LOUISIANA POWER & LIGHT

Environmental Report

Operating License Stage

WATERFORD STEAM ELECTRIC STATION UNIT NO. 3

VOLUME 4

LOUISIANA POWER & LIGHT CO.
WATERFORD SES UNIT NO. 3
ENVIRONMENTAL REPORT
AMENDMENT NO. 2

INSTRUCTION SHEET

Each revised and new page bears the notation Amendment No. 2, (10/80) at the bottom of the page. Vertical bars with the number 2 have been used in the margin of pages, as applicable, to indicate the location of the revision on the page.

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TABLE 1.1-10
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MSU OWNED CAPABILITY (Mw)

AP&L	2275
LP&L	1887
MP&L	1231
NOPSI	1251
Total MSU Owned Capability	6643

TABLE 1.1-11
(Sheet 1 of 3)

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MIDDLE SOUTH SYSTEM
ACTUAL GENERATING CAPACITY CHANGES
APRIL 1970-1979

Year	Company	Unit	Type	Function(1)	Commercial Operation Retirement Date	Net Mw Rating(2)
1970	AP&L	Ritchie #3	Gas/Oil	Peaking	October	18
	AP&L	Mabelvale #1 - #4	Gas/Oil	Peaking	December	73
1971	Ark-Mo	Jim Hill	Gas/Oil	Peaking	3	35
	Ark-Mo	Mammoth Springs	Hydro	Peaking	3	1
	LP&L	Buras #8	Gas/Oil	Peaking	January	19
	LP&L	Ninemile #4	Gas/Oil	Base	May	748
	MP&L	Baxter Wilson #2	Gas/Oil	Base	September 25	771
1972	NOPSI	Patterson #3	Gas/Oil	Peaking	April 3	+7(4)
	LP&L	Little Gypsy #3	Gas/Oil	Base	December 6	+24(5)
	LP&L	Sterlington #3 (Retired)	Gas/Oil	----	December 31	-32
	LP&L	Sterlington #4 (Retired)	Gas/Oil	----	December 31	-32
	LP&L	Buras #1 - #5 (Retired)	Gas/Oil	----	December 31	-10

Notes given on Sheet 3

TABLE 1.1-11
(Sheet 2 of 3)

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MIDDLE SOUTH SYSTEM
ACTUAL GENERATING CAPACITY CHANGES
APRIL 1970-1979

Year	Company	Unit	Type	Function(1)	Commercial Operation Retirement Date	Net Mw Rating(2)
1973	Ark-Mo	Mammoth Springs (Retired)	Hydro	----	January 1	-1
	LP&L	Sterlington #7A	Gas/Oil	Peaking	April 15	57
	LP&L	Sterlington #7B	Gas/Oil	Peaking	April 13	57
	LP&L	Ninemile #5	Gas/Oil	Base	June 12	763
1974	LP&L	Sterlington #7C	Gas/Oil	Base	August	88
	Ark-Mo	Blytheville #1/3	Oil	Peaking	October	188
	AP&L	Arkansas Nuclear #1	Nuclear	Base	December	836
1975	MP&L	Gerald Andrus	Gas/Oil	Base	January	750
	LP&L	Waterford #1	Gas/Oil	Peaking	June	411
	LP&L	Waterford #2	Gas/Oil	Peaking	September	411
1976	No capacity changes					
1977	No capacity changes					

2

Notes given on Sheet 3

TABLE 1.1-11
(Sheet 3 of 3)

MIDDLE SOUTH SYSTEM
ACTUAL GENERATING CAPACITY CHANGES
APRIL 1970-1979

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1978	No Capacity Changes
1979	No Capacity Changes

(1) The unit's function as specified is for 1979 based upon the fuel available at that time.

(2) Some of the ratings of the units shown above reflect ratings based upon usage of primary fuel. In the event of curtailment of the primary fuel, the rating of these units utilizing secondary fuel will be lower than their primary fuel ratings.

(3) Arkansas-Missouri Power (Ark-Mo) became a member of the MSU System in 1971.

(4) Increased rating of +7 Mw for Patterson #3. This increased rating was the result of rebuilding the turbine casing. Unit was originally rated at 49 Mw.

(5) Increased rating of +24 Mw for Little Gypsy No. 3. This increased rating was the result of rebuilding the high pressure rotor of the turbine. Unit was originally rated at 549 Mw.

TABLE 1.1-12
(Sheet 1 of 2)

MIDDLE SOUTH SYSTEM
GENERATING CAPACITY CHANGES
1980-1986

Year	Company	Unit	Type	Function[1]	Commercial Operation Retirement Date	Net Mw Rating[2]
1980	AP&L	Arkansas Nuclear One #2	Nuclear	Base	April	851
1980	AP&L	White Bluff #1	Coal	Base	August	444
1981	AP&L	White Bluff #2	Coal	Base	May	444
	AP&L	Lynch #1 (Retired)	Gas/Oil	--	December 31	-35
	AP&L	Couch #1 (Retired)	Gas/Oil	--	December 31	-30
1982	NOPSI	Market Street #11-#13 (Retired)	Gas/Oil	--	December 31	-103
	MP&L	Grand Gulf #1[1]	Nuclear	Base	April	1125

(1) Grand Gulf Nuclear Units to be owned by Middle South Energy Incorporated and operated by Mississippi Power and Light.

(2) Some of the ratings of the units shown above reflect ratings based upon usage of a primary fuel. In the event of curtailment of the primary fuel, the ratings of these units utilizing secondary fuel will be lower than their primary fuel ratings.

TABLE 1.1-12
(Sheet 2 of 2)

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MIDDLE SOUTH SYSTEM
GENERATING CAPACITY CHANGES
1980-1986

Year	Company	Unit	Type	Function	Commercial Operation Retirement Date	Net Mw Rating(2)
1983	LP&L	Waterford 3	Nuclear	Base	January	1110
1983	AP&L	Independence #1	Coal	Base	January	444
	AP&L	Lynch #2 (Retired)	Gas/Oil	---	December 31	-74
	LP&L	Sterlington #5 (Retired)	Gas/Oil	---	December 31	-44
1984	AP&L	Lake Catherine #1-#2 (Retired)	Coal	---	December 31	-103
1985	AP&L	Independence #2	Coal	Base	January	444
	AP&L	Moses 1 & 2	Gas/oil	--	December 31	144
	AP&L	Jim Hill #1	Gas/Oil	---	December 31	-35
1986	MP&L	Grand Gulf #2	Nuclear	Base	April	1125

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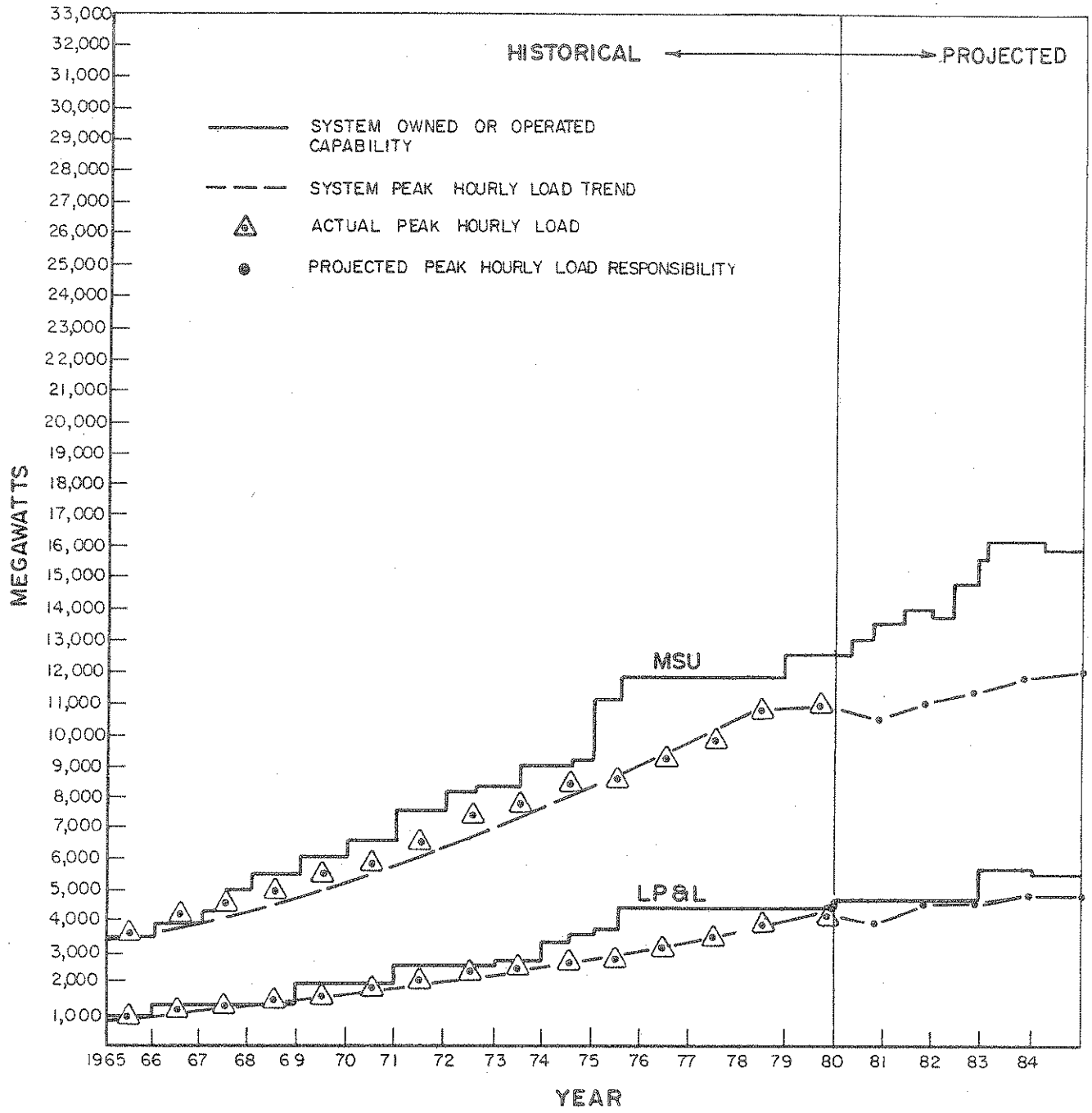
(1) Grand Gulf Nuclear Units to be owned by Middle South Energy Incorporated and operated by MP&L.

(2) Some of the rating of the units shown above reflect ratings based upon usage of primary fuel. In the event of curtailment of the primary fuel, the rating of these units utilizing secondary fuel will be lower than their primary fuel ratings.



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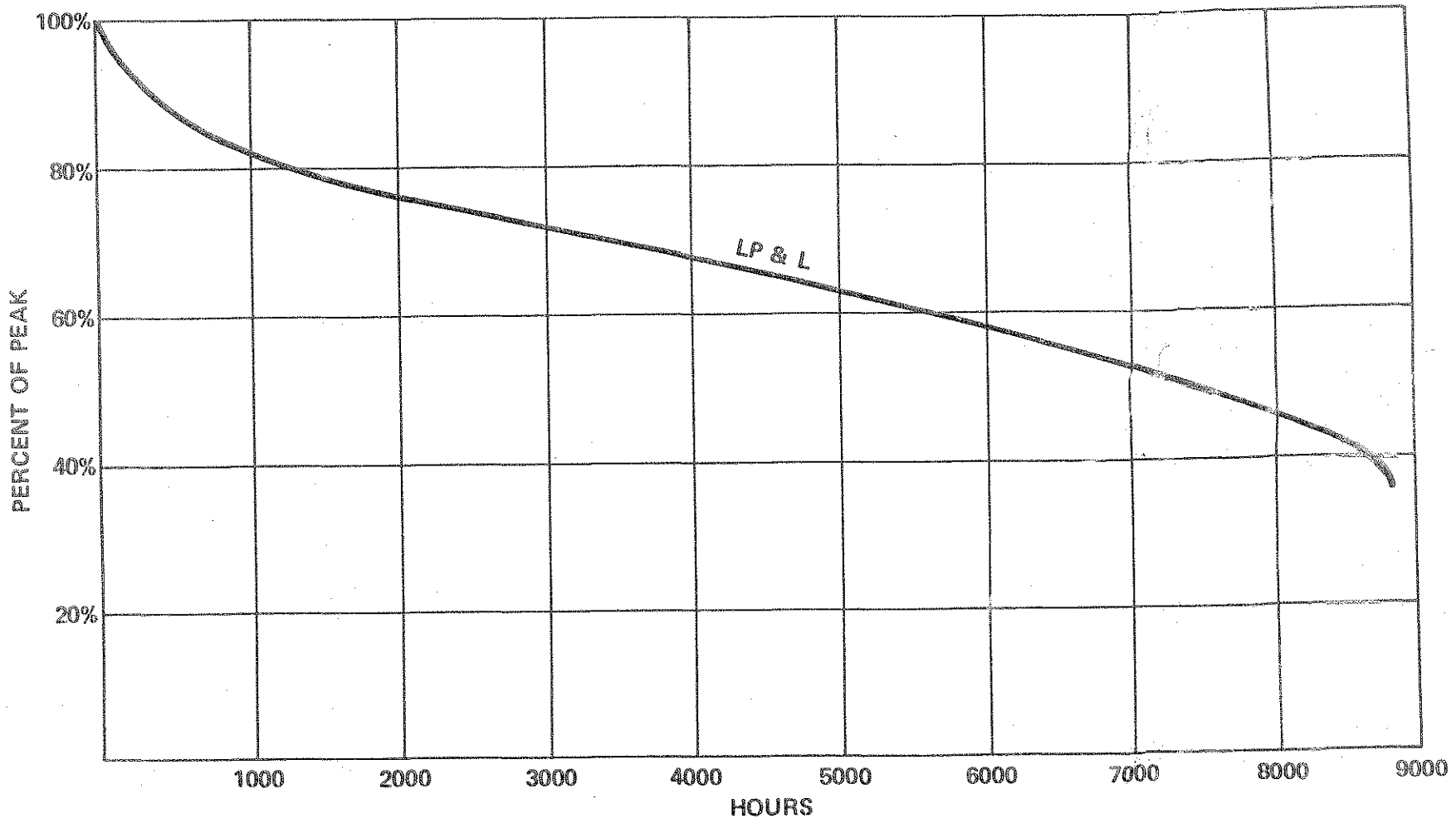
LOUISIANA POWER & LIGHT CO. WATERFORD STEAM ELECTRIC STATION	MSU AND LP&L LOAD AND CAPACITY	FIGURE 1.1-4



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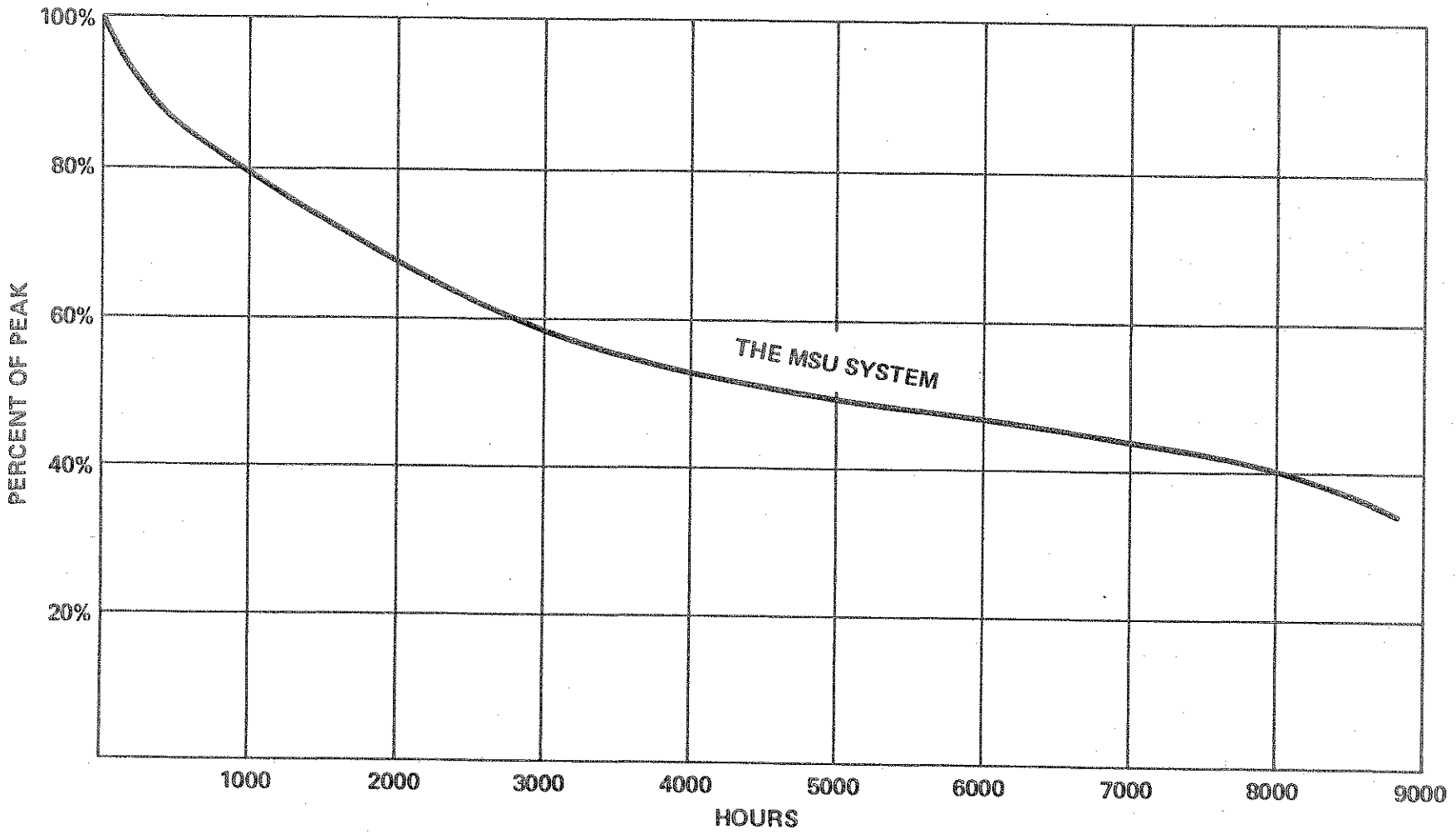
LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	LP&L 1983 LOAD DURATION CURVE	Figure 1.1–5



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LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	THE MSU SYSTEM 1983 LOAD DURATION CURVE	Figure 1.1-6

1.2 OTHER OBJECTIVES

Other than to assist LP&L and MSU in providing an economical and reliable source of power to their customers, there are no other objectives for Waterford 3.

1.3 CONSEQUENCES OF DELAY

The impact of delays in the operation of Waterford 3 beyond the peak of 1983 would be serious to LP&L, the MSU System and their customers. The impact would take the form of significant economic penalties and of reduced reliability. This fact has been discussed in detail in Section 1.1.3 and is summarized in this section.

1.3.1 ECONOMIC PENALTIES OF A DELAY

One obvious impact will be the very significant financial burden which will be placed upon LP&L, the MSU System and their customers in the event of delays. A large portion of the economic penalties would go toward additional expenses for the facility, such as interest, labor and cost escalations. In addition to these costs, the MSU System fuel costs would increase if operation of Waterford 3 is delayed, when substituted from internal sources.

The economic penalties that LP&L's customers would bear if there is a delay of one-half, one, or two years in the commercial operation date of Waterford 3 (assuming that Waterford 3 would have been operational in 1983, and that no other units in the MSU System have been delayed) are summarized in the following table:

ECONOMIC PENALTIES TO LP&L AND ITS CUSTOMERS

(Over Period 1983 to 1992)

Years of Delay	Total Cost
0.5	$100,961,000
1.0	$ 92,591,000
2.0	$262,682,000

TABLE 2.4-8
(Sheet 1 of 2)

HEAVY METAL CONCENTRATIONS IN THE MISSISSIPPI RIVER NEAR WATERFORD 3
(ppb)

STATION	DATE	LEAD	MERCURY	ZINC	ARSENIC	CADMIUM	HEXAVALENT CHROMIUM
BT	73/04/27	1.0	<.3	33.0	< 20.0	< 3.0	< 30.0
	73/06/11	22.0	<.3	28.0	< 20.0	4.0	< 30.0
	73/08/22	16.0	<.3	19.0	< 20.0	20.0	< 10.0
	73/09/28	14.0	<.3	8.0	< 20.0	2.0	< 10.0
	73/10/25	17.0	<.3	30.0	< 20.0	2.0	< 10.0
	73/12/03	29.0	<.5	7.0	< 20.0	14.0	< 10.0
	73/12/27	14.0	<.3	129.0	< 20.0	6.0	< 10.0
	74/03/27	14.0	2.3	6.0	< 20.0	2.0	< 10.0
	74/04/25	.5	2.3	12.0	< 20.0	.2	< 10.0
	74/08/22		0.4	33.0	21.0	2.0	20.0
	75/02/27	< 5.0	<.3	14.0	< 20.0	6.0	< 10.0
	75/04/23	< 5.0	<.3	11.0	< 20.0	4.0	< 10.0
	75/08/07	< 5.0	<.3	13.0	< 20.0	< 1.0	< 10.0
	75/11/18	12.0	<.3	12.0	< 20.0	< 1.0	< 10.0
	75/12/21	15.0	<.3	36.0	< 20.0	< 1.0	< 10.0
	76/01/28	13.0	<.3	42.0	< 20.0	< 1.0	< 10.0
	76/02/24	7.0	<.3	26.0	< 20.0	< 1.0	< 10.0
	76/03/26	7.0	<.3	53.0	< 20.0	< 1.0	< 10.0
	76/04/27	10.0	<.3	26.0	< 20.0	< 1.0	< 10.0
	76/05/25	6.0	<.3	6.0	< 20.0	< 1.0	< 10.0
	76/06/22	14.0	<.3	12.0	< 20.0	< 1.0	< 10.0
	76/07/27	8.0	<.3	18.0	< 20.0	< 1.0	< 10.0
	76/09/08	17.0	<.3	34.0	< 20.0	< 1.0	< 10.0
	76/09/27	10.0	<.3	10.0	< 20.0	< 1.0	< 10.0
BC	73/04/27	3.0	<.3	99.0	< 20.0	< 3.0	< 30.0
	73/06/11	22.0	<.3	25.0	< 20.0	4.0	< 30.0
	73/08/22	29.0	<.7	48.0	< 20.0	17.0	< 10.0
	73/09/28	16.0	<.3	22.0	< 20.0	1.0	< 10.0
	73/10/25	14.0	<.3	27.0	< 20.0	2.0	< 10.0
	73/12/03	27.0	<.5	7.0	< 20.0	7.0	< 10.0
	73/12/27	16.0	<.3	72.0	< 20.0	4.0	< 10.0
	74/03/27	13.0	1.8	9.0	< 20.0	1.0	< 10.0
	74/04/15	37.0	2.9	14.0	< 20.0	.5	< 10.0
	74/08/22		<.3	157.0	< 20.0	1.0	13.0
	75/02/27	5.0	<.3	8.0	< 20.0	6.0	< 10.0
	75/04/23	5.0	<.3	5.0	< 20.0	7.0	< 10.0
	75/08/07	5.0	<.3	15.0	< 20.0	< 1.0	< 10.0
	75/11/18	5.0	<.3	12.0	< 20.0	< 1.0	< 10.0
	75/12/21	16.0	<.3	37.0	< 20.0	< 1.0	< 10.0
	76/01/28	13.0	<.3	55.0	< 20.0	< 1.0	< 10.0
	76/02/24	7.0	<.3	16.0	< 20.0	< 1.0	< 10.0
	76/03/26	11.0	<.3	31.0	< 20.0	< 1.0	< 10.0
	76/04/27	5.0	<.3	37.0	< 20.0	< 1.0	< 10.0

TABLE 2.4-8
(Sheet 2 of 2)

HEAVY METAL CONCENTRATIONS IN THE MISSISSIPPI RIVER NEAR WATERFORD 3
(ppb)

STATION	DATE	LEAD	MERCURY	ZINC	ARSENIC	CADMIUM	HEXAVALENT CHROMIUM
	76/05/25	6.0	<.3	10.0	< 20.0	<1.0	< 10.0
	76/06/22	8.0	<.3	16.0	< 20.0	<1.0	< 10.0
	76/07/27	7.0	<.3	3.0	< 20.0	<1.0	< 10.0
	76/09/08	13.0	<.3	11.0	< 20.0	<1.0	< 10.0
	76/09/27	10.0	<.3	18.0	< 20.0	<1.0	< 10.0

2

2.6 HISTORIC, ARCHAEOLOGICAL, ARCHITECTURAL, SCENIC, CULTURAL, AND NATURAL FEATURES

Prior to the beginning of construction on Waterford 3, the surrounding area had already experienced substantial development of heavy industrial facilities, as described in Section 2.1.3.5. Any future development is likely to be consistent with this established character, especially in view of the zoning classifications, given in Figure 2.1-19, which have been adopted for the area. Therefore, the relationship of the operation of Waterford 3 to nearby historic, archaeological, architectural, scenic, cultural, and natural features, which are described in this section, is most effectively viewed within the context of the area's existing and likely future development.

2.6.1 HISTORIC, ARCHAEOLOGICAL, AND NATURAL FEATURES

Two cultural resource surveys were performed to determine the presence of any aboriginal or historic cultural remains. Both surveys consisted of two phases: Phase I - a literature review and Phase II - a confirmatory on-site field survey. The second survey differed from the first, however, because it was specifically designed to gather historical data relating to the Waterford Plantation and to determine if archaeological remains associated with the plantation were extant. 2

Phase I of the first survey[1] found that no sites on, nominated to, or declared eligible for the National Register of Historic Places, or on the National Registry of Natural Landmarks, are present on the Waterford 3 site or in the immediate vicinity. Confirmation of these findings from the State Historic Preservation Office (SHPO) of the State of Louisiana is shown on Figure 2.6-1. A summary of the prehistoric cultural periods of the Waterford 3 area is given in Table 2.6-1.

At the time of the first survey, most of the land-disturbing construction at Waterford 3 had been completed. Two major areas did remain to be disturbed, however, and therefore were evaluated during the on-site survey. These were the location of the 230 kV transmission lines, and the Circulating Water System intake and discharge structures, as shown on Figure 2.6-2. It was concluded that no significant historic or prehistoric cultural remains would be disturbed by the construction of the transmission lines and the intake and discharge structures.

The second survey was performed at the request of the NRC for the purpose of investigating potential historic resources associated with the Waterford Plantation. Pursuant to the instructions of the NRC, the scope of the second survey was coordinated with the SHPO to insure the adequacy of the survey.

The second survey was able to locate information concerning the development and ownership of the Waterford Plantation (See Appendix 2-6). The initial date of settlement for the land which would eventually comprise the Waterford Plantation was sometime during the early eighteenth century. At that time several large land grants were awarded to Karl Darensbourg and his family. The Darensbourgs' retained ownership until 1797 when when Elizabeth Darensbourg sold a tract to her son-in-law Charles Perret. 2

Ownership and other aspects of the history of the plantation for the years 1828-1917 can be traced through records of Louisiana sugar production. In 1879 Richard Milliken became sole owner of the plantation, and it became known as Waterford. It had previously been unnamed. The name Waterford may be related to Waterford, Ireland, where the Milliken family may have originated. The Milliken family retained ownership into the twentieth century. The Waterford Plantation mill ceased its sugar cane grinding operation sometime after 1917, but cane is still grown on the property.

Archival research, indicated that six buildings or structure-clusters had been located on the Waterford Plantation in 1894 (see Appendix 2-6). Five of these areas are located in the vicinity of the Plant Island and are shown on Figure 2.6-3. The sixth area is not shown on this figure because it is located away from the Plant Island in the area of the 40 Arpent Canal. Phase II of this survey found no standing structures formerly associated with the Waterford Plantation, although relatively undisturbed archaeological remains were found in two of these areas. A description of the Waterford Plantation cultural resources associated with each area based on the results of Phase I and Phase II analyses is presented below.

Area 1 consisted of the locations of a possible bighouse, barn, or other large structure with an adjoining smaller structure (see Appendix 2-6). Area 2 consisted of the locations of nine unidentified structures. Cultural remains in Areas 1 and 2 appear to have been totally destroyed by construction of Louisiana Highway 18 and by the U S Army Corps of Engineers construction of the levee setback and the river bankline revetment.

Area 3 is the location of a possible overseer house or store. During Phase II, a small test excavation revealed that archaeological remains (including ceramic, glass, iron, brick and oyster shell) are present in an undisturbed context.

Area 4 is the location of a double row of 14 workers quarters. During the Phase II activities, undisturbed archaeological remains were found in several small test excavations and were observed along the banks of several drainage ditches which cross the area.

Area 5 is the location of the abandoned Waterford Plantation sugarhouse. Possible remains of that structure, consisting of brick and mortar fragments, were found during Phase II. These remains appear to have been badly disturbed by the demolition of the structure and subsequent plowing activities.

Area 6 includes two isolated structures located at the edge of the backswamp. These are believed to be remains of an irrigation pump-and-gate structure.

None of the archaeological remains located by the second survey will be disturbed by additional construction at the Waterford site. Should any ground disturbance of these areas become necessary in the future, LP&L will consult with the State Historic Preservation Office and develop

2

an approved mitigation plan. There are no sites on the National Registry of natural landmarks present in the area. 2

2.6.2 RECREATION FACILITIES AND SCENIC AREAS

Recreation facilities within five miles of Waterford 3 are listed in Table 2.6-2, and shown on Figure 2.1-17[3, 4]. The closest such facility to Waterford 3 is the playground at the Killona Elementary School, approximately 0.9 miles west of the plant. The Waterford 3 structures will be visible from this facility. However, Waterford 3 only represents an addition to the industrially developed landscape already visible from this playground. 2

Waterford 3 will not be visible from the remaining scenic and recreation facilities within a five-mile radius. As shown on Table 2.6-2, the next nearest recreation facilities are an existing and proposed park in Montz, on the opposite side of the Mississippi River from the plant, and an existing park proposed for expansion in Killona. Waterford 3 is not visible to people utilizing these recreation facilities.

In addition to the facilities shown in Table 2.6-2 and on Figure 2.1-17, there are several proposed facilities indicated in the Community Facilities Plan for St Charles Parish[5]. All of these facilities, however, would be at a substantial distance from Waterford 3. Neighborhood parks are shown in the plan as proposed for the Hahnville and New Sarpy areas. The plan indicates the existence of a 22-acre parcel to be developed as a park in the Bonnet Carre Floodway, north of US Highway 61. There are also plans indicated for the development of recreation areas on the batture near Hahnville and New Sarpy. These would be picnic areas, hiking trails, and scenic areas[5]. At the present time, however, no plans exist to implement the acquisition or construction of these facilities[3, 5]. 2 2

2.6.3 VISUAL EFFECT OF STATION OPERATION

As noted above, the playground at the Killona Elementary School is the only recreation facility from which Waterford 3 will be visible. The addition of Waterford 3 to the existing landscape will not result in a significant change to the character of the visual surroundings of this recreational facility.

The absence of sites included on the National Register of Historic Places, as well as the fact that the plant will not be visible from other recreation facilities in the vicinity, precludes Waterford 3 from having a significant visual effect on the area's cultural resources.

2.6.4 EFFECTS OF TRANSMISSION LINE CONSTRUCTION OR LOCATION

The cultural resource survey of the Waterford 3 site found that no significant historic or prehistoric cultural remains would be disturbed by the construction of the transmission line. In addition, because the transmission lines are located in an area containing other existing transmission lines, as shown in Figures 2.1-4 and 2.1-14, the visual effects of the lines that are associated with Waterford 3 will be insignificant.

REFERENCES

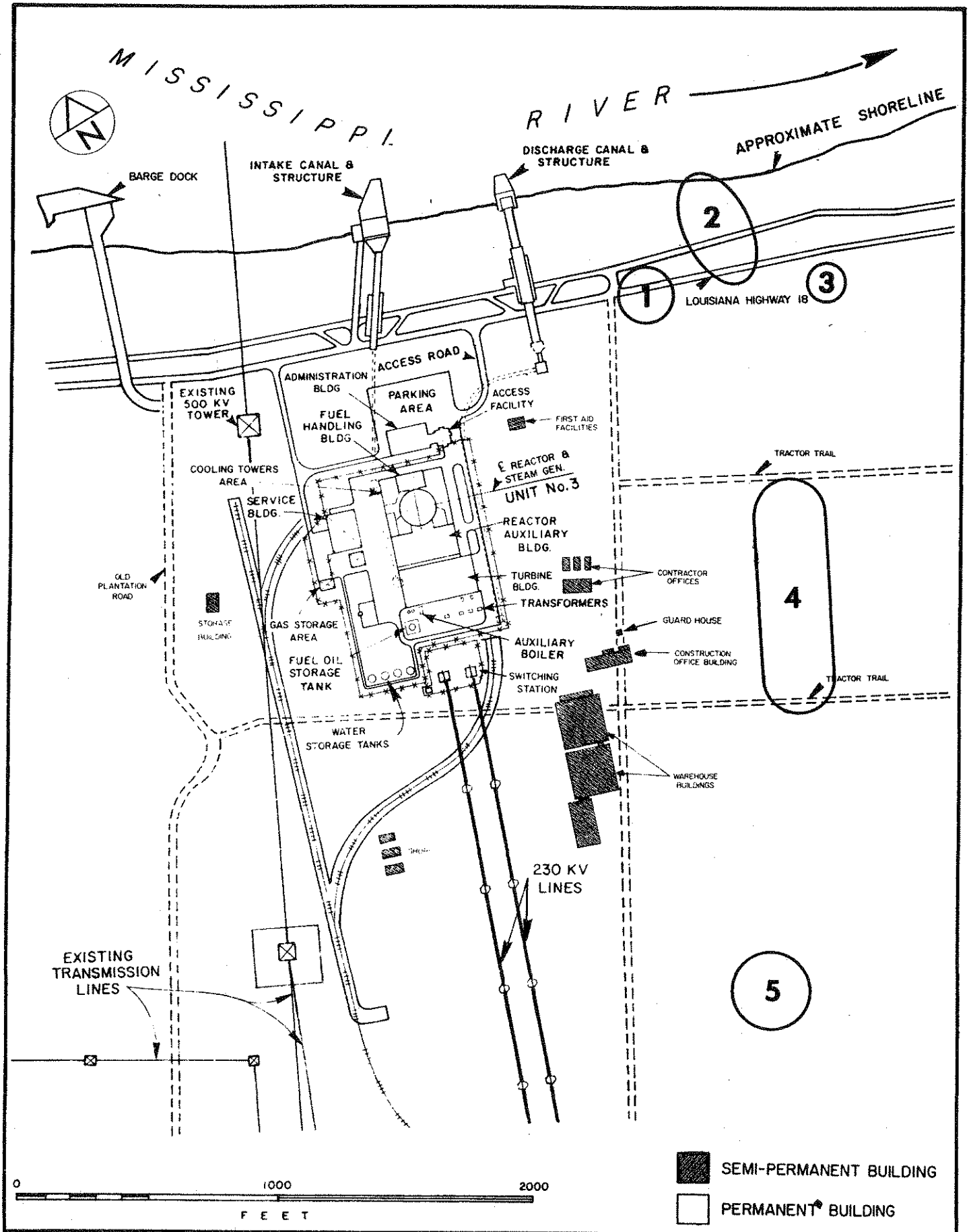
1. This survey was performed by Robert W Newman, Curator of Anthropology, Department of Geography and Anthropology, Louisiana State University, Baton Rouge, Louisiana. July, 1977.

2. Louisiana State Parks and Recreation Commission. Unpublished inventory of recreation facilities. Baton Rouge, Louisiana. 1974.

3. Personal Communications, Director of Recreation, St Charles Parish, and Member of St Charles Parish Recreation Committee, New Sarpy, Louisiana. March 22, 1977.

4. N-Y Associates. "Community Facilities Plan, St Charles Parish, Louisiana." Metairie, Louisiana. May, 1974. 2

5. Personal Communication, Secretary for Planning and Zoning, St Charles Parish. March 22, 1977.



LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	LOCATION OF ARCHAEOLOGICAL REMAINS ASSOCIATED WITH THE WATERFORD PLANTATION	Figure 2.6 - 3

3.3 PLANT WATER USE

3.3.1 INTRODUCTION

Water is used by Waterford 3 for various systems, such as the heat dissipation system, Potable and Sanitary Water System, chemical waste systems and process water systems. This section describes the anticipated maximum and average water flows to and from each system. Water uses under maximum power operation, minimum power operation and temporary shutdown conditions are also presented. In addition, the water use for fire protection is described.

3.3.2 SOURCES OF WATER

All the water required for the plant, except the potable water supply, will be drawn from the Mississippi River at the average rate of about 1,003,766 gpm (2237 cfs). Of this, the Circulating Water System, the Steam Generator Blowdown System heat exchangers and the Turbine Closed Cooling Water System will use 1,003,200 gpm (2235 cfs). The potable water supply, averaging about 10,000 gallons per day (7 gpm), will be obtained from the St Charles Parish Waterworks. | 2 | 2

3.3.3 WATER USE DIAGRAM

The schematic flow diagram showing flows to and from various plant systems is presented in Figure 3.3-1. The indicated flows represent daily average rates under normal operating conditions. The flows in parenthesis indicate the maximum capacity of the system which can be utilized as and when needed (e.g. during initial start up or start up after shutdown, etc.). Table 3.3-1 shows the water use rates for maximum power operation, minimum power operation, and temporary shutdown conditions.

3.3.4 WATER USES AT WATERFORD 3

a) Heat Dissipation Systems - There are four pumps capable of pumping about 1,003,766 gpm of water from the Mississippi River for various uses at the station. From this flow, 975,100 gpm is used in the Circulating Water System for dissipating heat in the condenser. The heat dissipation system is described in detail in Section 3.4. The heat dissipation system will also utilize 27,100 gpm of river water on the tube side of the heat exchangers that are part of the closed cooling systems used in the Turbine Closed Cooling Water System, and 1000 gpm for the Steam Generator Blowdown System heat exchangers. Treated, demineralized water is the coolant used within the closed portion of these systems. The Turbine Closed Cooling Water System, and the Component Cooling Water System are also discussed in Section 3.4. | 2

   Demineralized water is used to makeup water losses in the closed cooling water systems. These water losses, if radioactive, are treated in the Waste Management System. The non-radioactive wastes are processed with other non-radioactive wastes. The Waste Management System is described in Section 3.5, and the other waste systems are described in Section 3.6 and 3.7.

b) Supplementary Chilled Water System - The heating, air conditioning, and ventilation (HVAC) system serving the Reactor Auxiliary Building and the Service Building utilizes the Supplementary Chilled Water System. This system includes two cooling towers. Blowdown, after undergoing treatment, is released to the Mississippi River. The system requires a maximum makeup water rate of approximately 30 gpm. Prior to usage as system makeup, raw river water is filtered through a microstrainer. The strainer is flushed continuously with raw river water at a rate of 10 gpm.

c) Plant Water Treatment - The plant water treatment system includes a Primary Water Treatment Plant and a Demineralized Water System. The Primary Water Treatment Plant consists of two filters, each of 350 gpm capacity. In the Demineralized Water System there are two independent trains each of 225 gpm capacity. The capacities of the Primary Water Treatment Plant and the Demineralized Water System were based on the requirements for startup operations. The normal requirements as shown in Figure 3.3-1 are substantially less than the design capacities.

Only one of the filters in the Primary Water Treatment Plant will be working at a time. The filter is flushed with raw water which is discharged with the circulating water. The raw water will be continuously chlorinated before filtration. A portion of the filtered water is demineralized and the rest is used for circulating water pump seals, screen wash pumps, vacuum pumps and fire protection. 1

In the Demineralized Water System only one train will be in operation at a time.

The demineralization process consists of cation exchange, degasification, and mixed bed ion exchange. The demineralized water is stored in the primary storage tank and the condensate storage tank. Water from the condensate storage tank is used as makeup water in the condenser hot well, the Reactor Coolant System, the Component Cooling Water System and other uses at Waterford 3. There is a provision for recycling water from the boric acid condensate tanks in the Boron Management System into the primary storage tank. This may result in tritium being present in the primary storage tank. The primary and secondary uses of water, noted in Figure 3.3-1, are related to a pressurized water reactor (PWR) system only. Primary water uses are in those systems where water comes in direct contact with potential sources of radioactivity, and include the Chemical and Volume Control System (CVCS), the Boron Management System, the Waste Management System and the Fuel Pool System. Secondary water uses are in those systems where the water does not come in direct contact with any potential sources of radioactivity. These systems include the Steam Generator, the Steam Generator Blowdown System and the Component Cooling Water System. Details of these systems are discussed in Section 3.5.

Demineralized water is also used for making regeneration solutions for the demineralizers. The wastes from the regenerating processes are sent to the Waterford 1 and 2 waste treatment facilities, and treated as described in Section 3.6.

d) Potable Water Use - Potable water is obtained from the St Charles Parish Waterworks, District No. 2. The potable water is used for food preparation, drinking, and other sanitary purposes. The anticipated demand for potable water will be about 10,000 gallons per day. The waste waters resulting from these uses are treated in two package-type extended aeration treatment plants, which are described in detail in Section 3.7.

e) Equipment Needs - This includes water used for washing and cooling of the equipment which is not serviced by any of the systems mentioned above, for example, water used for machine shop operations.

f) Fire Protection - The pretreated water is stored in two fire storage tanks, each of 260,000 gallon capacity. These two tanks will be kept full. The makeup water supply to the storage tanks is capable of filling either tank within an 8 hour period. This makeup water supply is furnished from the filtered water clear well, which is a part of the Primary Water Treatment Plant and receives water from the filter. The St Charles Parish Waterworks system is also connected to the clear well and is available on a standby basis.

Fire hydrants are located along the perimeter of the plant, at intervals of about 250 ft.

3.3.5 INTERNAL RECYCLING OF WATER

Steam generator blowdown is treated and recycled as steam generator makeup water. This recycling serves to reduce the consumptive use of water at the plant.

