17940	129375	1673242	7.72	13.24
5% STEAM	36	25300	1480115	197	137023	467529	3241	22817	493587	4.62	
EXCESS STEAM THIS MONTH			31374 PLUS YTD		29167	YIELDS A TOTAL EXCESS STEAM TO DATE OF MILD.			60541		

APPENDIX B

FERC Certificate

Please not final Commissions decision on page 6



APR 29 1987

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

ELECTRIC RATES: Qualifying  
Facilities; Cogeneration;  
Waiver; Rehearing

Before Commissioners: Martha O. Hesse, Chairman;  
Anthony G. Sousa, Charles G. Stalon,  
Charles A. Trabandt and C. M. Naeve.

Nelson Industrial Steam Company ) Docket No. QF86-512-001

ORDER ON REHEARING GRANTING APPLICATION FOR  
CERTIFICATION AS A QUALIFYING COGENERATION FACILITY

(Issued May 21, 1987)

By order issued February 19, 1987, 1/ the Commission denied the application by Nelson Industrial Steam Company (Nelson) for certification of a facility (facility or project) as a qualifying cogeneration facility. The Commission found that the proposed facility was subject to the efficiency standard set out in section 292.205(a)(2)(i)(B) of the Commission's regulations 2/ based on the fact that construction necessary to convert the electric power station 3/ to a cogeneration facility commenced after March 13, 1980. The Commission also denied the requested waiver of the efficiency standard because it was unable to find, based on the information presented, that significant energy savings would be achieved by Nelson's project. 4/

1/ Nelson Industrial Steam Company, 38 FERC ¶ 61,162 (1987).

2/ 18 C.F.R. § 292.205(a)(2)(i)(B)(1986).

3/ Units 1 and 2 of the Roy Nelson electric power station, completed in 1959.

4/ The Commission's regulations provide for waiver upon a showing that the facility will produce significant energy savings. 18 C.F.R. § 292.205(d) (1986).

PROPERTY OF PUBLIC REFERENCE  
DO NOT REMOVE FROM  
ROOM 1000

Background

Nelson proposes to convert units 1 and 2 of the existing natural gas-fired Roy Nelson electric power station owned by Gulf States Utilities Company (Gulf States) to a topping-cycle cogeneration facility. Nelson plans to acquire and operate the existing facility in Phase I, using natural gas as its primary energy source. Nelson estimates that Phase I operations will continue for five years. The net electric power production capacity of the facility during Phase I will be 197.029 megawatts (MW).

In Phase II, Nelson proposes to install two new fluidized bed combustion boilers. The primary energy source during Phase II will be either petroleum coke or coal. The project, if certified, will have a net power production capacity of 201.990 MW. The steam output during both phases will be used by Vista Chemical Company (Vista) for both thermal and mechanical uses in its chemical production processes. 5/ The facility will be owned by Nelson, a joint venture partnership. The ownership interests are: Citgo Petroleum Company--49.5%; Conoco, Inc. -- 36.1%; Vista Chemical Company--13.4%, and Gulf States --1.0%. The facility thus satisfies the requirements of section 292.206 of the regulations, 18 C.F.R. § 292.206 (1986), because the utility's ownership does not exceed the fifty percent ownership threshold.

Request for Rehearing

In its request for rehearing filed March 20, 1987, Nelson argues that the reasoning employed and the result reached in the Commission's February 19th order are fundamentally inconsistent with the rationale and policy which underlie the Commission's implementation of section 201 of the Public Utility Regulatory Policies Act of 1978 (PURPA). 6/ Nelson argues that the "efficiency standards were meant to only apply to fuels the prices of which 'are subject to government control, and therefore. . . do not reflect replacement costs.' PURPA Proposed Regulations Preambles, 44 Fed. Reg. 38872, 38876 (July 3, 1979)." 7/ Nelson argues that the efficiency standard should only apply to facilities burning oil and gas, and the

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5/ Nelson states that steam sold to Vista will supplement its industrial steam needs which would otherwise be supplied by Vista's natural gas-fired boilers.

6/ As codified, 16 U.S.C. § 796(18)(1982).

7/ Nelson request for rehearing at 2. (footnote omitted).

