Exhibit No. _____
Issue: Fuel & Purchased Power
Witness: Greg Sweet
Type of Exhibit: Direct Testimony
Sponsoring Party: Empire District
Case No.: ER-2001-299
Date Prepared: November 2, 2000

Before the Public Service Commission of the State of Missouri

Direct Testimony

of

Greg Sweet

November 2000

DIRECT TESTIMONY
OF
GREG SWEET
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE
PUBLIC SERVICE COMMISSION
OF THE
STATE OF MISSOURI
CASE NO.

I. Introduction

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Greg Sweet. My business address is 602 Joplin Street, Joplin, Missouri.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. The Empire District Electric Company ("Empire" or "Company"). I am a Planning Analyst in the Strategic Planning department.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I was graduated from Missouri Southern State College in July of 1985 with a Bachelor of Science degree in Mathematics. After graduation, I accepted a position with Empire in the Corporate Planning Department as a Planning Analyst. From August 1988 through October 1995, I worked in the Marketing and Load Management Department in the areas of conservation, demand-side management, resource evaluation, and marketing analysis and planning. In November 1995, I accepted the position of Planning Analyst in the Strategic Planning Department, the position I currently hold. As Planning Analyst, I work primarily with the fuel budget, load forecasting, load research, and preparation of Empire's financial forecast.

Q. HAVE YOU PRESENTED TESTIMONY BEFORE THIS OR ANY OTHER REGULATORY BODY?

A. No, I have not.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS CASE?

A. The purpose of my testimony is to provide support for the level of expense that Empire is requesting for fuel and purchased power for Net System Input ("NSI") energy requirements. Section II of my testimony will describe the test-year level of expense for fuel and purchased power for NSI; Section III contains information about the production costing model that was utilized; and Section IV describes the key cost driving variables and modeling considerations.

II. Test-Year Level of Expense for NSI Energy

Q. HOW WAS THE ENERGY REQUIRMENT THAT WAS USED TO CALCULATE FUEL AND PURCHASED POWER EXPENSE DETERMINED?

A. Missouri adjusted kilowatt-hour sales are the basis for the Missouri jurisdictional electric revenue in this case. The derivation of these sales is presented in the Direct Testimony of Empire Witness David W. Gibson. Missouri adjusted sales were divided by 0.814 to ratio up to total company sales. The resulting sales number was then divided by 0.926 to account for transmission and distribution losses of 7.40%. These calculations resulted in an NSI requirement of 4,871,200 MWh's. This NSI requirement represents the input needed from generation and purchases to serve the calculated sales.

Q. PLEASE DIRECT YOUR ATTENTION TO SCHEDULE DWG-1 OF THE DIRECT TESTIMONY OF EMPIRE WITNESS, DAVID W. GIBSON. WAS A PART OF THAT SCHEDULE PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes. Section J, Schedule 2, Fuel and Purchased Power Adjustment, line 18, was prepared by me.

Q. WHAT LEVEL OF EXPENSE FOR NORMALIZED FUEL AND PURCHASED POWER IS EMPIRE RECOMMENDING IN THIS CASE AS SHOWN ON THAT SCHEDULE?

A. Empire recommends $123,489,520 total company fuel and purchased power expense for the test year for the normalized NSI energy requirements of 4,871,200 MWh's. This amount can be separated into the following components: $107,296,000 for fuel and purchased power for NSI excluding purchase power demand charges; and $16,193,520 for purchase capacity demand charges for NSI. These costs do not include Operations and Maintenance ("O&M") costs.

Q. WHAT PERIOD WAS USED TO DETERMINE THE TEST-YEAR LEVEL OF EXPENSE FOR NSI ENERGY?

A. This level of fuel and purchased power expense was based on December 2000 test year data with normalized demand and energy requirements for projected customers as of May 31, 2001. The generating and purchased power resources are those that will be available on June 1, 2001. Schedule GS-1, attached to this testimony, gives a list of these resources. The purchased power demand charges are also for contract year beginning June 1, 2001.