3.3.6 SUFFICIENCY OF COOLING WATER SUPPLY

The rate of water withdrawal from the Mississippi River during normal station operation will be about 1,003,766 gpm, or 2237 cfs. This is about 1.1% of the typical low flow condition of 200,000 cfs. It is apparent that there will be no shortage of cooling water supply in the event of low flow conditions in the Mississippi River. The flow regime of the Mississippi River is described in detail in Section 2.4. | 2

TABLE 3.3-1
(Sheet 1 of 2)

STATION WATER USE
UNDER VARIOUS STATION CONDITIONS
(gpm)

	Water System	STATION CONDITION: Max. Power Operation Condition	Min. Power Operation Condition	Temporary Shutdown Condition	
1.	Circulating Cooling Water System	975,100 (1,404,144)*	575,000	0-575,000	
2.	Turbine Closed Cooling Water System	27,100 (39,024)	27,100	0-27,100	
3.	Steam Generator Blowdown System Heat Exchangers	1,000 (1,440)	590	0-590	
4.	Supplementary Chilled Water System	40 (58)	40	0-40	
5.	Demineralized Water System	36 (52)	36	36	2
6.	Cir. Water Pump Seals	68 (97)	54	40	
7.	Screen Wash Pumps	6 (9)	6	6	
8.	Vacuum Pumps	40 (58)	20	0-20	
9.	Fire Protection	20 (29)	20	20	
10.	Filter Flush	500 (720)	500	500	2

*Figures in parentheses indicate flow in 1,000 gal/day.

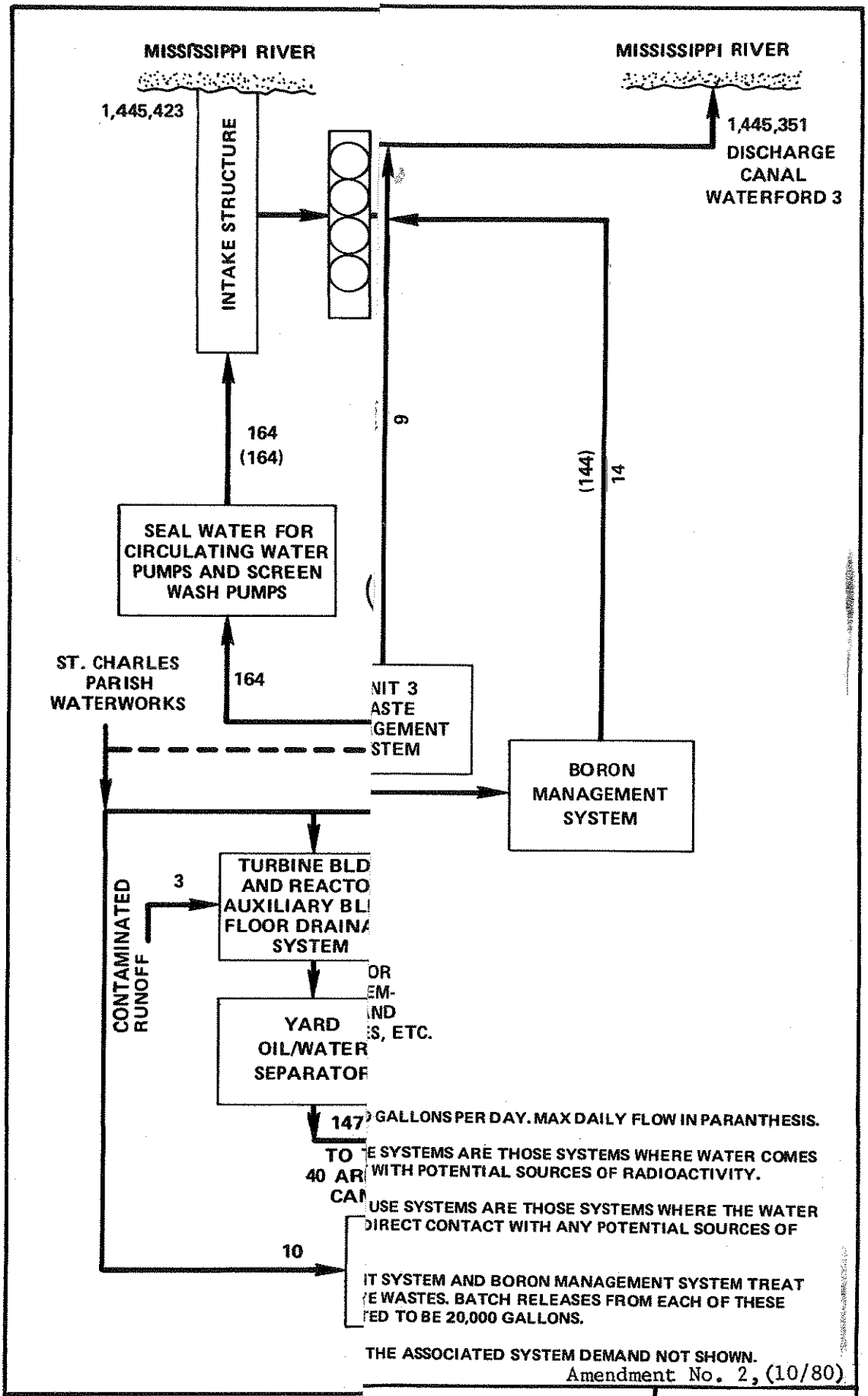
TABLE 3.3-1
(Sheet 2 of 2)

STATION WATER USE
UNDER VARIOUS STATION CONDITIONS
(gpm)

Water System	STATION CONDITION Max. Power Operation Condition	Min. Power Operation Condition	Temporary Shutdown Condition
11. Potable Water System (St Charles Parish Waterworks)	7 (10)*	7	7
TOTAL WATER USE	1,003,917 (1,445,641)	603,373	609 - 603,359

2

*Figures in parentheses indicate flow in 1000 gal/day.



Amendment No. 2, (10/80)

LOUISIANA
POWER & LIGHT CO.
Waterford Steam
Electric Station

Figure
3.3–1

3.4 HEAT DISSIPATION SYSTEM

3.4.1 INTRODUCTION

The heat dissipation system for Waterford 3 consists of two major parts: 1) the Circulating Water System; and 2) the Component Cooling Water System. The Circulating Water System withdraws water from the Mississippi River for use in the condenser to condense the turbine exhaust steam to water for reuse in the power production cycle. Following its use in the condenser, the circulating cooling water is returned to the Mississippi. The water from the Circulating Water System is also used in the heat exchangers of the Turbine Closed Cooling Water System and the Steam Generator Blowdown System. The Component Cooling Water System is a closed loop system, incorporating a dry cooling tower, which is used in the Component Cooling Water Heat Exchangers to indirectly cool the reactor coolant and the Reactor Auxiliary System Components.

Both the Circulating Water System and the Component Cooling Water System are described in detail in this section.

3.4.2 CIRCULATING WATER SYSTEM

The Circulating Water System withdraws water via an intake canal leading from the river to an intake structure containing the traveling water screens and the circulating water pumps. Water is transported from the pumps through the condenser and to the discharge structure. The circulating water is then returned to the river through a discharge canal. A plan view of the system is shown in Figure 3.4-1. The system functions as a once-through cooling water system for Waterford 3 and has a design load of approximately 8.0×10^9 Btu per hour at full load. There is negligible consumptive water loss from the system.

Water is withdrawn from the Mississippi River at a design flow rate of 1,003,404 gpm, which includes 1,003,200 gpm of circulating water. Of the 1,003,200 gpm, 975,100 gpm passes through the main condenser where its temperature is raised about 16.4°F. The Turbine Closed Cooling Water System heat exchangers and the Steam Generator Blowdown System heat exchangers use the remaining 28,100 gpm, which undergo a temperature increase of about 7.6°F. The resultant temperature rise of the combined flow of 1,003,200 gpm is approximately 16.1°F. Therefore, during full load and design flow conditions, the circulating cooling water discharged to the river is approximately 16.1°F above the intake water temperature.

3.4.2.1 System Operation

The equipment specifications for the circulating water pumps were developed from an estimated operating schedule, based on optimum steam cycle conditions. The operation of the Circulating Water System, described in this section, is predicted from this preliminary schedule.

When the station is operating, it is anticipated that all four circulating water pumps will be utilized whenever the intake water temperature exceeds 70°F. This is estimated to occur approximately 34 percent of the time on an annual basis (see Section 2.4). The system design flow rate for four

pump operation is 1,003,200 gpm, with a temperature rise at this rate of 16.1°F.

Three pump operation will occur during approximately 25 percent of the time, when the intake water temperature ranges between 55°F and 70°F. The flow rate during this condition is approximately 84 percent of the design four-pump flow rate. The full load temperature rise at this flow rate is about 19.2°F. When the intake water temperature is below 55°F, it is anticipated that two circulating water pumps will be utilized. This condition is expected to occur about 30 percent of the time. The flow rate during this mode is about 62 percent of the design flow rate when four pumps are operating, and this mode has a corresponding temperature rise of approximately 26.0°F. The remaining 11 percent of the time, the unit is shut down.

Maintenance on each pump will be accomplished during those times when it is not in operation.

There is no provision for backflushing or de-icing anywhere within the Circulating Water System. Chlorination is discussed in Section 3.6.

3.4.2.2 Intake Canal

Water is drawn from the river through a sheet pile formed intake canal, which is illustrated in Figure 3.4-2. The overall length of the canal is about 162 ft. At the river end of the canal, its width is approximately 37 ft and the bottom elevation is at -35.0 ft MSL. Average low water level (ALWL) and average high water level (AHWL) in the river are 0.80 ft and 18.60 ft MSL, respectively. The canal width increases uniformly over the first 122 ft to approximately 120 ft. That width is maintained over the last 40 ft to the intake structure. The bottom of the canal slopes upward over the first 52 ft to an elevation of -24.0 ft MSL, which is maintained for the remaining 110 ft. At the river entrance to the canal, a skimmer wall extends down to elevation -1.0 ft to prevent the entrance of large debris and to draw water from a depth below the surface of the river. 2

3.4.2.3 Intake Structure

The dimensions of the intake structure base are approximately 120 ft wide and 73 ft long. The bottom of the base slab is set at -28.0 ft MSL and the slab is 4.0 ft thick at the river face. The top of the deck is at 27.0 ft MSL. The intake structure is illustrated in Figure 3.4-3.

A skimmer wall is provided at the river face of the intake structure to prevent the entrance of large debris. This wall on the intake structure extends down to -4.0 ft MSL, leaving a clear opening 20 ft high.

Water entering the intake passes through a coarse screen (trash rack) of 1/2 in. diameter bars on six in. centers and enters into eight bays, each equipped with a traveling water screen with 1/4 in. clear openings. Each bay is 11 ft. 2 in. wide. Slots are provided for inserting a fixed screen of similar mesh downstream of any traveling screen which may fail. Trash removed from the cooling water by the traveling screens will be washed to a

trough and then sluiced to the river at a point downstream of the Waterford 3 intake. Stop logs can be inserted in guides provided between the coarse screens and the traveling screens to permit dewatering individual bays for maintenance.

3.4.2.4 Piping and Condenser

Four steel pump discharge lines run below the intake deck horizontally to a common, cast-in-place, concrete transition block. These lines have an external diameter of eight ft.

From the transition block, two steel pipes of eleven ft. external diameter cross over the levee, beneath the relocated Louisiana Highway 18, and join two reinforced concrete pipes, with internal diameters of eleven feet. The concrete pipes are installed below grade and carry the flow from the end of the eleven ft. steel pipes to the cast-in-place, concrete condenser intake block within the Turbine Building.

The condenser is connected to both the condenser intake block and discharge block by six seven-foot diameter vertical steel pipes. A three-shell, single pass, divided water box condenser is provided with tubes at a right angle to the turbine generator. The tubes are 52 ft long, one inch O.D. and 22 Bwg.

From the cast-in-place condenser discharge block, two eleven-foot internal diameter reinforced concrete pipes, installed below grade, carry the flow to a cast-in-place concrete transition block.

Four nine-foot external diameter steel pipes convey the water from the transition block, under the relocated Louisiana Highway 18, over the levee, and into the discharge structure. The levee is crossed with steel lines in accordance with requirements previously applied by the Corps of Engineers.

3.4.2.5 Discharge Structure and Canal

The discharge structure, illustrated in Figure 3.4-4, consists of a concrete seal well with outer dimensions approximately 52 ft by 45 ft. Cooling water enters the seal well from four 9-foot diameter steel pipes. It leaves the seal well by overflowing about 95 ft of weirs which run around three of the four sides of the discharge structure. The height of water above the weirs at full design flow is about 3.4 ft. Elevation of the weir crests (highest point) is adjustable between elevations 6.0 ft. and 11.0 ft. The elevation selected at a given time depends on the Mississippi River water level. The discharge structure design selected is typical of those presently in use at other LP&L plants on the Mississippi River.

A sheet pile formed discharge canal, shown in Figure 3.4-4, carries the water from the discharge structure to the river. The bottom is constructed at elevation -5.0 ft. At the shore end, the discharge canal is 81 ft wide. The width is constant over the first 81 ft of canal length. From this point, the width contracts symmetrically over a distance of about 95 feet, to a width of 50 feet at the river end. The discharge canal is concrete-lined to prevent erosion. The design criteria are for a discharge velocity into the river of about 8 ft per second at ALWL during four pump operation. The | 2

purpose of this high discharge velocity is to promote rapid mixing with the ambient water. The top of the sheet pile is at elevation 15.0 feet where the canal is 81 feet wide and at elevation 10.0 feet where the canal is contracting.

3.4.2.6 System Velocities and Residence Times

Average velocities at selected locations within the intake canal and intake structure have been calculated for high and low river stages during various pumping modes. The results are summarized in Table 3.4-1. This table shows that the velocity varies under the skimmer wall at the entrance of the intake canal, from a maximum of 1.78 feet per second, during operation of all four pumps, to a minimum of 1.09 feet per second when two pumps are operating. The average velocity through the traveling screens, based on net clear openings, ranges from a maximum during low river flows of 1.82 feet per second, to a minimum of 1.09 feet per second at high river stages. The velocity through the traveling screens does not depend upon the number of pumps operating because each pump is served separately by two traveling screens.

Travel times have been calculated for the various portions of the Circulating Water System for high and low river stages during various pumping modes. The times and corresponding average velocities are presented in Table 3.4-2. During operation of all four pumps, the total travel time of the circulating water after the addition of heat varies from 330 seconds to 238 seconds at AHWL and ALWL, respectively. With two pumps operating, the travel times after heat addition are 532 seconds with AHWL and 383 seconds with ALWL.

3.4.2.7 Rates of Temperature Change

The rate of change of temperature in the Circulating Water System discharge is a function of the rate of change in the main steam generators' power output and the number of operating circulating water pumps. The maximum rate of change of the main steam generators' power output under normal conditions is expected to be 5 percent per minute. This rate results in a discharge water temperature rate of change of approximately 0.81°F per minute, 0.96°F per minute and 1.30°F per minute for 4 pump, 3 pump and 2 pump operation, respectively. The expected frequency of occurrence of each pumping mode is given in Section 3.4.2.1. The present design of the Waterford 3 reactor includes the use of a Reactor Power System, described in the Final Safety Analysis Report, which reduces reactor thermal output by 50% during a turbine trip condition. This system insures that the rates of temperature change described above will not be exceeded, even during a turbine trip condition.

3.4.2.8 Turbine Closed Cooling Water System

A small portion of the river water in the Circulating Water System is utilized in the heat exchangers serving the Turbine Closed Cooling Water System. The Turbine Cooling Water System provides cooling water for the turbine-generator lube oil coolers, hydrogen coolers, generator stator coolers, bearing coolers, seal oil coolers and other plant cooling requirements. This system is illustrated in Figure 3.4-5.

TABLE 3.4-1

VELOCITIES IN CIRCULATING WATER INTAKE SYSTEM*

Location	Water Level	Velocity - Feet per Second 4 Pump Operation	3 Pump Operation	2 Pump Operation
Intake Canal				
Entrance (under Skimmer)	AHWL	1.90	1.57	1.14
	ALWL	1.78	1.49	1.06
Narrow Section (River End)	AHWL	1.13	0.96	0.69
	ALWL	1.69	1.44	1.03
Wide Section (Intake Structure End)	AHWL	0.47	0.39	0.28
	ALWL	0.76	0.64	0.45
Intake Structure**				
Entrance (under Skimmer)	AHWL	1.22	1.35	1.46
	ALWL	1.14	1.27	1.37
Unobstructed Bay	AHWL	0.99	1.08	1.17
	ALWL	0.93	1.03	1.10
Through Trash Racks	AHWL	1.07	1.17	1.27
	ALWL	1.01	1.12	1.20
Through Traveling* Water Screens	AHWL	2.5	2.75	2.98
	ALWL	2.35	2.6	2.8

2

*Average velocities based on cross-sectional flow area.

**Velocity is zero in bays in which no pumps are running.

TABLE 3.4-2

AVERAGE VELOCITIES AND TRAVEL TIMES IN CIRCULATING WATER SYSTEM*

(V in Feet per Second, T in Seconds)

		4 Pump Operation		3 Pump Operation		2 Pump Operation	
		V	T	V	T	V	T
Intake Canal	AHWL	.59	275	.50	325	.37	443
	ALWL	1.00	163	.83	195	.62	261
Intake Structure	AHWL	.59	101	.59	101	.59	101
	ALWL	1.0	60	1.0	60	1.0	60
Piping Upstream of Condenser**	AHWL	12.50	103	10.36	124	7.47	172
	ALWL	11.73	110	9.8	130	7.0	182
Condenser	AHWL	8.0	7	6.7	8	4.9	11
	ALWL	8.0	7	6.7	8	4.9	11
Piping Downstream of Condenser	AHWL	11.84	181	9.68	222	6.79	316
	ALWL	11.1	189	9.1	236	6.31	340
Discharge Structure and Canal	AHWL	1.43	134	1.21	159	.88	217
	ALWL	4.57	42	3.84	50	2.82	68
Total Time After Addition of Heat	AHWL		330		393		532
	ALWL		238		284		383

2

*Averages based on volume and length of each portion of the system.

**Based on discharge point at mid transition block.

TABLE 3.5-6

QUANTITIES OF INPUT TO
SOLID WASTE MANAGEMENT SYSTEM

Type of Waste	Form	Quantity (ft^3/year)
Spent Resins		
Chemical and Volume Control System	Dewatered	108
Boron Management System	Dewatered	72
Fuel Pool System	Dewatered	72
Waste Management System	Dewatered	36
Blowdown System	Dewatered	260*
Evaporator Bottoms		
Boron Recycle System and Liquid Waste Management System	21,000 ppm boron	2683
Blowdown Regenerative Waste and Filter Flush Waste	25% $Na_2 SO_4$	100
Filters		
Spent Filter Cartridges	12 Cartridges	24.2
Oil Separator Filter Cartridges	10 Cartridges	10
Compressible Solids	Plastic, Rags, Paper, etc.	1500

*The spent resin tank has one year holdup capacity for normally radioactive spent resin. Including the steam generator blowdown resin which is normally not radioactive, the spent resin tank has six months holdup capacity.

2

2

TABLE 3.5-10

QUANTITIES OF OUTPUT FROM
SOLID WASTE MANAGEMENT SYSTEM

Type of Waste	Form	Quantity (ft^3/year)
Spent Resins	Solidified	685*
Concentrator Bottoms	Solidified	3622**
Filters	Solidified in 22-55 gal drums	152
Compressible Solids	Compressed in drums (Compaction Factor = 4)	375

*Based on a solidified mixture of resin and cement in the ratio of 3:1. | 2

**Based on a solidified mixture of concentrate and cement in ratio of 1.85:1. | 2

3.6 CHEMICAL AND BIOCIDE SYSTEMS

3.6.1 INTRODUCTION

During the operation of Waterford 3, chemical wastes will be generated from various systems and processes such as the water treatment facilities, the corrosion control processes, laboratory analyses, the Boron Management System, the Potable and Sanitary Water System and laundry operations, etc.

Depending on its source, a liquid chemical waste may be radioactive or non-radioactive. The liquid radioactive chemical wastes are processed through the Waste Management System, where they are collected, monitored, filtered, demineralized, evaporated, or otherwise treated. The details of the Waste Management System are given in Section 3.5. This section describes the sources and treatment of non-radioactive chemical wastes.

3.6.2 CHEMICAL WASTES

The non-radioactive chemical wastewaters typically consist of demineralizer regenerants, sanitary wastes, HVAC cooling tower blowdown and floor drainage. All of these wastewaters, with the exception of floor drainage, are conveyed to the Waterford 1 and 2 waste treatment facilities. In the treatment facilities, wastes from Waterford 3 are combined and treated with wastes from Waterford 1 and 2. This treatment facility consists of a metal cleaning waste pond and the low volume waste treatment basins. The metal cleaning waste pond provides treatment for all Waterford 3 process waste streams which have the potential to contain metals concentrations in excess of applicable effluent standards and guidelines. Treated metal wastewaters are then conveyed to the low volume waste treatment facility. This facility consists of two basins in series which provide treatment for all Waterford 3 wastewaters requiring either pH neutralization and/or suspended solids removal. Treated wastes are then pumped to the discharge side of the Waterford 1 and 2 Circulating Water System for release to the Mississippi River, upstream of the intake of Waterford 3. Figure 3.6-1 shows a schematic diagram of the above described waste treatment facilities.

Contaminated floor drainage is treated in separate treatment facilities.

Table 3.6-1 presents a summary of the various chemical wastes and their sources, frequency, and concentration before and after treatment (if any). Table 3.6-2 shows the waste concentrations and applicable effluent limitations and State of Louisiana water quality standards. Table 3.6-3 gives the frequency of use of the chemicals, their purpose, and maximum and average quantities used annually.

3.6.2.1 Chemicals Released from the Primary Water Treatment Plant and the Demineralized Water System

Mississippi River water is used as a raw water source for the plant. Depending on its intended use, the water is directly used, pretreated and used, or pretreated and demineralized for use.

The Primary Water Treatment Plant provides the required pretreatment. This facility consists of two upflow filters, each having a capacity of 350 gpm. Only one filter will be working at a time. High molecular weight polyacrylamide is mixed into the river water to induce adsorption so that microscopic particles are retained in the filter media. The raw water is also continuously chlorinated to a combined chlorine concentration of 0.5 ppm to oxidize organic matter and inhibit biological growth on the filters. Each filter is flushed as needed. The filter flush water is mixed with Waterford 3 circulating cooling water before it is discharged to the Mississippi River. The flush water will contain suspended solids polyelectrolytes and residual chlorine. Their estimated concentrations in the wastewater, before mixing with the circulating cooling water, are indicated in Table 3.6-1. 1

The Demineralized Water System consists of two cation exchange units, one degasifier, two mixed bed I units, and two mixed bed II units. The mixed bed I units are weak base anion, strong acid cation exchange units. The mixed bed II units, which are also called polishing units, are strong base anion and strong acid cation exchange units. These units constitute two independent trains, each of 225 gpm capacity, and each capable of meeting the normal daily requirements.

When the cation exchangers or the mixed bed units are exhausted, they are regenerated with solutions of sulfuric acid and sodium hydroxide as follows:

a) Cation Exchangers - The weak acid cation exchange resin is regenerated with a two percent solution of sulfuric acid.

b) Mixed Bed I - The weak base anion exchange resin is regenerated with a four percent solution of sodium hydroxide. The strong acid cation exchange resin is regenerated with sulfuric acid in two steps; first with a two percent solution, then with a four percent solution.

c) Mixed Bed II - The strong base anion exchange resin is regenerated with a four percent solution of sodium hydroxide. The strong acid cation exchange resin is regenerated with a three percent solution of sulfuric acid.

The mineral constituents in the river water which are removed by the ion exchange resins are in turn released from the resins by these washings with the acid and hydroxide solutions. The estimated concentration of total dissolved solids and sulfates in the regenerant waste will be up to 10,000 ppm and 5,000 ppm, respectively. The amount of sulfate contained in the regenerant waste will be about 2000 lbs/regeneration. This will increase the sulfate concentration in the circulating water of Waterford 1 and 2 by 1.9 ppm, and in the Mississippi River by about 9.3 ppb (assuming complete mixing at a typical low flow condition of 200,000 cfs). The mean concentration of sulfate in the Mississippi River is 32.83 ppm as shown in Section 2.4, which also gives the concentrations of other chemicals found in the raw water drawn from the river.

The spent regeneration waste, about 50,000 gal/regeneration, flows to the waste collection basin for treatment and disposal, as shown in Figure 3.6-1. The spent regeneration waste is intermittent and will average about 10,000 gal/day. 2

TABLE 3.6-1

CHEMICAL WASTE DISCHARGE SUMMARY

(Sheet 2 of 2)

Type of Waste	Source	Frequency of Discharge	Quantity (gals/yr)	Chemical and Pollutant Content	Estimated Concentration in Waste (ppm)	Estimated Average Concentration After Treatment (ppm)	Released to:	
Chemical Cleaning Solutions(g)	Secondary System(h)	Once at the start of plant	1,800,000	Hydrazine	50-90 30	Not known(k) 30	Waterford 1 and 2 Low Volume Waste Treatment System (i)	
HVAC Cooling Tower Blowdown	Supplementary Chilled Water System (HVAC)	Daily	2,097,000	Total Suspended Solids	650	30	Waterford 1 and 2 Low Volume Waste Treatment System (i)	1

(a) This does not include 184,000 gal. of waste due to back-to-back cold shutdowns and startup at 85% of core life. Maximum of 144,000 gallons per day discharged.

(b) Normal Waterford 3 discharge flow is approximately 1,003,716 gpm.
Normal Waterford 1 and 2 circulating water flow is approximately 435,000 gpm. 2

(c) Due to fuel burnup, hot and cold shutdowns and refueling. Condensate from boric acid concentrator may be reused if it meets plant chemistry requirements.

(d) The regenerant wastes are 17,000 gallons per regeneration.

(e) The filter flush wastes are approximately 1000 gallons per flush.

(f) Includes leakage from Turbine Closed Cooling Water System.

(g) Chemical cleaning will be done during the initial start-up.

(h) Volume of Secondary System is approximately 300,000 gallons. 1

(i) Releases to these Waterford 1 and 2 treatment systems eventually go to Waterford 1 and 2 Circulating Water System Discharge. 1

(j) This does not include spent regenerant from the steam generator blowdown demineralizer.

(k) Not possible to predict.

(l) The regenerant wastes are 50,000 gallons/regeneration.

(m) Maximum combined treated laundry (10,000 gallons per day) and Waste Management (60,000 gallons per day) daily discharge is 70,000 gallons. 1

TABLE 3.6-2

SUMMARY OF CHEMICAL WASTE COMPLIANCE WITH APPLICABLE STANDARDS

(Sheet 1 of 2)

Waste Source	Quantity (gals/yr)	Chemical and Pollutant Content	Estimated Average Concentration After Treatment (ppm)	EPA Effluent Limitations (40 CFR 423) (ppm)	Estimated Increase in Average Concentration of Circulating Water[b] (ppm)	State of Louisiana Water Quality Standards[a]	
Boron Management System	685,000	Boron[e]	10	-	$1.4X10^{-4}$	No standards	
Waste Management System	400,000	Detergent, Dirt	10	TSS-Avg- 30 Max-100	$9X10^{-5}$	No numerical criteria	2
Laundry, Showers	131,400	Detergent, Dirt	30	TSS-Avg- 30	$1.9X10^{-4}$	No numerical criteria	
Condenser Feedwater Equipment Drains	60,000	Hydrazine[e]	.05	-	$5.7X10^{-9}$	No numerical criteria	
		Ammonia[e]	0-1	-	$1.2X10^{-7}$	No numerical criteria	
Floor Drains	67,000	Detergent, Dirt	0.1		(h)	No numerical criteria	
		Oil & Grease (O & G)	15	O&G: Avg- 15 Max- 20		No numerical criteria	
		Total Suspended Solids (TSS)	30	TSS: Avg- 30 Max-100		No numerical criteria	
Demineralized Water System	365,000	Total Dissolved Solids[e]	0-10,000	-	3.8[d]	400 ppm	
		Sulfates[e]	0- 5,000	-	1.9	120 ppm	
		pH	6-9	6-9	No change[f]	6.5-9.0	
Primary Water Treatment Plant Flush Water	13,140,000	Suspended Solids	1000	TSS-Avg- 30 Max-100	1.5[c]	No numerical criteria	
		Polyelectrolyte[e]	1-2	-	$3.0x10^{-3}$[c]	No numerical criteria	
		Residual Chlorine	0-.1	Cl: Avg-0.2 Max-0.5	$1.5x10^{-4}$	No numerical criteria	
Sewage Treatment Plant	3,650,000	Residual Chlorine	0-0.5	-	$7.9X10^{-6}$	No numerical criteria	
		B O D	30	Avg- 30	$4.7X10^{-4}$	No numerical criteria	
		Total Suspended Solids	30	Max- 45	$4.7X10^{-4}$	No numerical criteria	
Administration Building Sewage Treatment Plant	1,460,000	Residual Chlorine	0-0.5	-	(h)	No numerical criteria	
		BOD	30	Avg - 30		No numerical criteria	1
		Total Suspended Solids	30	Max 45		No numerical criteria	
Preoperational Flushing & Hydrostatic Testing	15,000,000-20,000,000	Hydrazine[e]	Not known	-	(g)	No numerical criteria	
		Total Suspended Solids	30	TSS-Avg- 30 Max-100	(g)	No Numerical criteria	

TABLE 3.6-2 (Cont'd)

SUMMARY OF CHEMICAL WASTE COMPLIANCE WITH APPLICABLE STANDARDS

(Sheet 2 of 2)

Waste Source	Quantity (gals/yr)	Chemical and Pollutant Content	Estimated Average Concentration After Treatment (ppm)	EPA Effluent Limitations (40 CFR 423) (ppm)	Estimated Increase in Average Concentration of Circulating Water[b] (ppm)	State of Louisiana Water Quality Standards[a]
Preoperational Flushing & Hydrostatic Testing (Cont'd)		pH	6-9	6-9	No Change	6.5-9.0
Steam Generator Blowdown System Regenerative Solutions	145,000	Total Dissolved Solids Sulfates pH	0-10000 0-5000 6-9	- - 6.0-9.0	4.6(i) 2.3 No Change	400 ppm 120 ppm 6.5-9.0
Steam Generator Blowdown System Electromagnetic Filter Flush	20,000	Total Suspended Solids	30	30	6.9×10^{-3}(k)	No numerical criteria
HVAC Cooling Tower Blowdown	2,097,000	Total Suspended Solids	30	30	3.7×10^{-4}(Max.) 2.7×10^{-4}(Avg.)	No numerical criteria

(a) Classification of Mississippi River in this reach is B (Secondary Contact Recreation). These standards/criteria are applicable after the chemical waste mixes with river water.

(b) Normal Waterford 3 discharge flow is approximately 1,003,716 gpm.
Normal Waterford 1 and 2 circulating water flow is approximately 435,000 gpm.

(c) Instantaneous concentration based on flush discharge of 90,000 gallons per hour.

(d) Instantaneous concentration based on regenerative waste discharge of 10,000 gallons per hour.

(e) No EPA effluent limitations.

(f) There will be no perceptible change in pH.

(g) Not possible to predict.

(h) Discharged to the Storm Water Drainage System.

(i) Instantaneous concentration based on regenerative waste discharge of 12,000 gallons per hour.

(k) Instaneous concentration based on flush discharge of 6000 gallons per hour.

4.1 SITE PREPARATION AND CONSTRUCTION

4.1.1 CONSTRUCTION SCHEDULING

All major activities involving excavation, dredging, spoil disposal, and backfilling were finished by October, 1978. The scheduled dates for completion of major milestones in the construction of Waterford 3 are given in Table 4.1-1.

4.1.2 DESCRIPTION OF SITE PREPARATION AND CONSTRUCTION

4.1.2.1 Major Construction-Related Facilities

Various semi-permanent buildings erected for construction, such as contractor offices, warehouses, guard houses and construction offices, are distributed throughout the site, as shown in Figure 3.1-1. The location of other principal construction areas at the Waterford 3 site is given on Figure 4.1-1.

4.1.2.2 Access

Employee and construction vehicles travel to and from the site by Louisiana Highways 18, 52, 3142, 3127 and U S Route 90. These highways are shown on Figure 2.1-10. Primary access to the construction areas is provided by two temporary roads built from Louisiana Highway 18, one approximately 900 feet east of the discharge structure, and one approximately 1150 feet west of the intake structure, as shown in Figure 4.1-1. Table 4.1-2 shows the estimated daily average number of construction workers that commute to the Waterford 3 site, and Table 4.1-3 shows the estimated daily volume of construction traffic. Various heavy or bulky construction materials, such as containment vessel plates, circulating water pipes, and fine and coarse aggregate for the concrete batch plant, have been transported to the site by barge or by two railroad spurs that extend from the Missouri Pacific Railroad located within LP&L's property line, as shown in Figure 2.1-4.

4.1.2.3 Excavation, Grading and Dredging

Since the site was originally flat agricultural land, little clearing, regrading or other site preparation was needed. Table 4.1-4 indicates that approximately 150 acres, or 4.2% of the 3,560 acre site, have been affected by plant construction activities. Disposal of all spoil removed by excavation for the main plant and Circulating Water System has been either inside, or immediately outside, the construction area. Spoil disposal within the main construction area, as shown on Figure 4.1-1, has been used to raise the elevation of areas occupied by temporary construction facilities, whereas spoil disposed outside the main construction area has been graded and seeded to prevent erosion.

4.1.2.4 Construction Water Use

All potable water and water used for the concrete batch plant is obtained from the St Charles Parish water system. A small amount of the groundwater, derived from pumped relief wells inside the excavation area, has been used for compaction of the backfill around the plant island structure. These wells, in addition to the wells that are part of the dewatering system at the periphery of the plant island structure, have been discharging groundwater into the site drainage system at a rate ranging between 100 to 200 gpm since 1975. Groundwater levels, depressed as much as 75-80 feet within the excavation areas, were allowed to return to their original levels in a controlled manner as required by the plant island structure foundation design.

Storm water, sanitary treatment plant effluents and pumped groundwater are discharged through the site drainage system into the canal system south of the Waterford 3 site. Twelve extended aeration, activated sludge, package sewage treatment plants[1] presently service the construction site. The effluent is chlorinated prior to discharge. Chemical toilets were formerly used to service construction personnel outside the temporary construction buildings and these wastes were disposed of offsite. However, those chemical toilets servicing the plant island are presently collected and conveyed to a 10,000 gpd capacity extended aeration package treatment facility. Chemical toilets are still used in the outlying areas (e.g. on the river bank construction area) and the wastes are disposed of offsite. 2

4.1.3 EFFECTS OF SITE PREPARATION AND CONSTRUCTION

4.1.3.1 Effects on Land Use

Construction activities have only affected about 4.2% of the land on LP&L's property. The loss of previously existing agricultural land, typically planted with sugar cane, represents about 2% of the total cropland within St Charles Parish.

The topographic relief at the site has been altered slightly by the excavation and disposal of spoil within the construction area. Planting, shell paving, and contouring have prevented excessive erosion. Landscaping will be completed at the end of the construction phase.

Based on the information described in Section 2.6, Waterford 3 construction activities have not affected historical or cultural resources on the site or in the local area.

Traffic congestion caused by trucks delivering materials and passenger cars at the change of work shifts has occurred in the local area. These vehicles, along with traffic associated with other construction activities in nearby areas, have increased the traffic load on Louisiana Highway 18, but the recent construction of Louisiana Highway 3127, connecting the site area with U S 90, has provided relief from this temporary situation.

Although noise from construction equipment and vehicles has occurred, its impact on the nearest residences, located approximately 4,000 feet from the site, has not appeared to be significantly greater than that due to the

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predictions are larger than those of the typical low flow because the average seasonal flows are based on a conservative modeling approach for the Waterford 1 and 2, Waterford 3 and Little Gypsy discharges, whereas the typical low flow condition was based upon actual measurements at Waterford 1 and 2 and Little Gypsy, with the superimposition of the Waterford 3 plumes predicted by the model. 1

5.1.3 BIOLOGICAL EFFECTS

5.1.3.1 Effects of Water Intake

5.1.3.1.1 Impingement

Impingement, the collision of an organism with the screen system as a result of intake flow, is a potential effect of plant operation.

Impingement rates are determined by a complex interaction of factors such as fish densities, intake design and capacity, fish behavior, fish swimming abilities, physical and chemical environmental conditions and other factors. 2
Knowledge of the manner in which many of these factors operate is either extremely limited or unavailable at this time. However, within these constraints, predictions of the effects of impingement from the operation of the Waterford 3 Circulating Water System have been made.

Pursuant to Section 316(b) of Public Law 92-500, (Federal Water Pollution Control Act Amendments of 1972), a report was submitted in April 1979 to the Federal Environmental Protection Agency concerning the effects of the Waterford 3 intake on the aquatic ecology of the Mississippi River. This report[14] presents, on a community-by-community basis, the rationale for the determination that the Mississippi River in the vicinity of Waterford 3 is an area of low potential impact due to water withdrawal. A summary of the methodologies, impingement estimates made, and the impact of impingement on the lower Mississippi River from this study are presented below.

5.1.3.1.2 Methodology for Determining Impingement Rates

Prior to the preparation of the 316(b) Demonstration, impingement estimates for Waterford 3 were correlated to impingement measurements at Waterford 1 and 2. This was considered adequate since the Waterford 1 and 2 intake is located approximately 0.5 miles upstream and on the same side of the river as the Waterford 3 intake. However, with the requirement for the preparation of a 316(b) Demonstration, it was felt necessary to refine these initial estimates, especially since these two intakes are of significantly different design. Therefore, the comparative investigation of power plant impingement effects was expanded to include available data from other representative stations in addition to Waterford 1 and 2. 2

Power plant impingement measurements were first investigated from available information on stations located in the lower Mississippi River. Two plants were found in addition to Waterford 1 and 2: Willow Glen 1 and Willow Glen 4. However, these plants have pipeline intakes which withdraw water from a limited water depth and the impingement effects could therefore be expected to not be representative of Waterford 3's.

Since it was not possible to obtain impingement data from the lower Mississippi River intakes with similar designs to that of Waterford 3, additional up-river stations were investigated. The rationale for this investigation is that the dominant fish species present in these areas are probably the same ones subject to impingement at Waterford 3. The applicable upstream stations are Sioux, Meramec, Wood River and Riverside - all located on the Mississippi River; the Gallagher Generating Station located on the Ohio River; and Council Bluffs, Hawthorne and Labadie Stations located on the Missouri River.

Basically the methodology for developing impingement rates consisted of comparing the impingement rates for the dominant fish species at each station in light of: the differences in intake design (e.g. intake velocities and depth of water withdrawal); the physical conditions of the river at the station location (e.g. river water temperature); the intake location, and; knowledge of the biological characteristics of the dominant fish species. Table 5.1-5 presents a comparison of the intake designs, intake velocity, the average intake capacity and information on water recirculation for the various stations, including Waterford 3.

As Table 5.1-5 indicates, the intake velocity of Waterford 3 is about the same as the average velocity of all the intakes evaluated. Because there was not significant variability in the range of velocities among the plants, a correlation between rates of impingement and velocity could not be drawn in this analysis. Therefore, velocity information did not affect the prediction of impingement by Waterford 3.

2

Numbers of organisms impinged per unit volume of water withdrawn were used to account for differing operating levels among the plants and to provide a basis for predicting impingement rates at the average Waterford 3 intake flow.

Two estimates of impingement by Waterford 3 were developed. The first, reflecting conservative underlying assumptions, is the expected likely maximum rate. The second is a rate judged to be more likely to actually occur, which is referred to as the likely average rate. This range of impingement rates can be conservatively anticipated to envelop a reasonable and realistic rate which can then be used to analyze the effect on the Mississippi River resources. The assumptions utilized for a particular species are discussed in the following section and calculations were based, as given in Appendix 5-3, on judgment estimates of where in a range of volumetric impingement rates the Waterford 3 rate would be expected to fall.

5.1.3.1.3 Impact of Impingement on the Lower Mississippi River

Utilizing the methodology summarized above and detailed in Appendix 5-3, estimates of the probable magnitude of the impact of impingement on the shellfish and finfish populations of the lower Mississippi River from the withdrawal of water for Waterford 3 were made. All impingement estimates presented below conservatively assume a mortality rate of 100 percent.

a. River Shrimp

The river shrimp is a species of crustacean which is abundant at Waterford 3 and is fairly ubiquitous in the lower Mississippi River. Impingement of river shrimp was not reported by any of the facilities investigated other than Waterford 1 and 2, Willow Glen 1 and Willow Glen 4, but its range is quite wide. Thus the prediction of impingement for river shrimp at Waterford 3 is based upon a limited data base and upon the preferred habitat of the species.

Average impingement of river shrimp was found to be less than 0.005 organisms per 100,000 gallons at Willow Glen 4, about 0.08 per 100,000 gallons at Willow Glen 1, and approximately 0.08 per 100,000 gallons at Waterford 1 and 2. These intakes draw water from near the bottom, where shrimp are most likely to occur, and are expected to result in higher rates of impingement than would occur at Waterford 3. Nevertheless, a likely maximum rate of impingement of approximately 0.06 shrimp per 100,000 gallons by Waterford 3 has been postulated from the average of the rates of Waterford 1 and 2, Willow Glen 1 and Willow Glen 4. This rate, expressed on an annual basis, is equivalent to 260,000 shrimp per year or 1040 pounds per year, using an average weight of 0.004 pounds per shrimp.

A more likely rate of shrimp impingement can be estimated to be 0.01 individual per 100,000 gallons, which is equivalent to 44,000 shrimp or 180 pounds per year. This information is also included in Table 5.1-6. 2

b. Blue Catfish

Blue catfish were the most abundant species found in the Waterford 1 and 2 impingement study. Excluding shad, blue catfish comprised 55% of the total remaining specimens collected at Waterford 1 and 2; and 23% and 8% of the total remaining specimens at the two Willow Glen intakes. At the more northern intakes, it comprised only about 1% of the remaining specimens.

These percentages suggest that similarities in the design and/or location of the lower basin intakes account for the relatively higher impingement rates for blue catfish. Blue catfish are more abundant in the lower reaches of the basin than they are further north, and they generally dwell on or near the river bottom. Therefore, as the comparison of the percentages impinged indicate, blue catfish are relatively more susceptible to impingement by intakes of the design (submerged pipes) and locational characteristics of Waterford 1 and 2, Willow Glen 1 and Willow Glen 4.