Commission, by including the Phase II energy inputs of petroleum coke in the calculation of energy savings for the purpose of applying the waiver provision, inappropriately subjected Phase II of the facility to the same efficiency standard which should be applied only to a gas or oil-fired project. Nelson contends this serves no policy objective. Nelson argues that the Commission's order ignores the facility's displacement of natural gas, a premium fuel, during Phase II, and thus ignores the thrust of PURPA: to conserve scarce premium resources, such as oil and gas.

In support of its position, Nelson relies on the Commission's decision in Mercy Hospital & Medical Center, 18 FERC ¶ 61,128 (1982). Nelson states that the Commission in its February 19th order wrongly relied on the decision in Mercy Hospital for the proposition that the central concern of PURPA is to "conserve energy in general." Nelson argues that Mercy Hospital stands for exactly the opposite proposition: that efficiency standards (and therefore energy conservation) were only intended to apply to those cogeneration facilities which use price-controlled fuels, i.e., oil and natural gas.

Alternatively, Nelson requests the Commission to exercise its general supervisory authority to waive the efficiency standard on the basis that the Commission has frequently waived specific rules where strict compliance would not have resulted in encouragement of cogeneration and small power production. American Electric Power Service Corp. v. FERC, 675 F.2d 1226, (D.C. Cir. 1982), rev'd on other grounds, 461 U.S. 402 (1983).

### Discussion

Based on the facts raised in Nelson's request for rehearing, and pursuant to our general authority to waive Commission regulations where doing so would be in the public interest, <sup>8/</sup> we shall grant Nelson's request for rehearing and grant a temporary waiver of the efficiency standard contained in section 292.205 (a)(2)(i)(B), conditioned upon Nelson's furnishing us with satisfactory evidence that it has met the design, planning, construction and commissioning milestones, as discussed below. Nelson satisfies all requirements to be a qualifying cogeneration facility except for the applicable efficiency standard during a limited five-year period. We conclude that a strict application of the efficiency standard in this instance would frustrate PURPA's goal of encouraging cogeneration.

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<sup>8/</sup> 16 U.S.C. § 825h (1982).

Our decision to waive the efficiency standard during Phase I operation is based on the following specific facts unique to this case: (1) the major entities affected by this proceeding have urged our support of the project, and no party is opposed to it; 9/ (2) the Nelson project will increase employment through short-term construction activity and will help insure the long-term economic viability of three of the participants' industrial facilities, which are major employers in the economically depressed Lake Charles, Louisiana area; (3) Phase II of the facility will use fluidized bed combustion boilers, a technically advanced design which will use petroleum coke or coal as its primary fuel in an environmentally safe manner; (4) the waiver will fulfill PURPA's goal of encouraging cogeneration, and allow the facility to ultimately utilize petroleum coke or coal as its primary energy source; and (5) Nelson has provided assurances that the project will proceed on a timely basis and that additional waivers will not be needed.

In addition to the above factors, we note the temporary nature of the requested waiver. Because the waiver of the efficiency standard is being done on a temporary basis to encourage this particular project, there should be no concern that the Commission is hereby vitiating section 292.205 of the regulations.

We will require Nelson, however, to provide us with certain assurances that the project will proceed with due diligence. The Commission will therefore condition the grant of waiver upon Nelson's submission of evidence that it has met the project's milestones as set forth in this order. Within five months of the date of this order, Nelson must submit evidence to this Commission that it has established the venture project team, qualified and selected the engineering contractor, completed the preliminary engineering for detailed project scope, and initiated all environmental studies and applications.

Within 18 months of the date of this order, Nelson must submit evidence that it has prepared the basis for bids, performed commercial test burns on petroleum coke to determine the design of the fluidized bed combustion boiler, reviewed bids and selected the fluidized bed combustion boiler vendor, performed engineering for definitive cost estimates, and secured management

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9/ On April 8, 1987, Gulf States filed a letter with the Commission urging the Commission to grant Nelson's application for certification. According to Gulf States the project will result in savings to ratepayers in excess of ten million dollars annually.

approval for the final design, procurement and construction of the project.

Within 30 months, Nelson shall provide evidence that it has completed detailed engineering for construction and procurement, and begun construction. Also within 30 months, Nelson shall provide evidence that it has secured full financing for the project. Within 42 months Nelson shall give evidence of construction to completion.

Within 49 months, Nelson shall submit evidence that it has completed start-up/commissioning, necessary on-site revisions and debugging, and shall submit evidence of detailed performance testing and plant acceptance.