III. Production Cost Model

Q. DID EMPIRE UTILIZE A PRODUCTION COST MODEL TO DETERMINE THE LEVEL OF EXPENSE FOR ENERGY?

A. Yes. Empire utilized the PROSYM production cost model.

Q. PLEASE BRIEFLY DESCRIBE THE PROSYM MODEL.

A. The PROSYM model is a chronological dispatch model that dispatches resources to meet demand requirements on an hourly basis. The model commits resources based on fuel costs and variable O&M costs, after accounting for the operational characteristics of a utility system that may override economic dispatch.

Q. PLEASE DESCRIBE EMPIRE'S EXPERIENCE OF WORKING WITH THE PROSYM MODEL?

A. Empire has been using chronological production costing models for projection purposes since 1991. Empire's last three electric rate case filings in Missouri utilized the ENPRO production-costing model. Subsequent to the last Missouri case, Henwood Energy Services, Inc. in Sacramento, California purchased ENPRO, ended support of the ENPRO model, and requested that all ENPRO customers move to Henwood's production costing model, PROSYM. PROSYM is based on the same conceptual foundation as ENPRO (i.e., a chronological, "Monte Carlo" simulation) and provides output consistent with ENPRO.

Q. HAS EMPIRE CHECKED THE PROJECTED PROSYM OUTPUT AGAINST ACTUAL DATA?

A. Yes. Empire compared the generation output of the model to historical generation for each unit. The dispatch of Empire's thermal units falls within a reasonable range. Historical generation for Empire's units is attached to my testimony as Schedule GS-2.

Q. ARE THERE ANY SIGNIFICANT RESOURCE CHANGES IN THE NORMALIZED JUNE 2001 PERIOD AS COMPARED TO PREVIOUS CASES?

A. Yes. Most importantly, the normalized run in this case contains the State Line Combined Cycle (SLCC) unit, which is scheduled to be on-line and fully operational and used for service by June 1, 2001. Additionally, for this time period, the Associated Electric

Cooperative, Inc (AEC), Kansas Gas and Electric (KGE), and Southwestern Public Service Company (SPS) purchased power contracts have expired leaving 162 MW from Western Resources - Jeffrey as Empire's only contract purchase.

IV. Key Cost Driving Variables and Modeling Considerations

Q. WHAT ARE THE VARIABLES WHICH DRIVE THE ENERGY COSTS ON EMPIRE'S SYSTEM?

A. Key variables include fuel prices, purchased power prices, planned and forced outages of thermal units, weather, heat rates, and water availability for the Ozark Beach hydro unit.

Q. WHAT IS THE KEY VARIABLE WHICH DRIVES EMPIRE'S INCREMENTAL COSTS?

A. Purchased energy prices have been the most important variable. Purchased energy costs make up roughly 40% to 50% of Empire's variable fuel and purchased power costs. In recent years, purchased energy has been utilized to serve approximately 35% of Empire's native load. However, with the addition of the SLCC unit, there will be a significant shift in Empire's resource mix as the SLCC will replace substantial power purchases. In the normalized model run for this case, purchased power prices were still important, but the price of natural gas became the key variable.

Q. HOW WAS THE SLCC UNIT MODELED?

A. Empire owns 300 MW (60%) of the 500 MW SLCC plant. It was modeled as two identical 150 MW units with multi-step heat rates based on the expected performance of the various manufacturers' components and adjusted for the limited historical data that is available for similar units in service on other utility systems. The SLCC's operating costs are higher than the coal plants (baseload) and lower than simple cycle gas combustion turbines (peakload)

and is therefore considered to be an "intermediate" resource. In the normalized run for this case the SLCC had a total (300 MW) capacity factor of approximately 50%.

Q. HOW WAS THE OZARK BEACH HYDRO UNIT MODELED?

A. Ozark Beach was modeled based on the average of the past 5 years' historical capacity factors for the units. Hydro generation accounts for less than 2% of NSI.