The volumetric rates of impingement of blue catfish for all the study stations are 0.034 fish per 100,000 gallons for Waterford 1 and 2, 0.003 for Willow Glen 1 and 0.002 for Sioux. A conservative rate of impingement for Waterford 3 can be predicted as 0.030 fish per 100,000 gallons, based solely on its close proximity to Waterford 1 and 2. This rate can be anticipated to be a likely maximum rate of impingement of blue catfish by Waterford 3, due to

the lack of consideration of the design differences. At this rate, a likely maximum of 131,000 blue catfish per year can be predicted for Waterford 3, assuming an average withdrawal rate of 830,000 gpm. When the design differences between Waterford 1 and 2 and Waterford 3 are considered, it is more likely that Waterford 3 will impinge approximately 0.02 blue catfish per 100,000 gallons withdrawn. This lower rate can be assumed to be due to the greater susceptibility of blue catfish to withdrawal and impingement by the upward extraction of bottom waters through the inverted pipe of the Waterford 1 and 2 intake.

If the average weight of 0.02 pounds per fish is assumed, (based on data from the study at Waterford 1 and 2), the intake serving Waterford 3 will impinge an expected maximum of approximately 2600 lb/yr of blue catfish; however, a more likely average rate is 1700 lb/yr. These estimates are shown in Table 5.1-6.

c. Channel Catfish

The average rate of impingement of channel catfish experienced at Waterford 1 and 2 was 0.003 fish per 100,000 gallons. This low rate of impingement of channel catfish, given the assumption that the Waterford 1 and 2 intake would be selective for this species because of its design, indicates that channel catfish are relatively much less abundant in this area of the river.

The prediction for the range of impingement of this species by Waterford 3 can be derived in the same manner as the range for blue catfish. A conservatively predicted maximum rate for Waterford 3 would be 0.003 fish per 100,000 gallons, or 13,100 fish per year. Using the average weight per fish, of 0.05 pounds which was obtained from the Waterford 1 and 2 study, a likely maximum weight of 650 lb/yr of channel catfish would be impinged by Waterford 3. A more likely average rate can be expected to be approximately 0.002 fish per 100,000 gallons or 8700 fish per year. This would be equivalent to about 400 lb/yr. Table 5.1-6 includes these estimates.

2

d. Freshwater Drum

A review of the freshwater drum impingement rates at the stations studied indicated that the Riverside Station intakes impinged relatively higher numbers of this species. This fact, in light of the lower water withdrawal rates, indicates that a much higher abundance of drum occurs in the Mississippi River near this station than at the others. Given this assumption, a likely maximum rate of drum impingement was predicted for Waterford 3 based on the average of all stations except Riverside. This average is 0.02 fish per 100,000 gallons of water, or 87,000 drum per year. The actual drum impingement rate observed at Waterford 1 and 2, which can be expected to be selective for drum because of its withdrawal from near the river bottom, is 0.01 fish per 100,000 gallons. The maximum rate predicted for Waterford 3 is greater than this, which is not likely to occur. A more likely level of impingement of drum by Waterford 3 would be estimated to be 44,000 per year. At an average

fish size of 0.09 pound per fish, it can be predicted that Waterford 3 will impinge 4000 lb/yr under average circumstances. These figures are also given in Table 5.1-6.

e. Shad

The percent of shad in the total fish impinged at the other stations investigated was quite variable and ranged from 13 to 93 percent. The analysis indicated that shad impingement rates were much less in the lower Mississippi River stations than the central Mississippi River and Ohio River stations. This can be attributed to the greater susceptibility of shad in more northern waters; the intake designs (lower Mississippi River intakes draw primarily from bottom waters), and; a greater productivity of the northern waters, with the exception of the Missouri River which is channelized significantly. It is conservatively estimated that shad impingement will be about 45% of the total impingement by Waterford 3. Forty-five percent represents a value in the lower range of relative abundance of shad impinged at stations other than Waterford or Willow Glen (37 to 93%). However, it is significantly higher than that experienced at Waterford 1 and 2 (13%), Willow Glen 1 and Willow Glen 4 (15%). The impingement rates at these lower Mississippi River stations might be expected to be somewhat less than that at Waterford 3 which withdraws water from a greater portion of the water column. However, shad will be less susceptible to impingement than at the upriver stations due to higher water temperatures in the winter and a generally lower productivity of shad in the lower Mississippi River. 2

It has been assumed that shad would comprise 45% of the total impingement by Waterford 3, and that combined catfish and drum impingement will constitute 50%. The sum of the maximum volumetric rates estimated above for catfish and drum is 0.053 fish per 100,000 gallons. Utilizing simple ratios, the maximum likely rate of shad impingement is predicted to be 0.048 shad per 100,000 gallons. This rate is derived as follows:

$$\frac{0.053}{50} = \frac{x}{45}$$

$$50(x) = (0.053)\ (45)$$

$$x = 0.0477$$

A similar computation for predicting the likely average rate for shad impingement results in 0.029 shad per 100,000 gallons withdrawn, given a likely average combined rate of 0.032 per 100,000 gallons for catfish and drum.

Table 5.1-6 shows that the impingement of shad can be conservatively predicted to be between a maximum of 210,000 fish per year and a likely average of 125,000 fish per year. This would imply an estimated maximum annual loss of 17,000 pounds of shad or an average annual loss of 10,000 pounds, based on an average weight of 0.08

pounds per fish. This poundage of shad is based on an assumed impingement of equal proportions of gizzard and theadfin shad, with average weights of 0.15 and 0.01 pounds per fish, respectively.

f. Other Fish Species

Impingement of other fish species (including striped mullet) is conservatively estimated to comprise 5 percent of the total impingement at Waterford 3. Thus, the estimated impingement rates of these other fish species can be mathematically derived from the impingement rates of the dominant fish species. The resultant impingement rate is estimated to be a maximum of 0.005 fish per 100,000 gallons and a likely average of 0.003 fish per 100,000 gallons. Table 5.1-6 presents the range of annual impingement rates for these species.

It may be noted that striped mullet was identified as being a dominant species in the river at Waterford 3. It was not impinged in high numbers at Waterford 1 and 2, which may be due, in part, by its strong swimming ability and tendency to respond effectively to intake water currents[17]. In situations where generating stations, utilizing once-through cooling from surface water intakes, are located in areas of very high mullet abundance, this species has been found to comprise a very small percentage of the impingement collections[18,19,20]. Therefore, because of its very low susceptibility of impingement, striped mullet is not considered to be a dominant species in this analysis although it occurs in relatively high abundance in the river. 2

5.1.3.1.1.3 Summary of Impingement Effects

Knowledge of species composition of the biological community in the vicinity of Waterford has been obtained from both the preoperational Environmental Surveillance Program and a review of other ecological studies conducted in the lower Mississippi River. Based on this knowledge, measured impingement rates at other stations in the vicinity and the design of the Waterford 3 intake, estimates of impingement rates were developed.

From these estimates, a likely maximum rate of impingement by Waterford 3 can be predicted to be 0.106 fish per 100,000 gallons, or 463,000 fish per year, and 0.06 shrimp per 100,000 gallons, or 260,000 shrimp per year. Thus a total maximum impingement of approximately 720,000 organisms per year can be expected.

The more likely rate of impingement by Waterford 3 is anticipated to be 0.064 fish per 100,000 gallons, or 277,000 fish per year. River shrimp are predicted to be impinged at 0.010 shrimp per 100,000 gallons, or 44,000 shrimp per year. Table 5.1-6 presents a summary of the range of estimated annual impingement rates for the dominant species, the number impinged per year and the pounds per year expected to be impinged.

The impingement estimates will not necessarily result in permanent loss of this weight of organisms from the Mississippi River each year. The sluice return system, incorporated into the intake structure design, can be anticipated to return some of the organisms to the river in a condition which

would result in their survival. Furthermore, it should be noted that Waterford 3 is not expected to operate about 11 percent of the time on an average annual basis. During such times, it is expected that one circulating water pump will be operating which reduces the intake volume by a minimum factor of fifty percent. These two factors, plus the conservative assumptions made in developing impingement rates from available information at the other stations, indicate that the predictions presented above can be considered to be an upper limit for the rate of impingement which can be expected.

To evaluate the effect of the predicted range of impingement of aquatic organisms by Waterford 3 to the Mississippi River as a whole, the poundage estimated to be lost because of impingement can be compared to the commercial fish landings. This is one of the few measures available to quantifiably place the economic value of impingement losses perspective, and has been utilized in other analyses of this type[15,16]. This comparison could be done both in terms of poundage and dollar value. However, this comparison of poundage of fish impinged to poundage of commercial catch is misleading. The average weight of each organism impinged is likely to be significantly below that of a commercial-sized specimen. Direct comparison of poundage of the smaller, younger impinged fish to the poundage of commercial landings overlooks the natural and man-made mortality to the population that occurs as the fish mature. It is necessary, therefore, to establish a measure by which the value of the fish impinged can be effectively compared to commercial use of this resource.

The American Fisheries Society has calculated the costs of raising an individual fish of a designated species to a specified size[21]. This value may be termed the "replacement cost" for an individual fish, and has been utilized to determine the compensation for the loss of fish due to water pollution. For consistency, these costs are compared to the value of commercial landings for 1975.

Utilizing the average length of the individual impinged fish measured during the Waterford 1 and 2 impingement study, and the number per year of that species expected to be impinged, the total replacement cost for the species can be calculated. Table 5.1-7 lists these values for catfish, drum, and shad, which together, have been predicted to constitute 95% of the total fish impinged by Waterford 3. The remaining 5% in the impingement of "other species" of fish, and the replacement cost for this group is taken at 5% of the total costs for the catfish, drum and shad. A replacement cost for river shrimp, by length, could not be located. Therefore, to complete Table 5.1-7, the cost for shrimp was calculated from the 1975 dollar per pound value reported for shrimp taken in the Inland District of the State of Louisiana[22].

Table 5.1-7 indicates that the total costs of the fish and shellfish for both the maximum and likely average rates expected to be impinged ranges from a high of approximately $19,000 per year to an average of $10,000 per year. These values may be compared to the 1975 total value for the Inland District for fish and shellfish of $2.95 million[22]. Therefore, at the maximum predicted rate, the annual replacement costs for impingement is less than 0.7% of the value of this districts' commercial landings. The replacement costs at the average rate would be less than 0.4% of this value.

2

In evaluating the significance of this comparison, it is important to note that the fisheries resources of the Mississippi River make a very small contribution to the commercial landings in the Inland District. The Atchafalaya River and the surrounding bayous are the source of the great majority of the districts' commercial landings[23].

Therefore, even at the expected maximum rate, it is apparent that, impingement by Waterford 3 will represent an insignificant economic effect to the fisheries resources of Louisiana and the Inland District. The loss contributed by Waterford 3 is also from a water source which has minimal contribution to these resources. The maximum replacement cost of less than 0.7% of the commercial value is easily obscured by the annual variation in the economic values of the district's landings, which between 1972 and 1977, ranged from an annual dollar increase of 43% to a decrease of 18% from the preceeding year. 2

An evaluation of the ecological effect of the predicted rate of impingement is much more difficult than an analysis of effect to the commercial fisheries resources. Sufficient information is not available to quantitatively define the fish population which occurs in this reach of the Mississippi, or to identify accurately the method of recruitment to that population. Therefore a quantified estimate of changes to the population is not possible. Even if a quantification of the change were possible, it would be highly speculative to predict the long-term effects to the entire ecosystem.

As previously noted, the volumetric impingement rate predicted for Waterford 3 varies between 0.106 to 0.064 fish per 100,000 gallons. This range is within the lower rates that were determined for the other stations studied. In view of this, there is no reason to assume that the ecological effects of impingement by Waterford 3 will be significant.

5.1.3.1.2 Entrainment

Organisms subject to entrainment (entering the intake with the water withdrawn from the river and being pumped through the condenser) into the Waterford 3 Circulating Water System include phytoplankton, zooplankton, ichthyoplankton, and juvenile fish and invertebrates small enough to pass through the 1/4 inch clear openings of the traveling screens. Slender fishes up to 1-1/2 inches in length may also be entrained. However, deeper-bodied fish such as shad would be impinged at smaller sizes. Stresses placed on organisms once they are entrained into the plant are thought to include thermal shock, velocity and pressure changes, sheer stress, reduced dissolved oxygen, and periodic boicide treatments. Some studies have indicated that during entrainment, mechanical damage may account for a greater percentage of organism mortality than temperature[24]. 2

At Waterford 3, the total retention time, after the addition of heat, in the Circulating Water System ranges from 238 to 532 seconds (4-9 minutes) while total entrainment time ranges from 337 to 690 seconds (6-12 minutes) (shown in Table 3.4-2). Temperature elevation (ΔT) would range from 26°F (14.4°C) at 2-pump operation to 16.1°F (8.9°C) at 4-pump operation (see Section 3.4.2.1). Free available chlorine concentrations at the point

of discharge are expected to reach 0.2-0.5 ppm for 2 hours/day when chlorination is necessary.

Assuming that entrainment is nonselective and the distribution of organisms in the water body is homogeneous, then the relative number of organisms withdrawn from the community will be directly proportional to the relative amount of water withdrawn from the river. This assessment of the impact of entrainment on plankton communities in the lower Mississippi River is greatly influenced by the low percentage of river flow expected to be withdrawn by Waterford 3. As described in Section 2.4.2.2, the minimum expected river flow is 100,000 cfs. On a daily basis (see Table 2.4-2), flows of this order of magnitude might occur in any give year. However, sustained flows (i.e., 7 days) of 100,000 cfs occur only about every 36 years based on daily flow duration data obtained from the USGS for the period of record 1942-1976. As noted in Section 2.4, river flows of 200,000 cfs are more representative of average, long term (e.g., monthly) typical low river flow conditions. Therefore, flows of 200,000 cfs are considered to be more representative and probably provide a more realistic basis upon which to estimate impacts during low flow conditions. Nevertheless, the effects of Waterford 3 operation are analyzed for both low flow conditions, herein.

As presented on Figure 2.4-6, minimum river flows in the range of 200,000 cfs and and 100,000 cfs occur most frequently in the summer and fall seasons, respectively. Based on the average seasonal river water temperature and the CWS operating mode (presented in Section 3.4), the Waterford 3 intake withdrawal rate for the summer and fall seasons is 2237 cfs and 1831 cfs respectively. Therefore for the 200,000 cfs river flow condition, only 1.1 percent of the river flow is entrained through the plant and for the 100,000 cfs case, 1.8 percent is entrained. As shown in Table 5.1-8, flows are at a maximum during the spring when most fish spawn. Based on average spring flows (1942-1976), the percentage of river flow and/or organisms entrained would be only 0.30 percent.

5.1.3.1.2.1 Phythoplankton

The impact on phytoplankton entrainment in cooling water systems appears to be due principally to temperature increases. Experiments conducted at Indian River in Delaware showed that mechanical effects of entrainment had relatively little effect on Carbon-14 (^{14}C) uptake rates of phytoplankton, which is an indicator of algal productivity. However, thermal elevaton during entrainment greatly influenced ^{14}C uptake[25]. A 11.7°F (6.5°C) ΔT, when ambient temperature were below 71.6°F (22°C), resulted in increased ^{14}C uptake. A similar ΔT, when ambient temperatures were above 71.6°F (22°C), resulted in reduced ^{14}C uptake. 2

At another location (Lake Wylie, North Carolina) where intake temperatures varied from 49°F (9.4°C) to 84° (28.9°C), ΔT's of 10°F, 20°F and 30°F (5.6°C, 11.1°C and 16.7°C) all resulted in decreased ^{14}C intake[26]. In general, productivity tended to decrease when intake temperatures increased. For example, the ratio of the test ^{14}C uptake to the control ^{14}C uptake dropped from 0.76 to 0.35 with increasing intake temperature. Mechanical stresses did not seem to affect ^{14}C uptake. Diatoms, which were the most abundant phytoplankton group in the river 2

at Waterford (see Section 2.2.2.2.1), are generally tolerant to temperatures below 86°F (30°C)[27]. Temperatures greater than 86°F (30°C)would be expected to affect diatom productivity adversely. Based on average monthly ambient temperatures, given in Table 2.4-14, and the temperature elevations expected within the Waterford 3 Circulating Water System, water temperatures within the plant would be expected to exceed 86°F (30°C) 50 percent of the time i.e., when ambient river temperatures are greater than or equal to 68°F (20°C). | 2

Effects of phytoplankton entrainment on lower Mississippi River energy flow are expected to be insignificant, even if productivity was temporarily depressed during 50 percent of the year in less than 1.3 percent of the river flow. This is due to the following characteristics of the phytoplankton population:

a) Phytoplankton communities in the vicinity of Waterford 3 are not diverse and occur in low density (see Section 2.2.1.1.2).

b) It appears that detritus is more important than phytoplankton in the lower Mississippi River food chain.

c) Phytoplankton have relatively short generation times. Doubling time for Coscinodiscus sp, for example, is approximately 30 hours at 18°C (64.4°F). and doubling time for Asterionella formosa is 9.6 hours at 20°C (68°F)[28]. Therefore, it is likely that if production is taking place in the river any phytoplankton losses would be compensated for within a short distance of the Waterford 3 discharge. | 2

d) The percentage of the total river flow entrained through the plant is low enough that changes in standing crop available to phytoplanktivorous organisms are expected to be inconsequential.

5.1.3.1.2.2 Zooplankton

Studies on the effects of entrainment on zooplankton show variable results. The impact of entrainment on zooplankton at the Connecticut Yankee Plant was primarily a result of thermal effects[29], and it was found that mechanical damage accounted for less than 1 percent of the impact[30]. | 2
When discharge water temperatures were above 31.0°C (87.8°F), mortality of the zooplankton was 100 percent[30]. During cooler periods, most of the zooplankton survived. | 2
When discharge temperatures at the J M Stuart Station on the Ohio River reached 35-37.2°C (95-99°F), 100 percent of the entrained zooplankton were killed (Milburn as cited in[31]). | 2
Studies at Millstone Point Generating Station showed, on the contrary, that 70 percent of entrained copepods were killed by mechanical or hydraulic stresses (Carpenter et al, cited by Marcy[24]). | 2
At the Zion Generating Station on Lake Michigan, it was also found that mortality of entrained zooplankton (averaging 8.7 percent) was primarily due to mechanical factors[32]. | 2
Cooley[33] found no inhibition of cladoceran feeding after passage through condensers.

If it is assumed that zooplankton entrained in the Waterford 3 Circulating Water System will suffer similar mortalities, 100 percent of the entrained

zooplankton would be expected to be killed when discharge temperatures reach 99°F. This would occur when ambient temperatures are 83°F or greater, which would be 25 percent of the year, as indicated in Table 2.4-14. During most of the year, however, mortality of entrained zooplankton would be expected to be lower. The effect of zooplankton entrainment is not expected to be significant for several reasons. Zooplankton samples at Waterford generally show no variation by station (Table 2.2-8) or depth Table 2.2-9), and therefore, entrainment should be proportional to percent of river flow withdrawn. This is expected to be less than 1.3 percent (on an average minimum monthly basis), as shown in Table 5.1-8. In addition, the relatively short generation times of most planktonic invertebrates allow populations to recover rapidly from effects of entrainment. For example, using a test pond, Hall et al [34] estimated that rotifers have a 3-fold turnover per week during summer. Studies conducted under natural conditions indicated relative rates of increase for rotifers of 8 percent per day (Keratella aculeata), and 34 percent per day (Asplanchna pridodonta) (Colditz, 1914, and Ahlstrom 1933, cited by Edmondson (35)). Doubling times for small crustaceans such as copepods and cladocera range from 0.2 to 2 days (Edmondson et al, 1962 and Hall, 1964, cited by Lauer et al [36]). Therefore, effects of zooplankton entrainment by Waterford 3 on the lower Mississippi River are anticipated to be noticeable only in the immediate discharge area where densities may be slightly decreased when ambient temperature are above 83°F. | 2 | 2 | 2

Decapod larvae appear in the river from May to September and are most abundant in June and July. Although larvae were not identified to the generic level during the Environmental Surveillance Program, they were probably river shrimp (Macrobrachium ohione). Summer entrainment is expected to affect an average of only 0.8 percent of the total river volume, even though the volume entrained during summer is the highest of the year. If it is assumed that the distribution of river shrimp larvae is uniform, as the distribution of zooplankton appears to be, the percentage of larvae entrained would be the same as the percentage of the river flow entrained. In Section 2.2.2.3.2 it was indicated that the distribution of zooplankton appeared homogeneous based on statistical analysis of the monitoring program sampling data (Table 2.2-11 and 2.2-12). Thus, the assumption that the percentage of the zooplankton community entrained by Waterford 3 should be equivalent to the percentage of river flow entrained seems reasonable. An entrainment rate of less than 1.0 percent would not be anticipated to affect the river shrimp population significantly in the lower Mississippi River. As described in Section 5.1.3.1.1.3, river shrimp (including those carrying eggs) have been found throughout the lower Mississippi River. | 1

The numbers of drift macroinvertebrates entrained into the Circulating Water System are expected to be extremely low because of the low densities of benthos and the fact that the most common benthic organisms are not generally found in drift communities [37]. Numbers of insect larvae collected in zooplankton samples taken at Waterford were extremely low (see Appendix 2-4). | 2

5.1.3.1.2.3 Ichthyoplankton and Juvenile Fish

Mortality of entrained ichthyoplankton and juvenile fish is generally high. Mortality from mechanical damage of fish entrained by a plant on the Connecticut River has been estimated to be between 72 and 82 percent[38]. Of the fish entrained, clupeids comprised 97.6 percent by number. Other studies have also found mechanical damage to be the greatest single cause of entrainment mortality of fish[38]. Mechanical injury, in general, appears to increase with size of organism entrained[38]. However, not all results are in agreement on the source of entrainment mortality. Kedl and Coutant[39] found that fluid-induced stresses generated in a condenser tube system, simulating that of a steam electric plant, resulted in minimal mortality of larval fish and Daphnia. 2 2 2

Although no studies have specifically examined the effects of entrainment on species present in the Mississippi River at Waterford it can be assumed that mortality would be comparable to that described in other studies. To be conservative, mortality of entrained juvenile fish, eggs and larvae is assumed to be 100 percent in this analysis.

Ichthyoplankton data from the Environmental Surveillance Program indicate that fish egg and larval densities in the lower Mississippi River mainstem are low. Data from zooplankton samples collected in 1973-1974 showed that ichthyoplankton were present in May, June, August and November. In fact, ichthyoplankton were probably present throughout the period extending from May through August. In 1974-1975, ichthyoplankton were sampled in November, February, April and August. Greatest densities were encountered in August, 1975 (mostly Centrachidae) and November, 1974 (mostly Clupeids) (0.024 and 0.027/m^3, respectively). The 1975-1976 sampling showed that ichthyoplankton were present from March through August, with densities ranging from 0.002/m^3 to 0.1/m^3.

Other studies conducted in the lower Mississippi River mainstem reached similar findings. Although 10 species of ichthyoplankton were commonly encountered near St Francisville (RM 256-266), only three of these (chubs, carpsuckers and drum) were confined to the mainstem[40]. Other species were often more abundant in "extra riverine areas"[40] and may have washed into the mainstem from such habitats. Maximum densities of ichthyoplankton in the mainstem near St Francisville were between 50 and 90 fish/100 m^3, which occurred in areas of greatest turbulence[41]. Life history information presented in Appendix 2-3 suggests that most important fish species probably spawn largely within shallow backwater areas. 2 2

The water withdrawn by the Circulating Water System from April through June is expected to be approximately 0.3 percent of the average river flow, as shown in Table 5.1-8. Water withdrawal during average flow conditions in July and August would account for approximately 0.7 percent of the river discharge. Since larval fish densities appear fairly homogeneously distributed throughout the water column (see Section 2.2.2.3.4), the percentage of fish larvae should be the same as the percentages given above. The percentage of fish eggs entrained by the Circulating Water System would be expected to be lower than the percentage of water entrained since most of the important species found in the river near Waterford have demersal

adhesive eggs. The only exception is the freshwater drum, which has buoyant pelagic eggs.

Juvenile fish in the Mississippi River near Waterford would be subject to entrainment in the Circulating Water System when they are an inch or less in length. The smallest fish impinged during February 1976 to January 1977 at Waterford 1 and 2 which have 1/4 inch mesh traveling screens like Waterford 3, were [42]: 2

Gizzard shad	1.2 inches (31 mm)
Threadfin shad	1.1 inches (27 mm)
Blue Catfish	1.0 inch (26 mm)
Freshwater Drum	0.79 inch (20 mm)

Fish smaller than these would be expected to be entrained. The Waterford 3 Environmental Surveillance Program, using trawls, gill nets and electrofishing, revealed only 8 juvenile blue catfish smaller than 30 mm (July 1973). Freshwater drum smaller than 30 mm were collected most abundantly in June 1976, July 1973 and 1976, and September 1973. Gizzard shad smaller than 40 mm as well as threadfin shad smaller than 29 mm were collected most abundantly in July 1973 (Table 2.2-23). 1

During the months of June, July and September, Waterford 3 intake flows will withdraw approximately 0.4-1.0 percent of the total average river flow. As discussed previously, mechanical injury increases with size of entrained fish[38]. Also, the high suspended solids load may further increase mortality of entrained fish by causing abrasion[38]. 2 However, entrainment of fewer than 1 percent of those juveniles present in the Waterford area would occur. This would not be expected to affect the fish population of the lower Mississippi River significantly even if 100 percent mortality of the entrained fish is assumed. As discussed in Section 2.2.2.2.4, the Waterford area is not unique with respect to fish distribution.

5.1.3.1.2.4 Cumulative Effects of Entrainment

In order to more completely assess the effect of withdrawal of river water by the Waterford 3 Circulating Water System on the lower Mississippi River plankton and fish populations, the effects of entrainment of Waterford 1 and 2 and Little Gypsy should also be considered. Under typical low flow conditions (200,000 cfs), the relative quantity of river flow withdrawn by the three Waterford units and Little Gypsy would be 2.3 percent if all units were operated at full capacity. Similarly, for the extreme low flow conditions (100,000 cfs), about 4 percent of the river flow would be entrained. This represents an increase of approximately one and one half times the present cumulative entrainment rates during the extreme low flow condition at Waterford 1 and 2 and Little Gypsy. Table 5.1-9 presents the percent of the monthly average river flow predicted to be withdrawn by Waterford 1 and 2 and Waterford 3. 1

As described in the preceeding sections, the effects of entrainment by the Waterford 3 Circulating Water System on phytoplankton, zooplankton, and ichthyoplankton on the lower Mississippi River ecosystem are expected to be insignificant. The cumulative water withdrawal of Waterford 1 and 2, Waterford 3 and Little Gypsy also appear very low in relation to river flow. The low percentage of river flow withdrawn and the non-uniqueness of the river in the Waterford area (eg, fish spawning is not concentrated in this area in preference to other areas) result in the cumulative effects of entrainment also being insignificant to the lower Mississippi River ecosystem.

5.1.3.2 Effects of Thermal Discharge

The predicted temperature changes which will occur in the lower Mississippi River as a result of the combined thermal discharges of Waterford 3, Waterford 1 and 2 and Little Gypsy, are presented in Table 5.1-4 and Figures 5.1-2 through 5.1-11. 1

The ecological effects of the thermal discharge on the lower Mississippi River ecosystem are expected to be insignificant. This conclusion is based on the following factors: in the Waterford area of the Mississippi River, there are no threatened or endangered aquatic species; the dominant indigenous species present have relatively high thermal tolerances; the habitats characterizing the area are not unique, there is a lack of critical spawning areas; and the thermal plume is basically a surface phenomenon.

5.1.3.2.1 Effects of Thermal Discharge on Phytoplankton Communities

In summer, when average river temperatures are 83-86°F (28.3-30°C), the optimum temperatures of the dominant phytoplankton in the Waterford area, diatoms (see Section 5.1.3.1.2.1), will be exceeded inside the 5°F (2.8°C) isotherm of the plume. Ambient temperatures will be expected to be above 82°F approximately 16 percent of the year. However, travel time through the plume would only be 64 minutes. The generally low densities of phytoplankton and the several factors limiting production (discussed in Section 2.2.2), indicate that this community would not be stressed or changed. Therefore, the impact of thermal discharge on the lower Mississippi River phytoplankton community would not be expected to be significant.

In addition, nuisance species, such as some species of blue-green algae (cyanophytes), are in low relative abundance within the present phytoplankton community, as shown in Table 5.1-10. Therefore, levels of nuisance species within the existing phytoplankton community are not anticipated to become a problem. The results of the Environmental Surveillance Program have indicated that "algal blooms" in the sense that blooms are usually construed and noticeable as surface mats or odors variously described as "septic", "fishy", "grassy", etc. have never been observed. Based on river morphometry, river flows and the areas of high temperature increase and the travel time through the high temperature area of the plume; algal blooms would not be expected. Nevertheless, during extreme low flow conditions (100,000 cfs), phytoplankton doubling time data[28] suggest that travel times through the combined plume created at such times (9 hours through the entire extent of the 3.6°F excess temperature isotherm) might cause 1 2 1

a local increase in the productivity of some blue-green algae. In addition it should be noted that the nine hour exposure to these excess temperatures is toward the lower limit of the doubling time range and taking into consideration both the areas affected and the nature of the riverine habitat it is unlikely that a situation where blue-green growths due to the Waterford 3 discharge would create noticeable tastes or odors for downstream users or affect dissolved oxygen concentrations in the plume area. Without the Waterford 3 discharge, the travel time through zones of excess temperature greater than 3.6°F created by the combined thermal plumes (Waterford 1 and 2 and Little Gypsy) during the extreme flow condition is about eight hours. This eight hour travel time is only one hour less than the postulated situation with Waterford 3 operating.

5.1.3.2.2 Zooplankton

Plume temperatures in the immediate vicinity of the discharge (ΔT = 16.1°F, 8.9°C) during the summer would exceed the lethal thresholds of some of the zooplankton species present in the Mississippi near Waterford (Table A2.2.2-1). The average ambient summer temperature within the river is 84.3°F (29.1°C) (Table 5A-8). However, the exposure time of zooplankton to elevated temperatures at 100°F (5.6°C) would be short (less than 30 minutes), and the area within the 10°F (5.6°C) isotherm (which is much larger than the area which would be encompassed by a ΔT of 16.1°F) during summer average flow conditions, for example, comprises a maximum of only 2.2 percent of the cross-sectional area of the river, as shown on Table 5.1-4.

During extreme low flow conditions, the 10°F ΔT isotherm from Waterford 1 and 2 and Little Gypsy occupies a volume conservatively estimated at 230 acre-feet and a maximum of two percent of the river cross-section. Addition of the Waterford 3 discharge approximately doubles these figures. Cumulative travel times, however, through the greater than 10°F excess temperature zones on the Waterford side of the river, are predicted to be unchanged after the addition of the Waterford 3 discharges (i.e., 2 hours). Therefore, the addition of the Waterford 3 thermal discharges to those presently occurring does not significantly change the thermal impacts on the aquatic community near Waterford.

Zooplankton densities in the lower Mississippi River are low, and many of the species present appear to be washed into the river from other habitats (i.e., backwater areas, sloughs, etc.). Zooplankton productivity in the lower Mississippi River is probably limited (Section 2.2.2.2.2), and the potential effects of any changes in the zooplankton community resulting from thermal discharges are expected to be insignificant.

5.1.3.2.3 Benthic Invertebrates

Benthic invertebrates in most of the Waterford area would not be expected to be affected by the combined thermal plume of Waterford 1 and 2, and Waterford 3 and Little Gypsy since the 3.6°F (2°C) isotherm does not extend deeper than about 11 feet below the surface during average seasonal flow conditions, or abour 14 feet during typical low flow conditions (Table 5A-11). However, the 3.6°F portion of the plume may touch submerged bank areas of a cross-section of the river at Waterford (up to 39,900 ft^2,

which represents 1.9 percent of wetted perimeter during average winter and spring flow conditions).

During the typical low flow conditions (200,000 cfs), the 3.6°F (2°C) excess isotherm of the Waterford 1 and 2 thermal plume extends 3 ft (1 m) below the surface of the river and contacts up to 22,187 ft (approximately 1/2 acre) of river bottom. The addition of Waterford 3 will not significantly increase this exposure. During average spring and winter flow conditions, the addition of Waterford 3 will increase the area of bottom in contact with the 3.6°F (2°C) ΔT isotherm by approximately 1 acre.

During the extreme low flow conditions of 100,000 cfs, 2 acres of benthic area on the Waterford shore would be affected by temperatures in excess of 3.6°F above ambient under present conditions (i.e. that affected by the operation of Waterford 1 and 2, and Little Gypsy). Waterford 3 is estimated to increase the total benthic area affected to 2.6 acres. Altogether, this is a very small portion of the available benthic habitat in this area of the Mississippi River. 1

Densities of benthic macroinvertebrates in the Waterford area were found to be extremely low (Section 2.2.2), and considering the low percentage of wetted perimeter affected, no significant effect of thermal discharge on the benthic community is expected. The dominant benthic taxa collected at the site were Corbicula and oligochaete worms. Corbicula has an upper tolerance of approximately 93.2°F (34°C) (Table A2.2.2-1). Aquatic oligochaetes also generally have high tolerances to environmental stresses(43). Therefore, no significant effect on these organisms is expected as a result of incorporation of organisms into the discharge plume. 2

5.1.3.2.4 Pelagic Invertebrates

River shrimp (Macrobrachium ohione) is the only common commercial shellfish present in the Waterford area; it has an upper temperature tolerance which appears to be about 86°F (39°C) (Table A2.2.2-1). Under average summer seasonal flow conditions, when ambient temperatures are greater than 81°F (27.2°C), temperatures within the 5°F ΔT isotherm will exceed 86°F. Average ambient temperatures are above 81°F about 20 percent of an average year. The 5°F ΔT isotherm would occupy 4.5 percent of the river cross-sectional area during summer average flow conditions, to a maximum depth of 10 feet, comprising 472 acre-feet. Travel time through the maximum length of this isotherm would be approximately 1 hour. At other times of the year, the plume volume exceeding 86°F would naturally be smaller. For example, 3 acre-feet would be affected when the 16.1°F ΔT is superimposed on ambient temperatures of 69.7°F (Spring), and 450 acre-feet are affected by the 10°F ΔT isotherm if ambient temperatures of 76°F and extreme low flows (100,000 cfs) happen to coincide. 1

As indicated in Sections 2.2.2.3.3 and 5.1.3.1.1.3, the Mississippi River near the Waterford site is not unique in terms of habitat for M. ohione. Because the Waterford 3 discharge will affect only a small portion of its habitat, no significant effect on the river shrimp population is expected.

5.1.3.2.5 Fish

5.1.3.2.5.1 Thermal Tolerance

As indicated in Section 2.2.2.4, most of the fish collected during the 1973-1976 Waterford 3 Environmental Surveillance Program were juvenile blue catfish, juvenile gizzard shad, juvenile threadfin shad, juvenile freshwater drum, and striped mullet. Thermal tolerances for these species are presented in table A2.2.2.-1.

During most of the summer, temperatures within the 10°F (5.6°C) isotherm would be close to but would probably not exceed the lethal thresholds for most of these species, especially given the short exposure time (31 minutes) and possibility of escape. However, when ambient temperatures are above 86°F(30°C), temperatures within the 10°F ΔT isotherm would exceed tolerances of some fish (eg, freshwater drum[44], small gizzard shad). This occurs during 2.5 percent of the year. Nevertheless, a combination of factors would suggest that insignificant damage to juvenile and adult fish would occur as a result of elevated summer temperatures. Principal among these are the small area affected by the 10°F ΔT isotherm (2.2 percent of the cross-sectional area), and the fact that the 10°F isotherm extends down to a depth of only approximately 7 feet as shown in Table 5A-11. All of the commercial species, as indicated in Section 2.2.2.4.1, are primarily bottom feeders and should not be greatly affected by a surface thermal plume. It is expected that most fish would avoid areas of significantly unfavorable temperature, irrespective of their capabilities to tolerate such elevated temperature for limited time periods. 2

5.1.3.2.5.2 Cold Shock

During the winter months (January, February, March), it would be expected that fish would be attracted to the warm water of the thermal plume. From 1951 through 1978, the average monthly Mississippi River water temperature at the Ninemile Point Generating Station (25.6 miles downstream of the Waterford site) was 45°F (7.2°C) in January and February, and 51°F (10.6°C) during December, as given in Table 2.4-14. Minimum temperatures of 39°F(3.9°C) and 40°F (4.4°C) were reported for January and February, respectively. 1

The U S Environmental Protection Agency[45] has developed a graph to estimate allowable winter temperature increases such that cold shock will not occur. The graph is given in Figure 5.1-16. In the immediate vicinity of the Waterford 3 discharge, where ΔT's are about 25°F in winter, the potential for cold shock will exist when ambient temperatures are less than 48°F (which occurs approximately 20 percent of the year). However, an extremely small volume of water (about 2 acre-feet), would be affected by a ΔT greater than 25°F (13.9°C) and that should preclude extensive cold shock damage should it occur. Gizzard shad, one of the dominant fish species in the Waterford area, would be especially susceptible to cold shock. Table A2.2.2-1 cites a case of the J M Stuart Plant in Ohio where an instantaneous temperature drop from 78°F (25.6°C) to 48°F (8.9°C) was implicated in the death of 7540 fish. Gizzard shad and threadfin shad in the immediate vicinity of the discharge would probably suffer some mortality as a result of shutdown when ambient temperatures are below 48°F. 2

Catfish would be expected to survive a shutdown, although juveniles might theoretically be subject to increased predation in the immediate discharge vicinity (Table A2.2.2-1). Again, the small area involved would eliminate the possibility of a significant number of fish being affected by cold shock.

5.1.3.2.5.3 Effect on Spawning Fish

The Mississippi River in the vicinity of the Waterford 3 site does not provide a habitat suitable for spawning of most fish species. To the extent that sheltered locations are available (including cans, snags, etc), a limited number of catfish may spawn near the Waterford 3 site. Other species that may be capable of spawning in this portion of the river include freshwater drum, gizzard shad, threadfin shad, river carpsucker and skipjack herring, although the spawning habitat appears suboptimal even for these species. This is supported by the low densities of ichthyoplankton taken as part of the Environmental Surveillance Program. Many of the ichthyoplankton found in the area are probably washed out of more favorable spawning habitat in upstream areas.

Except for the freshwater drum, whose eggs are buoyant, those species expected to spawn near the Waterford 3 site have demersal and/or adhesive eggs. Because of the buoyant character of the thermal plume, most eggs are not likely to be exposed (even briefly) to large increases in water temperature if they remain intact in their expected habitat. No significant reduction in the number of adult freshwater drum is expected to result from exposure of younger life stages to the thermal discharge, in view of the low numbers of larvae collected in the river (Section 2.2.2.2.4) and the high fecundity of the species (approximately 200,000 to 350,000 eggs per female[46]). 2

5.1.3.2.5.4 Zone of Passage

The predicted extent of the thermal plume from the Little Gypsy and the Waterford 1 and 2, and Waterford 3 discharges for average flow conditions during each of four seasons is given in Table 5.1-4 and Figures 5.1-2 through 5.1-5. These show the 3.6°F (2°C) ΔT surface isotherm encompasses the entire width of the river during average summer and fall flow conditions. However, the typical low flow cross-sectional profile (Figure 5.1-9) indicates that a large zone of passage will exist beneath the plume even during the typical low flow conditions. The depth of the 3.6°F isotherm will extend from approximately 6 to 11 feet during various parts of the year. The isotherm extends deeper in summer and fall than in winter and spring. The zone of passage will represent 90 percent of the river cross-sectional area in fall and 96.6 percent in spring. 1

Figures 5.1-10 and 11 illustrate the predicted thermal plume cross-sectional profile at river mile 129.2 and 128.5, respectively, for the extreme low flow condition. Each of these figures is based on full load operation of all the power generating units at both the Waterford and Little Gypsy stations. During these rare occasions, (i.e., extreme low flow and all units operating at peak load), the zone of passage at the Little Gypsy - Waterford transect (River Mile 129.2) is conservatively estimated to be approximately 83 percent of the river cross-section. 1

5.1.3.2.5.5 Discharge Canal

Temperatures in the discharge canal are expected to be greater than or equal to 97°F (36°C) during 22 percent of the year. Extended exposure to such temperature should result in mortality of some species found in the Waterford area if they were confined to the canal. However, the velocity at the distal end of the discharge canal would be approximately 7.6 ft/sec. This velocity would prevent organisms from entering the canal via the river and would thus obviate exposure to lethal temperatures in the canal. The fate of organisms entrained into the Circulating Water System and subsequently through the discharge canal is discussed in Section 5.1.3.1.2.

During January and February, when monthly ambient river temperatures average 46°F (7.8°C), temperatures in the canal will approach 72°F (22.2°C) and velocities at the river end of the canal will be 1.2 to 4.7 fps. These warmer temperatures and lower current velocities could result in fish being attracted to the canal, which, in the event of shutdown, could cause cold shock to fish in the discharge canal. This would be similar to that discussed for the immediate discharge area in Section 5.1.3.2.5.2. That volume affected within the canal (when water levels are not higher than the canal walls) would be 11,124 cubic yards (6.9 acre feet).

5.1.3.2.5.6 Overall Effect of Thermal Plume on Fish Community

As discussed above, discharge temperatures would not be expected to be lethal for most of the fish species found in the Waterford area during most of the year. This excess heat is quickly dissipated in the Mississippi River, and the effect of any impact which may result from the thermal discharge of Waterford 3 would be extremely localized. Furthermore, since the river near the Waterford site is not unique when compared to other portions of the lower Mississippi River and because this area is not known to be critical and/or threatened habitat type for any fish species, the thermal effects of the operation of Waterford 3 are not anticipated to be significant.