With the exception of the 30-month milestone for submission of evidence of securing of full financing, and the 30-month milestone for submission of evidence of the start of construction, this schedule is essentially identical to the one submitted by Nelson. The Commission also finds reasonable Nelson's inclusion in its schedule of an eleven-month contingency period for possible re-bidding on plant and equipment, environmental approvals, possible difficulty in securing commercial test burns on petroleum coke, and possible design corrections discovered during start-up. The report to the Commission of Nelson's satisfactory completion of each of these milestones is due within 60 days of the end of the particular milestone period. Nelson may apply the contingency period as it sees fit, as long as it notifies the Commission, and the contingency period does not exceed the aggregate eleven-month period. In any case, the total waiver period shall not exceed 60 months.

The Commission has concluded upon reconsideration that under the extremely narrow circumstances of this case, the public interest is best served by granting Nelson's application for certification as a qualifying cogeneration facility through waiver of section 292.205(a)(2)(1)(B) of the regulations. Because the waiver is being granted pursuant to our general equitable powers, we do not need to address Nelson's alternative grounds in support of a waiver. We emphasize that this decision should not be construed as an indication that the Commission will be inclined to grant efficiency standard waivers in other situations, and that absent extraordinary circumstances we will continue to apply the "significant energy savings" standard unless and until we decide to change the current regulation.

Docket No. QF86-512-000

-6-

The Commission orders:

(A) Nelson's request for rehearing is hereby granted, as discussed in the body of this order.

(B) Nelson's request for waiver of the Commission's efficiency standard, 18 C.F.R. § 292.205(a)(2)(i)(B), during Phase I operations, or for a period of 60 months, whichever is shorter, is hereby granted, subject however to the conditions set forth above.

(C) The application for certification as a qualifying cogeneration facility filed on January 30, 1986, by Nelson Industrial Steam Company for a cogeneration facility pursuant to section 292.207(b) of the Commission's regulations and section 3(18)(B) of the Federal Power Act as amended by Title II of the Public Utility Regulatory Policies Act of 1978, is hereby granted. 10/

(D) Docket No. QF86-512-001 is hereby terminated.

By the Commission. Commissioner Sousa dissented with a separate statement attached.  
( S E A L ) Commissioner Stalon dissented with a separate statement to be issued later.

*Kenneth F. Plumb*

Kenneth F. Plumb,  
Secretary.

10/ Certification as a qualifying facility serves only to establish eligibility for benefits provided by the Public Utility Regulatory Policies Act of 1978, as implemented by the Commission's regulations, 18 C.F.R. Part 292. It does not relieve a facility of any other requirements of local state or Federal law, including those regarding siting, construction, operation, licensing and pollution abatement. Certification does not establish any property rights, resolve competing claims for a site, or authorize construction.

## APPENDIX C

Section X is excerpted from the Partnership agreement for ease of Agency review. The Partnership agreement runs to over 260 pages. If additional sections are needed, they can be supplied.





1 on an as available basis. The amount of energy which GSU is  
2 obligated to purchase from the Venture shall be equivalent to  
3 the total of the individual sales of energy to the Industrial  
4 Participants and Subsidiaries by GSU under this Agreement.  
5 Energy generated by the Facilities in excess of the combined  
6 sales of energy by GSU to the Industrial Participants and  
7 Subsidiaries will be purchased and paid for by GSU under this  
8 Agreement unless precluded by the appropriate regulatory  
9 authorities or unless full recovery of all costs associated  
10 with such purchase is not allowed by the regulatory authorities  
11 and the Venture declines to reduce the price of such energy  
12 to allow full cost recovery.

13 B. Additional Power and Energy

14 Power and energy purchased from GSU by the Industrial  
15 Participants and Subsidiaries for ongoing operation of their  
16 industrial plants in excess of that amount equivalent to the  
17 full-load generating capacity of the Venture as defined in  
18 the Project Scope or as modified by actual performance tests,  
19 shall be contracted for by the individual Industrial Partici-  
20 pants or Subsidiaries in accordance with provisions of a GSU  
21 Agreement for Electrical Service and Rate Schedule appropriate  
22 for the excess electric power requirements. This power and

1 energy is not to be included under this Agreement, and is  
2 excluded from calculations of all formulas.