Q. ARE THERE ANY OPERATING CHARACTERISTICS FOR EMPIRE'S ASBURY FACILITIES WHICH NEED SPECIAL CONSIDERATION?

A. Asbury is comprised of one boiler and two turbines. The Asbury Unit 1 turbine is rated at 193 MW, while the Asbury Unit 2 turbine is rated at 20 MW. Asbury Unit 2 cannot run while Asbury Unit 1 is off. This configuration combined with costs of operating unit 2, causes Empire to operate Unit 2 as a peaking unit that is normally utilized only during the summer season. Both of these constraints have been modeled in the PROSYM model.

Q. DO RIVERTON UNITS 7 AND 8 HAVE ANY OPERATING CHARACTERISTICS WHICH NEED TO BE TAKEN INTO ACCOUNT TO ACCURATELY MODEL THEIR OPERATIONS?

A. Yes, Riverton Unit 8 can operate to approximately 45 MW (out of its 53 MW of rated capacity) on coal fuel alone. The remainder of the Riverton Unit 8 capacity can only be obtained by over-firing natural gas. Riverton Unit 7 can operate to approximately 26 MW (out of its 38 MW of rated capacity) on coal fuel alone. The remainder of the Riverton Unit 7 capacity can only be obtained by over-firing natural gas. The coal–fired capacity limitation has been modeled in PROSYM. Riverton Units 7 and 9 are operated in a modified combined cycle configuration. The exhaust gas from the Unit 9 combustion turbine is used to heat feedwater for the coal-fired Riverton Unit 7. A modeling credit is

given to Unit 9 to simulate this configuration. Riverton Units 8 and 10 are configured and modeled in a similar manner.

Q. WHAT IS THE BASIS FOR THE FORCED OUTAGE RATES CONTAINED IN THE NORMALIZED RUN?

A. Empire has examined the historical equivalent forced outage rates on its units. These historical rates are attached to my testimony as Schedule GS-3. The historical forced outage rates, as well as the generation history of units, served as a basis for the forced outage rates used in the model.

Q. WHAT IS THE BASIS FOR THE PLANNED OUTAGE SCHEDULES CONTAINED IN THE NORMALIZED RUN?

A. The planned outage schedules are based on the average of the actual maintenance days from the past five years (1995-1999). The planned outage schedules are attached to my testimony as Schedule GS-4.

Q. WHAT COAL BLEND RATES ARE USED IN THE MODEL?

A. On a million British thermal unit ("MMBTU") basis, Iatan uses 100% ARCO coal, Riverton Units 7 and 8 use 68% Peabody coal and 32% blend coal, and Asbury uses 87% Peabody coal and 13% blend coal.

Q. WHAT IS THE BASIS FOR THE COAL COSTS INCLUDED IN THE NORMALIZED RUN?

A. All coal costs are based on current delivered initial and freight ("I&F") prices. Coal handling costs are added to the I&F costs to obtain the appropriate coal cost to include in the model. Costs for unit train operation were added after the model run and are attached as Schedule GS-5.

Q. WHAT IS THE BASIS FOR THE GAS COSTS INCLUDED IN THE NORMALIZED RUN?

A. Broadly speaking, delivered natural gas costs consist of two components; gas commodity and transportation. Empire estimated variable costs for gas based on the NYMEX futures prices. Empire also has fixed costs for firm transportation (FT). The variable cost of the commodity as well as the fixed costs for FT is listed by month for the normalized test year in Schedule GS-6. For further information on the use of NYMEX price and the outlook for gas prices, please see the Direct Testimony of Empire witness Stan Kaplan.

Q. WHAT IS THE BASIS FOR THE HEAT RATES CONTAINED IN THE NORMALIZED RUN?

A. Multi-step heat rates are input for the units such that they generate an output near that of the historical five-year average heat rate for the units. Schedule GS-7 contains the historical heat rates for Empire's units.