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TABLE 5.1-5

LOCATION, DESIGN AND OPERATION OF INTAKES AT THE ELEVEN STUDY STATIONS AND AT WATERFORD 3

Facility	Intake Type	Location of Intake	Average Intake Capacity (cfs)	Average Intake Velocity (fps)	Water Recirculated For Ice Control
Waterford 1 and 2	Offshore (inverted pipe)	Outer edge of shoal	870	1.3	No*
Waterford 3	Shoreline	Straight shoreline	1840	1.3	No
[Willow Glen 1	Offshore (inverted pipe)	Outer bank of Meander	200	1.6	No
[Willow Glen 4	Offshore (horizontal pipe)	"	400	1.2	No
Wood River	Shoreline	Straight shoreline	600	1.0	Yes
Meramec	Shoreline	"	760	1.4	Yes
Sioux	Canal	"	830	1.4	Yes
[Riverside Old	Shoreline	"	20	1.4	Yes
[Riverside New	Shoreline	"	50	1.4	Yes
Labadie	Shoreline	Pooled River	1610	3.0	Yes
Hawthorn	Shoreline	Straight River	580	0.3	Yes
Council Bluffs	Shoreline	Outer bank of Meander	140	1.3	Yes
Gallagher	Shoreline	Outer bank of Meander	410	0.9	Yes

* Under influence of discharge from Waterford 1 and 2

2

TABLE 5.1-6

ESTIMATED NUMBER OF ORGANISMS TO BE IMPINGED AT WATERFORD 3

FISH - LIKELY MAXIMUM

Species	Vol. Rate per 100,000 Gal	No./Yr*	Lbs/Yr**
Blue Catfish	.030	131,000	2,600
Channel Catfish	.003	13,100	650
Drum	.020	87,000	8,000
Shad	.048	210,000	17,000
Other	.005	22,000	-
TOTAL	.106	463,100	28,250

FISH - LIKELY AVERAGE

Blue Catfish	.020	87,000	1,700
Channel Catfish	.002	8,700	400
Drum	.010	44,000	4,000
Shad	.029	125,000	10,000
Other	.003	13,100	-
TOTAL	.064	277,800	16,100

Shrimp

Likely Maximum	.060	260,000	1,040
Likely Average	.010	44,000	180

* At average intake rate of 8.3×10^5 gpm

** At average weights of individual commercially important fish impinged

2

TABLE 5.1-7 (sheet 1 of 2)

ECONOMIC COSTS OF PREDICTED IMPINGEMENT BY WATERFORD 3

Species	Average Length per Specimen*	Replacement Cost per Specimen**	No/Yr Predicted to be Impinged	Total Replacement Cost
LIKELY MAXIMUM				
Blue Catfish	3.3 in.	$0.05	131,000	$ 6,550
Channel Catfish	2.9 in.	$0.05	13,100	$ 655
Drum	2.7 in.	$0.06	87,000	$ 5,220
Shad	2.9 in.	$0.02	210,000	$ 4,200+
Other Fish Species+	-	-	-	$ 831
Shrimp	-	$1.43/lb	1,040 lb	$ 1,487
			TOTAL	$18,943
LIKELY AVERAGE				
Blue Catfish	3.3 in.	$0.05	87,000	$ 4,350
Channel Catfish	2.9 in	$0.05	8,700	$ 435
Drum	2.7 in	$0.06	44,000	$ 2,640
Shad	2.9 in	$0.02	125,000	$ 2,500+
Other Fish Species+	-	-	-	$ 496
Shrimp++	-	$1.57/lb++	180 lb++	$ 257++
			TOTAL	10,704

* From Waterford 1 and 2 impingement study.

TABLE 5.1-7 (sheet 2 of 2)

** Based on hatchery costs given in: American Fisheries Society, The Pollution Committee, Southern Division, "Monetary Values of Fish". 1975.

+ Calculated value as 5% of total replacement costs of catfish, drum, and shad; based on proportion of total fish predicted to be impinged.

++ A hatchery cost per shrimp is not available. Costs, therefore, are calculated on basis of 1975 values per pound for shrimp from the Inland District of Louisiana.
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SITE ANNUAL X/Q DATA, SEC/M3*

DIR	0.0-1.**	1.-2.	2.-3.	3.-4.	4.-5.
N	5.960E-07	3.480E-07	1.880E-07	1.220E-07	9.120E-08
NNE	4.960E-07	3.000E-07	1.630E-07	1.070E-07	8.010E-08
NE	4.200E-07	2.280E-07	1.240E-07	8.190E-08	6.260E-08
ENE	3.350E-07	2.150E-07	1.220E-07	8.260E-08	6.410E-08
E	3.110E-07	1.720E-07	9.410E-08	6.290E-08	4.850E-08
ESE	3.670E-07	2.130E-07	1.090E-07	6.970E-08	5.190E-08
SE	5.730E-07	2.950E-07	1.450E-07	8.890E-08	6.380E-08
SSE	8.120E-07	3.570E-07	1.690E-07	1.010E-07	7.100E-08
S	5.570E-07	2.720E-07	1.300E-07	7.720E-08	5.390E-08
SSW	7.750E-07	3.340E-07	1.580E-07	9.360E-08	6.530E-08
SW	1.080E-06	4.210E-07	1.990E-07	1.190E-07	8.320E-08
WSW	7.660E-07	3.590E-07	1.790E-07	1.100E-07	7.860E-08
W	3.680E-07	2.070E-07	1.050E-07	6.500E-08	4.650E-08
WNW	7.340E-07	4.210E-07	2.120E-07	1.300E-07	9.210E-08
NW	8.530E-07	4.580E-07	2.330E-07	1.450E-07	1.050E-07
NNW	8.530E-07	4.400E-07	2.290E-07	1.460E-07	1.090E-07

	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	5.950E-08	2.820E-08	1.680E-08	1.180E-08	9.070E-09
NNE	5.260E-08	2.510E-08	1.500E-08	1.060E-08	8.150E-09
NE	4.270E-08	2.120E-08	1.280E-08	9.170E-09	7.100E-09
ENE	4.470E-08	2.250E-08	1.370E-08	9.830E-09	7.630E-09
E	3.360E-08	1.690E-08	1.030E-08	7.390E-09	5.740E-09
ESE	3.400E-08	1.640E-08	9.810E-09	6.960E-09	5.370E-09
SE	3.880E-08	1.730E-08	1.000E-08	6.960E-09	5.290E-09
SSE	4.160E-08	1.780E-08	1.010E-08	6.960E-09	5.240E-09
S	3.100E-08	1.290E-08	7.240E-09	4.920E-09	3.680E-09
SSW	3.750E-08	1.560E-08	8.750E-09	5.950E-09	4.450E-09
SW	4.820E-08	2.030E-08	1.150E-08	7.820E-09	5.970E-09
WSW	4.710E-08	2.050E-08	1.180E-08	8.100E-09	6.110E-09
W	2.780E-08	1.200E-08	6.860E-09	4.710E-09	3.550E-09
WNW	5.420E-08	2.310E-08	1.310E-08	8.940E-09	6.710E-09
NW	6.450E-08	2.900E-08	1.680E-08	1.170E-08	8.890E-09
NNW	7.020E-08	3.320E-08	1.970E-08	1.390E-08	1.070E-08

NOTES:

*** CONCENTRATION PER CUBIC METER**

**** MILES FROM WATERFORD 3**

† DENOTES POWER OF TEN

SITE ANNUAL DECAYED & DEPLETED X/Q DATA, SEC/M3*

DIR	0.0-1.**	1.-2.	2.-3.	3.-4.	4.-5.
N	5.710E-07†3.400E-07		1.830E-07	1.190E-07	8.920E-08
NNE	4.770E-07	2.940E-07	1.600E-07	1.040E-07	7.850E-08
NE	4.050E-07	2.230E-07	1.210E-07	8.010E-08	6.130E-08
ENE	3.250E-07	2.110E-07	1.200E-07	8.110E-08	6.300E-08
E	3.000E-07	1.680E-07	9.210E-08	6.160E-08	4.760E-08
ESE	3.540E-07	2.090E-07	1.070E-07	6.800E-08	5.070E-08
SE	5.530E-07	2.880E-07	1.410E-07	8.630E-08	6.190E-08
SSE	7.800E-07	3.470E-07	1.640E-07	9.740E-08	6.840E-08
S	5.360E-07	2.650E-07	1.260E-07	7.460E-08	5.200E-08
SSW	7.480E-07	3.250E-07	1.530E-07	9.030E-08	6.290E-08
SW	1.040E-06	4.100E-07	1.930E-07	1.150E-07	8.020E-08
WSW	7.370E-07	3.500E-07	1.740E-07	1.070E-07	7.630E-08
W	3.510E-07	2.020E-07	1.030E-07	6.330E-08	4.530E-08
WNW	7.020E-07	4.110E-07	2.070E-07	1.260E-07	8.960E-08
NW	8.140E-07	4.460E-07	2.260E-07	1.410E-07	1.020E-07
NNW	8.150E-07	4.290E-07	2.230E-07	1.430E-07	1.060E-07

	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	5.820E-08	2.760E-08	1.640E-08	1.160E-08	8.770E-09
NNE	5.160E-08	2.470E-08	1.470E-08	1.040E-08	7.910E-09
NE	4.190E-08	2.080E-08	1.260E-08	9.000E-09	6.890E-09
ENE	4.400E-08	2.220E-08	1.350E-08	9.690E-09	7.430E-09
E	3.300E-08	1.660E-08	1.010E-08	7.270E-09	5.580E-09
ESE	3.320E-08	1.600E-08	9.580E-09	6.800E-09	5.190E-09
SE	3.760E-08	1.670E-08	9.690E-09	6.720E-09	5.050E-09
SSE	4.000E-08	1.710E-08	9.680E-09	6.640E-09	4.950E-09
S	2.970E-08	1.240E-08	6.900E-09	4.690E-09	3.460E-09
SSW	3.590E-08	1.490E-08	8.320E-09	5.650E-09	4.170E-09
SW	4.620E-08	1.940E-08	1.090E-08	7.450E-09	5.520E-09
WSW	4.560E-08	1.990E-08	1.140E-08	7.810E-09	5.820E-09
W	2.700E-08	1.170E-08	6.640E-09	4.560E-09	3.390E-09
WNW	5.260E-08	2.240E-08	1.260E-08	8.640E-09	6.400E-09
NW	6.270E-08	2.810E-08	1.630E-08	1.130E-08	8.520E-09
NNW	6.850E-08	3.240E-08	1.930E-08	1.360E-08	1.030E-08

NOTES:

* **CONCENTRATION PER CUBIC METER**

** **MILES FROM WATERFORD 3**

† **DENOTES POWER OF TEN**

Amendment No. 2, (10/80)

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	RELATIVE RADIOIODINE & PARTICULATE CONCENTRATIONS	Table 5.2-3

SITE ANNUAL DEPOSITION DATA, M-2*

DIR	0.0-1.**	1.-2.	2.-3.	3.-4.	4.-5.
N	2.280E-08†3.050E-09		9.000E-10	3.990E-10	2.250E-10
NNE	2.100E-08	2.740E-09	8.060E-10	3.580E-10	2.020E-10
NE	1.850E-08	2.430E-09	7.140E-10	3.170E-10	1.790E-10
ENE	1.760E-08	2.170E-09	6.320E-10	2.810E-10	1.600E-10
E	1.440E-08	1.830E-09	5.340E-10	2.370E-10	1.350E-10
ESE	1.480E-08	1.930E-09	5.680E-10	2.520E-10	1.430E-10
SE	1.810E-08	2.550E-09	7.520E-10	3.320E-10	1.870E-10
SSE	2.170E-08	3.210E-09	9.520E-10	4.200E-10	2.360E-10
S	1.320E-08	1.940E-09	5.780E-10	2.560E-10	1.430E-10
SSW	2.100E-08	3.060E-09	9.030E-10	3.980E-10	2.240E-10
SW	3.050E-08	4.450E-09	1.310E-09	5.760E-10	3.230E-10
WSW	2.150E-08	3.040E-09	8.940E-10	3.950E-10	2.220E-10
W	9.910E-09	1.400E-09	4.160E-10	1.840E-10	1.040E-10
WNW	2.070E-08	3.050E-09	9.050E-10	4.000E-10	2.240E-10
NW	2.610E-08	3.680E-09	1.090E-09	4.820E-10	2.710E-10
NNW	3.090E-08	4.180E-09	1.230E-09	5.460E-10	3.080E-10

	5.-10.	10.-20.	20.-30.	30.-40.	40.-50.
N	8.570E-11	2.140E-11	8.930E-12	5.490E-12	4.100E-12
NNE	7.730E-11	1.950E-11	8.130E-12	4.950E-12	3.650E-12
NE	6.840E-11	1.730E-11	7.230E-12	4.390E-12	3.210E-12
ENE	6.170E-11	1.570E-11	6.510E-12	3.880E-12	2.790E-12
E	5.170E-11	1.310E-11	5.480E-12	3.320E-12	2.420E-12
ESE	5.450E-11	1.370E-11	5.730E-12	3.470E-12	2.540E-12
SE	7.070E-11	1.770E-11	7.520E-12	4.670E-12	3.490E-12
SSE	8.840E-11	2.200E-11	9.410E-12	5.920E-12	4.500E-12
S	5.370E-11	1.330E-11	5.580E-12	3.500E-12	2.670E-12
SSW	8.420E-11	2.120E-11	9.170E-12	5.810E-12	4.430E-12
SW	1.220E-10	3.100E-11	1.360E-11	8.670E-12	6.650E-12
WSW	8.400E-11	2.120E-11	9.120E-12	5.790E-12	4.450E-12
W	3.900E-11	9.690E-12	4.090E-12	2.600E-12	2.020E-12
WNW	8.410E-11	2.090E-11	8.890E-12	5.680E-12	4.430E-12
NW	1.020E-10	2.540E-11	1.070E-11	6.740E-12	5.170E-12
NNW	1.170E-10	2.940E-11	1.240E-11	7.690E-12	5.800E-12

NOTES:

* **DEPOSITION PER SQUARE METER**

** **MILES FROM WATERFORD 3**

† **DENOTES POWER OF TEN**

Amendment No. 2, (10/80)

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	RELATIVE DEPOSITION FOR RADIOIODINE & PARTICULATES	Table 5.2-4

5.6 Other Effects

5.6.1 LAND USE AND CULTURAL EFFECTS

Waterford 3 is not expected to have any adverse effects on land uses, other than the preemption of the small amount of acreage occupied by Waterford 3 and its associated facilities. As discussed in Section 2.1.3.5, land uses surrounding Waterford 3 presently consist mostly of heavy industrial plants and agriculture, neither of which are expected to be adversely affected. The residential uses and the school in Killona should suffer no adverse impacts from the addition of Waterford 3 to the existing land uses in the area.

In addition, no cultural resources are expected to be affected by the operation of Waterford 3 and its associated facilities. As discussed in Section 2.6, the cultural resources remaining from the Waterford Plantation are located far from the plant and therefore, the remaining construction and subsequent operation of Waterford 3 will not effect any of the extant remains of the Waterford Plantation present on the site. In the event that disturbance of these areas does become necessary, LP&L will consult with the Louisiana State Historic Preservation Office (SHPO) prior to commencing any activity. No disrupting activities in the areas identified as containing these extant remains will take place until a mitigation plan, approved by the SHPO, has been effectuated. Therefore, it is clear that Waterford 3 will not have an adverse effect on cultural resources. 2 2

The addition of Waterford 3 to the existing landscape of the area is not anticipated to result in adverse visual effects, because it is being constructed in an already heavily industrialized area, and is therefore in character with its surroundings.

5.6.2 NOISE EFFECTS OF PLANT OPERATION AND MAINTENANCE

5.6.2.1 Introduction

The sound levels of major sources of noise that will have an impact on Waterford 3 environs have been developed from actual field measurements of similar equipment, analytical calculations[1] and data supplied by various equipment manufacturers.

Equipment such as the emergency diesel generator operates intermittently, and equipment such as the turbine generator operates continuously. Consequently, in this report, a distinction is being made between the noise impact of intermittent and continuous noise sources.

Maintenance activities usually consist of routine inspection and replacement of machinery parts such as pumps and motor components. These activities produce a sound level which is normally lower than plant operation sound levels, and is temporary in duration.

Because at the time of this writing neither the State of Louisiana nor St Charles Parish have yet adopted noise standards that limit environmental noise (in decibels), this section is based on Environmental Protection Agency (EPA) guidelines[2].

5.6.2.2 Acoustical Treatment of Plant Noise Sources

The following equipment has been fitted with acoustical features to reduce noise impact:

a) Emergency Diesel Generators

The predominant sources of noise in the diesel engine are the air intake, exhaust and engine mechanical noise. The two emergency diesel generators will be located inside the Reactor Auxiliary Building, and both inlet and exhaust ports will be fitted with silencers.

b) Communications and Public Address System

The plant communications system is provided by a combination of a pushbutton type Private Automatic Branch Exchange (PABX) telephone system, a solid state loudspeaker paging system and a radio paging system. The radio system provides paging calls (tone/voice) to individuals carrying portable pocket-size receivers. Access to the paging transmitter and acknowledgement of calls are from any of the plant's telephones on a dial-up basis. Outdoor communications will be conducted through the public address and radio system. The loudspeakers will be used only as necessary, to minimize the environmental noise impact. In addition, prior to operation of Waterford 3, the orientation and the power input to the outdoor loudspeakers will be adjusted as much as possible to reduce the noise impact on surrounding communities.

c) Atmospheric Steam Dump Valves

The two atmospheric steam dump valves will be of the "Self Drag" type (velocity control element) that attenuates the noise of the escaping steam flow.

d) Auxiliary Boiler

The auxiliary boiler forced draft fan will be fitted with an inlet silencer to attenuate fan inlet noise.

5.6.2.3 Plant Operation Sound Level Estimates - Methodology

The major noise sources at Waterford 3 were divided into two groups: continuous sources and intermittent sources.

a) Continuous Noise Sources

Based on past experience and analytical analysis, seven major sound producing systems, considered the significant sources of noise, were

selected as being representative of Waterford 3 continuous operation, and are listed below:

1) Two Main Transformers

2) Two Auxiliary Transformers

3) Turbine Buildings - Ground to Operating Floor

4) Turbine Generator

5) Two Dry Cooling Towers

6) Four Circulating Water Pump Motors

7) Ventilation System.

These seven major systems were combined logarithmically and projected around the station in 5 db(A) intervals, as shown in Figure 5.6-1, using "hemispherical spreading" and "molecular absorption". The directivity properties of the station were taken into consideration by calculating the sound propagation in four geographical directions, north, south, east and west, and by making the appropriate adjustments to the various sound contours. Consequently, plant sound contours (solid lines) have a non-symmetric appearance.

Because the Circulating Water System pump motors are located about 800 feet from the plant, it was necessary to select two acoustic centers for the plant operation model: one for the Circulating Water System pump motors, and a second one for the rest of the plant - centered on the station building. The contours shown in solid lines in Figure 5.6-1 were drawn around the plant acoustic center and represent plant noise levels, and the contours shown in broken lines were drawn around the Circulating Water System pump motors and represent the noise levels of these motors.

The levee on the north bank of the Mississippi River acts as a barrier in the N, NNE and NE sectors (shown on Figure 5.6-2) for the sound that emanates from the Circulating Water System pump motors. This barrier effect has been estimated to be about 5 db(A), and the sound contours were adjusted to reflect this attenuation, as shown in Figure 5.6-1.

b) Intermittent Noise Sources

Based on past experience and analytical analysis, six major sound systems considered to be the significant sources of noise were selected as being representative of Waterford 3 intermittent operation, and are listed below:

1) Two Atmospheric Steam Dump Valves

2) One Auxiliary Boiler Forced Draft Fan

3) Two Wet Mechanical Cooling Towers

4) Two Emergency Diesel Generators

5) Public Address System

6) One Auxiliary Diesel Generator.

The sound levels produced by the above noise sources were projected individually to the nearest noise sensitive land uses, using "hemispherical spreading" and "molecular absorption".

5.6.2.4 Plant Operation and Maintenance Noise Impact

Table 5.6-1 summarizes the noise produced by the continuous operation of Waterford 3 in the nearby noise sensitive areas, without the addition of the ambient noise, and compares these levels with EPA guidelines. As can be seen from this table, the communities of Killona and Montz will be impacted by an L_{dn} (Day-night Sound Level) of about 55 db(A), and an Leq_{24} (Continuous Sound Level) of 48 and 49 db(A), respectively. These values are within the limits identified by the EPA as requisite to protect the public health and welfare with an adequate margin of safety.

Killona School will be impacted by an Leq_{24} of about 49 db(A), whereas EPA recommends a maximum Leq_{24} upper limit of 55 db(A). Killona Park and Montz Park will be impacted by an Leq_{24} of about 45 and 47 db(A), respectively, which will allow relaxed conversation with 100% sentence intelligibility at a distance of 0.8 - 1 meter[2]. It should be noted, however, that at this time the EPA has not identified an appropriate level that will prevent activity interference and annoyance in parks.

Table 5.6-2 summarizes the noise produced by various plant intermittent noise sources in the nearby noise sensitive areas. These noise levels, with the exception of the P/A system, are sufficiently below the residual noise levels (shown in Table 2.7-2 and 2.7-3) and will not create a significant impact. However, as indicated in Section 5.6.2.2, efforts will be made to adjust the P/A system, in order to minimize the environmental noise impact.

Maintenance activities at Waterford 3, such as replacement of machinery parts, will generate a limited amount of noise without any significant impact on the nearby sensitive noise receivers.

REFERENCES

1. Graham, J. B. "How to Estimate Fan Noise", Sound and Vibration. May, 1972.

2. U. S. Environmental Protection Agency, "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety". March, 1974.

samples are shown in Table 6.1.1-7.

Benthic data gathered with a No.80 sieve were verifiable for all three sampling years, as shown in Table 6.1.1-8. The great majority of the benthic data obtained with the larger meshed sieves (Nos. 30 and 10) was found to be verifiable for Years I and II of the Environmental Surveillance Program. Year III data, beginning in November 1975, were not verifiable, and consequently were not used in quantitative interpretations of the data. The number of verifiable data points is shown in Table 6.1.1-9, and the aquatic biological data, as a whole, are contained in Appendix 2-4.

The three years of sampling during the Environmental Surveillance Program provided a substantial data base from which to develop the thorough description of the aquatic community in the Mississippi River, as discussed in Section 2.2.2 and to complete the assessment of the aquatic biological effects of the operation of Waterford 3, contained in Section 5.1.3. The continuation of the Preoperational Environmental Surveillance Program with three additional years of seasonal sampling and one additional year of monthly sampling, as described in Section 6.1.1.2.4, will significantly enlarge this data base. The total data from seven years of sampling will then be available, prior to the operation of Waterford 3, for refinement of the analyses contained in this Environmental Report, for determining the sensitivity of the analyses to the deletion of unverifiable data, and for providing a firmly established baseline of aquatic information upon which to evaluate the biological data gathered following the start of operation of Waterford 3.

6.1.1.2.3 Impingement Study at Waterford 1 and 2

In order to determine which species would be subject to impingement at Waterford 3 and to develop a first approximation of numbers and biomass of organisms which might be impinged there, a screen wash study was conducted at Waterford 1 and 2, which are operative. The study was done from February 1976 to January 1977. It involved semi-monthly monitoring at the intake screening structures of Waterford 1 and 2.

A 24-hour period was sampled on each sampling date. The screens were rotated, washed and cleared at the outset of each period. Baskets were then placed in series within the sluiceway carrying impinged organisms back to the waterbody, as shown in Figure 6.1.1-4. Two 1/4" expanded metal baskets were placed closest to the screens; a 1/2" hardware cloth basket was placed behind them as a backup. Collections were made when one or more screens were in operation during the 24-hour sampling period.

All organisms collected during each sampling period were identified to species level, except when the organism's physical condition precluded identification. Physical injuries were noted. All fish and crustaceans were individually weighed and measured, with the exception of some bay anchovy and river shrimp samples. These were subsampled; i.e., measurements were taken on 25 randomly selected individuals. Total weights were computed for all species. Weights were measured on an 0 Haus Dial-O-Gram balance, with a precision of $\pm$ 0.1 gram.

Lengths of organisms were measured to the nearest millimeter. Fish were measured in standard length; shrimp were measured from the tip of the rostrum to the tip of the telson; blue crab were measured by the carapace width.

During the sampling periods, physical and chemical data were collected from the Unit 1 West and the Unit 2 East intake pump screen wells at approximately six-hour intervals. Dissolved oxygen, water temperature and conductivity were measured in situ. Water samples were collected from the appropriate wells, and pH was measured within 30 minutes of sample collection.

6.1.1.2.4 Methodology of Sampling - Program Continuation (1977-1981)

For the period 1977 through the first half of 1980, the seasonal sampling surveys for the Environmental Surveillance Program of the aquatic ecology of the Mississippi River utilized essentially the same sampling locations, techniques, and methodologies that are described above. However, the Seasonal Sampling Program was slightly modified in 1977 to comply more closely with the sampling program described in Supplement 6 to the Construction Permit Environmental Report for Waterford 3, which has been accepted by the Nuclear Regulatory Commission. These minor modifications are detailed in Appendix 6-2, included in this Environmental Report.

In addition, prior to the initiation of the monthly sampling surveys for the year preceding the fuel load date (see Section 6.1.1.1.1), a re-evaluation of the program sampling methods and materials was performed to investigate their utility in obtaining the desired baseline information on the river's aquatic ecology. This investigation has resulted in the revisions to various portions of the program. The purpose of these revisions is to improve the sampling program by obtaining more meaningful and representative data. Specifically, the revisions result in the following improvements:

- Modifying sampling techniques and replications to reduce the large variability and/or redundancy in measurements from the previous program;
- More effectively observe natural seasonal trends;
- Adjust sampling frequencies to be commensurate with the probable level of impact expected; and
- Incorporate improved sampling techniques which are more suitable for the physical conditions of the Mississippi River.

The revisions have been submitted to the Nuclear Regulatory Commission for review and comment. The revised program specification is presented in Appendix 6-3, included in this Environmental Report.

2

TABLE 6.1.1-4

PARAMETERS INCLUDED IN EFFLUENT
LIMITATIONS AND WATER QUALITY CRITERIA

Chemical Effluent Limitations for Steam Electric Generating Sources to be met by all existing Sources at Completion of Construction	Water Quality Criteria for the Mississippi River Near the Waterford 3 Site
pH	Chloride
Total Suspended Solids	Sulfate
Oil and Grease	Dissolved Oxygen
Total Copper	pH Range
Total Iron	Bacteria Standard
Free Available Chlorine	Temperature
	Total Dissolved Solids

2

TABLE 6.1.1-6 (Sheet 2 of 4)

PREOPERATIONAL MONITORING PROGRAM - AQUATIC ECOLOGY SAMPLING SCHEDULE

	1977 - 1978		1978 - 1980		1981 - 1982		
Community Sampled	Frequency Of Sampling	Sampling Gear	Frequency Of Sampling	Sampling Gear	Frequency Of Sampling	Sampling Gear	
FISH	Once during the 3rd week of each of the following months, July, September, January, April; five minute trawls for all trawls	Trawls same as 1973 - 1974	Same as 1977 - 1978	Same as 1973-1974	Monthly	Electroshocking	2
	Two 24 hour periods at each station during each sampling period	Gill net (all stations)					
	Two hours at each station during each sampling period	Electroshocking (all stations)					
BENTHOS	Once a month during the following months: July, September, January and April	Smith McIntyre Grab					
	At least 4 samples taken at each sampling station on each sampling date		Same as 1977 - 1978	Same as 1977-1978	Monthly	Smith-McIntyre Grab	2
ZOOPLANKTON	Once a month during the following months: July, September, January and April A stations - S and B B stations - S, M, B	1/2 meter diameter #6 (0.243 mm mesh) plankton net (same as 1974 - 1975)	Same as 1977-1978 and additional sample taken at Station B, with a meter #20 (76 mm mesh) Plankton Net	Same as 1974-1975	Monthly	Same as 1977-1980	2

TABLE 6.1.1-6 (Sheet 4 of 4)

PREOPERATIONAL MONITORING PROGRAM - AQUATIC ECOLOGY SAMPLING SCHEDULE

Community Sampled	1977 - 1978 Frequency Of Sampling	1977 - 1978 Sampling Gear	1978 - 1980 Frequency Of Sampling	1978 - 1980 Sampling Gear	1981 - 1982 Frequency Of Sampling	1981 - 1982 Sampling Gear	
PHYTOPLANKTON	Once a month during the following months: July, September January and April just below the surface Productivity also run (in vivo and in vitro)	Same as 1973 - 1974	Same as 1977 - 1978	Productivity in vivo and in vitro	Monthly	Diatometers	2
ATTACHED ALGAE	Same as 1973 - 1974		Same as 1973 - 1974				
ICHTHYOPLANKTON	Once a month during the following months: July, September, January and April A stations - S and B B stations - S, M, B each tow at least 20 minutes duration	One meter diameter #0 (0.57 mm mesh) plankton net	Same as 1977 - 1978		Monthly (Semi-Monthly from mid March to August	Same as 1977 - 1978	2

8.1 BENEFITS

This section describes the social and economic benefits associated with the operation of Waterford 3. The benefits and costs of alternative sites, generating units, and waste management processes, are discussed in detail in the Construction Permit Environmental Report for Waterford 3.

NRC Regulatory Guide 4.2 R2(1976) categorizes benefits as either primary (direct) or secondary (indirect). Primary benefits derived from Waterford 3 include the expected average annual generation of electricity, customer savings due to the commencement of commercial operation in 1983, reduction of LP&L's reliance on expensive fossil fuels and the enhancement of greater system reliability. Secondary benefits of the operation of Waterford 3 will include tax revenues generated, increased employment opportunities, increased regional income and increased knowledge of the environment as a result of research and monitoring.

The productive life of Waterford 3 is 40 years. For the purposes of this chapter, all monetary values from 1975 to 1982 are expressed in current dollars for the specific year while monetary values for 1983 to 2023, are discounted to 1983 dollars by a 2.39 percent discount rate. This discount rate is based on LP&L's 1979 capital structure and the rates of return for long term debt, common equity and preferred stock, resulting in a weighted cost of capital of 11.10 percent. The inflation factor has been removed resulting in a real or constant dollar discount rate. The inflation factor is 8.56 percent derived from the implicit price deflator for fixed investment (non-residential) from 1978 to 1979[1].

8.1.1 PRIMARY BENEFITS

The major primary benefit of Waterford 3 is the production of electricity. Waterford 3 will generate a net of 1104 megawatts of electrical power (MWe, net), and assuming operation at an average 80 percent capacity factor will distribute 7.737 billion kilowatt-hours of electrical energy to LP&L customers annually. Table 8.1-1 shows the distribution of this energy by user class. The revenues produced from the sale of electricity during the initial year of operation will be about $379.5 million (in 1983 dollars).

As a result of the fact that all of LP&L's generating capacity is either oil or gas fired and that oil and natural gas prices have rapidly escalated during the 1970's and are expected to continue escalating in the 1980's and beyond, it is readily apparent that a primary benefit is the 1983 commercial operation for Waterford 3 which will result in very substantial savings for LP&L's customers. According to the customer savings analysis in Chapter 1, which is based upon a late 1982 commercial operation, a six (6) month delay in commercial operation of Waterford 3 would result in LP&L's customers incurring an additional cost of about $101.0 million over a ten (10) year period. These additional costs are induced by the required rate of return on Waterford 3, a loss of capacity equalization charges from other MSU companies and the higher cost of the alternative fossil fuels. For a one year delay of the commercial operation of Waterford 3, LP&L customers will be faced with about $92.6 million in additional costs over a ten (10) year period while a two year delay would result in LP&L

customers incurring about $262.7 million in additional costs over a ten (10) year period.

The commercial operation of Waterford 3, in 1983, will reduce LP&L's reliance on expensive fossil fuels. The availability of cheap natural gas will be diminishing throughout the 1980's due to expiration of long-term contracts and by prohibition of the use of natural gas as a primary energy source in power plants created by the Power Plant and Industrial Fuel Use Act of 1978. The available substitutes to LP&L will be either nuclear power or expensive No. 6 oil.

In 1983, fuel costs to LP&L for No. 6 oil are expected to be 68.80 mills per kilowatt-hour (mills/kWh), while nuclear fuel costs will be 8.91 mills/kWh. By 1989, No. 6 oil is forcasted to cost 130.59 mills/kWh in comparison to 12.58 mills/kWh for nuclear fuel. Therefore, the commercial operation of Waterford 3, in 1983, will greatly reduce the reliance of LP&L on natural gas and oil and decrease fuel cost.

Another primary benefit will be the reserve margin added to the MSU system by Waterford 3 which will enhance system reliability, and in turn reduce outage costs to consumers. According to a recent study done by the Electric Power Research Institute[2], four case studies showed that reserve margins in the range of 15 to 40 percent minimized customer costs. 2

8.1.2 SECONDARY BENEFITS

Throughout the construction and operational phases of Waterford 3, revenues will be generated that will benefit a variety of local, state and Federal revenue systems. For the purpose of this chapter, the local economy consists of the political jurisdiction of St Charles Parish. The regional area is referenced to the area within which construction and operation workers could be expected to reside in. The regional area includes the following parishes: Ascension, Assumption, East Baton Rouge, Jefferson, LaFourche, Livingston, Orleans, Plaquimines, St Charles, St James, St John the Baptist, St Tamany, Tangipahoa and Terrebonne.

The revenue systems that will be effected include individual state and Federal income taxes (including social security), corporate state and Federal income taxes, workmen's and unemployment compensation, sales and use taxes, corporation franchise tax and property tax. The local revenues (e.g., property tax) generated by Waterford 3 will be used to support a variety of public services in St Charles Parish such as road construction and maintenance, education, police, and fire protection services. The state revenues (e.g., sales and use taxes) that will be derived from the operation of Waterford 3, will be used for activities such as education, community development, housing programs and the construction and maintenance of highways, etc.

For the purposes of this analysis, the discussion on the construction phase includes all benefits accrued as a result of Waterford 3 during the period 1975 to 1982, and the operational phase includes benefits accrued from 1983 to 2023. Furthermore, it should be noted that during the later years of construction, a portion of the work force will be operational

workers in training. Therefore, the last years of the construction phase will include both construction and operational workers, and the income effects generated during this period will include workers from both groups.

The construction and operational phases of Waterford 3 will generate about $2.297 billion in revenue for local, state and Federal governments. This estimate is considered to be conservatively low since it does not include property taxes due to the exemption allowed for industrial facilities, (which will continue until 1993), and the difficulty of forecasting a property tax rate and "fair market value" for Waterford 3 after 1993. The construction of Waterford 3 (1975 to 1982) will have generated about $111.4 million in additional revenue for various governmental authorities, and during its operational phase (1983 to 2023) the facility will generate almost $2.186 billion (discounted to 1983 dollars) in new revenues for local, state and Federal governments.

The construction and operation of Waterford 3 will also affect regional employment. To quantify this impact, regional employment multipliers are used.

The employment multipliers determine the level of non-basic (indirect and income-induced) job opportunities that would be generated by every new basic (construction and operational) job created by Waterford 3. The employment multiplier that was utilized for this analysis is a construction/operational phase employment multiplier of 0.65[3]. The multiplier assumes that the "leakage of income" from the region during the construction will be very small. 2

During 1979, the construction of Waterford 3 created a total of 3,120 construction jobs and 131 operational jobs which in turn generated an estimated 2,113 secondary job opportunities in the region's non-basic employment sectors. The total employment effect of Waterford 3 in 1979 was the generation of an estimated 5,364 job opportunities. The operation of Waterford 3 will require a staff of about 204 operational workers. These operational workers will create an estimated additional 133 non-basic or secondary jobs for the region, resulting in a total employment impact of an estimated 337 job opportunities.

The construction and operation of Waterford 3 will generate about $509.7 million in construction, operational and secondary worker income for the region. Of this total, about $352.4 million will have been generated during the construction phase and about $157.3 million (discounted to 1983 dollars) will be generated during the operational phase of Waterford 3.

LP&L will sponser several environmental research programs related to the operation of Waterford 3. These programs include aquatic biology and water quality surveillance, radiological sampling, meteorological monitoring, a hydrothermal survey, and terrestrial ecology surveys. These programs are described in detail in Chapter 6. The total estimated expenditure for these programs is approximately $2.5 million for the period 1981 to 1984. The radiological sampling and meteorological monitoring will be continued

throughout the remainder of the operation of Waterford 3 at an estimated annual cost of $40,000. These programs will contribute to an increase in knowledge of the environment and the plant's interaction with it in the vicinity of Waterford 3.

In order to enhance the appearance of Waterford 3, LP&L is restoring the land disturbed during construction and landscaping appropriate portions of the property. An estimated 150 acres have been disturbed during construction, and of this, approximately 50 acres are occupied by the Waterford 3 facilities. The environmental enhancement gained through restoration and landscaping of the remaining disturbed 100 acres is anticipated to have an initial cost to LP&L of approximately $250,000.

Additional environmental enhancement will be gained through the use of electricity by LP&L customers for pollution avoidance and abatement. An increasing number of commercial and industrial customers are changing to relatively clean electrical processes to avoid the releases of polluting by-products which result from the use of other fuels. Customers will also rely on electricity to abate pollution through the use of scrubbers, recycling systems, precipitators and similar control systems.

REFERENCES

1. Council of Economic Advisors, Economic Report of the President, U.S. Government Printing Office, Washington, D.C., 1980.

2. Decision Focus, Incorporated, Costs and Benefits of Over/Under Capacity in Electric Power System Planning prepared for the Electric Power Research Institute RP-1107, Palo Alto, California, 1978.

3. Derived by the Council of Economic Advisors and have been utilized by the State of Louisiana Department of Commerce in a study entitled Louisiana Means Business (Charles M Smith).

2

TABLE 8.1-1

ESTIMATED BENEFITS OF WATERFORD 3

Primary Benefits	
Expected Average Annual Generation @ 80% Capacity	7.737×10^9 kWh
Capacity of Waterford 3	1,104,000 kW
Proportional Distribution of Electrical Energy (1983)	
Industrial	4.755×10^9 kWh
Residential	1.917×10^9 kWh
Commercial	0.876×10^9 kWh
Governmental	0.149×10^9 kWh
Other	0.040×10^9 kWh
Annual Revenues from Delivered Benefits	
Electrical Energy (Given for First Year of Operation - in 1983 dollars)*	$379,460,503
Secondary Benefits	
Taxes (local, state, Federal)	
Construction	$ 111,400,000
Operation**	$2,186,144,783
Employment at Waterford 3	
Construction (Basic and Non-Basic)	5,364 job opportunities at peak (1979)
Operation (Basic and Non-Basic)	337 job opportunities
Income	
Construction	$352,407,403
Operation**	$157,271,539

2

* Based upon anticipated overall revenue per kilowatt hour in 1983.
** Discounted to 1983 dollars.
Sources: Louisiana Power and Light Company and Ebasco Services Incorporated.

8.2 COSTS

The costs associated with the construction and operation of Waterford 3 include both internal and external costs. The internal costs are those directly related to construction and operation, and external costs refer to the potential adverse effects on the natural and social environments.

8.2.1 INTERNAL COSTS

The total estimated cost to LP&L for the construction of Waterford 3 is approximately $1.491 billion (in 1983 dollars). The construction costs are itemized in Table 8.2-1 in accordance with the format requested by NRC Regulatory Guide 4.2, Revision 2. Construction of the transmission facilities directly associated with Waterford 3 as well as land costs will add about $2.3 million to the construction costs (in 1978 dollars). 2

The estimated costs of electrical energy generation by specific components for Waterford 3 during the initial year of operation are shown in Table 8.2-2 and are expressed in 1983 dollars. During the initial year of operation, the total cost of electrical generation will be about $362.2 million or 46.81 mills per kilowatt-hour (mills/kWh). This total cost for electrical generation consists of fixed charges, nuclear fuel cycle costs and operation and maintenance costs. Fixed charges are composed of the following items: cost of capital; depreciation; interim replacements; property insurance; income taxes, and state and local taxes. The fixed charges for Waterford 3, during its initial year of operation will be about $252.1 million (32.58 mills/kWh). The nuclear fuel cycle costs are the cost of fuel material preparation and utilization. The nuclear fuel cycle costs for Waterford 3 during the initial year will be about $68.9 million (8.91 mills/kWh). The operation and maintenance costs include staff costs, operational costs, maintenance costs, insurance and fee costs and administration and general costs. The operation and maintenance costs for Waterford 3 during its initial year of operation will be about $41.2 million (5.32 mills/kWh). Table 8.2-2 presents a detailed breakdown for each category discussed above. 2

An estimate of the costs to decommission Waterford 3 is very difficult to make at this time. A recent study by the Atomic Industrial Forum[1] provides a basis for estimating the range of decommissioning costs for the three primary methods which have been used to date: mothballing, in-place entombment, and complete removal/dismantling. The decommissioning costs for a pressurized water reactor are estimated to range from $2.3 million (1975 dollars) for mothballing to $31.3 million (1975 dollars) for mothballing followed by complete removal and dismantling. These and other methods of decommissioning, as well as their relative costs, are discussed in more detail in Section 5.8.

8.2.2 EXTERNAL COSTS

External costs are the short-term and long-term effects of the operation of Waterford 3 on the natural and social environment. These effects are discussed in detail in Chapter 5.

No short-term adverse effects on the local community are anticipated from the influx of approximately 204 operations personnel. As described in Section 2.1, Waterford 3 is within commuting distance of New Orleans, the region's major economic and population center, and within 10 miles of nine towns with populations ranging from 1,000 to 7,000 people. Even if all of the operations personnel are assumed to relocate to the Waterford 3 area from outside the region, these communities will be capable of assimilating 204 households without significant effects on their services or budgets. 2

This fact was confirmed by an investigation of existing and projected (1979 to 1982) public service levels in both St. Charles and St. John the Baptist Parishes and the induced demand for these services which could be expected from immigrant workers and their dependents. Immigrant workers are defined as those workers who have moved within ten miles of the site as a result of their involvement in the Waterford 3 project. The investigation included the following public service functions: the general control (parish administration, planning, legal and judicial functions), financial administration, sheriff, fire, water supply, sewer, sanitation, library and hospitals. The investigation incorporated the results of a survey of both the construction and operational (in-training) work forces(2). The investigation indicated that the induced service demand of the immigrant population would be absorbed by those public service functions which presently have excess capacities while, for those functions presently exhibiting deficits, the increase in the deficit from immigrant population would be marginal in comparison to the overall deficit. Thus, the estimated impact of the immigrant population upon the public services in these parishes is quite small. These impacts should be considered within the overall growth which is taking place within ten miles of Waterford 3. The area is the scene of a number of large construction projects in recent years and is growing at a projected annual population rate of 1.7 percent. Demands are, therefore, much more likely to evolve from general growth in the area rather than as a result of Waterford 3. 2

Most of the long-term external costs resulting from the operation of Waterford 3 cannot be realistically evaluated in quantitative terms. These costs have been analyzed and are described in Section 2.6 and Chapter 5. These costs are not considered to be significant when compared to the benefits provided by Waterford 3.