3 C. Purchase Prices P1 and P2

4 1. GSU Purchase Price - Venture Sale Price (P1)

5 The price that GSU will pay to the Venture for energy  
6 purchased from the Venture (P1), which is energy generated in  
7 the Facilities and metered and delivered to the GSU Grid at  
8 Nelson Station, shall be calculated for each whole or part  
9 calendar month using the following formulas:

10 a. When  $KwHs \leq KwHp$ :

11 
$$P1 = Pbs + Pac$$

12 b. When  $KwHs > KwHp$ :

13 
$$P1 = Pbs$$

14 2. GSU Sale Price - Industrial Participant and  
15 Subsidiary Purchase Price (P2)

16 The price that the Industrial Participants and Subsidiaries will each pay to GSU (P2) for energy sold by GSU to  
17

1 that Industrial Participant or Subsidiary, and metered and  
2 delivered to that Industrial Participant or Subsidiary at  
3 their industrial sites will be calculated for each whole or  
4 part calendar month using the following formula:

5  $P2 = (KwHd \times IPS)$

6 D. Meaning of Symbols

7 The symbols used in the above formulas shall be defined  
8 and calculated as follows:

9 1. AC = GSU's then-applicable rate for purchase  
10 of energy from qualified cogenerators, as  
11 set forth in Exhibit I, and as approved  
12 or accepted by the proper regulatory  
13 authorities, expressed in ¢/KwH.

14 2. APR = The capital charge associated with the  
15 existing gas-fired generation units  
16 divided by KwHp. This capital charge is  
17 one-twelfth of \$6.35 million per year  
18 plus the equal amounts that, if recovered  
19 monthly over the Primary Term of this

1 Agreement, would yield an internal rate  
2 of return, after tax, of twelve percent  
3 (12%), on the total new capital investment  
4 plus any associated lease cost made for  
5 the Existing Facilities. The APR attribu-  
6 table to new investment for Modifications  
7 shall be calculated based on the time  
8 from the date the Modifications are  
9 placed in service until the end of the  
10 Primary Term, using 1985 tax laws. This  
11 payment is made during the month that  
12 KwHp is generated, attributable to those  
13 KwHac on which Pac is paid.

14 3. CIR = The capital charge associated with  
15 fluidized bed combustion. This Capital  
16 Investment Recovery is the pro rata  
17 portion of the equal amounts that, if  
18 recovered monthly over the Primary Term  
19 of this Agreement, would yield an internal  
20 rate of return, after tax, of twelve  
21 percent (12%), on the total capital  
22 investment plus any associated lease cost  
23 made for the Modifications and New

1 Facilities, excluding capital investments  
2 resulting in other capital recoveries  
3 provided in this Agreement, such as the  
4 APR. This CIR shall be calculated based  
5 on the time from the date the New Facili-  
6 ties are turned over to GSU as Operator  
7 until the end of the Primary Term, using  
8 1985 tax laws.

9 4. CP = Total of Variable and Fixed Costs for  
10 energy generation and steam production,  
11 expressed in ¢/KWH. These costs shall be  
12 adjusted to reflect income from steam  
13 sales, net of the Steam Capital Charge.  
14 The Fixed Asset Payment, Variable Services  
15 Fee, and any capital charge or debt  
16 service cost associated with the Facilities  
17 shall be excluded from these costs.

18 5. KWH = Standard measurement of electrical  
19 energy, expressed in Kilowatt Hours.

20 6. KwHac = KWH generated by the Facilities in excess  
21 of the total of (1) grid losses plus (2)

1 the sum of the KWH sales (i.e. deliveries)  
2 to the Industrial Participants and  
3 Subsidiaries by GSU.

4 7. KWHd = The sum, during the whole or part calendar  
5 month, of the hourly measurements of  
6 energy metered and delivered to each  
7 Industrial Participant and each Subsidiary  
8 by GSU, expressed in KWH/mo.

9 8. KWHn = The sum, during the whole or part calen-  
10 dar month, of the hourly KWHp or the sum  
11 of the individual KWHd readings (KWHs),  
12 using the lesser amount of KWHp or KWHs  
13 for each hour, expressed in KWH/mo.

14 9. KWHp = The sum, during the whole or part calen-  
15 dar month, of the hourly readings of the  
16 meters (adjusted for Loss Factor) measuring  
17 energy generated by the Facilities and  
18 delivered to the Grid at Nelson Station,  
19 expressed in KWH/mo.