Q. HOW WAS THE COST OF THE WESTERN RESOURCES - JEFFREY (WRIJ) CONTRACT PURCHASE ENERGY DETERMINED?

A. The WRIJ contract energy purchase price is based on the actual cost of the energy out of the three Jeffrey coal units and is very stable. The three Jeffrey units were assigned the same planned and unplanned outages as those modeled for the Iatan plant, which is similar in size and age. The average energy cost in the normalized run is $13.10/MWh. The average 12-month ended December 1999 actual energy cost is $12.66/MWh. The price that Empire paid for both contract and non-contract purchase energy for the 12-month period ending December 1999 is attached to my testimony as Schedule GS-8.

Q. DOES EMPIRE PARTICIPATE IN THE NON-CONTRACT PURCHASE ENERGY MARKET?

A. Empire participates in the non-contract purchase energy market on a continuous basis. In the Company's modeling of purchases with PROSYM, the model does not distinguish between non-contract purchase energy and energy that is available from contracted capacity. Therefore, Empire has been careful in its modeling to make sure that including non-contract purchase energy does not affect the reliability of Empire's system. Modeling purchases, in general, has been one of the more challenging aspects of modeling Empire's system. The advent of a more liquid wholesale power market has magnified this variable. However, with the addition of the SLCC unit, Empire will be less vulnerable to the uncertainties of the purchased power market. From a modeling standpoint, it is important to consider the results as a whole because of the many variables involved.

Q. DOES THIS CONCLUDE YOUR PREPARED DIRECT TESTIMONY AT THIS TIME?

A. Yes, it does.

AFFIDAVIT

STATE OF MISSOURI)
) ss
COUNTY OF JASPER)

On the 27th day of October, 2000, before me appeared Greg Sweet, to me personally known, who, being by me first duly sworn, states that he is a Planning Analyst for The Empire District Electric Company and acknowledged that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

Greg Sweet

Subscribed and sworn to before me this 27th day of October, 2000.

Donna M. Longan, Notary Public

My commission expires: January 24, 2004.

DONNA M LONGAN
Notary Public - Notary Seal
STATE OF MISSOURI
JASPER COUNTY
MY COMMISSION EXP. JAN. 24,2004

THE EMPIRE DISTRICT ELECTRIC COMPANY
SUMMARY OF RESOURCES IN NORMALIZED RUN

RESOURCE	FUEL TYPE	NET CAPACITY (MWS)	ANNUAL CAPACITY CHARGES
ASBURY	COAL	213	
RIVERTON 7	COAL/GAS	38	
RIVERTON 8	COAL/GAS	53	
RIVERTON 9	GAS/OIL	12	
RIVERTON 10	GAS/OIL	16.5	
RIVERTON 11	GAS/OIL	16.5	
ENERGY CENTER 1	GAS/OIL	90	
ENERGY CENTER 2	GAS/OIL	90	
OZARK BEACH	HYDRO	16	
IATAN	COAL	80	
STATE LINE 1	GAS/OIL	101	
STATE LINE 2	GAS/OIL	0	
STATE LINE CC	GAS/OIL	300	
WRI JEFFREY	PURCHASE	162	$ 16,193,520
TOTAL		1188	$ 16,193,520