It is possible, however, to quantify two of the long-term external costs: the removal of land from agricultural productivity, and the value of commercial fish species killed by impingement on the intake screens of the Circulating Water System.

Approximately 150 acres of LP&L property are being utilized for the Waterford 3 facility or are being reseeded and landscaped following construction. This land has been typically used to grow sugar cane which, at the start of the construction period, was a declining industry throughout Louisiana(3). As described in Section 2.1.3, the acreage of sugar cane declined by 75 percent in St Charles Parish alone between 1969 and 1974. The total land used for the Waterford 3 facility represents only about 1.5 percent in 1977 total cropland and pasture within five miles of

the site, and about 2 percent of the total cropland within St Charles Parish. The loss of this small amount of land from agricultural productivity is not considered to be a significant cost to this industry.

In Section 5.1.3, it is estimated that a likely average and maximum annual weight of 16,100 and 28,250 lbs of commercial or otherwise representative fish and shellfish species will be killed annually by impingement on the intake screens of the Circulating Water System. The cost of this loss can be estimated using the dollar value assigned to an individual fish or shellfish of a designated size and species. These values have been determined by the American Fisheries Society[4] from calculations of the costs of raising individual fish or shellfish to the designated size in a hatchery. Using these values, it is estimated that the annual loss of fish and shellfish due to impingement will range from approximately $10,704 to $18,943 for the likely average and maximum impingement rates, respectively (see Section 5.1). This cost is not considered to be significant in comparison to the 1974 commercial fish and shellfish landings in Louisiana of approximately 2 billion pounds, valued at more than $86 million[5]. 1

REFERENCES

1. Manion, W J, and T S LaGuardia. "An Engineering Evaluation of Nuclear Power Reactor Decommissioning Alternatives, Summary Report." Atomic Industrial Forum. November, 1976.

2. Ebasco Services Inc., Survey of Construction and Operational Workforce at Waterford 3, 1979. | 2

3. Stallings, E F, et al. "An Analysis of Agriculture, Forestry and Mariculture in the Coastal Zone of Louisiana." University of Southwestern Louisiana. Undated. | 2

4. The Pollution Committee, American Fisheries Society, Southern Division. "Monetary Values of Fish." 1975. (See also: Hayes T B, "AFS Monetary Values of Fish Legally Adopted," Fisheries, Volume 2, Number 4.) | 2

5. Renner, J R. "The Coastal Zone: An Overview of Economic, Recreational, and Demographic Patterns." State Louisiana, State Planning Office, Baton Rouge, Louisiana. November, 1976. | 2

TABLE 8.2-1

COST INFORMATION FOR WATERFORD 3

1.	Interest during Construction	7.5%/year	5. Escalation Rates	
			Site Labor	8.5%/yr
2.	Length of Construction Workweek	40 hours/wk	Materials	7.8%/yr
3.	Estimated Site Labor Requirement (Direct & Indirect)	15 man-hrs/kWe	Composite Escalation Rate	8.2%
4.	Average Site Labor Pay Rate (including Fringe Benefits) effective at Month and Year of NSSS Order	$8.33/hr		

Construction Costs* (in millions)

a.	Structures and Site Facilities	$190.0	h.	Construction Facilities, Equipment, and Services	$175.0
b.	Reactor (boiler) Plant Equipment	185.0	i.	Engineering and Construction Management Services	207.0
c.	Turbine Plant Equipment not including Heat Rejection Systems	75.0	j.	Other Costs	185
			k.	Allowance for Funds used during Construction at 6.75% after 1977	346.0
d.	Electric Plant Equipment	70.0			
e.	Miscellaneous Equipment	4.0		Total Cost	
f.	Spare Parts Allowance	16.0		Total Station Cost, at start of Commercial Operation without Land Costs	$1,491
g.	Contigency Allowance	38.0			
				Total 1978 value of land and land rights:	$0.898

* All construction costs are expressed in 1983 dollars, initial year of operation, except when noted.

Sources: Louisiana Power and Light and Ebasco Services, Incorporated.

TABLE 8.2-2

ESTIMATED COST OF ELECTRICAL ENERGY GENERATION*

	Mills/Kilowatt-Hour
1. Fixed Charges+	32.58
2. Fuel Cycle Costs (Total)	
Waterford 3 (nuclear)	8.91
3. Operation and Maintenance Costs	5.32
4. Total	46.81

2

*The cost of electrical generation is for the first (initial) year of operation and is expressed in 1983 dollars. The operational characteristics of Waterford 3 are 1104 MW(e) at a 80% capacity factor.

+The fixed charge rate for Waterford 3 is a levelized rate of 16.91%.

Sources: Louisiana Power and Light and Ebasco Services Incorporated.

11.1 BENEFITS

The principal benefit of Waterford 3 is the distributed generation of approximately 7.737 billion kilowatt hours of electricity. This generation will result in a substantial cost savings to LP&L customers, along with a decreased reliance on more expensive fossil fuels and an enhancement of system reliability.

As described in Section 8.1.2, Waterford 3 will generate a total of $2.297 billion in new revenues for local, state and Federal governments during the construction and operation phases. It is estimated that Waterford 3 will have created, during the peak construction year of 1979, a total of 5,364 job opportunities within the region. During its operational phase, Waterford 3 will create an estimated 337 job opportunities in the region. During the construction and operational phases of Waterford 3, about $509.7 million of new income will be generated in the region's basic and non-basic employment sectors. 2

LP&L is maintaining environmental surveillance programs monitoring air and water quality, and terrestrial and aquatic ecology. These programs are increasing the knowledge and understanding of nuclear generating stations and their effects on the environment by providing information from which future advances in design and technology can evolve.

11.2 COST

The cost to LP&L to construct Waterford 3 will be about $1.491 billion (in 1983 dollars). The operating cost of electrical generation during the initial year of operation (in 1983 dollars) will be $362.2 million or 46.81 mills per kilowatt hour. 2

There is anticipated to be a small quantifiable external cost resulting from mortality of commercial fish species impinged on the Circulating Water System intake screens. This cost is estimated to range from approximately $10,000 to $19,000 annually. 1

In addition, there are other external costs due to the environmental impacts discussed in Section 2.6, and Chapters 4 and 5. These costs, while difficult to quantify, have been investigated, and are believed not to be significant when compared to the benefits derived from the project.

Decommissioning costs will probably fall within the range of $2.3 million for mothballing to $31.3 million for mothballing followed by complete removal/dismantling with security (See Table 5.8-1), depending upon the method selected. This cost will be borne by LP&L.

11.3 CONCLUSIONS

It is the judgment of Louisiana Power & Light Company that, given the nature of expensive and unreliable fossil fuel supplies, as well as the likely resultant environmental effects, Waterford 3 represents the optimum economic and environmental alternative available for providing electricity.

TABLE 12.1-1

(Sheet 1 of 2)

LICENSES, PERMITS AND OTHER APPROVALS REQUIRED FOR THE OPERATION OF WATERFORD 3

WATER

AGENCY	AUTHORIZATION REQUIRED	STATUTE OR AUTHORITY	STATUS	
United States Army Corps of Engineers	Permit to Construct on a navigable waterway	River and Harbors Act Sect. 10 33 CFR 209	Permit granted 7/72, Revised 4/77.	
	Permit to Discharge in waterway dredge and fill material	P.L. 92-500 Sect. 404	Permit granted 4/77.	
Environmental Protection Agency	Approval of State Certification of Compliance with Effluent Limitations	P.L. 92-500 Sect. 401	Permit granted 9/73.	
	National Pollutant Discharge Elimination System Permit	P.L. 92-500 Sect. 402	Permit granted 7/80.	2
	Approval of less stringent effluent limitation for thermal pollution	P.L. 92-500 Sect. 316(a)	Low Potential Impact Type III Demonstration submitted 4/79.	
	Approval of intake structure technology	P.L. 92-500 Sect. 316(b)	Demonstration submitted 4/79.	
	Resource Conservation and Recovery Act	P.L. 94-580	Notification of Hazardous Waste Activity Form submitted 8/80.	2
Louisiana Stream Control Commission	Permit to Discharge to adhere to State Water Quality Standards	Louisiana Revised Statutes Acts 1975 No. 512 Section 1435, regulations	Permit granted 9/73.	
	State Certification that discharge complies with Sections 301, 302, 306 and 307 of P.L. 92-500	P.L. 92-500 Sect. 401	Permit granted 9/73.	
United States Coast Guard	Permit to establish private aid to navigation	14 U.S.C. 81; 33 CFR 66	Application approved 10/77 (annual).	
		AIR		
Federal Aviation Administration	Federal Air Navigation Approval	80 Statute 932; 14 CFR 77	Request for approval to be submitted 11/78.	
Louisiana Air Control Commission	Approval for construction/ operation of emission source	Louisiana Air Control Law Acts 1964 No. 259 Section 1, Regulations Sect. 6.0	Permit for plant stack, auxiliary boiler, diesel generators, and fire pumps granted 9/79.	
			Permit for onsite oil storage tanks granted 1/80.	2

Question No.

301.44 Please refer to OLER, page 3.4-2, Table 5.1.3, and Table 5.1.5. If the average low river flow at Waterford site is about 200,000 cfs, then according to Table 5.1-3, the average low water level (ALWL) should be about 2.3 ft MSL instead of 0.9 ft MSL as stated on page 3.4-2. Please clarify this.

Response

The ALWL given in page 3.4-2 and Table 5.1-5 should both be 0.8 feet MSL.

The river flow rate of about 200,000 cfs was defined as a typical low flow in the OLER (eg, Section 5.1.2.3) and it does correspond to a river stage of 2.2 feet (2.3 feet for 205,000 cfs - Table 5.1-3). The ALWL of 0.8 feet MSL was utilized for calculating the design pump flow and this ALWL corresponds to a flow of about 140,000 cfs. According to Section 2.4.2.2.1 of the OLER, this flow approximates the 95 percent exceedance flow (that flow which will be equaled or exceeded 95 percent of the time).

Question No.

301.45 Please refer to OLER, page 3.4-3. If the ALWL is indeed 2.3 ft MSL, then for four pump operation, the discharge velocity into the river should be about 6.1 fps instead of 7 fps as stated on page 3.4-3. Please clarify this.

Response

As discussed in the response to Question No. 301.44,the ALWL is not 2.3 feet MSL but 0.8 feet MSL as presented in Table 5.1-5.

Under the four pump operating condition, the discharge velocity is about 7.7 fps (=2235/(50 x 5.8)). The statement "about 7 ft per second" on page 3.4-3, then, should be changed to "about 8 ft per second". The OLER has been revised to reflect this change.

In reality, however, ALWL is more likely to occur in fall season than in summer season during which four-pump operation is expected. In fall season, the river temperature is lower and the pumping rate is expected to be 1831 cfs (Table 5.1-2) on the average. The corresponding discharge velocity is about 6.3 fps (= 1831/(50 x 5.8)).

Question No.

301.46 Please refer to OLER, Table 5.1.2. For average spring flow condition, the discharge velocity at Waterford 3 should be 2.5 fps instead of 1.9 fps as shown in Table 5.1.2. Please check this.

Response

The discharge canal illustrated in Figure 3.4-4 is formed by two portions of sheet piles having the same bottom elevation (-5.0 feet MSL) but are built to different top elevations. At the inshore end, the discharge canal has a constant width of 81 feet and a constant top elevation of 15 feet MSL. From the offshore end of this canal, the canal width of another sheet pile section having a lower top elevation of 10 feet MSL, contracts symetrically to a width of 50 feet at the river end.

At a river stage of 11.8 feet, the offshore portion of sheet piles with a top elevation of 10 feet MSL is completely submerged. The apparent port dimensions, then, become 81 feet by 16.8 (= 11.8 + 5) feet. However, a large portion of flow is still guided through a submerged converging canal. A first order discharge velocity computation of this complicated flow is presented in the following paragraph.

The discharge velocity can be estimated to be in the range of 2.5 fps (=2114/(50 x 16.8)) and 1.6 fps (=2114/(81 x 16.8)). Since the average river velocity is 3.4 fps at the Waterford 3 discharge for the average spring flow condition, the Waterford 3 discharge velocity of 2.5 fps is still less than the river velocity. Accordingly, the discharge is considered as a far-field type whose impact is conservatively assumed independent of the discharge velocity. On Table 5.1-2, the discharge velocity of 1.9 fps was obtained by assuming an average width of 65 feet.

Question No.

301.47 The project vicinity is in an archaeologically sensitive area for historic site location, according to a letter we received recently from Dr. E. B. Carrier, the Louisiana State Historic Preservation Officer. His maps indicate the project to be in the location of the old Waterford Plantation. While portions of this site may have been destroyed by previous levee construction and industrial activity, significant cultural remains may still be present. The previous survey was restricted to the proposed power line routes and intake and discharge structures, and no evidence of this site was discovered.

In order to determine the impact on the Waterford Plantation and on any unknown cultural resources, we request that you conduct a cultural resources survey of the remaining portions of the property. This should include an intensive archaeological survey with systematic sub-surface testing, and an architectural survey of all standing structures. We request that all buildings be documented with clear photographs in your response to this request for additional information. This survey should be coordinated with the State Historic Preservation Officer to insure that he finds the survey adequate. His address is:

Dr. E. Bernard Carrier
Division of Archaeology and Historic Preservation
Department of Culture, Recreation & Tourism
P. O. Box 44247, Capitol Station
Baton Rouge, Louisiana 70804
(504) 342-6682

Response

On February 7, 1980 representatives of Louisiana Power & Light Company met with representatives of the Louisiana State Historic Preservation Office (SHPO) at the Waterford Site. As a result of this meeting, the SHPO revised his recommendations as to the type and extent of the cultural resources survey needed at Waterford (Figure 301.47-1). The SHPO subsequently recommended that a detailed literature search supplemented by archaeological testing in areas which might contain undisturbed cultural deposits be performed.

The report of the literature search and archaeological testing is included here as Appendix 2-6. Archival research indicated that the initial settlement of the land comprising the Waterford Plantation occurred around 1721. The history of ownership, and information about the owners and the operation of the Waterford Plantation through the nineteenth and early twentieth century are presented in Table 301.47-1. Revised section 2.6-1 presents a description of the archaeological remains associated with the Waterford Plantation and their current status.

TABLE 301.47-1

SUGAR PRODUCTION AT THE WATERFORD PLANTATION (1828-1917)
(Sheet 1 of 3)

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
Estate - Mrs. D. A. Milliken	Killona		B.Sh & Sl		1916-17
	Waterford	DEV&C	W.I. & Sl	2,319,576	1916-17
Estate - Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1915-16
	Waterford	DEV&C	W.I. & Sl	1,627,312	1915-16
Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1911-12
	Waterford	STV&C	B.Sh. & Sl	1,750,000	1911-12
Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1907-08
	Waterford	STV&C	B.Sh. & Sl	3,200,000	1907-08
Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1906-07
	Waterford	STV&C	B.Sh. & Sl	2,200,000	1906-07
Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1905-06
	Waterford	STV&C	B.Sh. & Sl	1,609,970	1905-06
Mrs. D. A. Milliken	Killona		B.Sh. & Sl		1904-05
	Waterford	STV&C	B.Sh. & Sl	2,760,000	1904-05
Mrs. D. A. Milliken	Killona	STV&C	B.Sh. & Sl		1902-03
	Waterford	STOP	B.Sh. & Sl	1,621,056	1902-03
Mrs. D.A. Milliken	Killona	STV&C	B.Sh. & Sl		1900-01
	Waterford	STOP	B.Sh. & Sl	2,840,000	1900-01
Estate - Richard Milliken	Killona	STV&C	B.Sh. & Sl		1898-99
	Waterford	STOP	B.Sh. & Sl	2,200,000	1898-99
Estate - Richard Milliken	Killona	STV&C	B.Sh. & Sl		1897-98
	Waterford	STOP	B.Sh. & Sl	2,170,000	1897-98
Richard Milliken	Killona	STV&C	B.Sh. & Sl		1894-95
	Waterford	STOP	B.Sh. & Sl	2,343,172	1894-95
Richard Milliken	Killona	STV&C	B.Sh. & Sl		1893-94
	Waterford	STOP	B.Sh. & Sl	2,172,854	1893-94
Richard Milliken	Killona	STV&C	B.Sh. & Sl		1892-93
	Waterford	STOP	B.Sh. & Sl	1,900,000	1892-93
Richard Milliken	Waterford	STOP	B.Sh. & Sl	836,560	1891-92
Richard Milliken	Waterford	STOP	B.Sh. & Sl	1,200,000	1890-91

TABLE 301.47-1 (Cont'd)

SUGAR PRODUCTION AT THE WATERFORD PLANTATION (1828-1917)
(Sheet 2 of 3)

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
Richard Milliken	Waterford	STV&C	B. & Sh.	805*	1888-89
Richard Milliken	Waterford	STV&C	B. & Sh.	929	1887-88
Richard Milliken	Waterford	STV&C	B. & Sh.	380	1886-87
Richard Milliken	Waterford	STV&C	B. & Sh.	598	1885-86
Richard Milliken	Waterford	STV&C	B. & Sh.	402	1884-85
Richard Milliken	Waterford	STV&C	B. & Sh.	446	1883-84
Richard Milliken	Waterford	STV&C	B. & Sh.	890	1882-83
Richard Milliken	Waterford	SKOP	B. & Sh.	448	1881-82
Richard Milliken	Waterford	STOP	B. & Sh.	620	1880-81
Richard Milliken	Waterford	SKOP	B. & Sh.	705	1879-80
Milliken & Whitehead	Waterford	SKOP	B. & Sh.	746	1878-79
W. B. Whitehead	Waterford	SKOP	B. & Sh.	554	1877-78
W. B. Whitehead	Waterford	SKOP	B. & Sh.	678	1876-77
W. B. Whitehead	Waterford	SKOP	B. & Sh.	590	1875-76
W. B. Whitehead		SKOP	B. & Sh.	390	1873-74
W. B. Whitehead		SKOP	B. & Sh.	306	1872-73
W. B. Whitehead			B. & Sh.	340	1871-72
W. B. Whitehead		SKOP	B. & Sh.	401	1869-70
W. B. Whitehead		SKOP	B. & Sh.	305	1868-69
W. B. Whitehead				721	1861-62
W. B. Whitehead				340	1858-59
W. B. Whitehead				700	1857-58
W. B. Whitehead				170	1856-57

TABLE 301.47-1 (Cont'd)

SUGAR PRODUCTION AT THE WATERFORD PLANTATION (1828-1917)
(Sheet 3 of 3)

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
W.B. Whitehead				562	1854-55
W. B. Whitehead				447	1852-53
W. B. Whitehead & Co.				400	1851-52
W. B. Whitehead & Co.				220	1894-50
C. Perret Sr., St. Martin, Delhonde & Peroux				248	1845-46
Mrs. Charles Perret & P. Perret				436	1845-46
Charles Perret & Co.				305	1844
P. B. St. Martin				130	1829
Charles Perret				250	1829
Charles Perret, Jr. (steam)				310	1829
P. B. St. Martin				210	1828
Charles Perret				550	1828
Charles Perret, Jr. (steam)				545	1828

*Production is listed in hogshead from 1828 - 1889

ABBREVIATION KEY:

DEV&C. . . . . .Double Effects, Vacuum-Strike Pan and Centrifugals
S&K. . . . . .Steam and Kettles
SKOP . . . . . .Steam, Kettles, Open-Strike Pan
STOP . . . . . .Steam Train, Open-Strike Pan
STV&C. . . . . .Steam Train, Vacuum-Strike Pan and Centrifugals
B. & Sl. . . . . .Brick and Slate Roof Sugar House
B. & Sh. . . . . .Brick and Shingle Roof Sugar House
W. I. & Sl . . . . . .Wood, Iron and Slate Roof Sugar House
B. Sh. & Sl. . . . . .Brick, Shingle and Slate Sugar House

Source: Bouchereau, Champomier and Degalos, various years

STATE OF LOUISIANA

DEPARTMENT OF CULTURE, RECREATION AND TOURISM

OFFICE OF PROGRAM DEVELOPMENT

EDWIN W. EDWARDS
Governor

E. BERNARD CARRIER, PhD
Assistant Secretary

J. LARRY CRAIN, PhD
Secretary

February 14, 1980

Mr. William H. Reagan, Jr.
Acting Assistant Director for Environmental
Projects & Technology
Division of Site Safety and Environmental
Analyses
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Louisiana Power and Light Company
Waterford Steam Electric Station
Unit 3
St. Charles Parish, Louisiana

Dear Mr. Reagan:

At the request of the Louisiana Power and Light Company, members of my staff met with Louisiana Power and Light and their archaeological consultant, Envirosphere, Inc., on February 7, 1980 at the Waterford site.

Based on this on site inspection, we offer the following observations for your consideration:

(1) No significant old buildings are in or adjacent to the project area; and since the area is heavily industrialized, this project will have no additional visual impact on any other structures in the area.

(2) Since much of the remaining property is in backswamp, the likelihood of finding prehistoric Indian sites in this area is low.

(3) It now appears that the Waterford Plantation has been destroyed by construction activities, and that little, if any, remnants of the site still exist.

DIVISION OF ARCHAEOLOGY AND HISTORIC PRESERVATION
P. O. Box 44247 Baton Rouge, La. 70804 504 342-6682

Amendment No. 2, (10/80)

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	STATE HISTORIC PRESERVATION OFFICER SCOPE OF SECOND ARCHAEOLOGICAL SURVEY SHEET 1 OF 2	Figure 301.47-1

Based on these findings, we wish to modify our recommendations outlined in our letter of December 27, 1979, and suggest that only a detailed literature search of the Waterford property be conducted. If this research should indicate areas which might contain undisturbed cultural deposits, then additional archaeological testing may be warranted. However, if the literature search does not reveal any significant information, then an on-the-ground survey would not be necessary.

If you have any questions concerning our review, please contact my staff in the Division of Archaeology and Historic Preservation.

Sincerely,

E. Bernard Carrier
State Historic Preservation Officer

EBC:GHM:lm

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Amendment No. 2, (10/80)

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	STATE HISTORIC PRESERVATION OFFICER SCOPE OF SECOND ARCHAEOLOGICAL SURVEY SHEET 2 OF 2	Figure 301.47-1

MIDDLE SOUTH UTILITIES

LOAD FORECASTING SYSTEM

EXECUTIVE SUMMARY

Middle South Services, Inc.
May 1, 1979

Am. No. 2, (10/80)

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INTRODUCTION

I. INTRODUCTION

In recent years the need for improved forecasts of long-range electric energy consumption and hourly demand has become increasingly apparent. New generating capacities and costs of that capacity are increasing while uncertainties and new factors--energy prices and availability, conservation, solar energy, etc.--are confronting the forecaster. To cope with the changes, improved forecasting methodologies are required. The methodology must have the ability to explore in detail the impact of these factors on energy consumption and peak demands. Furthermore, they must be flexible and detailed enough to incorporate these factors easily and explicitly. Another necessary characteristic is that the methodologies be based upon causal and easily understood relationships in deriving energy and demand estimates.

In developing the methodology to be used in planning for future energy needs, one must closely examine the underlying economic forces which create energy demand. The Middle South Utilities System (MSU) Companies have developed an econometric load forecasting model which takes into account these various economic factors that together determine the demand for electricity for each of the five MSU Companies. One of the major enhancements of this year has been the extension of the forecast horizon from fifteen years to twenty-five years.

The purpose of this report is to impart to the reader a general knowledge of the methods used in producing the forecasts and the results obtained. More detailed discussions of the methodology employed and the variables forecasted for each of the five Operating Companies are contained in other reports.

II. FORECAST SUMMARY

The macro-economic forecast of the U. S. economy employed in the production of the MSU forecast is taken from Data Resources, Inc. This forecast, called TRENDLONG2003 (January, 1979), assumes that the government's economic stabilization policies are highly successful resulting in balanced growth of the economy toward its potential. Over the twenty-five year forecast period 1978 to 2003, Gross National Product adjusted for inflation (Real GNP) is forecasted to grow at an average annual rate of 3.0% while the inflation rate is forecasted to average 5.8% per year. Over the preceeding quarter century (1953-1978) those rates were 3.3% and 3.9% respectively.

Since the economic fate of the MSU System Service Area is largely dependent on the course of the U.S. economy, it is not surprising to find that slower growth for the U.S. implies slower growth for the System. Two common measures of a region's economic well-being are incomes and employments. The income per capita (adjusted for inflation) for the MSU System Service Area is forecasted to grow from 1978 to 2003 at an average annual rate of 2.4% while the U.S. real income per capita grows at 2.1%. For the period 1964 to 1978, these growth rates were 3.4% and 2.6%. Total non-farm employments for the Service Area are forecasted to grow at 2.2% while the U.S. non-farm employments grow at 1.5%. These growth rates were 4.5% and 2.8% from 1964 to 1978.

The growth in income is an important determinant of the growth in Residential energy sales while the growth in employments in the Service Area is an important determinant of the growth in Industrial and Commercial energy sales. Residential, Industrial and Commercial energy is forecasted to grow from 1978 to 2003 at average annual rates of 4.5%, 5.5% and 3.3% respectively. From 1965 to 1978, these growth rates averaged 9.5%, 8.8%, and 8.2% respectively. Net Service Area sales are forecasted to grow at 5.1% while experiencing 10.1% historically.

The maximum annual demand for electricity, called the system peak load or peak demand has historically occurred during an hour during the summer months or early September. At the time of the system peak, residential appliances, industrial machinery and commercial requirements for lighting and cooling combine to produce the highest coincident load during the year. Factors influencing the timing and level of the system peak include weather phenomena, economic conditions and public efforts to control use. The forecasted MSU System peak grows at an average annual rate of 4.9% while the historical (1965-1978) growth has been 8.3%.

III. SYSTEM STRUCTURE

The MSU Load Forecasting System consists of three major components: the Service Area Economic Model, the Energy Model, and the Peak Demand Model. Figure A illustrates the overall structure of these models whose ultimate results are a highly disaggregated forecast of KWH Sales and a forecast of the MSU System annual peak load. The macro-economic forecast as well as regional and national data are utilized from Data Resources, Inc.'s databanks.

The principal function of the Service Area Model is to forecast income, wages and prices, employments and demographics - births, deaths, migration, population. The employment forecast is segregated into major manufacturing and non-manufacturing classes.

The principal function of the Energy Model is to forecast energy consumption by a number of categories. The Residential category includes a forecast of number of customers, number of all-electric customers, average usage per customer and major appliance saturations. The Manufacturing category includes energy forecasts by two-digit Standard Industrial Classification Code. Similarly, the Non-manufacturing forecast is developed by major breakdowns. Additional forecasts are made of miscellaneous categories such as streetlighting and sales for resales. The summation of the energy consumption forecast in each category is the forecast of the total revenue producing sales for the System.

The principal function of the Peak Demand Model is to forecast summer peak loads by adding up the contribution made by each class of customer. Details provided in the energy model forecasts are used to develop the indicators of the sectors' contributions.

The MSU Load Forecasting System utilizes an econometric approach for both the analysis of historical data and the forecasts. The analysis consists of determining factors or predictors which correlate with experienced changes in electricity usage or responses. These factors may serve as proxies for the causal factors or may simply have undergone changes in a pattern similar to the changes of the aggregate of the true causal factors.

Clearly, energy usage is dependent on economic activity and in order to plan for our customers' energy needs we must understand the underlying economic forces which determine those needs. By carefully considering the ways in which our customers use electricity as inputs to industrial processes, as tools in commercial establishments and as a service in the household, we can develop econometric models that take account of the determinants of the demand for electricity by each sector and the crucial linkages between the activities of these sectors. The major strengths of this structural framework are that it makes explicit our assumptions about the factors affecting energy usage, it insures internal consistency among the sectors based on economic conditions and it allows the

Middle South Utilities Load Forecasting System

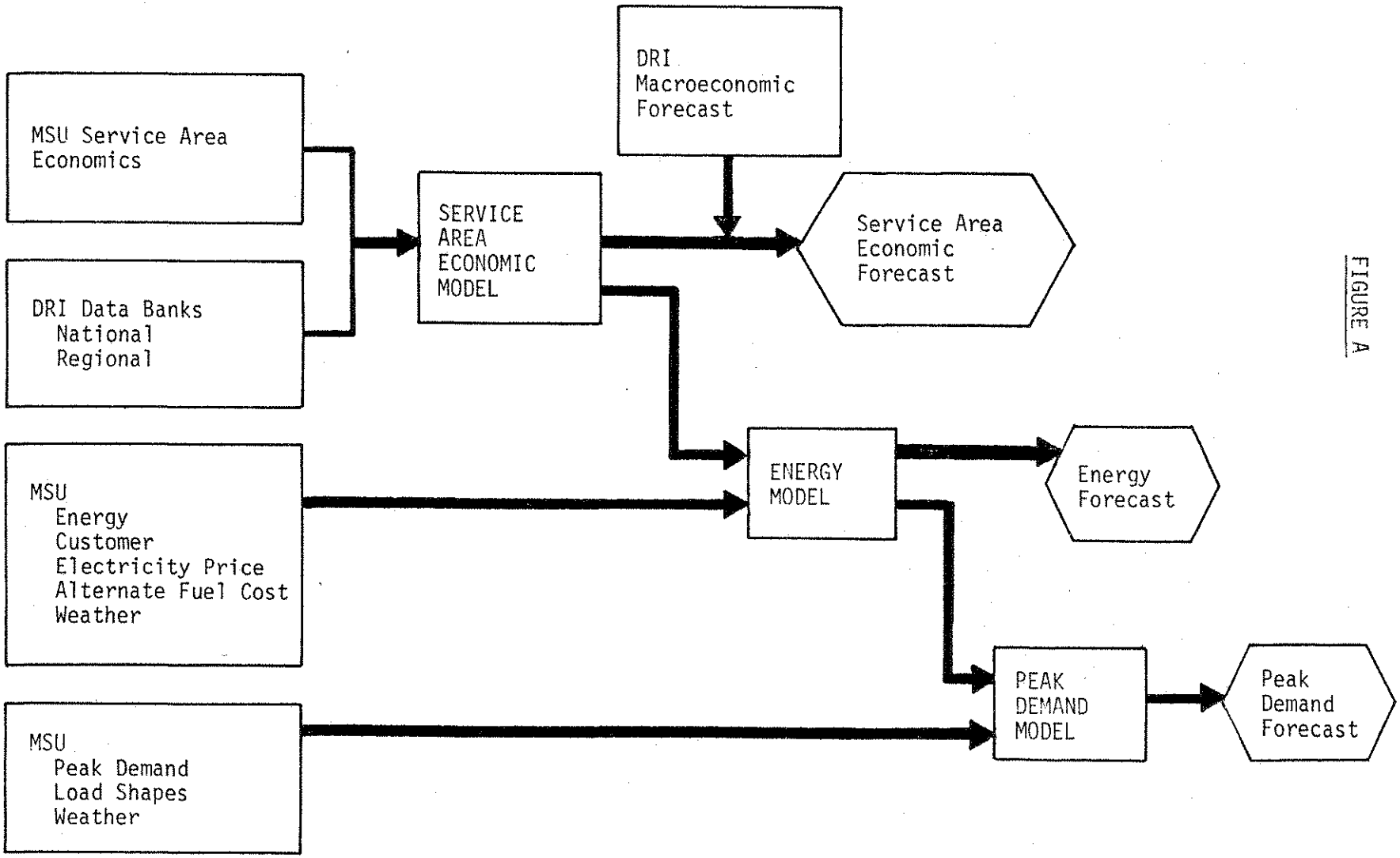


FIGURE A

user to determine the impact of alternative economic conditions on each sector.

The development of the structural framework of the model uses historical information on U.S. economic conditions, national energy markets and the individual System Operating Companies' service area economic conditions, weather conditions and company policies. The forecasts are made by using the forecast of U.S. economic conditions and national energy variables to forecast each service area's economic conditions, which in turn are used by the Energy Model to produce forecasts of energy sales to each of the sectors in each of the Operating Companies. Finally, the individual sectors' energy sales forecasts are used to produce the Companies' peak load forecasts. These sequential modules enable the forecaster to analyze the output of each model before going on to the next stage to insure that the forecasts are reasonable or to determine the impact of a change in a particular predictor (e.g., prices) on a particular response (e.g., usage per customer).

IV. THE LONG-TERM OUTLOOK FOR THE U.S. ECONOMY

In making long-term forecasts, the forecaster must be aware that the economy is subject to certain shocks such as oil embargoes, an automobile workers' strike or crop failures. However, while these shocks may significantly affect the level of output of the economy, it is not possible to foresee the magnitude, timing or impact of the shocks over a long forecast horizon. For this reason, long-term forecasts are made by determining a most probable trend around which the economy may fluctuate due to such shocks.

The most important determinant of the long-term growth in the U.S. economy used by DRI in their forecasts is Potential GNP, a summary statistic representing the level of output which could be attained if all factors of production were being utilized at their maximum sustainable levels. Potential GNP can be thought of as the long-run capacity of the U.S. economy to produce goods and services.

Since the growth of Potential GNP depends on the growth rates of the factors of production and their efficiencies, we have examined each factor's contribution, both in history and in the forecast. Table I shows the contributions to Potential GNP of each of the major inputs to production and a residual. The residual occurs because the Labor and Capital data do not include productivity measurements

TABLE I

Potential GNP Growth Factor Contributions
(Per cent per year)

	1952-65	1965-78	1978-90	1990-2003
Labor	0.86	1.44	1.05	0.62
Business Fixed Capital	0.86	0.94	0.86	0.70
Residential Capital	0.32	0.31	0.30	0.24
Energy	0.13	0.13	0.12	0.09
Residual	1.42	0.86	0.74	0.90
Potential GNP	3.59	3.58	3.07	2.55

Source: Christopher Probyn, "The Outlook for Potential," Data Resources Long-Term Review, Winter 1979, p. I.23

The growth of labor's contribution depends on:

a) the growth rate of the population, which is forecasted to slow from 1.3% per year from 1952-77 to 0.8% from 1978-2003 as changes in life-styles reduce the probability of another "baby boom" and the ageing of the members of the last "baby boom" increases the death rate

b) the increase in the proportion of the adult population who are either employed or actively seeking employment (the labor force participation rate), which is primarily due to increasing participation in the labor force by women and younger workers

c) the decline in the level of frictional unemployment (the amount of unemployment due to voluntary job-changing) from the present 4.9% of the labor force to a 4.7% rate by 2003

Analagous to the concept of frictional unemployment is the full capacity utilization rate; i.e., the maximum sustainable rate at which the capital stock can be utilized. DRI assumes that this rate will continue to be constant at 87%. Given that assumption, the growth of business fixed capital will determine the growth of its contribution to Potential GNP. The forecasted growth in business fixed capital (net of pollution abatement equipment) averages 3.4% per year, slightly lower than the 3.7% rate of the last twenty-five years, but considerably higher than the 2.7% of the last five years. The period 1973-78 is considered to be atypically low due to the adverse effects of a rapid rise in the stock of pollution-abatement equipment, low profit rates, high interest rates and more rapid inflation in the prices of capital goods than of consumer goods.

Similarly, the growth in the real residential capital stock determines its contribution to Potential GNP. This growth rate is primarily dependent on the population and its composition and is, therefore, expected to grow at 2.8% per year as opposed to the 3.3% of the last eighteen years.

The contribution of energy to the productive process is forecasted to grow more slowly due to the rising price of energy relative to other inputs. The OPEC embargo and the resulting rapid increase in energy prices are believed to be the most significant cause of the 1973-74 recession. Subsequently, there has been a reduction in productivity as energy-intensive processes become less efficient and the long-run effect on Potential GNP is moderated by the fact that only about 5% of the total factor costs accrue to energy.

The size of the residual's contribution is forecasted to decline, but its relative importance as a contributor to growth rises to 35% by 2003. The most important factor in the residual is productivity. Output per man-hour, a measure of productivity, has a 1973-78 growth of 0.8% per year and points to one of the major risks of this forecast. DRI's research on the causes of the recent decline in productivity leads them to believe

that the three major causes are temporary in nature. These are: (1) the low growth in capital stock, (2) the energy related problem discussed above, and (3) the pronounced cyclical path of the economy. The forecast is for output per man-hour to grow at an average annual rate of 1.94% per year 1978-90 and 1.96% per year 1990-2003. These thirteen year averages are higher than the 1.8% growth of the last thirteen years, but considerably lower than the 2.6% of 1952-64.

Once this trend line for Potential GNP has been established, the next step in preparing a long-term forecast is to determine the relationship of Actual GNP to its Potential. Figure 1 shows this relationship in history and in the forecast. As can be seen, Actual GNP has risen above Potential GNP (in 1953, 1966-69, and 1973), but in every case bottlenecks occurred and a recession followed. These bottlenecks have been observed whenever the actual umemployment rate is lower than the frictional unemployment rate or the capacity utilization rate is higher than the full capacity utilization rate, or both. This signals that the labor force or the capital stock is being used at a rate which cannot be sustained. The latest of these recessions hits bottom in 1975 and its effects are forecast to be felt through 1986 in the form of cyclical corrections (e.g., a decline in residential construction in 1982 slows the growth of GNP).

FIGURE 1

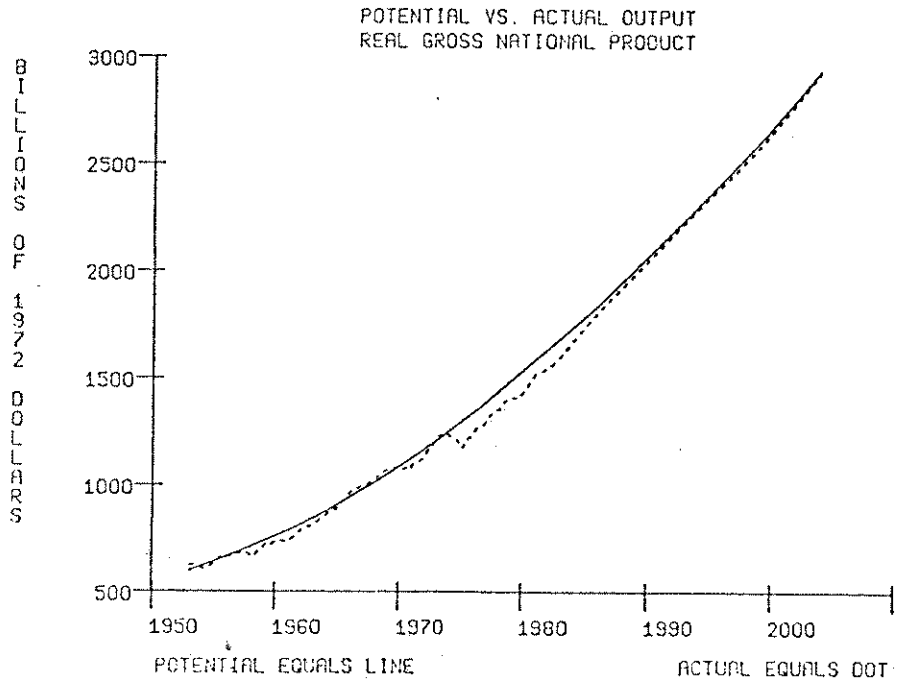


Table II presents historical and forecasted growth rates in more detail. The 1953-78 period was characterized by the "baby boom" and large research and development expenditures; the 1973-77 period contains the worst post-war economic recession; 1978-82 is the forecasted recovery from that recession; and the period 1983-2003 is one of smooth growth of the economy toward its potential. This table points out some of the factors previously discussed. Note that in the long-run (1953-73 and 1983-2003) actual GNP and potential GNP grow at about the same rate. Whereas in the short-run, actual GNP growth is lower in a recession (1973-77) and higher in a recovery (1978-82). One of the factors causing the recent low growth in the capital stock is evidenced by the great disparity in the growth rates of the CPI and the WPI. Whereas, the impact of increased energy costs to producers is evidenced in the phenomenal growth rate in the WPI for Fuels and Power. The continuation of the trend toward a service-oriented economy is evidenced by the higher growth rates in non-manufacturing employments relative to those in manufacturing. While this trend results in lower productivity, as can be seen in the lower growth rates in GNP compared to those of manufacturing production, it may be stabilizing the economy since non-manufacturing employments are much less volatile than manufacturing employments. Finally, we see the reduction in the growth rate of the population, which is a principal determinant of Potential GNP.

TABLE II

Capsule Outlook of the U.S. Economy
Compound Annual Growth Rates

	History		Forecast	
	53-73	73-77	78-82	83-2003
OUTPUT (1972 dollars)				
Actual Real GNP	3.39	2.05	3.48	2.93
Potential Real GNP	3.58	3.55	3.24	2.70
INFLATION (1967=1.0)				
Consumer Price Index, All Items	2.66	7.90	7.19	5.77
Wholesale Price Index, All Items	2.33	9.72	7.21	5.79
Wholesale Price Index, Fuel & Power	2.32	21.09	10.61	7.99
EMPLOYMENT				
Manufacturing	0.71	-0.07	0.51	0.61
Non-Manufacturing	2.76	2.75	2.78	1.52
MANUFACTURING PRODUCTION	4.91*	2.03	4.16	4.07
POPULATION	1.36	0.76	0.90	0.74

*This series begins in 1954.

In the following sections we shall discuss the impact of these forecasts on the Middle South Utilities System as a whole as well as the individual operating companies.

V. THE LONG-TERM OUTLOOK FOR THE MIDDLE SOUTH UTILITIES SYSTEM

This section presents a forecast for the MSU System which was obtained by aggregating the forecasts for the individual Operating Companies.

A. The MSU Service Area Economic Forecast

The Sunbelt Shift is a name that is used to describe the movement of corporations and population from their traditional locations in the North to the South. The MSU Service Area has been a beneficiary of a portion of this industrial growth and the forecast is for this shift to continue, although at gradually decreasing rates.