1 the month, times the billing load charge  
2 and energy charge, including all fuel  
3 adjustments, but excluding contract  
4 power, power factor, voltage adjustment,  
5 and minimum billing load (including on  
6 peak/off peak features), and any riders  
7 or promotional rates included in the GSU  
8 Rate Schedule. Exhibit J illustrates  
9 the use and application of the IPS Price.

10 12. Pac (During Gas Operation):

11 a.  $Pac [Where AC > (CP + APR)] = (KwHac \times$   
12  $AC) - 0.3 [AC - (CP + APR)] (KwHac)$

13 b.  $Pac [Where AC \leq (CP + APR)] = KwHac \times AC$

14 13. Pac (During Coke Operation):

15 a.  $Pac [Where AC > (CP + APR + CIR)] = (KwHac \times$   
16  $AC) - 0.3 [AC - (CP + APR + CIR)] (KwHac)$

17 b.  $Pac [Where AC \leq (CP + APR + CIR)] = KwHac \times AC$



1 14. Pbs (During Gas Operation) = (KwHn x IPS) -  
2 (0.5¢ x KwHn)

3 15. Pbs (During Coke Operation):

4 a. Pbs (Where IPS > CP) = (KwHn x IPS) - 0.14  
5 (IPS - CP) (KwHn)

6 b. Pbs (Where IPS ≤ CP) = (KwHn x IPS)

7 E: Correction for Losses in the Grid (Loss Factor)

8 The Venture will, at no cost to GSU, generate and  
9 deliver energy to the Grid at Nelson Station adequate to  
10 compensate GSU for average Grid losses based on the lesser of  
11 (1) the sum of the energy purchases by the Industrial Parti-  
12 cipants and Subsidiaries from GSU or (2) energy purchased by  
13 GSU from the Venture, when such purchases are being made in  
14 the same month. Energy delivered in addition to the lesser  
15 of these purchases will be a percentage (Loss Factor, or LF)  
16 of the lesser of 1) or 2) above and shall be delivered to the  
17 Grid at no cost to GSU. The Loss Factor is an average Grid  
18 loss factor filed by GSU and approved by the LPSC. The  
19 present Loss Factor, which is 1.28 percent, may be changed in

1 the future by GSU filing and obtaining LPSC approval of a  
2 different average Grid loss.

3 Total energy generated (KwHt) by the Venture will be  
4 calculated as follows:

5 
$$\text{KwHp} = \text{KwHt} - \{(\text{the lesser of KwHt}$$
  
6 
$$\text{or KwHs}) \times \text{LF}\}$$

7 GSU as Operator shall make all reasonable efforts, when  
8 the Venture has sufficient generation capacity available, to  
9 generate and deliver sufficient energy to the Grid such that  
10 KwHt will at least equal KwHs plus Grid losses on an hour-to-  
11 hour basis. GSU shall not idle or operate the Facilities at  
12 reduced load such that KwHt is less than KwHs plus Grid  
13 losses without unanimous approval of the Management Committee,  
14 except during any time of system emergency or when such  
15 operation would endanger personnel or damage equipment at the  
16 Facilities or on the GSU system. In instances where KwHt is  
17 less than KwHs plus Grid losses, the deficiency in Grid  
18 losses will be compensated for, prior to the calculation of  
19 KwHac.

1 F. Metering Facilities

2 GSU shall select, install, own, and maintain all necessary  
3 Kw, KVAR, KVARh, and KWH meters at mutually agreed locations.  
4 The Venture may also install remote check meters within the  
5 Facilities, as appropriate. All costs associated with the  
6 purchase, installation, operation, maintenance, and adminis-  
7 tration of metering equipment shall be borne by the Venture  
8 as a part of the Modifications. The meters selected, installed,  
9 and maintained by GSU shall be used for determination of pay-  
10 ment to the Venture subject to this Section IX.