THE EMPIRE DISTRICT ELECTRIC COMPANY

Schedule GS-2

GENERATION HISTORY

	1991 - 1999 ACTUALS									5 YR AVG	NORMALIZED RUN
	1991	1992	1993	1994	1995	1996	1997	1998	1999	1995-99	FOR NSI
ASBURY 1 NSO	1,079,491	1,251,235	1,301,016	1,280,956	1,268,597	1,077,246	1,318,692	1,168,703	1,303,051	1,222,839	1,320,500
ASBURY 2 NSO	84,132	94,478	81,591	86,814	48,573	12,611	4,352	14,804	3,661	33,431	300
TOTAL ASBURY NSO	1,163,623	1,345,713	1,382,607	1,367,770	1,317,170	1,089,857	1,323,044	1,183,507	1,306,712	1,256,270	1,320,800
IATAN NSO	586,805	555,326	483,378	644,571	622,498	651,533	598,343	596,356	607,672	615,280	493,200
RIVERTON 7 NSO	189,183	141,635	167,388	185,307	136,046	181,724	156,838	173,649	167,577	163,167	147,700
RIVERTON 8 NSO	304,544	265,768	281,353	294,735	298,731	307,948	294,689	274,591	296,169	294,426	279,800
RIVERTON PEAK NSO	61,606	4,684	38,041	50,989	71,097	70,671	25,000	20,467	36,077	44,662	9,000
TOTAL RIVERTON NSO	555,333	412,087	486,782	531,031	505,874	560,343	476,527	468,707	499,823	502,255	436,500
TOT ENERGY CENTER NSO	709	(224)	9,514	3,041	52,132	59,517	66,204	141,026	77,854	79,347	90,700
STATE LINE 1 NSO					46,826	32,491	43,729	115,004	118,302	71,270	131,100
STATE LINE 2 NSO							76,939	163,020	288,107	176,022	-
STATE LINE CC NSO											1,331,500
TOTAL STATE LINE NSO					46,826	32,491	120,668	278,024	406,409	247,292	1,462,600
TOTAL THERMAL NSO	2,306,470	2,312,902	2,362,281	2,546,413	2,544,500	2,393,741	2,584,786	2,667,620	2,898,470	2,617,823	3,803,800
OZARK BEACH NSO	79,865	77,644	102,673	83,556	71,302	62,860	77,578	70,631	86,349	73,744	78,000
TOTAL EDE NSO	2,386,335	2,390,546	2,464,954	2,629,969	2,615,802	2,456,601	2,662,364	2,738,251	2,984,819	2,691,567	3,881,800
PURCHASES NSI NET	841,188	767,572	1,094,643	1,092,858	1,324,173	1,763,827	1,642,642	1,764,294	1,517,368	1,602,461	989,400
INADVERTANT	(25)	19	(44)	130	651	(507)	998	(1,474)	307	(5)	-
NSI REQUIREMENT	3,208,554	3,151,977	3,552,901	3,720,515	3,937,177	4,204,598	4,250,155	4,471,314	4,473,229	4,267,295	4,871,200
GENERATION SALES	18,944	6,160	6,652	2,442	3,449	15,323	55,849	29,757	29,265	26,729	-

Schedule GS-3

THE EMPIRE DISTRICT ELECTRIC COMPANY

EQUIVALENT FORCED OUTAGE RATES
1995-1999

	ASBURY 1	ASBURY 2	RIVERTON 8	RIVERTON 7	IATAN
1995	7.10%	24.03%	1.99%	0.72%	1.58%
1996	8.18%	34.53%	0.24%	1.85%	5.60%
1997	7.07%	27.40%	0.77%	0.71%	6.23%
1998	13.95%	30.05%	2.09%	0.57%	11.56%
1999	1.49%	3.82%	0.03%	1.48%	14.79%
5 Year Average	7.60%	23.60%	1.02%	1.09%	8.15%
Normalized Run	5.00%	24.46%	1.10%	0.78%	11.56%

Schedule GS-4

THE EMPIRE DISTRICT ELECTRIC COMPANY

MAINTENANCE DAYS

UNIT	Days in normalized Run	Average # of Days 1995-1999	Average # of Days 1999	Average # of Days 1998	Average # of Days 1997	Average # of Days 1996	Average # of Days 1995
ASBURY 1	30	43.52	34.86	35.83	34.54	75.71	36.65
ASBURY 2	30	52.19	48.80	35.83	57.09	75.75	43.48
RIVERTON 7	52	31.44	14.90	8.34	19.79	5.53	108.63
RIVERTON 8	30	23.18	17.63	49.44	21.00	10.10	17.75
RIVERTON 9	8	57.84	0.32	150.66	128.20	1.67	8.38
RIVERTON 10	44	7.43	11.45	0.00	9.02	1.25	15.42
RIVERTON 11	8	13.77	11.63	0.00	38.37	0.19	18.68
IATAN	64	11.19	2.18	0.06	26.41	2.22	25.10
ENERGY CENTER 1	14	66.87	33.49	112.67	27.32	7.05	153.84
ENERGY CENTER 2	14	60.43	147.49	56.01	3.16	47.33	48.16
STATE LINE 1	14	32.07	7.48	52.61	33.27	34.68	32.32
STATE LINE 2	NA	90.94	157.23	83.00	32.61	NA	NA
STATE LINE CC	30	NA	NA	NA	NA	NA	NA