One of the most important sources of regional economic growth is an increase in manufacturing in the region. This increase causes increased employments and higher wages which attracts workers who in turn increase the demand for locally provided goods and services. This further leads to greater economic opportunity in the region which attracts workers and the cycle begins again. This "multiplier effect" is well documented in the economic literature and its implications for the MSU Service Area economy are a continuation of the growth patterns experienced in the recent past.

The growth of manufacturing in the Service Area depends on the types of industries represented . The pie charts in Figure MSU1 show a comparison of the relative mix of manufacturing employments in the MSU Service Area and the U.S. in selected years of history and of the forecast. The most rapidly growing industries in the U.S. have been those concerned in the production of goods used primarily by other producers, as can be seen from the increasing shares of employments in machinery (MACHINE) and petrochemicals (PETROCHEM). The slowest growing industries have been those concerned in the production of goods used primarily by consumers, as can be seen from the declining shares of such necessities as FOOD and textile products (TEXTILE). These trends are continued in the forecast.

Because the MSU Service Area is a recipient of a large share of the growth in manufacturing, these trends in the U.S. economy have striking impacts on the composition of the Service Area's manufacturing employments. Producers of machinery replace firms in the lumber, furniture and paper industries (WOOD) as the largest manufacturing employers as the FOOD, TEXTILE and WOOD industries' share falls from 67% in 1964 to 40% in 2003. The share of instrument manufacturers' employments (INST) grew dramatically from 1964-1977, but remains fairly stable in the forecast.

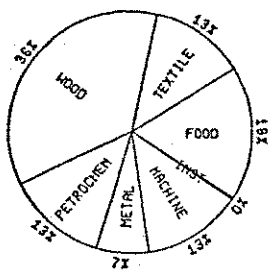
FIGURE MSU1

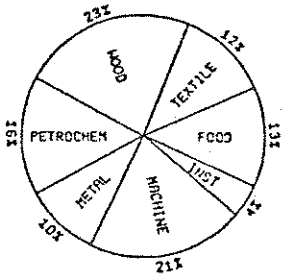
MANUFACTURING EMPLOYMENTS

HISTORY

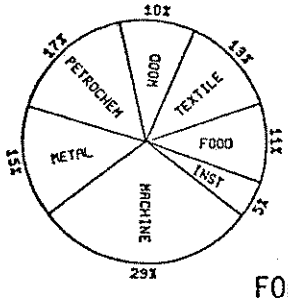
1964 1977

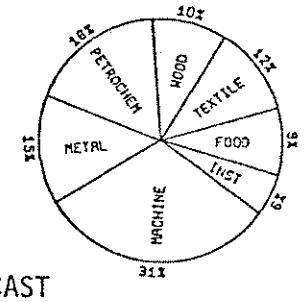
MIDDLE SOUTH UTILITIES





UNITED STATES

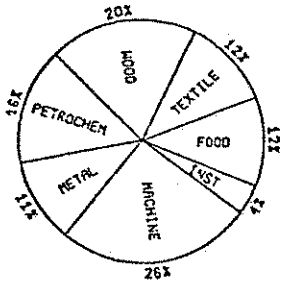


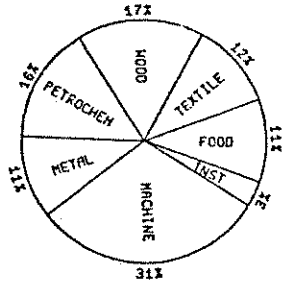


FORECAST

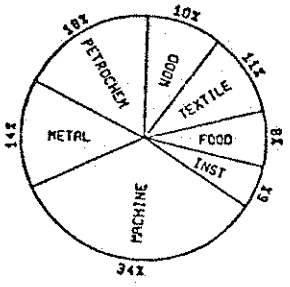
1990 2003

MIDDLE SOUTH UTILITIES





UNITED STATES



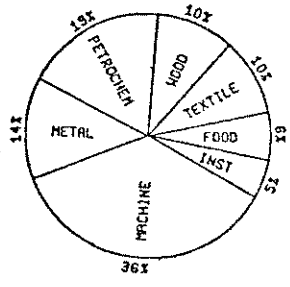
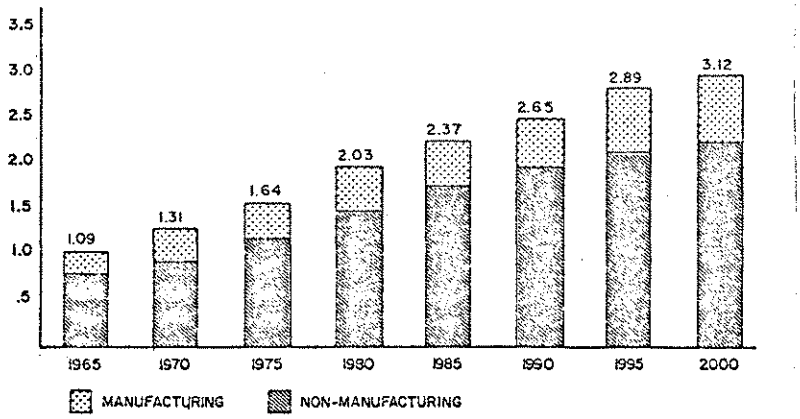


FIGURE MSU2

MIDDLE SOUTH UTILITIES SYSTEM
SERVICE AREA EMPLOYMENTS
Manufacturing & Non-Manufacturing
Millions



This rapid growth of manufacturing employments invokes the "multiplier effect" leading to rapid growth in the non-manufacturing sectors as well. Figure MSU2 shows the mix of manufacturing and non-manufacturing employments and indicates that three (3) non-manufacturing employees per manufacturing employee continues to prevail in the forecast, as it has in the past. Figure MSU3 shows the comparison of Total Non-Farm Employments in the Service Area to those of the U.S. The convergence of these lines indicates slower growth in the Service Area, the divergence in the 1973-75 recession indicates greater stability in the Service Area and the continuing divergence in the forecast is indicative of faster employment growth in the Service Area.

This employment growth leads not only to higher incomes, but more importantly to higher average income per person. After adjusting this per capita income for inflation, we obtain one of the most widely accepted measures of economic well-being, real per capita personal income. Since this represents the average amount of goods and services available to each person, it is gratifying to see in Figure MSU4 that the buying power of consumers in the MSU Service Area continues to approach the national average going from a 1965 value of 69% of the U.S. average to 85% of the U.S. average by 2003.

FIGURE MSU3

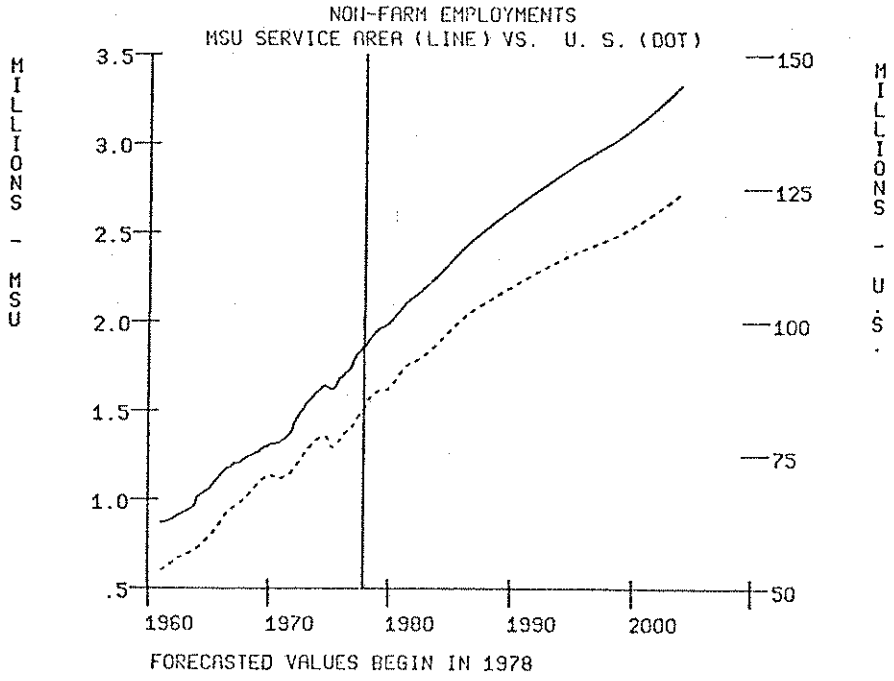
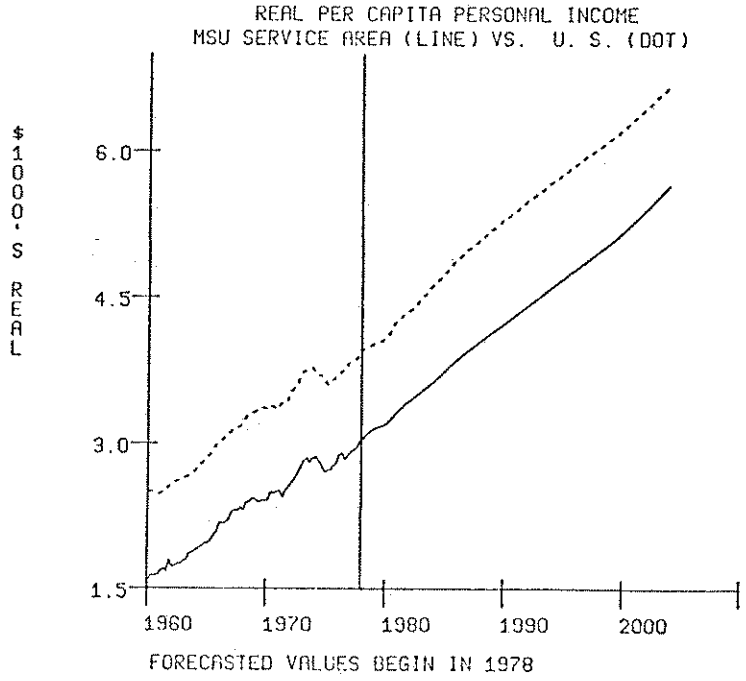
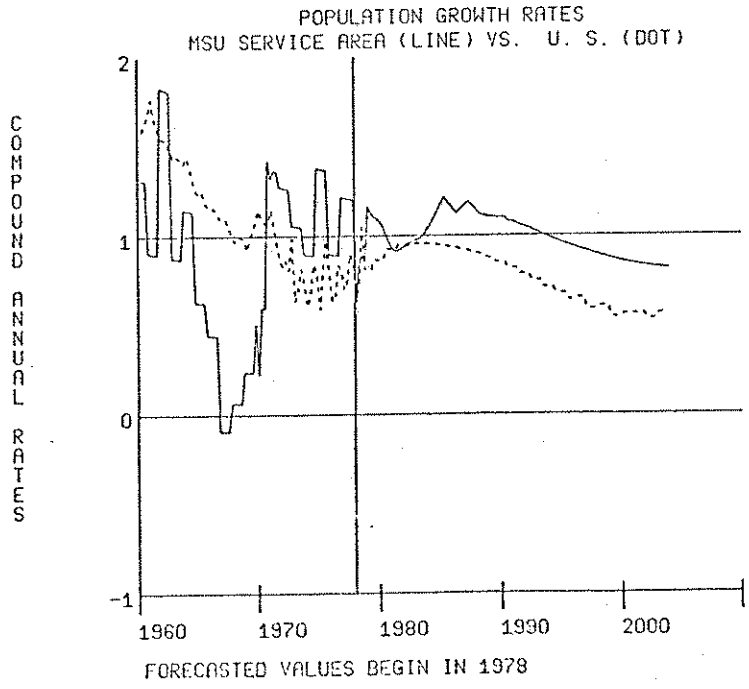


FIGURE MSU4



The increase in incomes and employments creates economic opportunities within the Service Area which cause people to move here. It also reverses the outward migration experienced in the early 1960's when people moving out of rural areas in search of jobs had to move out of the Service Area to find them. In Figure MSU5, up until 1970, the growth rate of population in the Service Area was generally below that of the U.S. with an actual decline occuring in 1967. The forecast shows MSU's Service Area population continuing to grow more rapidly than the U.S.'s with two exceptions. These exceptions occur during the third quarter of 1978 when the U.S. growth rate jumps up and also during the year 1981 when a brief slowdown in economic activity lowers migration rates. The proportion of the U.S. population living in the MSU Service Area grew from a low of 2.855% in 1970 to 2.918% in 1977 and is forecasted to grow to 3.089% by 2003. While the magnitudes of these percentage changes are not large, the 1977-2003 increase means an increase of more than 17,000 people per year over what would be needed to maintain that 2.918% share.

FIGURE MSU5

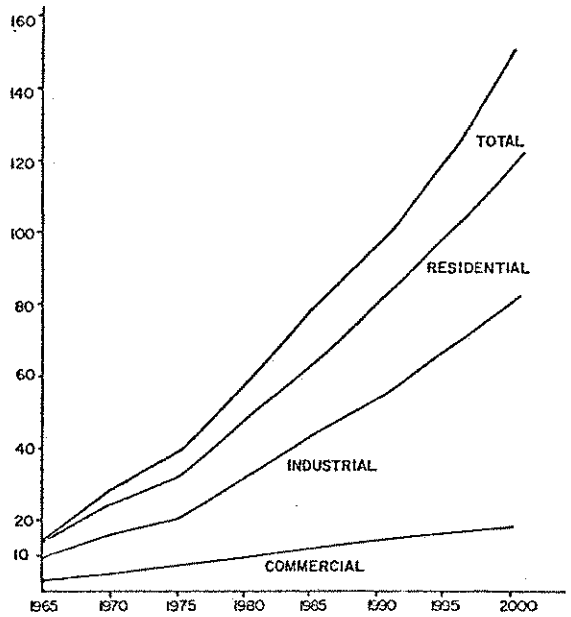


B. The MSU System Energy Sales Forecast

The end of the era of inexpensive energy is causing dramatic changes in the sales of electricity. The consolidation of the individual Operating Companies' sales forecasts show a compound annual growth rate of 4.89% from 1979-2003, less than half the size of the 10.55% between 1965 and 1977. Even with this lower growth rate, Total Sales are forecasted to reach 174.5 billion kilowatt-hours by 2003, over three (3) times as much as was sold in 1978. The most rapid growth occurs in Other Sales* whose share of Total Sales rises from 1% in 1965 to 15% in 1977 to 19% in 2003. Since Figure MSU6 was generated by placing each line on top of the preceeding lines (i.e., adding each class to the ones below it), this rapid growth can be seen in the increasing distance between Total and Residential lines.

FIGURE MSU6

MIDDLE SOUTH UTILITIES SYSTEM
ENERGY SALES
Billions Of Kilowatt Hours



Industrial Sales are forecasted to replace Residential Sales as the second fastest area of growth. Industrial Sales grew at a compound annual rate of 9.15% from 1965 to 1977, but as rising energy prices cause manufacturers to seek more energy efficient ways of producing their output, the growth from 1979-2003 will be at 5.18%. The forecast's assumed compromise on the deregulation

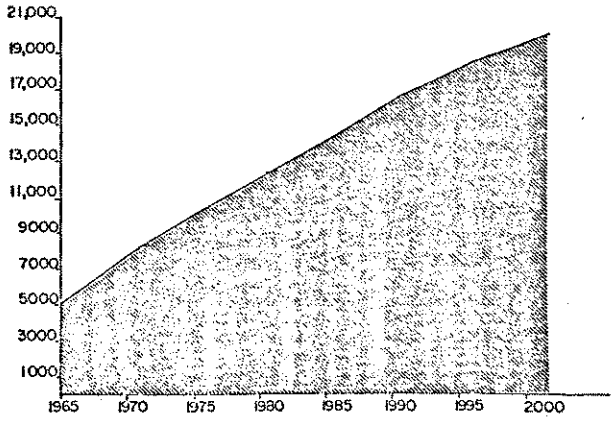
* Other Sales include Sales for Resale such as Municipals and Cooperatives but do not include Sales to Adjoining Utility Systems.

of oil and natural gas prices is expected to greatly reduce the possibility of future natural gas curtailments and many industrial customers who might have converted from natural gas to electricity to insure reliable sources of energy can no longer be expected to do so.

Commercial Sales continue to have the slowest growth rate falling from 8.22% in the 1965-1977 period to 3.17% from 1979-2003.

FIGURE MSU7

MIDDLE SOUTH UTILITIES SYSTEM
AVERAGE ANNUAL KWH USE
per Residential Customer
KWH

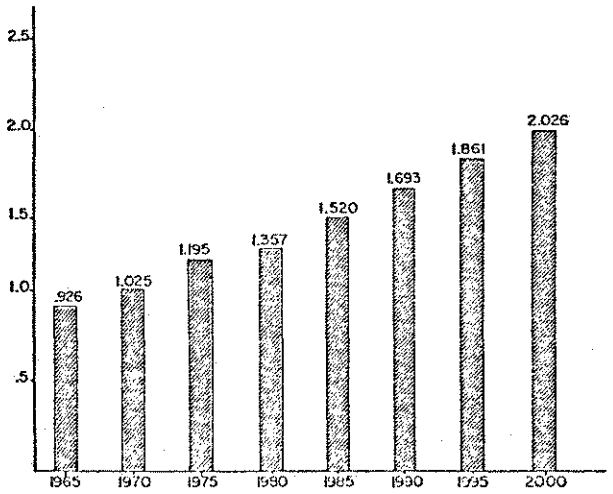


Residential Energy Sales' growth rate is forecasted to fall from the 9.78% experienced from 1965-1977 to 4.38% from 1979-2003. The primary cause of this drop is a reduction in the growth rate of usage per residential customer, depicted as the slope of the line in Figure MSU7. As the price of electricity rises faster than the prices of other goods, consumers can be expected to lower the rate at which they utilize electricity consuming appliances by adding insulation, lowering (raising) thermostat settings in winter (summer), purchasing more efficient appliances, etc. In addition, the rapid growth in the saturation of air-conditioning slows as that saturation approaches 100%. These dramatic changes in residential electricity consumption cause the growth rate of usage per customer to fall from 6.92% (1965-1977)

to 2.34% (1979-2003). Compounding this effect is a reduction in the growth rate of customers (Figure MSU8) from 2.54% per year to 1.93% per year, due to the demographic changes discussed above which reduce the proportion of young adults (the principal group in which household formation takes place) in the population.

FIGURE MSU8

MIDDLE SOUTH UTILITIES SYSTEM
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS



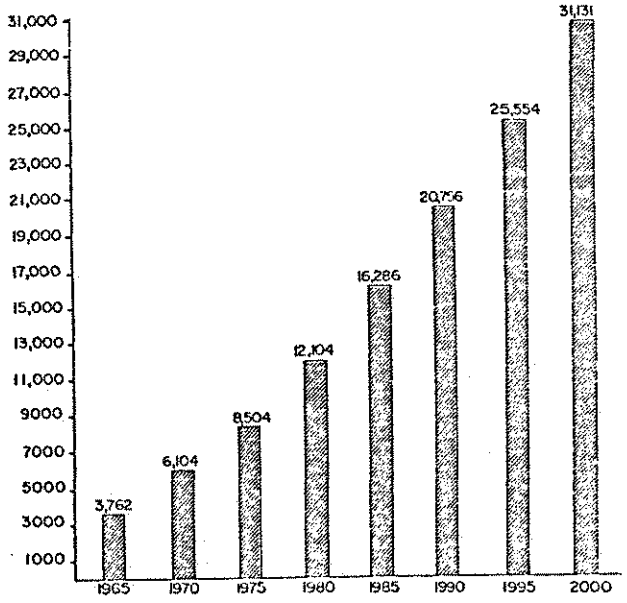
C. The MSU System Peak Load Forecast

Because the System's summer peak is determined by the same variables that determine System Energy Sales, namely the usage patterns of our customers, the Peak Forecast uses the Energy Sales Forecast as an input. Sales in each customer class are separated into weather-sensitive and non-weather-sensitive portions and the forecast is made assuming that normal weather conditions will prevail at the time of the peak in every year

of the forecast. The resultant forecasts, shown in Figure MSU9 at five (5) year intervals, yield a compound annual growth rate from 1979-2003 of 4.77% compared to the 8.29% from 1965-1977.

FIGURE MSU9

MIDDLE SOUTH UTILITIES SYSTEM
PEAK DEMAND
MW



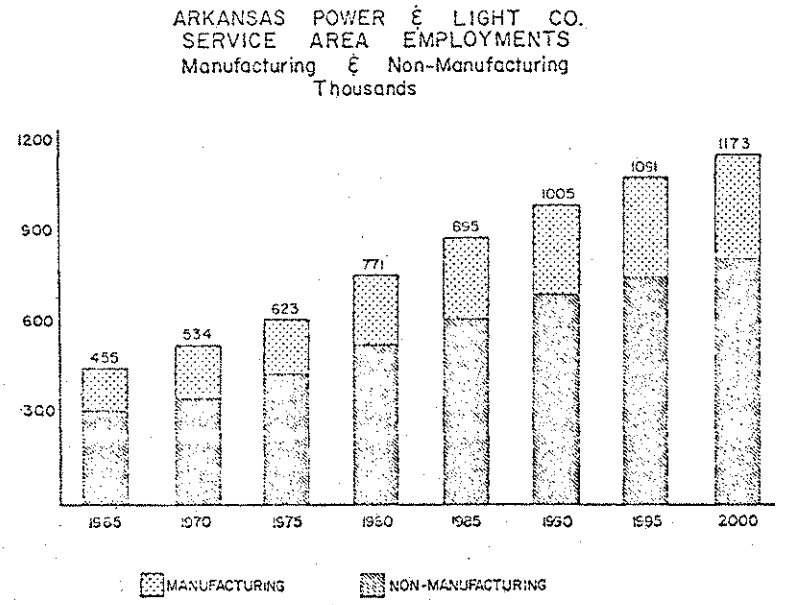
VI. THE LONG-TERM OUTLOOK FOR ARKANSAS POWER AND LIGHT COMPANY

As has been the case throughout the historical period, in 1978 AP&L's Ultimate Customers consumed almost two-thirds of the electricity sold in the State of Arkansas. AP&L sold almost three-quarters of the electricity consumed by ultimate customers in the state.* For these reasons and because the wealth of data available at the state level enables us to construct a better model, it was decided that the State of Arkansas would be used to represent AP&L's Service Area.

A. The AP&L Service Area Economic Forecast

As shown in Figure APL1, balanced growth in employments has occurred in the past and is forecasted to continue. Manufacturing employments were 30% of Total Employments in 1977 and this proportion is 29% in the year 2000. The historical (1964-1977) growth rates of employments in Manufacturing and Non-Manufacturing for AP&L's Service Area have been 4.0% and 3.6%, respectively while in the forecast (1979-2003) these compound annual growth rates slow to 1.7% and 2.2%. Even though these rates are slower than their historical counterparts, Non-Farm Employments continue to grow more rapidly in Arkansas than in the U.S.

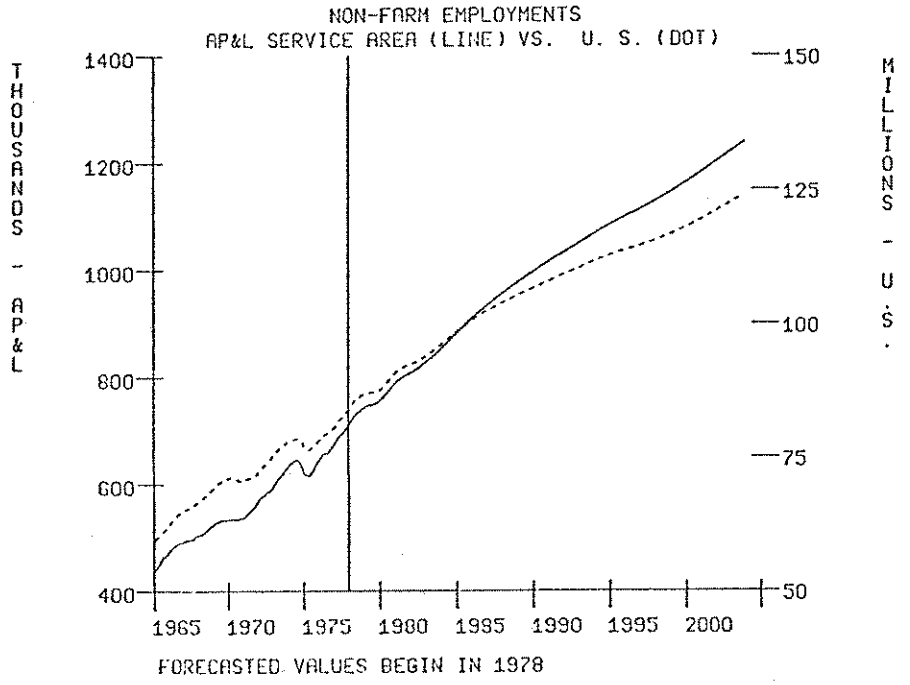
FIGURE APL1



* Total Sales to Ultimate Customers in the State of Arkansas were 20,759 billion KWH, according to the 1978 EEI Statistical Yearbook. AP&L's Sales to Ultimate Customers was 13,099 billion KWH or 63% of Arkansas' Total while AP&L's Net Area Electric Sales (Sales to Ultimate Customers plus Sales to Municipals and Cooperatives) were 15,374 or 74% of the Arkansas Total.

Non-Farm Employments in Arkansas have not always risen faster than those of the U.S., as indicated by the divergence of the lines in Figure APL2 during the late 1960's. With the exception of the 1975 recession, when employments fell 2.6% in Arkansas compared to a 1.7% drop for the U.S., the growth rate of Non-Farm Employments in Arkansas has been higher than that of the US.

FIGURE APL2



The impact of the higher growth rate of employments on population is dramatic. Figure APL3 shows that Arkansas' population was fairly constant until 1970 when the increased availablity of jobs caused rapid growth in the population with Arkansas' population growing more rapidly than that of the U.S. The increase in 1975 followed by a sharp decrease in 1976 was caused by about 150,000 Vietnamese refugees who were temporarily housed at Fort Chaffee, Arkansas. Statistical techniques have been used to remove this influence from the equation. As the average age of the U.S. population increases, more retirees will be moving into Arkansas. This phenomenon, along with continued employment growth brings about an increase in the forecasted compound annual growth rate to 1.1% per year, compared to the historical growth rate of 1.0%.

Real Per Capita Income, shown in Figure APL4, grew from 68% of the U.S. average in 1965 to 77% in 1975 and is forecasted to reach 84% by the year 2000.

FIGURE APL3

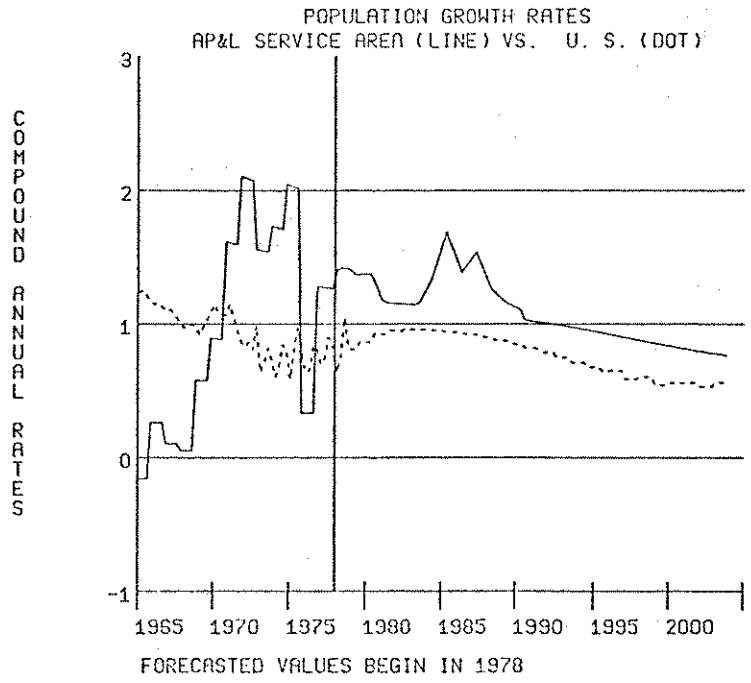
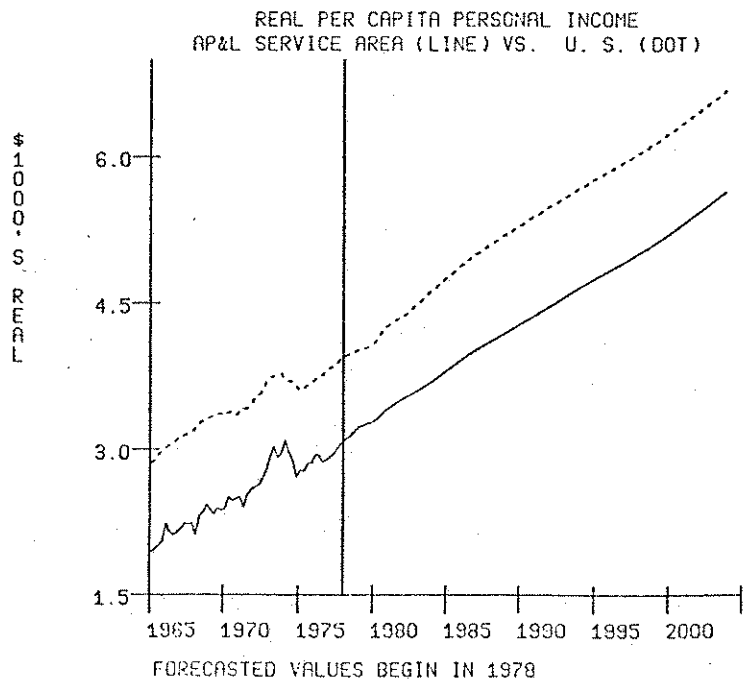


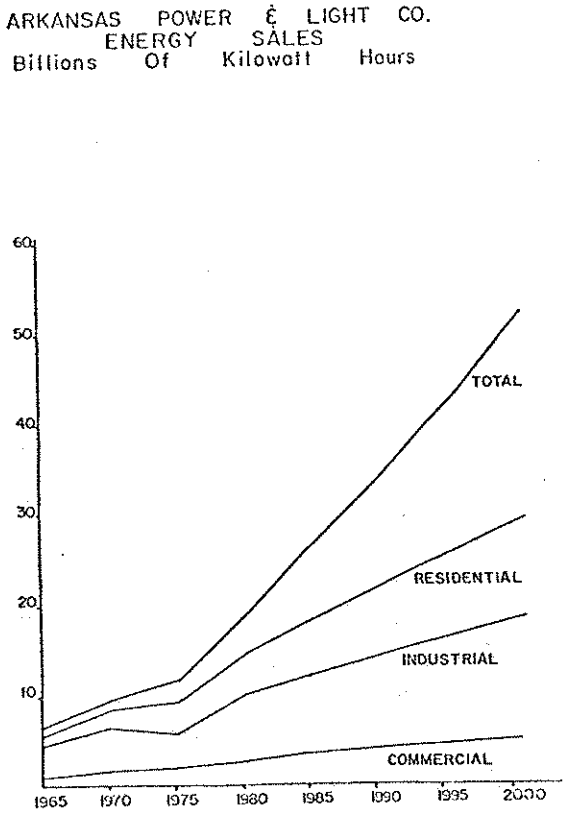
FIGURE APL4



B. The AP&L System Energy Sales Forecast

The most striking feature of AP&L's Energy Sales Forecast is the extraordinarily rapid growth of Other Sales, as indicated by the divergence between the Total Sales line and the line labeled Residential in Figure APL5. (Figure APL5 was contructed by adding each class of sales to the one below it). The share of AP&L's Total Energy Sales accounted for by Other Sales grew from 10% in 1965 to 19% in 1977 and is forecasted to be 46% by 2003. The source of this phenomenal growth is the forecasted sales to the Arkansas Electric Cooperative Corp. (AECC), which is not modeled in the MSU Load Forecasting Model. This forecast, when combined with the forecasts made by the MSU Load Forecasting Model, produces a compound annual growth rate of Other Sales of 9.3% from 1979-2003, while from 1965-1977 the growth rate was 13.7%.

FIGURE APL5



The second most rapid growth occurs in Residential Energy Sales, which grew 10.3% per year historically and are forecasted to grow at 4.4% per year. This results from a 2.5% growth rate in average annual usage per residential customer, which reaches

almost 20,000 KWH per year by 2003 (see Figure APL6) and a 1.8% growth rate in the number of residential customers, which reaches the half million mark in 1989 (see Figure APL7). Historical growth rates were 7.7% for average annual usage per residential customer and 2.5% for number of residential customers.

FIGURE APL6

ARKANSAS POWER & LIGHT CO.
AVERAGE ANNUAL KWH USE
per Residential Customer
KWH

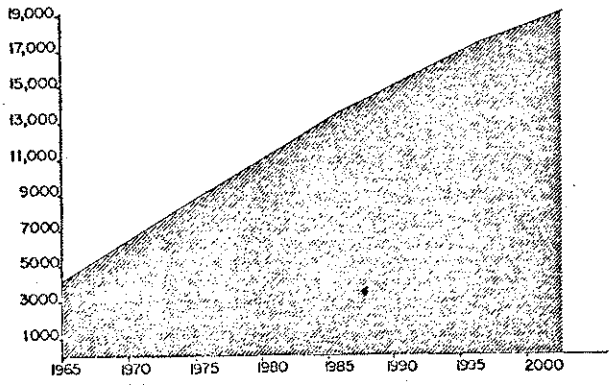
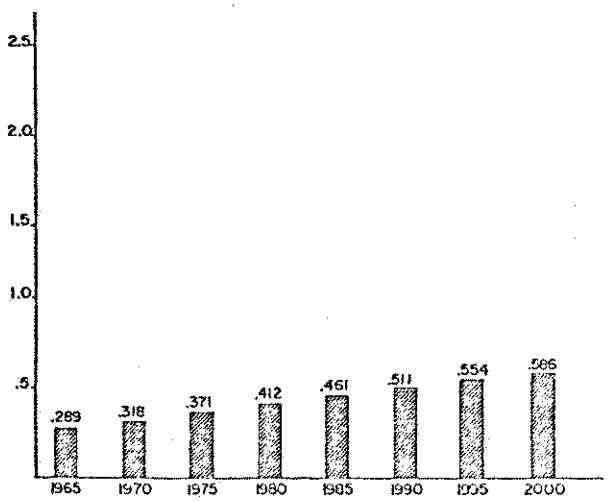


FIGURE APL7

ARKANSAS POWER & LIGHT CO.
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS



Commercial and Industrial KWH Sales are forecasted to grow at about the same rate, 3.2% and 3.1% respectively even though their historical growth rates were quite different, 7.9% and 4.2%. Both decreases are primarily caused by the slower employment growth rates discussed above. The greater reduction in Commercial KWH Sales' growth is due to greater declines in the growth rates of employments in those Non-Manufacturing sectors in which AP&L sells a larger proportion of its Commercial KWH Sales (e.g., Wholesale and Retail Trade).

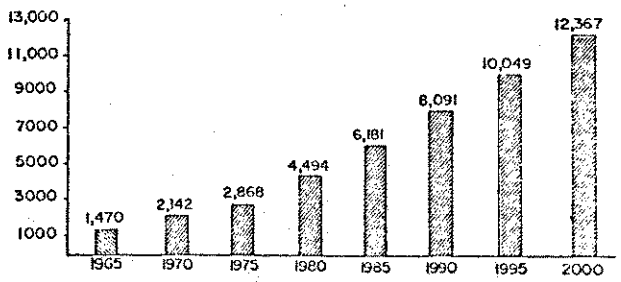
The compound annual growth rate of AP&L's Total KWH Sales falls from the 7.4% experienced from 1965-1977 to the 5.3% forecasted from 1979-2003.

C. The AP&L System Peak Load Forecast

As shown in Figure APL8, the AP&L System summer peak demand is forecasted to be 12,367 MW in the year 2000. The compound annual growth rate from 1979-2003 is 4.9%, compared to 7.1% from 1965-1977. The peak demands by AECC and the City of Jonesboro are not forecasted by the MSU Load Forecasting Model, but their impact on AP&L's peak demand is significant. The peak demand forecasts provided by AECC and Jonesboro rise from 509 MW, or 13% of AP&L's peak demand, in 1979 to 4984 MW, or 36% of AP&L's peak demand, in 2003. This results in a compound annual growth rate of 10% in the peak demand by AECC and Jonesboro, significantly higher than the 4% growth in the forecasts of peak demands produced by the MSU Load Forecasting Model.

FIGURE APL8

ARKANSAS POWER & LIGHT CO.
PEAK DEMAND
MW



VII. THE LONG-TERM OUTLOOK FOR ARKANSAS-MISSOURI POWER COMPANY

For the purposes of the Economic Service Area Model, ARK-MO's Economic Service Area is defined as the ten (10) counties in Missouri (Dunklin, Howell, Iron, New Madrid, Oregon, Pemiscot, Reynolds, St. Francois, Washington and Wayne) and eight (8) counties in Arkansas (Clay, Craighead, Fulton, Greene, Lawrence, Mississippi, Randolph and Sharp) in which ARK-MO provides service to ultimate customers.

A. The ARK-MO Service Area Economic Forecast

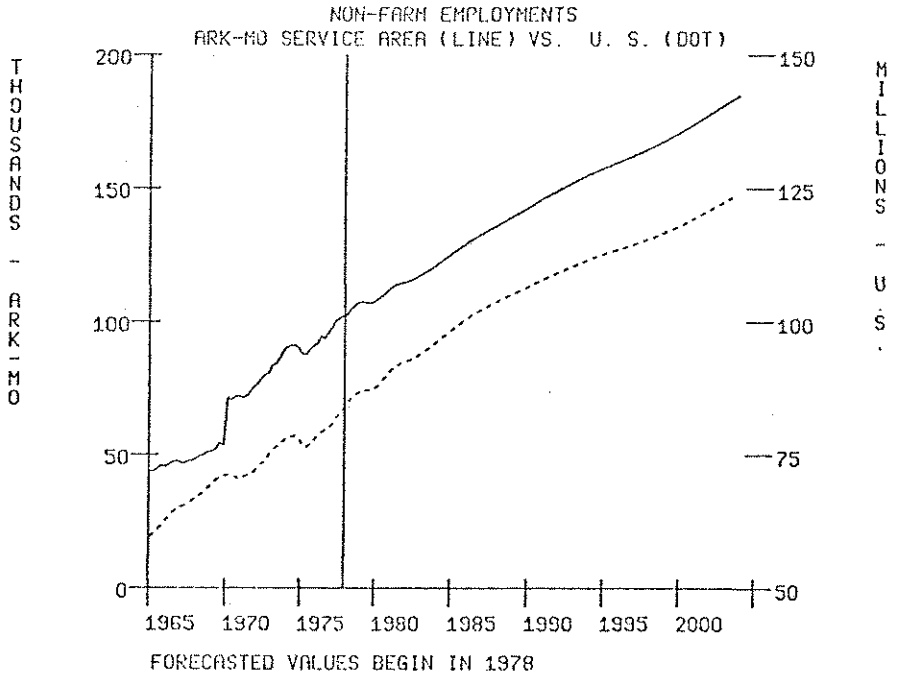
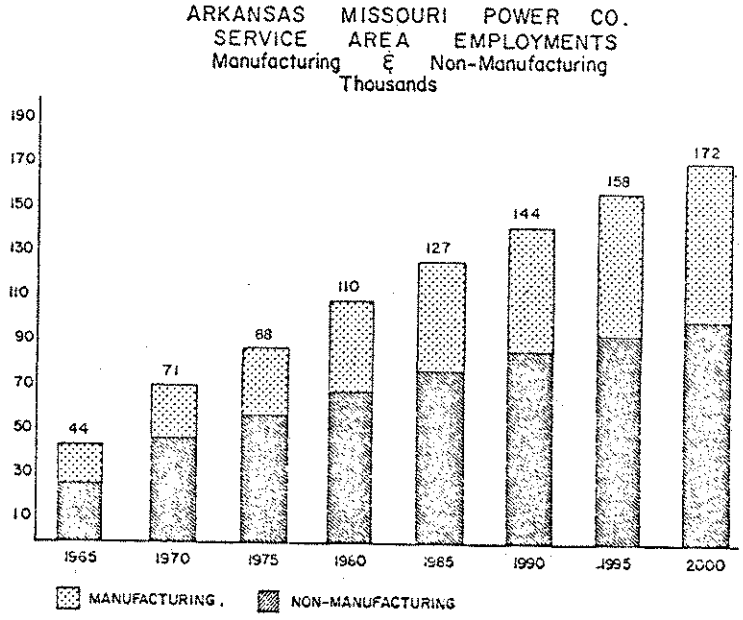


FIGURE AMP1

As can be seen in Figure AMP1, Non-Farm Employments in ARK-MO's Service Area increased sharply in the early 1970's and since then have maintained a growth rate comparable to that of the U.S. economy. This striking increase is also displayed in Figure AMP2 as the 1970 level of employment is about 60% higher than 1965's, with manufacturing employments rising by 41% and non-manufacturing employments rising 74% over that five (5) year

FIGURE AMP2



interval. This dramatic improvement in economic opportunity reversed the predominantly outward flow of population indicated in Figure AMP3 and sent population increases to levels approaching 3% per year in what appeared to be a period of making up for past losses. Both employments and population in the Service Area are forecasted to continue growing faster than in the U.S., again with the exception of an unusual increase in the U.S. population in the third quarter of 1978.