11 G. Inspection, Testing, and Reading of Meters

12 The owners of meters and metering equipment shall  
13 inspect, test, and calibrate their equipment at regular  
14 intervals of not more than one (1) year, as agreed among the  
15 Participants, and any inaccuracy disclosed by such tests  
16 shall be promptly corrected. Any Participant shall have the  
17 right to have any meter tested at any time at its expense.  
18 Representatives of the other Participants shall be notified  
19 of such tests and shall have the right to be present at all  
20 meter inspections and tests. If at any time a meter is found  
21 inaccurate by more than one (1) percent, an adjustment shall

1 be made in settlements between GSU and the Venture or GSU and  
2 the Industrial Participants and Subsidiaries, as appropriate,  
3 to compensate for the effect of such inaccuracy over a  
4 preceding period of thirty (30) days prior to removal or  
5 testing of the meter or over any shorter period during which  
6 such inaccuracy may be determined to have existed. If at any  
7 time a meter should fail to register or its registration  
8 should be so erratic as to be meaningless, the quantities  
9 such meter was intended to record shall be determined from  
10 check meters, if available, or otherwise from the best  
11 obtainable data.

12 GSU shall read its meters prior to commencement of  
13 energy deliveries under this Agreement and thereafter at the  
14 end of each calendar month. The Venture will telemeter its  
15 meter output information to the location designated by GSU  
16 and shall read the KWH meter monthly (or more often if  
17 requested by GSU) and shall promptly report these readings to  
18 the GSU system dispatcher by telephone.

19 Energy consumed in operation of the Facilities shall be  
20 metered separately from the energy purchased by GSU.

1 H. Adjustments

2 In the event adjustments to billing statements are  
3 required as a result of the correction of measurements made  
4 by inaccurate meters, the parties shall use the corrected  
5 measurements to compute the monies due from or to GSU as  
6 payment for the energy purchased or sold and delivered under  
7 this Agreement during the period of inaccuracy. If the total  
8 amount, as computed, due from a party for the period of  
9 inaccuracy varies from the total amount due as previously  
10 computed, and the payment of the previously computed amount  
11 has been made, the difference in amounts shall be paid to the  
12 party entitled to it within thirty (30) days after the paying  
13 party is notified of the recomputation.

14 I. Grid Availability

15 If deliverability of power and energy to the Industrial  
16 Participants and Subsidiaries is restricted during an emer-  
17 gency, to an amount less than an amount equivalent to the  
18 full-load generating capacity of the Facilities, GSU shall  
19 not discriminate against the Industrial Participants and  
20 Subsidiaries in distributing such power and energy as it may  
21 be able to deliver, but shall treat the Venture and the

1 Industrial Participants and Subsidiaries as any GSU industrial  
2 customer, all subject to any requirement of law or any  
3 legally mandated curtailment plan.

4 The Industrial Participants and Subsidiaries shall  
5 notify GSU prior to making load changes (particularly load  
6 increases) that will change the Grid load by 5000 Kw or more  
7 unless such changes are caused by upsets or emergencies in  
8 the industrial plants.

9 J. Service by GSU

10 GSU shall use diligence in the operation and maintenance  
11 of the Facilities and the Grid to produce a reliable supply  
12 of electric energy and steam but does not guarantee the  
13 service against irregularities and interruptions. However,  
14 GSU shall not be liable to the Industrial Participants for  
15 any damages or loss, direct or consequential, including but  
16 not limited to business interruption, by reason of failure of  
17 GSU to deliver electric energy and/or steam under this  
18 Agreement unless such failure is the result of the gross  
19 negligence or willful misconduct of GSU or its employees or  
20 contractors.

1 K. Invoicing and Payment

2 GSU shall invoice each Industrial Participant and each  
3 Subsidiary monthly and each Industrial Participant and each  
4 Subsidiary shall pay GSU for the energy sold and delivered by  
5 GSU to each Industrial Participant and Subsidiary using  
6 actual monthly deliveries to each. Each Industrial Parti-  
7 cipant guarantees the payment of such invoices issued to its  
8 Subsidiaries. Invoicing and Payments will be in accordance  
9 with the Accounting Procedures set forth in Exhibit C.  
10 Each Industrial Participant and each Subsidiary will maintain  
11 existing or new separate agreements with GSU for Facilities  
12 Charges, substation maintenance, and similar services.  
13 Payment for such services will be made by each Industrial  
14 Participant and each Subsidiary to GSU in accordance with the  
15 provisions of such separate agreements.

16 The Venture shall invoice GSU and GSU shall pay the  
17 Venture monthly for energy generated in the Facilities and  
18 metered into GSU's Grid, in accordance with the Accounting  
19 Procedures set forth in Exhibit C.