THE EMPIRE DISTRICT ELECTRIC COMPANY

Unit Train and Other Fuel Related Costs	
Lease Train Cost Iatan	172,070
Iatan Diversion	(28,128)
Lease Train Cost EDE	598,125
EDE Train Sublease credit	(675,000)
EDE Train Depreciation	316,403
Iatan Train Property Tax	6,768
EDE Train Property Tax	40,000
Iatan Train Maintenance	30,000
EDE Train Maintenance	280,000
EDE Railroad Maintenance	31,240
Total Fuel Related Costs	771,478

THE EMPIRE DISTRICT ELECTRIC COMPANY

Natural Gas Prices in the Normalized Run

Month		NYMEX Futures $/mmbtu *	Firm Transportation Fixed $
Jan		5.210	482,586
Feb		5.005	482,586
Mar		4.770	482,586
Apr		4.535	482,586
May		4.455	482,586
Jun		4.430	482,586
Jul		4.425	482,586
Aug		4.425	482,586
Sep		4.415	482,586
Oct		4.420	482,586
Nov		4.555	482,586
Dec		4.650	482,586
Year	avg.	4.608	sum $ 5,791,036

Notes

* Settle futures prices for Henry Hub Natural Gas as of October 11, 2000, www.NYMEX.com

THE EMPIRE DISTRICT ELECTRIC COMPANY

WEIGHTED AVERAGE HEAT RATES

	1995		1996		1997		1998		1999		5 year Total		Heat Rate (Btu / KWh)	
	MWHS	MMBTUs	MWHS	MMBTUs	MWHS	MMBTUs	MWHS	MMBTUs	MWHS	MMBTUs	MWHS	MMBTUs	5 year Avg.	Avg. Normalized Run for NSI
Total Asbury	1,317,170	15,160,564	1,089,857	12,135,433	1,323,044	14,514,353	1,183,507	13,240,584	1,306,712	14,585,891	6,220,290	69,636,825	11,195	11,338
Iatan	622,498	6,210,443	651,533	6,598,899	598,343	6,029,178	596,356	5,985,049	607,672	6,133,352	3,076,402	30,956,921	10,063	10,015
Riverton 7	136,046	1,673,780	181,724	2,313,819	156,838	2,031,344	173,649	2,250,190	167,577	2,140,821	815,834	10,409,954	12,760	13,007
Riverton 8	298,731	3,445,380	307,948	3,681,353	294,689	3,519,218	274,591	3,259,356	296,169	3,488,230	1,472,128	17,393,537	11,815	12,090
Riverton 9	22,325	396,697	30,845	561,336	8,193	147,257	4,998	92,167	18,204	339,071	84,565	1,536,528	18,170	18,257
Riverton 10	43,260	758,811	36,473	656,526	14,663	254,869	10,158	194,797	13,892	247,822	118,446	2,112,825	17,838	17,923
Riverton 11	5,936	107,108	3,353	62,114	2,144	37,795	5,311	107,701	3,981	73,235	20,725	387,953	18,719	18,426
Energy Center 1	15,712	252,668	35,657	564,087	35,022	536,000	86,617	1,383,185	44,508	702,015	201,804	3,185,287	15,784	15,101
Energy Center 2	36,420	579,483	23,860	391,625	31,182	480,503	54,409	875,170	33,346	533,904	142,797	2,281,202	15,975	15,196
State Line 1	46,826	654,156	32,491	468,257	43,729	549,271	115,004	1,487,924	118,302	1,460,046	309,526	3,965,498	12,812	14,387
State Line 2	NA	NA	NA	NA	76,939	984,225	163,020	1,969,901	288,107	3,524,444	451,127	5,494,345	12,179	N.A.
State Line CC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7,309