FIGURE AMP3

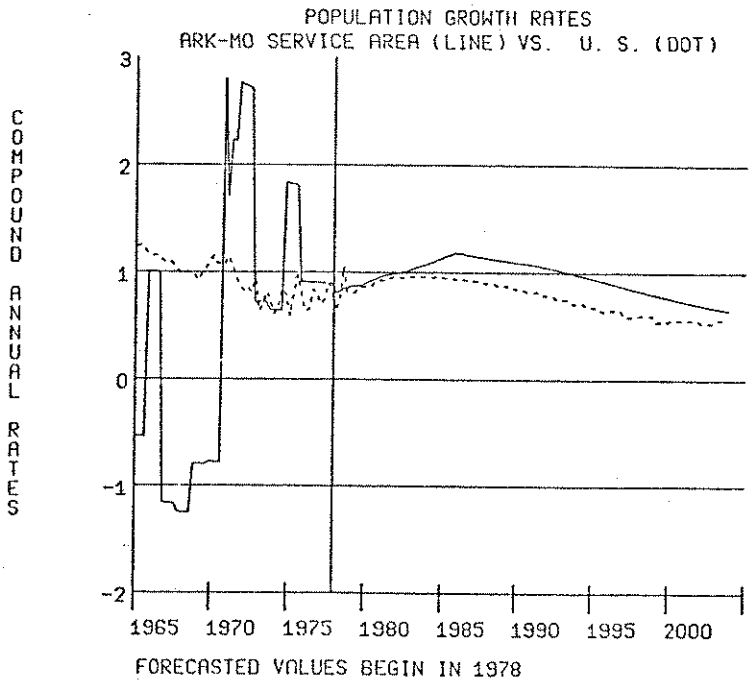
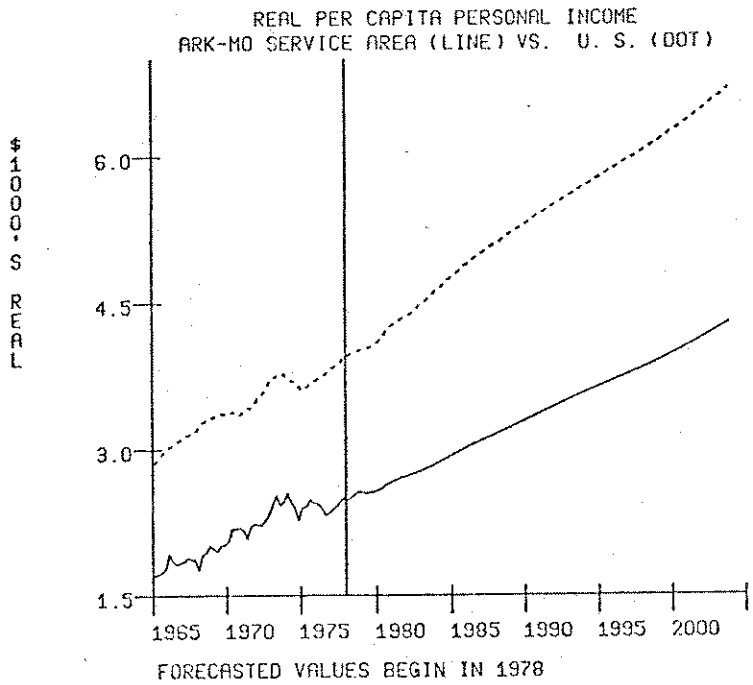


FIGURE AMP4



In Figure AMP4, we see that ARK-MO's Service Area's standard of living, as measured by real per capita personal income, increases at about the same rate as that of the U.S., rising from 62% of the U.S. average in 1965 to 64% of the U.S. average by the year 2000.

B. The ARK-MO System Energy Sales Forecast

FIGURE AMP5

ARKANSAS MISSOURI POWER CO.
ENERGY SALES
Billions Of Kilowatt Hours

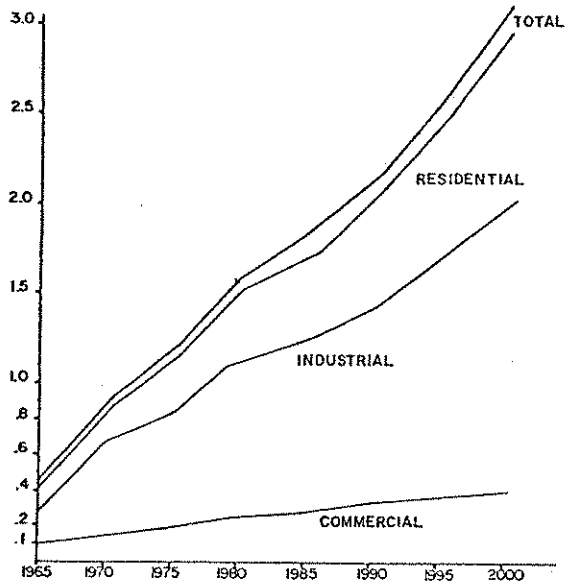


FIGURE AMP6

ARKANSAS MISSOURI POWER CO.
AVERAGE ANNUAL KWH USE
per Residential Customer
KWH

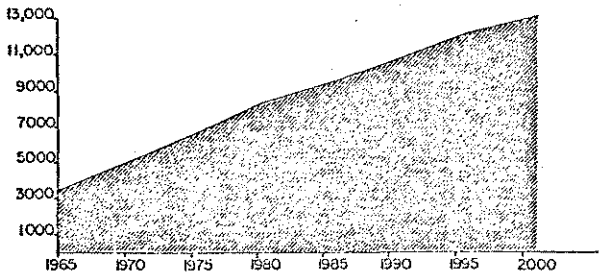
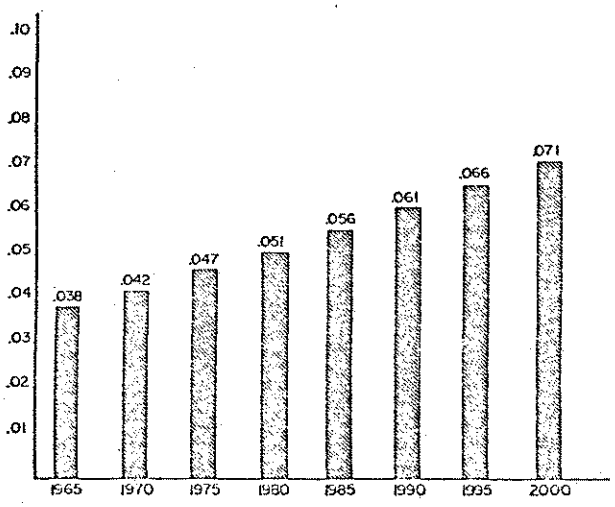


FIGURE AMP7

ARKANSAS MISSOURI POWER CO.
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS



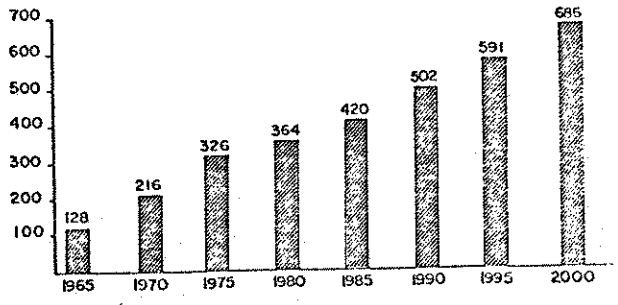
Industrial Energy Sales account for over half of ARK-MO's Total Sales, shown in Figure AMP5, and had the fastest growth among the customer classes (11.7% from 1965-1977). In the forecast, Residential Sales' 4.0% growth rate is slightly above the 3.8% of Industrial customers. While the growth rate of average usage per residential customer in Figure AMP6 falls from 6.8% historically to 2.3% in the forecast, the growth rate of residential customers in Figure AMP7 only falls 0.2% (compared to an MSU System average decline of 0.8%) from 1.9% to 1.7%.

C. The ARK-MO System Peak Load Forecast

From 1965-1977, ARK-MO's summer peak load, shown in Figure AMP8, grew from 128 MW to 340 MW, an average compound annual rate of 8.5%. The summer peak is forecasted to grow at an average compound annual rate of 3.4%, reaching 753 MW by 2003.

FIGURE AMP8

ARKANSAS MISSOURI POWER CO.
PEAK DEMAND
MW

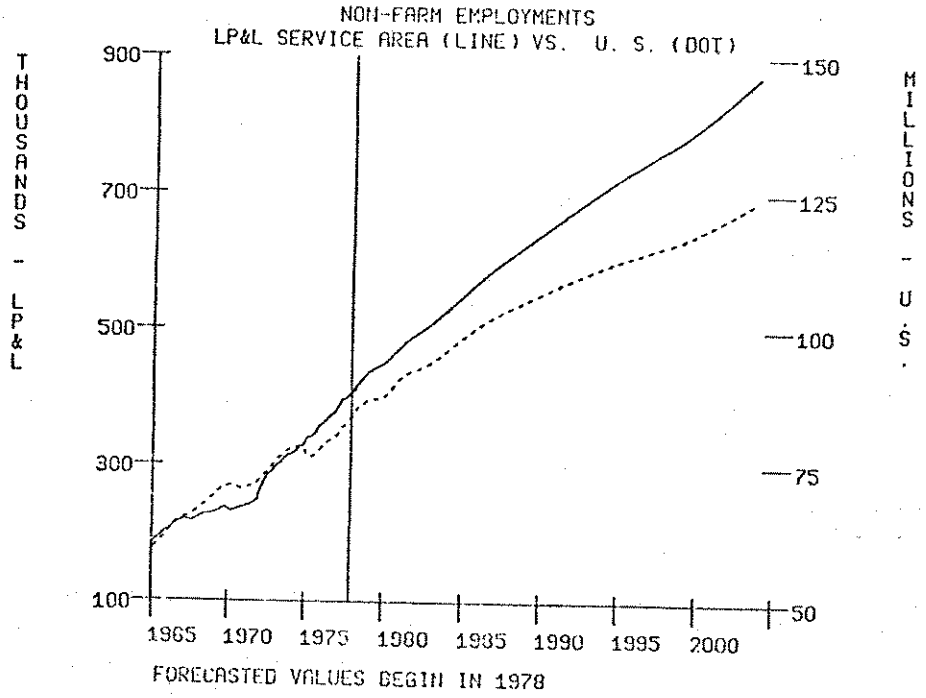


VIII. THE LONG-TERM OUTLOOK FOR LOUISIANA POWER AND LIGHT COMPANY

LP&L's Economic Service Area encompasses the 42 parishes of the State of Louisiana in which LP&L serves ultimate customers.

A. The LP&L Service Area Economic Forecast

FIGURE LPL1



The most striking feature in LP&L's Service Area has been the rapid industrial growth along the Mississippi River. This growth caused manufacturing employments to grow at an average rate of 3.5% per year historically. This growth in turn stimulates the growth of non-manufacturing employments. However, the historical growth of non-manufacturing employments (7.4%) is somewhat misleading since changes in Louisiana's Employment Security laws caused artificial increases in the number of employees reported. The result of one of these changes can be seen in Figure LPL1 as a sharp rise in non-agricultural employments in 1972. Forecasted growth rates for these employments are 2.4% in manufacturing and 3.1% in non-manufacturing, resulting in total employments over

800,000 by the year 2000 (see Figure LPL2).

FIGURE LPL2

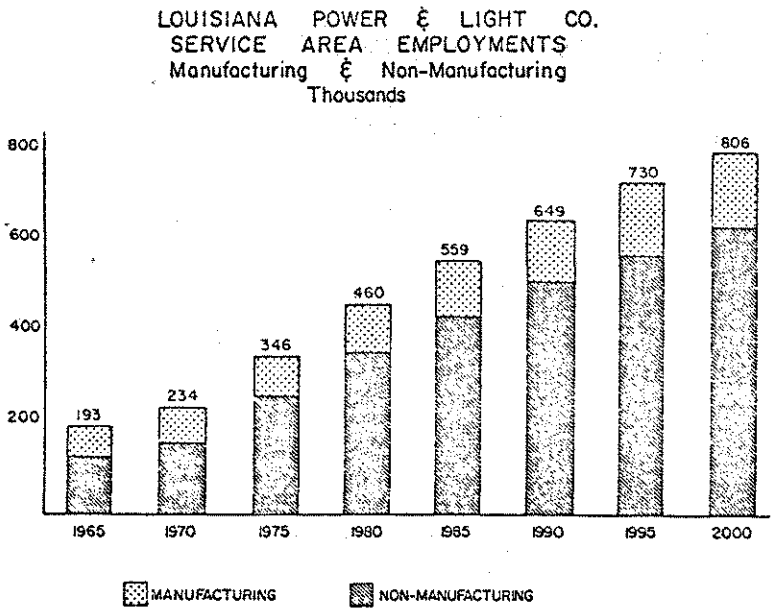
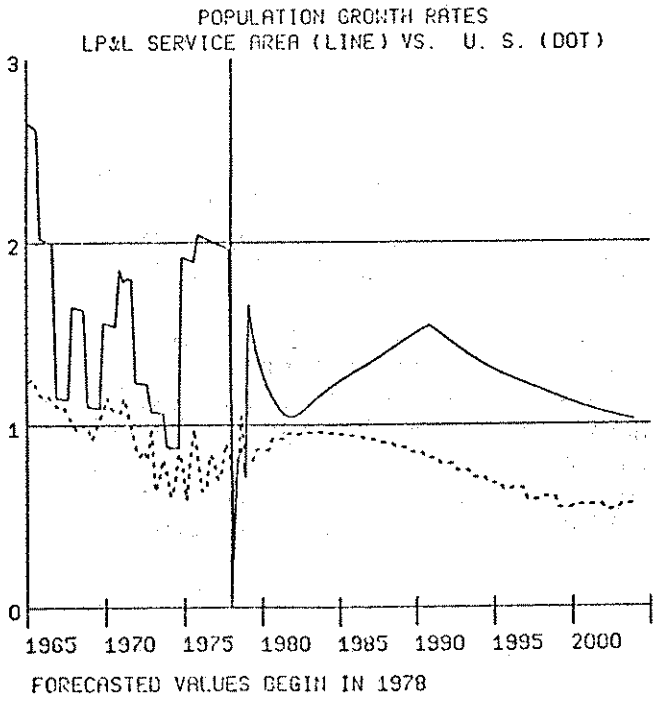
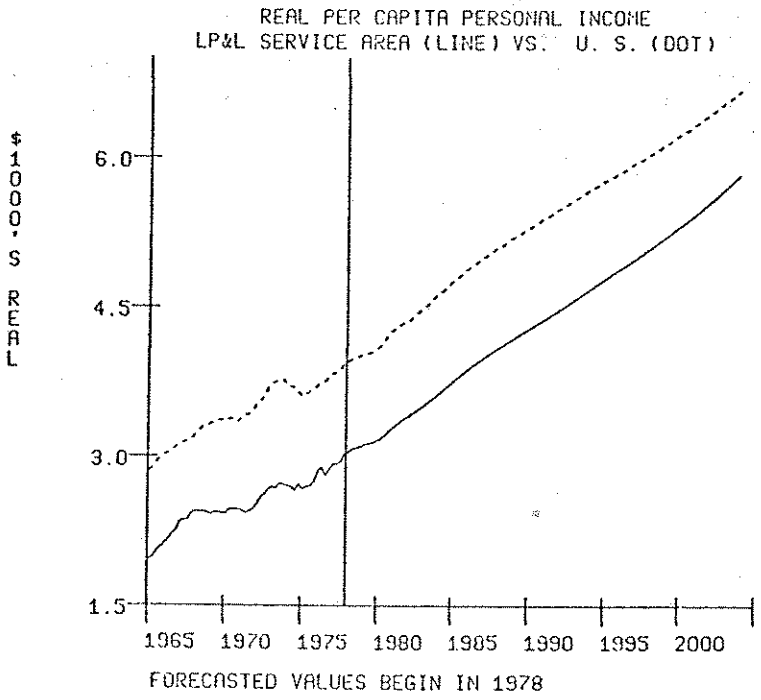


FIGURE LPL3



The increased economic opportunities brought about by this growth are reflected in the population's growth rate being generally higher than that of the U.S. indicated in Figure LPL3. The exceptions occur in 1978 when a downward revision in the estimates of the Service Area population and a dramatic rise in the U.S. population cause the growth rate of population to be lower than that of the U.S. Also an increase in the standard of living brings LP&L's Service Area's real per capita personal income in Figure LPL4 up from 69% of the U.S. average in 1965 to 87% of the U.S. average by 2003.

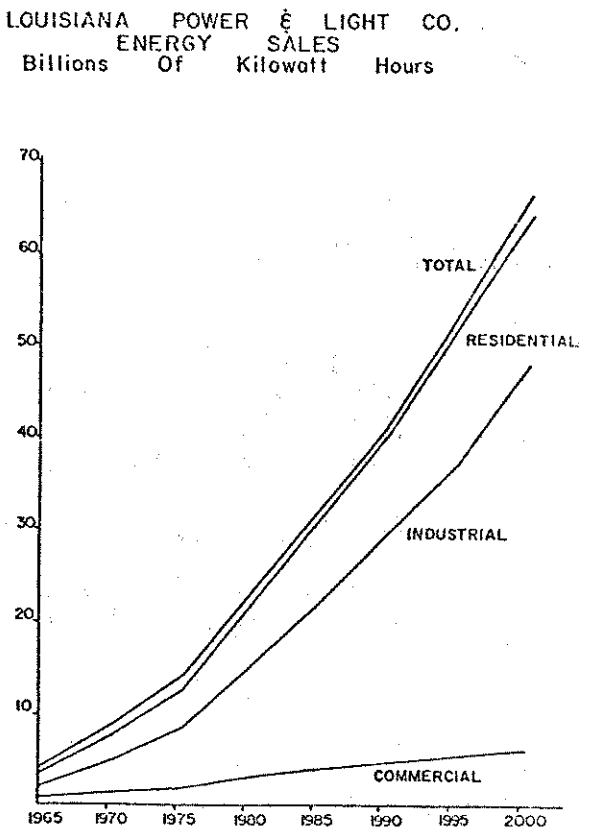
FIGURE LPL4



B. The LP&L System Energy Sales Forecast

LP&L's Industrial energy sales grew by an average of 16.4% per year from 1965-1977 as new firms moved into the Service Area to take advantage of extraordinarily low electricity prices charged by LP&L, low corporate income tax rates levied by the State of Louisiana and low transportation costs afforded by the Mississippi River. While the forecast assumes that the Mississippi will continue to be a low cost transportation route, Louisiana has increased its corporate income tax rate and LP&L has increased its electricity prices and these increases are forecasted to continue. This results in a 6.4% growth rate in Industrial Energy Sales from 1979-2003. Even so, Industrial Energy Sales are forecasted to grow from 1977's 49% share of LP&L's Total Energy Sales to 65% by 2003 (see Figure LPL5).

FIGURE LPL5



Residential Energy Sales fall from an 11.6% growth rate in 1965-1977 to 4.7% in 1979-2003. Increased electricity prices and slower growth in the saturations of electricity consuming appliances lower the growth rate of average annual usage per residential customer in Figure LPL6 from 7.7% to 2.4%. Residential customer growth in Figure LPL7 falls from an historical growth rate of 3.6% to 2.2% in the forecast. For similar reasons, the Commercial Sales' growth rate falls from 11.4% per year historically to 3.5% in the forecast.

FIGURE LPL6

LOUISIANA POWER & LIGHT CO.
AVERAGE ANNUAL KWH USE
per Residential Customer
KWH

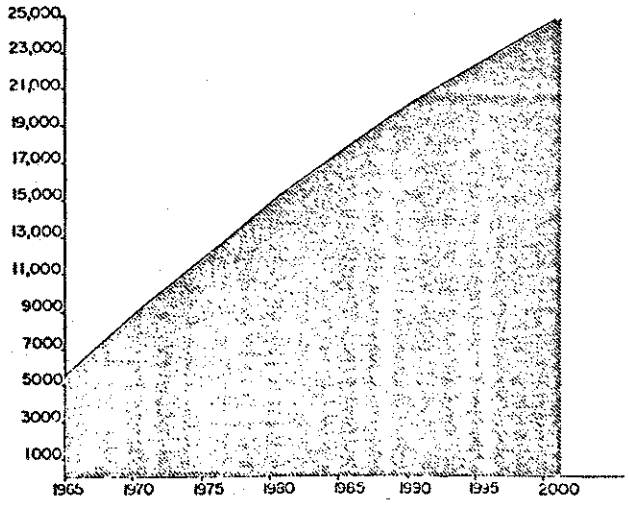
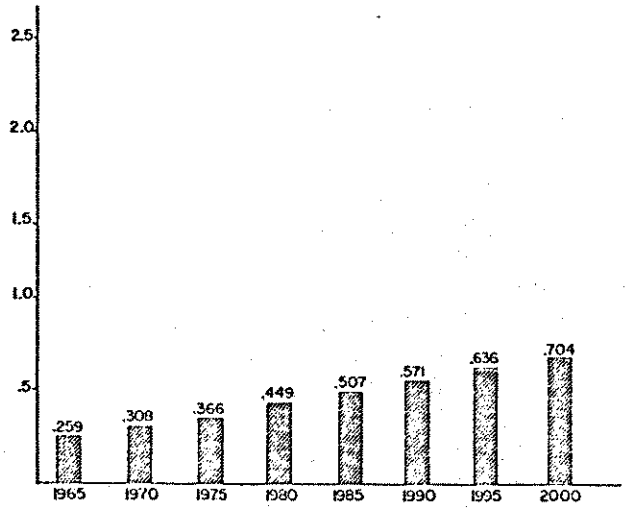


FIGURE LPL7

LOUISIANA POWER & LIGHT CO.
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS



Other Sales (not including sales to adjoining utility systems) shows a dramatic change from the 10.1% growth in the period 1965-1977 to a -2.0% from 1979-2003 as wholesale contracts expire in mid-1980.

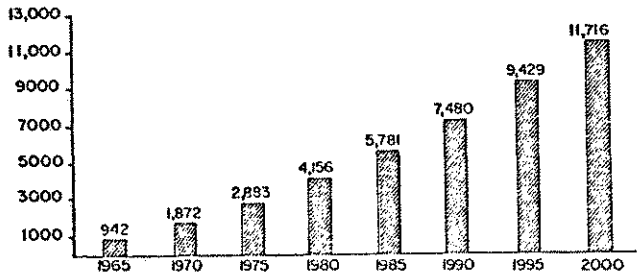
C. The LP&L System Peak Load Forecast

The result of the slower growth of energy sales (from 13.4% per year historically to 5.3% in the forecast) is a reduction of

the growth rate of LP&L's annual summer peak load shown in Figure LPL8 from the 11.6% experienced historically to 5.0% in the forecast.

FIGURE LPL8

LOUISIANA POWER & LIGHT CO.
PEAK DEMAND
MW



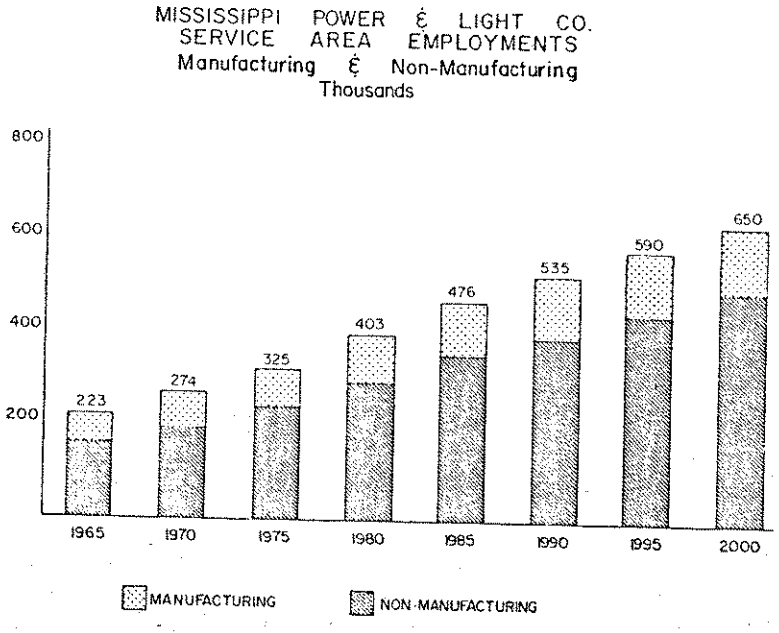
IX. THE LONG-TERM OUTLOOK FOR MISSISSIPPI POWER AND LIGHT COMPANY

MP&L's Economic Service Area covers the 43 counties in Mississippi in which MP&L serves ultimate customers.

A. The MP&L Service Area Economic Forecast

The strongest source of growth to the MP&L Service Area has been from the growth of machinery manufacturers and of paper mills. Their impact on manufacturing employments resulted in rapid growth in the late 1960's and appears to be doing the same in the late 1970's. These rapid growth rates are reflected in the increasing size of the dotted bars in Figure MPL1 in 1970 and 1980. The average growth rate over the period 1964-77 was 4.2% per year. Since machinery manufacturing is the fastest growing industry in the U.S. forecast, its importance in the MP&L forecast keeps manufacturing employments growing at 2.1% per year from 1979-2003 despite the drastic decline of growth rates in consumer-goods industries (such as Food and Kindred Products).

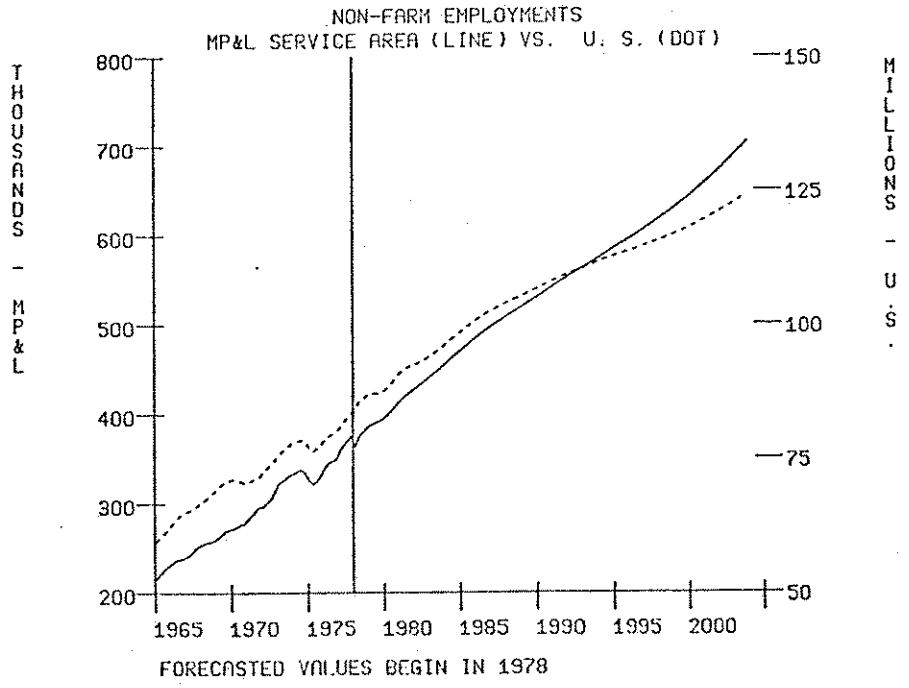
FIGURE MPL1



The growth rates of non-manufacturing employments are more stable than those of manufacturing employments. In the late 1960's and late 1970's when manufacturing employments are booming, non-manufacturing employments grow more slowly. However, when manufacturing employments do slow down, their growth rates fall below those of non-manufacturing employments. This relatively consistent growth yields a compound annual growth rate of 4.4% from 1964-77 and a forecasted growth at 2.6% per year from 1979-2003.

The growth rates in manufacturing and non-manufacturing employments complement each other. The result is a growth rate in non-farm employments which exceeds the growth rate of non-farm employments in the U.S. in every year except 1975. This is evidenced by the convergence of the lines in Figure MPL2 in all years except 1975. (The sharp drop in the first quarter of 1978 occurred because of a rebenchmarking of the data provided by the Mississippi Department of Labor). Non-farm employments in MP&L's Service Area grew at a compound annual rate 1.6% higher than the U.S. average for the period 1964-77. The forecast results in MP&L's non-farm employments growing an average of 1.0% faster than those of the U.S.

FIGURE MPL2



The increase in employments has provided enough economic opportunity to reverse the decline in the population of MP&L's Service Area shown in Figure MPL3. Between 1964 and 1970, MP&L's Service Area lost 45,000 residents while from 1970 to 1977, it gained over 52,000 residents for an average growth rate over the entire period of 0.05%. Continued economic strength in the forecast results in a compound annual growth rate of 1% from 1979-2003 and a population exceeding one and one-half million by 2003.

FIGURE MPL3

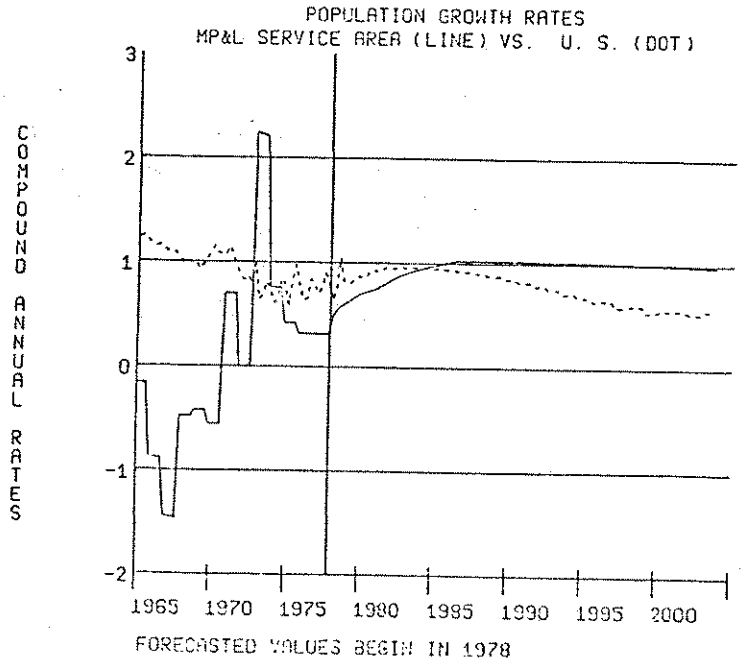
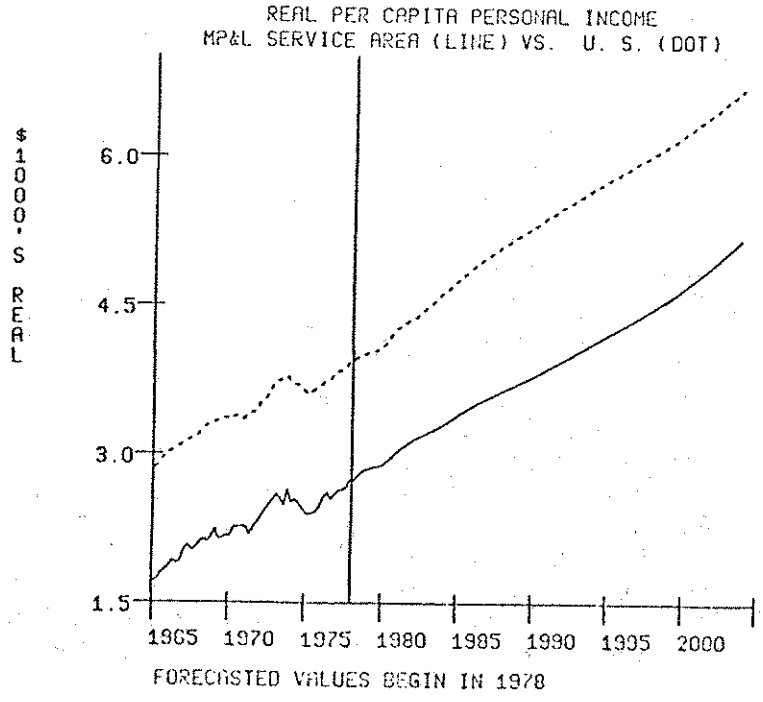


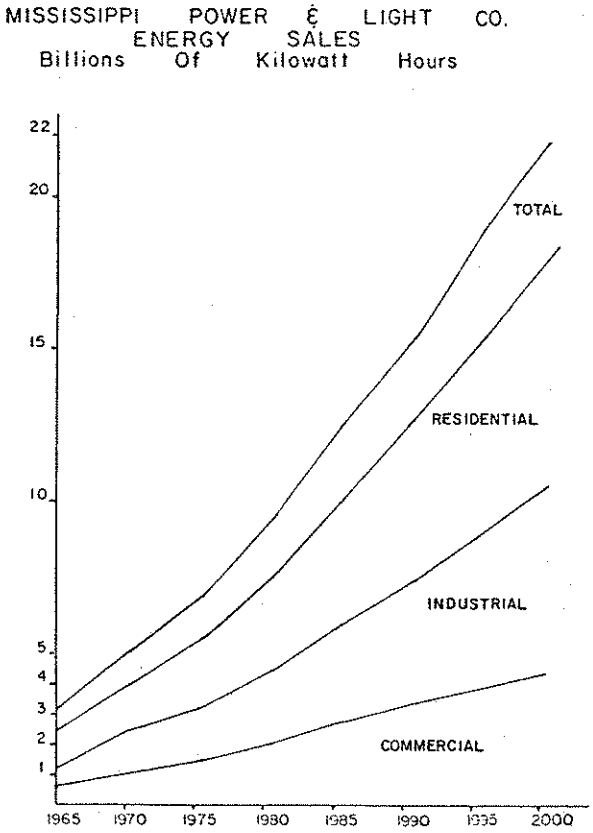
FIGURE MPL4

Real per capita personal income in MP&L's Service Area continues to rise faster than the U.S. average, as seen in the convergence of the lines in Figure MPL4. In 1964, the real per capita personal income in MP&L's Service Area was 59.6% of the U.S. average. By 1977 that ratio had risen to 68.8%, and by 2003 it is forecasted to rise to 77.2%.



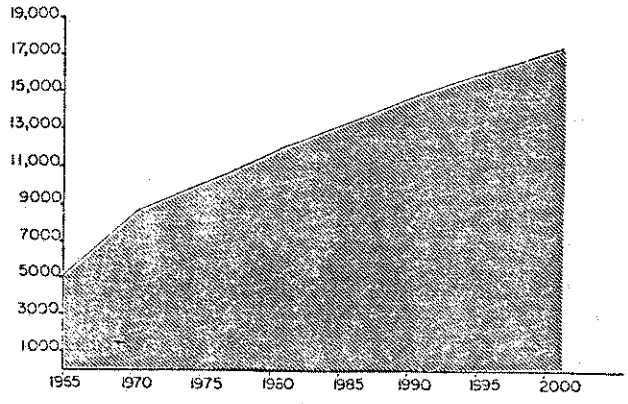
B. The MP&L System Energy Sales Forecast

FIGURE MPL5



The strength of MP&L's Industrial KWH Sales is reflected by the very small decline in the compound annual growth rate resulting from the forecast. In the historical period from 1965-77 Industrial KWH Sales have grown at 4.7% per year and they are forecasted to grow at 4.6% from 1979-2003.

FIGURE MPL6



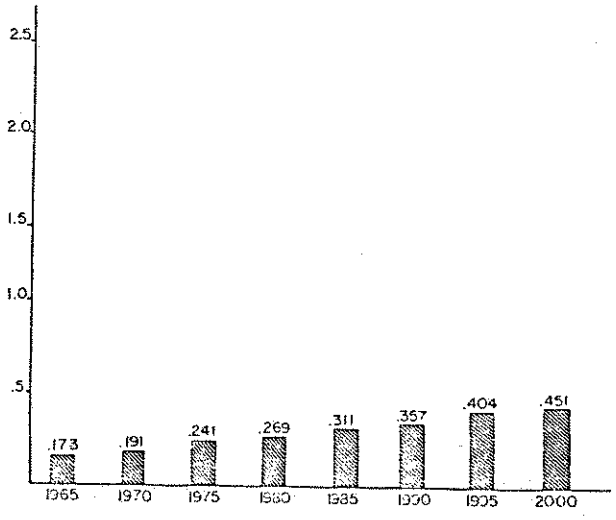
Residential KWH Sales has the second fastest growth rate in the forecast, 4.6% per year, having fallen from an historical rate of 9.8% per year. Figure MPL5 shows the relationship between Residential and Industrial KWH Sales with Residential increasing its distance above the Industrial line in the historical period and maintaining the same distance in the forecast. The drop in the growth rate of Residential KWH Sales is primarily due to the reduction in the growth rate of the average annual KWH use per residential customer from the 6.5% per year experienced historically to the 1.9% forecasted to occur from 1979 to 2003. As can be seen in Figure MPL6, the KWH use per residential customer more than doubled from 5,200 KWH in 1965 to 11,020 KWH in 1977.

Another doubling does not occur within the forecast horizon as KWH use per residential customer reaches 18,675 KWH in 2003.

Another contributor to the declining growth in Residential KWH Sales is a lower growth rate in Residential Customers. From 1965 to 1977, the number of residential customers grew at 3.1% per year, while from 1979-2003 they are forecasted to grow at 2.5% per year. While these growth rates are declining, they were derived from ever increasing bases. Using the values from Figure MPL7, the average increase in the number of customers in each year from 1965-75 was 6,800, while the average number to be added in each of the next twenty-five years is 8,400.

FIGURE MPL7

MISSISSIPPI POWER & LIGHT CO.
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS



Other KWH Sales falls from the second fastest growth rate (9.0% per year, 1965-77) to the third (4.2% per year 1979-2003) while Commercial KWH Sales also drops back one place as its growth rate falls from an average of 7.9% per year historically, to 4.0% per year in the forecast.

The Total KWH Sales resulting from adding the forecasts produced by the Load Forecasting Model grows at a compound

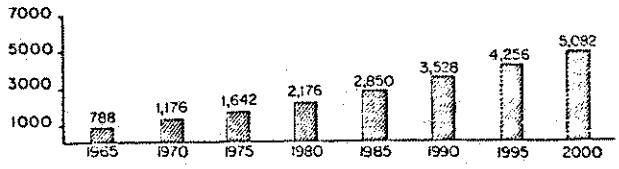
annual growth rate of 4.4% per year from 1979-2003 and exceeds 25 billion KWH by the year 2003.

C. The MP&L System Peak Load Forecast

As shown in Figure MPL8, the MP&L System summer peak load doubled from 1965 to 1975. The compound annual growth rate of the peak demand was 7.0% from 1965-77 and is forecasted to be 4.3% from 1979-2003. The peak load for the year 2003 is forecasted to be 5,709 MW, over seven (7) times as large as the 788 MW experienced in 1965.

FIGURE MPL8

MISSISSIPPI POWER & LIGHT CO.
PEAK DEMAND
MW

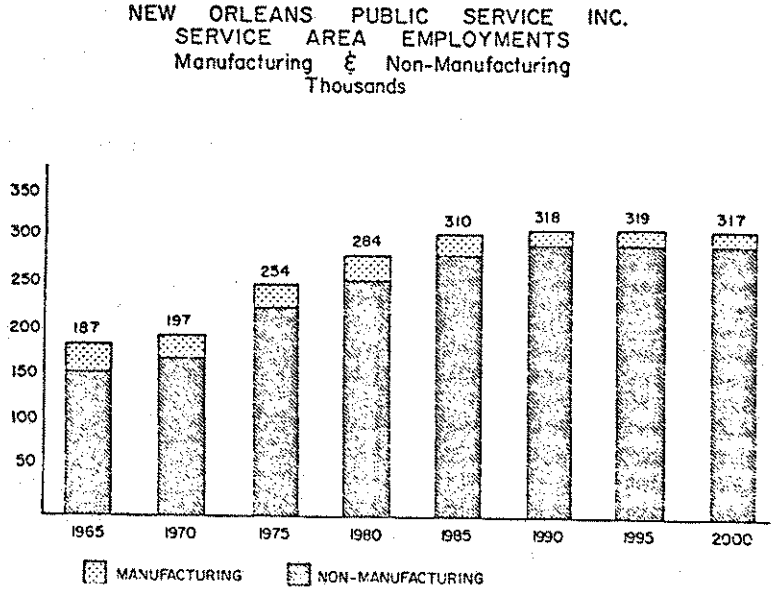


X. THE LONG-TERM OUTLOOK FOR NEW ORLEANS PUBLIC SERVICE INC.

A. The NOPSI Service Area Economic Forecast

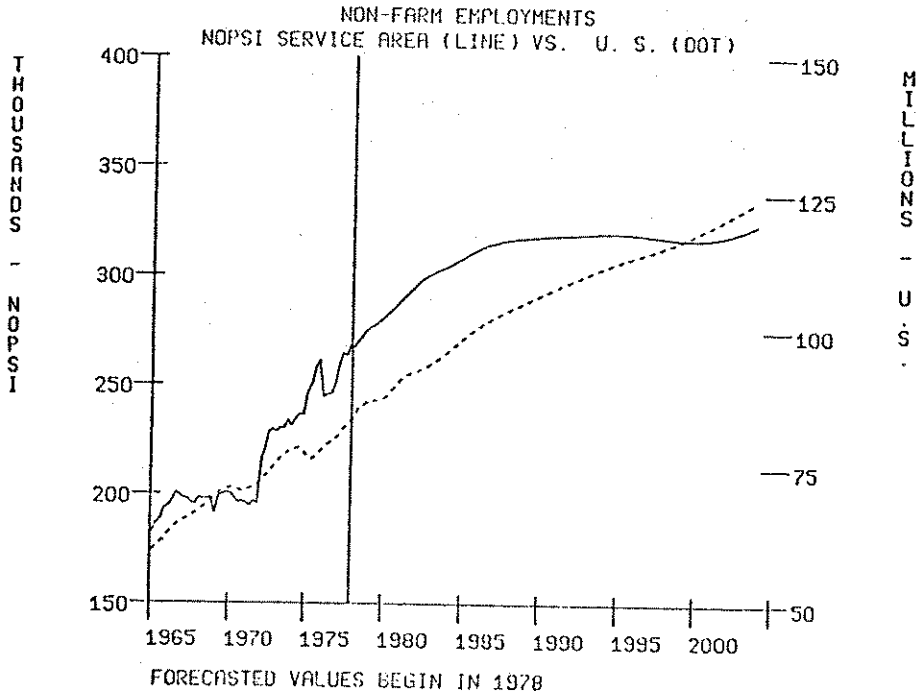
Like other cities in the U.S., New Orleans is experiencing economic decline as evidenced by decreasing manufacturing employments, slow growth in non-manufacturing employments and the movement of population into surrounding suburbs. As can be seen in Figure NOP1 by the shrinking size of the upper portion of each bar, the number of persons employed in manufacturing has been declining at an average compound rate of 0.7% from 1960-1977 and is forecasted to decline at 1.4% per year from 1979-2003.