THE EMPIRE DISTRICT ELECTRIC COMPANY

1999 PURCHASE DATA FOR NSI

AEC SP

	MWH	COST	$/MWH
Jan-99	35,315	760,040	21.52
Feb-99	24,328	437,025	17.96
Mar-99	26,746	533,022	19.93
Apr-99	23,704	451,524	19.05
May-99	26,674	506,784	19.00
Jun-99	23,945	523,617	21.87
Jul-99	918	74,170	80.80
Aug-99	1,359	226,495	166.66
Sep-99	2,005	44,015	21.95
Oct-99	5,940	157,210	26.47
Nov-99	4,705	123,099	26.16
Dec-99	27,858	649,780	23.32
Total 1999	203,497	4,486,781	22.05

KGE SP

	MWH	COST	$/MWH
Jan-99	31,700	411,547	12.98
Feb-99	28,842	327,955	11.37
Mar-99	32,830	410,663	12.51
Apr-99	30,124	443,076	14.71
May-99	31,510	625,184	19.84
Jun-99	40,532	504,528	12.45
Jul-99	51,228	801,368	15.64
Aug-99	53,911	812,922	15.08
Sep-99	39,453	641,675	16.26
Oct-99	34,010	410,962	12.08
Nov-99	33,057	417,497	12.63
Dec-99	49,892	573,250	11.49
Total 1999	457,089	6,380,627	13.96

SPS SP

	MWH	COST	$/MWH
Jan-99	16,843	249,120	14.79
Feb-99	7,041	91,448	12.99
Mar-99	18,206	323,969	17.79
Apr-99	18,233	311,614	17.09
May-99	20,090	387,825	19.30
Jun-99	18,510	407,240	22.00
Jul-99	22,630	390,960	17.28
Aug-99	24,175	479,617	19.84
Sep-99	9,780	264,418	27.04
Oct-99	11,360	210,060	18.49
Nov-99	7,155	125,779	17.58
Dec-99	18,135	286,384	15.79
Total 1999	192,158	3,528,434	18.36

WESTERN RESOURCES - JEFFREY
(Began June, 1998)

	MWH	COST	$/MWH
Jan-99	21,840	257,952	11.81
Feb-99	16,030	194,045	12.11
Mar-99	13,919	165,687	11.90
Apr-99	13,084	158,915	12.15
May-99	19,224	239,061	12.44
Jun-99	21,426	268,868	12.55
Jul-99	21,890	270,314	12.35
Aug-99	21,360	263,823	12.35
Sep-99	16,660	208,105	12.49
Oct-99	13,530	171,956	12.71
Nov-99	18,330	236,662	12.91
Dec-99	21,620	336,674	15.57
Total 1999	218,913	2,772,062	12.66

NON CONTRACT

	MWH	COST	$/MWH
Jan-99	60,448	1,093,044	18.08
Feb-99	46,909	826,648	17.62
Mar-99	38,407	743,702	19.36
Apr-99	66,123	1,439,252	21.77
May-99	30,274	646,019	21.34
Jun-99	2,691	64,482	23.96
Jul-99	1,133	283,802	250.49
Aug-99	578	32,718	56.61
Sep-99	38,712	656,183	16.95
Oct-99	47,504	862,649	18.16
Nov-99	52,646	957,267	18.18
Dec-99	60,731	1,230,292	20.26
Total 1999	446,156	8,836,058	19.80

TOTAL for NSI (Excluding SWPA Exchange)

	MWH	COST	$/MWH
Jan-99	166,146	2,771,703	16.68
Feb-99	123,150	1,877,121	15.24
Mar-99	130,108	2,177,043	16.73
Apr-99	151,268	2,804,381	18.54
May-99	127,772	2,404,873	18.82
Jun-99	107,104	1,768,735	16.51
Jul-99	97,799	1,820,614	18.62
Aug-99	101,383	1,815,575	17.91
Sep-99	106,610	1,814,396	17.02
Oct-99	112,344	1,812,837	16.14
Nov-99	115,893	1,860,304	16.05
Dec-99	178,236	3,076,380	17.26
Total 1999	1,517,813	26,003,962	17.13