FIGURE NOP1



In comparing historical and forecasted growth rates of non-manufacturing and total employments, one must be aware that historical growth rates are overstated because changes in Louisiana's Employment Security laws have caused large increases in reported employments that are not caused by increases in

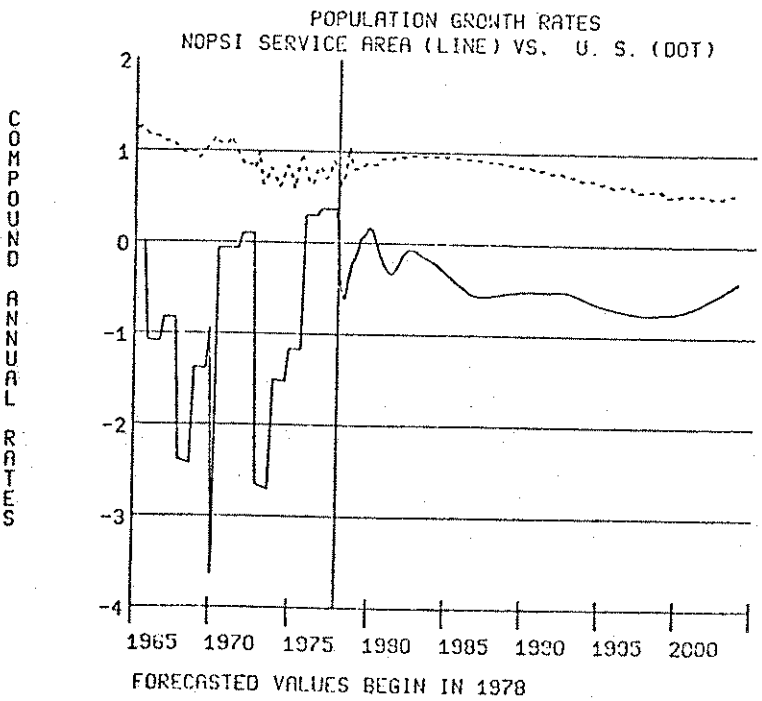
FIGURE NOP2



actual employments. An example can be seen in Figure NOP2 as a sudden increase in non-farm employments in 1972 resulting from the extension of the Employment Security laws to cover businesses with fewer than five employees. Even though these employees had been there all along, they were not counted until 1972, at which time the reported employments suddenly increased. Statistical methods have been employed to take into account this qualitative change in the data.

The growth rates of non-manufacturing employments were 2.6% from 1960-1977 and are forecasted to be 0.9% from 1978-2003. The result of the combining of the slower growing non-manufacturing sector and the declining manufacturing sector is an decrease in the average growth rate of non-farm employments from a historical rate of 2.4% to the forecasted rate of 0.7%.

FIGURE NOP3



This decline in economic opportunity insures the continued loss of population as people move to the suburbs in search of lower costs of living and better employment opportunities. As can be seen from Figure NOP3, the growth rate of the population of Orleans Parish has consistently been lower than that of the U.S. and has been negative for most

of the years since 1965. The compound annual growth rate is forecasted to be -0.5% with the population falling to a half million by 2003. From 1960-1977 the growth rate was -0.6%.

FIGURE NOP4

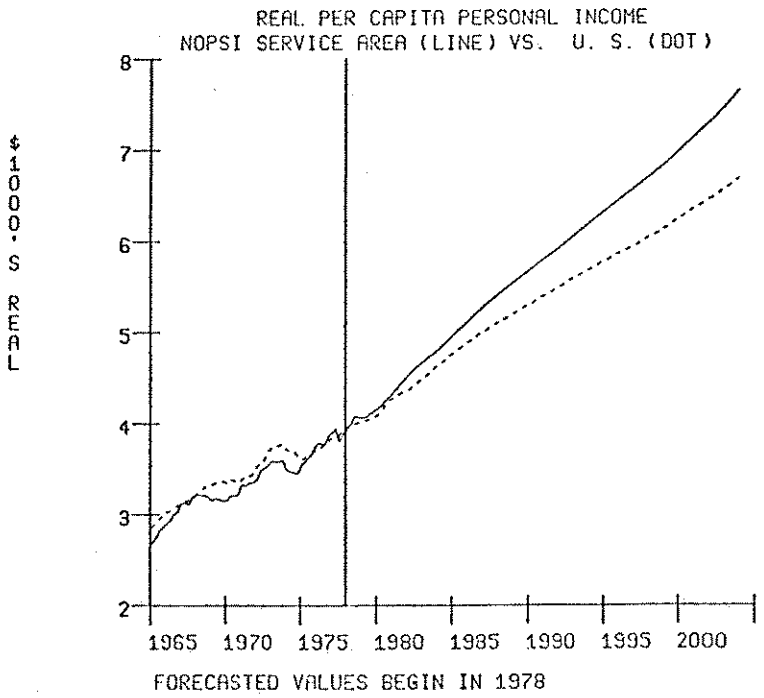


Figure NOP4 shows an interesting anomaly resulting from the decline in population in Orleans Parish. Because the population relative to the U.S. falls more rapidly than does the real personal income relative to the U.S., the real per capita personal income in Orleans Parish rises relative to that of the U.S. and we see the lines in the graph diverge. Real per capita personal income in Orleans Parish rises from 95% of the U.S. average in 1965 to 100% of the U.S. average in 1977 and reaches 114% of the U.S. average in 2003.

B. The NOPSI System Energy Sales Forecast

The growth rate of Total Energy Sales for NOPSI is forecasted to fall from the 4.5% experienced from 1967-1977 to 1.8%

from 1979-2003. As can be seen in Figure NOP5, Industrial and Commercial Energy Sales flatten out in the forecast at an average growth rate of 1.2% for both. Their growth rates between 1967-1977 were 3.3% and 5.6% respectively.

FIGURE NOP5

NEW ORLEANS PUBLIC SERVICE INC.
ENERGY SALES
Billions Of Kilowatt Hours

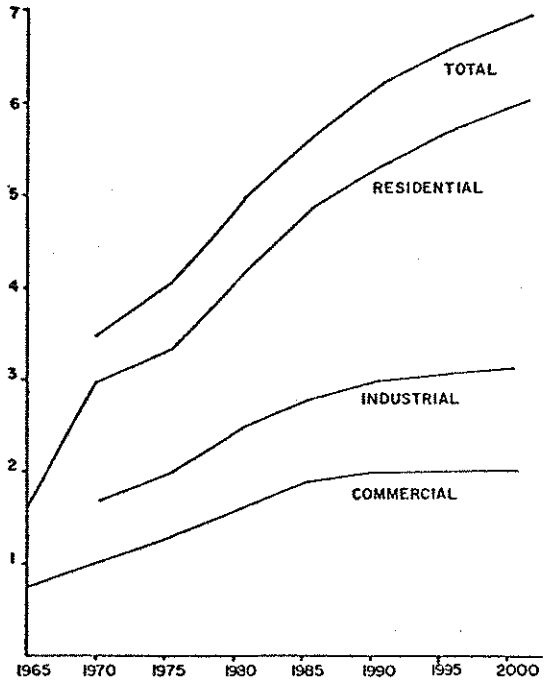
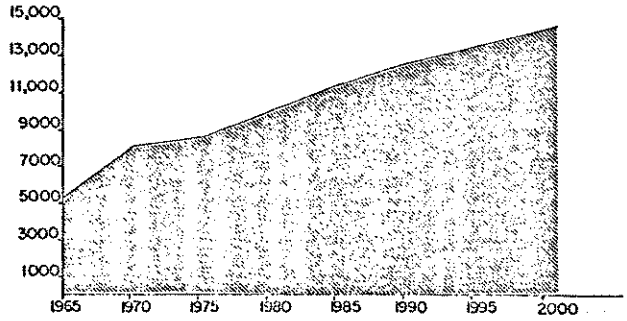


FIGURE NOP6

NEW ORLEANS PUBLIC SERVICE INC.
AVERAGE ANNUAL KWH USE
per Residential Customer
KWH

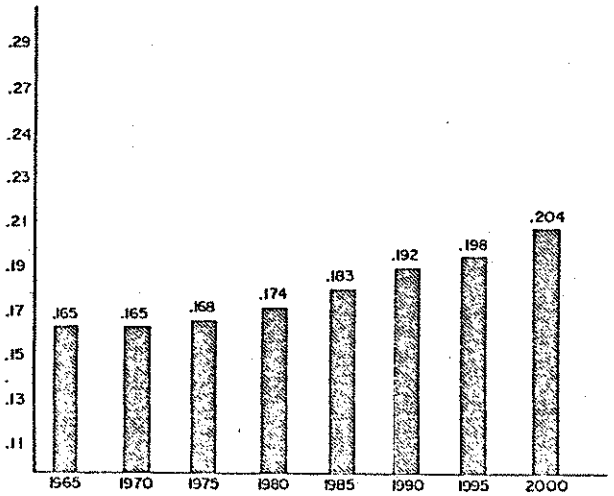


This decline in Industrial and Commercial sales increases the importance of Residential Energy Sales which will account for 43% of NOPSI's Total Energy Sales by 2003 as compared to its current share of 35%. Figure NOP6 shows the average annual growth rate of the residential usage per customer slowing from 4.7% from 1965-1977 to 1.9% in the forecast, and Figure NOP7 shows an increase in the growth rate of residential customers from 0.3% per year, 1965-1977 to 0.8% in the forecast. This increase in the growth of customers despite a declining population occurs for two (2) reasons. The first reason is that the proportion of adults in the population is rising. Adults comprised 59% of the U.S. population and 62% of the Orleans Parish population in the 1970 Census data. By the year 2000, the Bureau of the Census Population Projection (Series II),

which is used in DRI's forecast, shows adults comprising 68% of the U.S. population and our forecast shows adults comprising 67% of the Orleans Parish population. The second reason is that these adults will have higher real per capita personal incomes, enabling more young adults to set up their own homes and more older adults to maintain the homes they already have.

FIGURE NOP7

NEW ORLEANS PUBLIC SERVICE INC.
RESIDENTIAL CUSTOMERS SERVED
(at year end)
MILLIONS

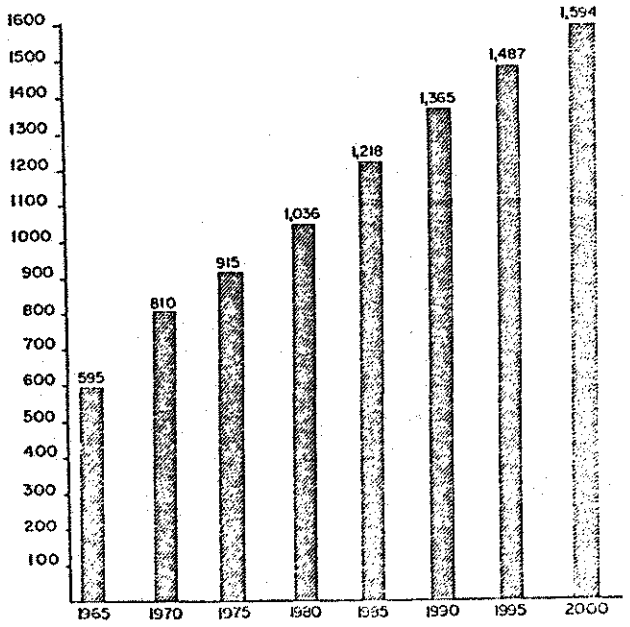


C. The NOPSI System Peak Load Forecast

The increasing share of Residential Energy Sales and declining share of Industrial Energy Sales results in a decreasing load factor for NOPSI as the peak, shown in Figure NOP8, grows at an average rate of 2.2% per year while Total Energy Sales grows 1.8% per year.

FIGURE NOP8

NEW ORLEANS PUBLIC SERVICE INC.
PEAK DEMAND
MW



XI. METHODOLOGY

This section presents a brief overview of the major methodological techniques employed in the construction of the Middle South Utilities Load Forecasting Model. A detailed description of the economic theory underlying the behavioral equations can be found in the Methodology section while the individual equations and their regressions can be found in each Operating Company's booklet.

A. The Service Area Economic Model

Figure M1, below, presents a schematic diagram of the structure of the Service Area Economic Models with the arrows representing the flow of the relationships. Historical data are used to establish the particular relationships and forecasts are made utilizing those relationships.

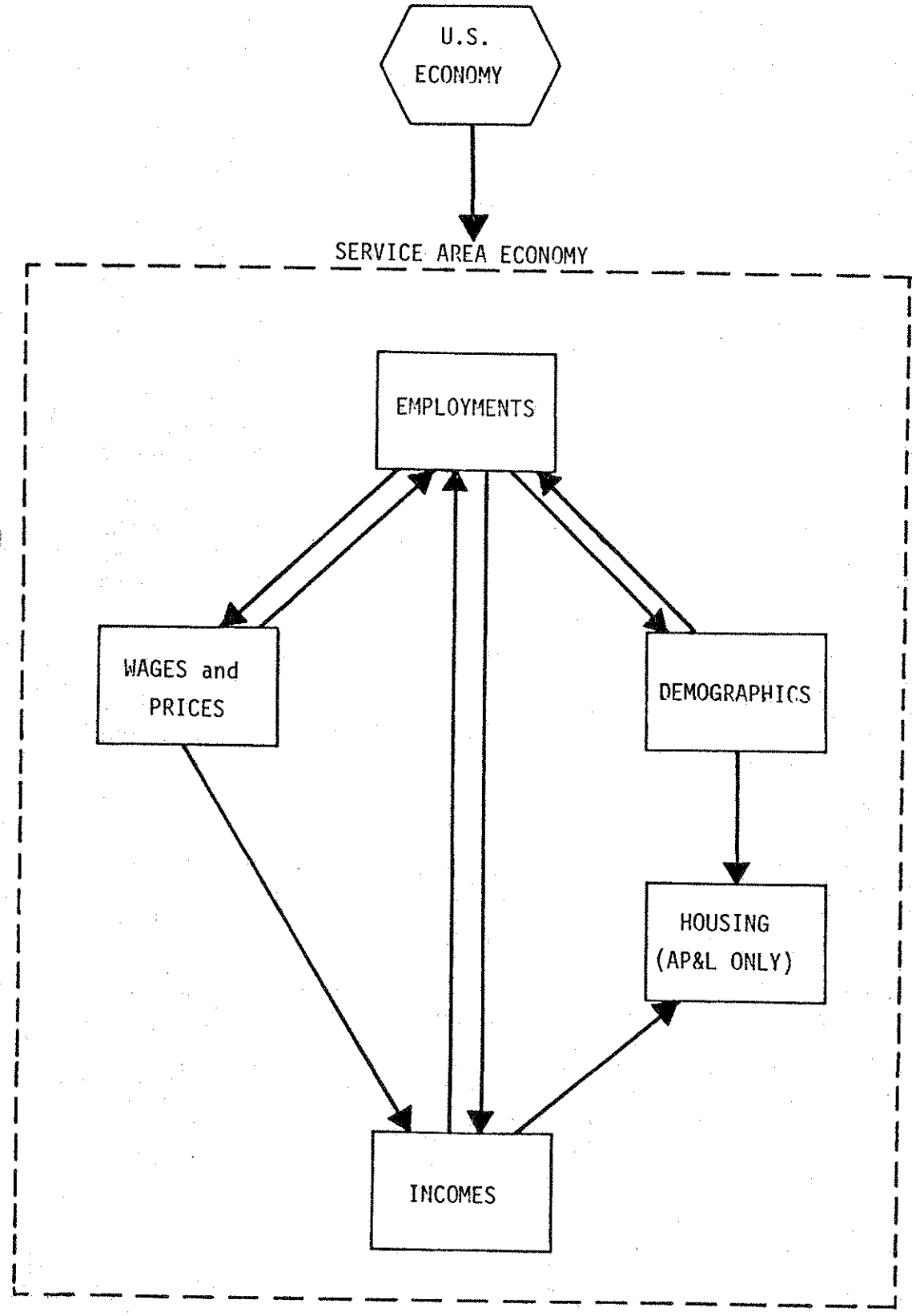
As can be seen from the single arrow between the U.S. Economy and the Service Area Model (SAM), it is assumed that while changes in the U.S. Economy will have significant effects on each SAM, the detailed changes in the local economies will not significantly affect the U.S. Economy. This assumption was made for two (2) reasons:

1) The individual service area economies are so small relative to the U.S. that their effects on the U.S. Economy are negligible when compared to the changes induced by national and international factors which determine the direction taken by the U.S. Economy.

2) Ignoring these feedbacks greatly simplifies the analytical task, resulting in considerable savings of time and money without sacrificing much of the quality of the forecasts produced.

Inside the SAM, the interactions are much more important and taking them into account results in a simultaneous model. An example of this interdependence might begin with an increase in the production of chemicals in a service area, which results in new employees being hired. This "tightens" the labor market in the service area causing wages to rise. Higher employments and wages raise incomes and part of the increase is spent in local department stores, which causes the department stores to seek additional employees. These increases in employment opportunities induce people to move into the service area, at which time they start spending their incomes in local stores and the cycle starts over with an increased demand for employees by the department store. While this example proceeded in a chronological order, the "multiplier effect", by which an initial increase in employments creates more jobs, may proceed along any number of chronological paths in reaching a new equilibrium. For this reason, the employment equations make use of a "distributed lag" formulation which specifies that current employments are a function of past employment levels

FIGURE M1


U.S.
ECONOMY
SERVICE AREA ECONOMY
EMPLOYMENTS
WAGES and
PRICES
DEMOGRAPHICS
HOUSING
(AP&L ONLY)
INCOMES

(with the importance of the past levels diminishing geometrically into the past) as well as the current values of wages, prices, population, etc. This formulation allows us to capture the particular behavioral characteristics of each Service Area and its relation to the U.S. Economy.

The Employments Sector of the SAM produces forecasts of (1) manufacturing employments in each of several Standard Industrial Classifications and (2) non-manufacturing employments in each major category (e.g., Services or Trade). The degree of detail is primarily dependent on legal restrictions on the disclosure of employment data by the state agencies. This detail allows analysis of each Service Area's sources of economic growth.

The Wages and Prices Sector of the SAM forecasts (1) average hourly earnings in manufacturing for the state in which the Service Area lies, (2) consumer price index for the southern region of the U.S., (3) state corporate income tax rates, and (4) price of electricity to large industrial users relative to the U.S. average electricity price to large industrial users.

The Incomes Sector in all SAM's except AP&L's forecast total personal income. Since historical data availability allows additional detail, AP&L's SAM forecasts personal income by source.

The Demographics Sector forecasts (1) births, (2) deaths and (3) net migration into the Service Area in order to calculate the total population. The total population is used in cohort survival equations which forecast the number of residents aged 21 years and over, 21 to 64 years and 65 years and over.

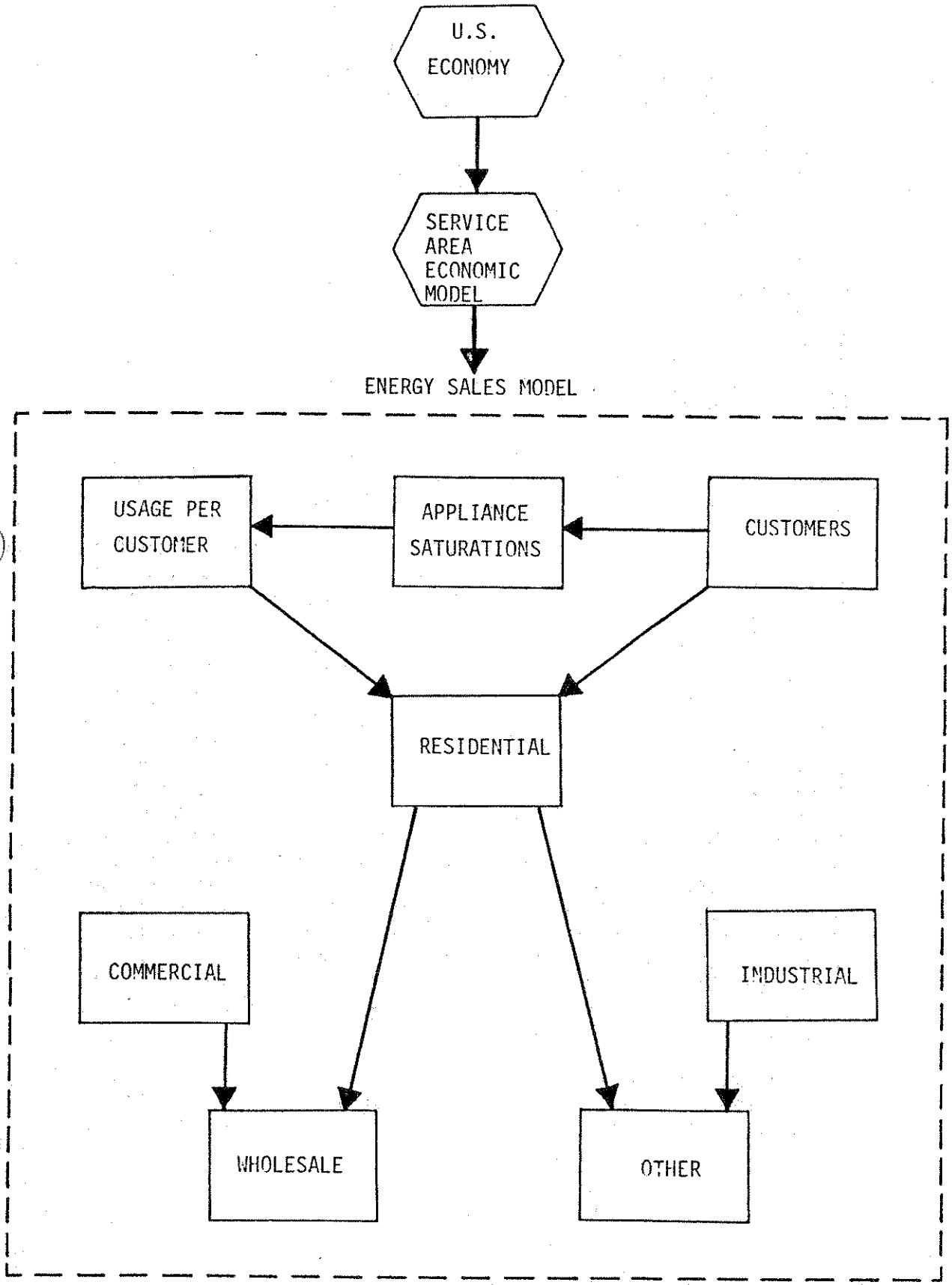
Because of additional data availability for AP&L's Service Area (the State of Arkansas) on the number of housing starts, AP&L's model contains a Housing Sector which uses population, age breakdowns and incomes to forecast the number of new houses constructed in the Service Area.

B. The Energy Sales Model

The data and forecasts from the U.S. Macroeconomic Model and the Service Area Economic Models are used in developing the individual Operating Companies' Energy Sales Models, whose major sectors and interconnections are depicted in Figure M2.

The Customers Sector of the Energy Sales Models uses data on Total Residential Customers and All-Electric Residential Customers to establish relationships by which Total Residential Customers can be forecasted using the adult population of the Service Area and real per capita income in the Service Area. All-Electric Residential Customers are modeled as having made their decision on the basis of the real per capita income, the residential price of electricity relative to alternative fuels and the avail-

FIGURE M2


U.S. ECONOMY
SERVICE AREA ECONOMIC MODEL
ENERGY SALES MODEL
USAGE PER CUSTOMER
APPLIANCE SATURATIONS
CUSTOMERS
RESIDENTIAL
COMMERCIAL
INDUSTRIAL
WHOLESALE
OTHER

ability of those alternative fuels. Consideration is given as to whether new customers may choose to have all-electric service or existing customers may choose to convert to all-electric service.

The Appliance Saturation Sector uses data obtained from the Operating Companies' appliance saturation surveys, 1970 U.S. Census data for the Service Areas, real wealth, real price of appliances, the total number of customers and the number of all-electric customers to forecast the saturations of electric Refrigerators, Freezers, Air Conditioners (both Central and Window), Ranges, Water Heaters, Automatic Washers, Dryers, Dishwashers and Heating.

The appliance saturations are used along with average annual KWH consumptions of each appliance, real residential electricity prices, real per capita incomes, weather conditions and, where a statistical significance existed, a variable representing non-price conservation to produce a forecast of the average usage per residential customer in the Usage per Customer Sector of the Energy Sales Model.

The Residential Sector provides a forecast of Total Residential Energy Sales by multiplying the average usage per residential customer by the number of residential customers.

The Industrial (Manufacturing) Sector is designed to produce KWH sales to manufacturing firms in the following industries as defined by the Standard Industrial Classification (SIC): Food and Kindred Products, Tobacco Manufactures, Textile Mill Products, Apparel and Other Finished Products, Lumber and Wood Products, Furniture and Fixtures, Paper and Allied Products, Printing, Publishing and Allied Products, Chemicals, Petroleum Refining, Rubber and Miscellaneous Plastics, Leather and Leather Products, Stone, Clay and Concrete Products, Primary Metals, Fabricated Metals, Machinery, Except Electrical, Electrical and Electronic Machinery, Transportation Equipment, Measuring, Analyzing and Control Instruments and Miscellaneous. In many cases, however, such detailed forecasts are impossible due to the restrictions in obtaining employment data as discussed in the Service Area Economic Model above. In these cases, the combinations of industries necessary are made on the basis of similarities in the pattern of electricity usage in the industries. For example, if employment data cannot be disclosed on Primary Metals firms separate from Fabricated Metals firms, we request data on these two (2) industries combined and forecast energy sales to Primary and Fabricated Metals firms.

The model specifies KWH sales to an industry as being dependent on the amount of output that industry produces, the price of electricity relative to other inputs (e.g., labor, natural gas, etc.),

the real marginal electricity price and, where necessary, variables reflecting technological change. The quantity of output produced by manufacturers in the service area is not available, so we use the level of output per employee in that industry nationally multiplied by the number of employees in that industry locally as a proxy for the local output in that industry. The assumption is that the output per employee locally is representative of the output per employee nationally and that the productivity locally grows at the same rate as that of the nation.

The modeling of Commercial (Non-Manufacturing) KWH Sales presented a greater problem than did Industrial KWH because of a general lack of information on the many types of loads served and their behavior with respect to energy usage. As a result, it was decided to exploit the relationship between the level of energy usage and the number of employees in non-manufacturing firms. An increase in the number of firms or their size will usually result in an increase in both energy usage and employments, consequently we can use the level of employments as a predictor of electricity usage. Additional predictors used were the real marginal price of electricity, the price of electricity relative to other inputs (fuels or labor) and weather conditions. Where possible, analysis of each of the following classes of non-manufacturing employments was undertaken: Wholesale and Retail Trade, Services, Construction, Finance, Insurance and Real Estate, Communications, Transportation and Public Utilities, Government and Mining.

The Wholesale Sector describes KWH Sales for Resale in which separate equations are used to forecast KWH sales to municipal utilities and KWH sales to cooperatives. Because we do not have detailed accounts of the ultimate customers served by our wholesale customers, we use the Operating Company's KWH sales to residential and commercial customers as predictors of wholesale KWH sales.

The Other Sector includes miscellaneous equations such as KWH sales for streetlighting which were developed because of the peculiar nature of the types of sales involved. It also includes forecasts which are not modeled either because of the contractual nature of the sales or because the Operating Company involved requested that the sales be excluded from the Load Forecasting Model. The AP&L Model does not include KWH Sales to Reynolds Metals Company, to the City of Jonesboro, or to the Arkansas Electric Cooperative Corporation. The LP&L Model does not include KWH Sales to Kaiser Aluminum & Chemical Corporation. The NOPSI Model does not incude sales to Air Products and Chemicals, Inc. or to the Michoud Assembly Facility of the National Aeronautics and Space Administration.

C. The Peak Demand Model

As shown in Figure A (page 7), the principal inputs to the

peak demand forecasts are the individual sector forecasts from the energy models. The peak demand models produce summer peak loads by summing the contribution made by the customer classes modeled by the energy models. Load Research is combined with the peak model development by way of the load shapes of the individual sectors.

The peak models forecast the maximum demand for a "dominant hour" which is defined as the hour in which the greatest percentage of the seasonal peak demands have historically occurred. This "dominant hour" for the summer period occurs at 4 p.m. for AP&L, LP&L, MP&L and NOPSI and at 3 p.m. for ARKMO. The model development for the historical period consists of extracting weekly "dominant hour" peaks for the summer season, June 1st through mid-September, for each year between 1965 and 1977. Some 200 observations of weekly peak demands along with associated weather conditions are used in the model construct.

The predictors of the selected "dominant hours" peaks are the individual sector energies and their characteristic load shapes. That is, the peak demand is added or built up from the sectors produced from the energy models. The residential sector allows for a separation between a base and a weather sensitive component by way of the major end-uses. The base component is the kilowatt-hour sales associated with the use of non-air-conditioning and non-heating appliances. This base component is constant within a month, varying across the months due to a growth in the base appliance stock. The weather sensitive component associated with air-conditioning and heating, represents a significant portion of the residential load and one that is highly sensitive to hourly weather patterns. The weather sensitive component differs from week to week due to changing weather conditions and from month to month due to the growth in the stock of weather sensitive appliances.

Like the residential sector, the commercial sector was split into a base and weather sensitive component. Likewise, the base and weather sensitive components were derived for the municipal and cooperative sectors separately and then were combined with the companies' residential and commercial sectors to provide an aggreate for these consumption classes.

The analysis of the industrial sector which represents the most stable of all user classes and the least sensitive to weather conditions utilized a "weighting scheme" by analyzing load shapes and determining each's contribution at the "dominant hour" relative to the average hour's load over a twenty-four hour period.

MIDDLE SOUTH UTILITIES
LOAD FORECASTING SYSTEM
SPECIFICATIONS

Middle South Services, Inc.
May 1, 1979

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THE SPECIFICATION
OF THE
RESIDENTIAL SECTOR
OF THE
MIDDLE SOUTH FORECASTING MODEL

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INTRODUCTION

This is the final specification of the residential sector of the Middle South Forecasting model. The methodology presented here was applied to each of the five operating companies separately from which a system's forecast was made.

The analysis of residential consumption for each operating company had two distinct parts. First, the consumption for a typical customer was investigated. When the effects of the factors which lead to his consumption were determined, the typical pattern of his future consumption was forecast using projected values of these factors. Second, the growth in the number of customers was forecast. By multiplying the projected customer consumption by the projected number of customers, the total consumption for an operating company was determined. The detailed specification below follows this general outline - the determinants of customer consumption followed by determinants of customer growth.

I. CUSTOMER CONSUMPTION

The use of electricity does not, of itself, yield benefit, or utility to the consumer. Rather, it serves as one input into a process which includes the stock of electrically-powered appliances[1] at the consumer's disposal. This can be distinguished from ordinary consumer expenditures on goods such as food from which benefit is derived directly. This points up one characteristic of the consumption of electricity. In any brief time period, the use of electricity is constrained by the current stock of electricity-consuming appliances. Over a longer period, the consumption of electricity depends on the rate of accumulation of these stocks. That is, the usage of a given stock depends on certain factors-weather, income, price - while the stock itself depends on other factors, sometimes not distinct - wealth, durable prices, availability of alternative energies.

---

1. We use the word "appliances" rather loosely here. Included are all electricty-consuming household goods, ranging from refrigerators to light bulbs.

To arrive at an estimable equation for KWH usage per customer, we began with the following mathematical relationship:

$$1) \quad KWH@C_t = \sum_{i=j}^{n} u_{it} * (K_{it}/CUT_t)$$

Where:

$KWH@C_t$ = KWH sales per customer in period t.
u_{it} = KWH use of appliance i in period t.
K_{it} = Stock of appliance i in period t.
CUT_t = Number of customers in period t.

In words, the KWH sales per customer in a given time period is the sum of KWH's used by any given appliance (u_{it}) times the average number of such appliances held by a typical customer (the number of such appliances held in the service area by customers divided by the number of customers).

Approaching our estimable equation, we noted a few relationships and made some simplifying assumptions. The expression K_{it}/CUT_t, the number of appliance i per customer, was approximated by the rate of saturation of appliance i. It underestimates K_{it}/CUT_t to the degree that a given appliance occurs more than once per customer-household. Nevertheless, we assumed,

$$2) \quad S_{it} = K_{it}/CUT_t$$

Where S_{it} is the saturation of appliance i in period t

Second, for appliances, other than weather-sensitive appliances, we attempted to measure average responses to income, prices and other factors. We modeled separately air-conditioning response to cooling degree days and heating response to heating degree days. This simplification can be written, algebraicly

3) $\Sigma u_{it} = \alpha_t * \sum_{i=1}^{n} \bar{u}_{it}$

where:

α_t = proportional response of usage to changes in economic factors

$\bar{u}_{it}$ = typical use of appliance i in period t

$\bar{u}_{it}$, while abstracting away from weather, income, price and other factors, varies with time due to technological changes affecting usage levels.

Using equations (2) and (3), we were allowed to rewrite equation (1):[2]

4) $KWH@C_t = \alpha_t * (\sum_{i=1}^{n} \bar{u}_{it} * S_{it})$

---

2. The derivation of equation (1):

recall,

$$KWH@C_t = \sum_{i=1}^{n} u_{it} * (K_{it}/CUT_t)$$

substituting from (2) yields:

$$KWH@C_t = \sum_{i=1}^{n} u_{it} * S_{it}$$

from (3)

$$KWH@C_t = \alpha_t * (\sum_{i=1}^{n} \bar{u}_{it} * S_{it})$$

In words, we converted the problem of estimating the KWH usage per customer into the framework described in our discussion of the long-run and short-run. KWH consumption in each period is a product of the usage rate ($_t$) and per customer stock of appliances, weighted by relative KWH utilization:

$$\left(\sum_{i=1}^{N} \bar{u}_{it} * S_{it}\right)$$

This latter sum expresses the typical customer's overall stock of appliances per customer by weighting the actual stocks per customer by relative KWH usage.

Our discussion now proceeds along two paths. Firstly, we specify the determinants of α_t, the rate of KWH usage, applying what we have called short-run considerations. And, secondly, we consider the determinants of:

$$\sum_{i=1}^{N} \bar{u}_{it} * S_{it},$$

applying the long-run considerations. We subsequently, return to a synthesis of the two discussion with a description of the estimating procedure.

A. α-UTILIZATION OF THE EXISTING STOCK OF ELECTRICITY-CONSUMING APPLIANCES.

The rate of utilization of the existing stock was hypothesized to be a function of weather in the service area, the per capita income in the area, the price of electricity, and "conservation" efforts. Weather conditions obviously determine the level of heating and cooling appliance usage. To a lesser degree they also impact on usage by refrigerators or ranges. We used heating (cooling) degree days to quantify the effects of weather conditions. Given that the effect of weather affects a subset of all appliances, each of the weather variables were weighted by saturation level of the most weather-sensitive appliances. In this way, our specification allowed for the increasing influence of weather as the saturation of weather-sensitive appliances grew.

The average customer in a service area should utilize more of a given stock of appliances as he is better able to afford the use of the stock's services. We proxy his economic condition by the per capita income in the area. The level of usage and per capita income were expected to be and were found to be positively related.

The real price of electricity was calculated from the rate schedules of each operating company. The real price was a nominal price divided by the consumer price index for the southern U.S. Economic theory tells us that the price consumers use when making purchasing decisions is the marginal price, or the price for the last unit they buy. For this reason, we used only the cost per KWH in the last rate block electricity-consumers bought. Since customers were in different final blocks, a typical marginal price term was used, reflecting the block where the typical customer was most often found historically.

Finally, a proxy for conservation efforts was included. For a given level of the other variables, the urge to conserve, caused by peer pressure or advertising, led to lower usage levels.

We summarize the discussion of utilization by the general functional expression:

$$5) \quad \alpha_t = \alpha(WHDD_t, WCDD_t, RYP@R_t, RPE_t, CONS_t...)$$

Where: α_t = KWH usage rates of all N appliances in period t (as defined previously).

U(.) = The general function form.

$WHDD_t$ = Weighted number of heating degree days in period t; $WHDD_t$ = saturation of electrically heated homes times unweighted heating degree days.

$WCDD_t$ = Weighted CDD (Cooling Degree Days) in period t, WCDD = saturation of air conditioning units times CDD_t.

$RYP@P_t$ = Real disposable income per capita, period t.

RPE_t = Real electricity price per KWH, period t.

$CONS_t$ = Conservation proxy

Where exp (.) is the base of the natural logarithmic system to the power in brackets.

B. $\Sigma\bar{u}$*S-THE ACCUMULATION OF ELECTRICITY-CONSUMING APPLIANCES

The long run accumulation was specified by the overall saturation rate of electricity-consuming appliances. The saturation rate of each appliance was weighted by the annual KWH usage.[4]

The second step in forecasting the KWH equivalent stock of appliances to model the saturation rates for the N appliances. Since no data was available for many smaller appliances, only major appliance saturations were modeled with the behavior of omitted appliances inferred from those analyzed. The data for the major appliances came from surveys by the operating companies and studies done by the Bureau of the Census in the mid-south area. The appliances modeled were:

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3. When the actual estimation was performed the deviations of $WHDD_t$ and $WCDD_t$ from their normal values were used. This was because the seasonal adjustment of the data before estimation removed the general, recurring, effects of weather. Our weather variables captured the changes in weather which were not normal.

4. The weighting scheme merges all the appliances into one aggregate stock. It is as if we wanted to add apples and grapes. We could call it fruit, but a single grape is hardly equivalent to an apple. So we convert each to ounces of fruit to form an aggregate.

- REFRIGERATORS
- FREEZERS
- AIR CONDITIONERS
  (Window and Central)
- RANGES
- WATER HEATERS
- WASHERS
- DRYERS
- DISHWASHERS

The saturation of appliance i was hypothesized to be a function of household wealth, the real price of appliances, and the rate of growth in customer stock.

Household wealth, reflecting the household's ability to buy appliances, was proxied by an average of current and past per capita disposable income. The real price of appliances was a price index of appliances deflated by the consumer price index for the Southern U.S.

The last variable we used was the growth in the customer stock. This variable entered positively since new customers tend to have more appliances than older ones.

6) $SAPL_{it} = S(RW@P_t, RPAPL_{it}, CUT_t, \ldots)$

Where:
- $SAPL_{it}$ = Saturation rate of appliance i in period t.
- $S(.)$ = The general functional form.
- $RW@P_t$ = Real wealth per capita, period t.
- $RPAPL_t$ = Real price index for appliances, period t.
- CUT_t = Customer stock period t.

Because room air conditioners are appliances for which the rate of saturation grossly underestimates the average stock per customer, a further adjustment correcting for the average number per household was performed.

The explicit functional form used for the saturation estimation is much less intuitive than the form for α_t. The explanation of the form is discussed in appendix A.

C. THE PER CUSTOMER KWH CONSUMPTION

Recall our specification for $KWH@C_t$ in equation (1')

$$KWH@C_t = \alpha_t * \left(\sum_{i=1}^{n} \tilde{u}_{it} * S_{it}\right)$$

The variable: $\sum_{i=1}^{N} \tilde{u}_{it} * S_{it}$

was formed using the techniques discussed in (B) above. Since all N appliances were not included in the estimation in that section, we assumed that the omitted appliances did not affect the weighted appliance stock. That is:

$$\sum_{i=1}^{N} \tilde{u}_{it} * S_{it} = \frac{N}{K} \sum_{i=1}^{K} \tilde{u}_{it} * S_{it} \quad \text{Where K = number of included appliances.}$$

We express this aggregate stock as $\hat{S}_t \left(= \sum_{i=1}^{N} \tilde{u}_{it} * S_{it}\right)$. Using equation (5) yields:

$$7) \quad KWH@C_t = A * RYP@P_t^{\,b} * RPE_t^{\,c} * CONS_t^{\,d} \exp(WHDD_t^{\,f} + WCDD_t^{\,g}) * \hat{S}_t^{\,h}$$

The new parameter 'h' is introduced as the coefficient of $\hat{S}_t$ (the estimated appliance stock. The theory suggests h to be identically equal to 1, so by allowing it to be estimated freely, the strength of specification was tested. If the null hypothesis (h=1) was rejected, we must conclude that the long-short run dictomy is incorrect or the construction of the saturation rate has shortcomings. By taking natural logrithms of the left-and right-hand sides of our equation, a linear regression was performed. Thus, the estimated form was:

$$\begin{aligned} 8) \quad LOG(KWH@C_t) = {} & a + b*LOG(RYP@P_t) + c*LOG(RPE_t) \\ & + d*LOG(CONS_t) + f*WHDD_t + g*WCDD_t \\ & + h*LOG(\hat{S}_t) \end{aligned}$$

II. CUSTOMER GROWTH

The growth in customer stock is essentially dictated by the growth in residential units in the service area. Consequently, those causal factors typically ascribed to the formation of household units were used to model customer growth. The specification represents an application of a stock-adjustment model. That is, underlying factors determine an equilibrium of customer stock which is adjusted to at a rate determined by short-run factors. The second step in modeling customer growth was to specify the determinants of electrically heated share of the total.

A. TOTAL CUSTOMERS

The equilibrium stock was posited to be a function of the per capita wealth in the service area and the household-aged population of the area. The equilibrium stock is that stock of households where, given current determining factors, there is no incentive for the number of households to increase or decrease. The equilibrium stock seldom equals actual stock because the factors affecting equilibrium are changing faster than the stock is able to adjust. The adjustment mechanism will be made explicit later.

The first relationships may be expressed generally.

$$9) \quad CUT_T^* = C(RW@P_t, NR21\&_t)$$

Where:

CUT_t^* = Equilibrium customer stock in period t.

$RW@P_t$ = Real wealth per capita, period t.

$NR21\&_t$ = Population, 21 years old and over, period t.

At the beginning of each period the equilibrium stock determined by wealth and population does not equal the stock of customers which already exists. Adjustment to the equilibrium takes place, but we expect that the adjustment is not completed. Partial adjustment is a result of the increasing costs of moving from one stock to another. For example, to cause a home to be built within the quarter a household desires it will require substantial overtime payments to the builder. Another factor causing only partial adjustment is the time required to finalize mortgage terms between the mortgagor and mortgagee. We hypothesize that the change in customer stock is a fraction of the difference between the equilibrium stock and the actual stock in existence. That is:

$$10) \quad GCUT_t = A*(CUT_t*-(1-d)CUT_{t-1})$$

Where:

$GCUT_t$ = Gross change in customer stock in period t. $(CUT_t - (1-d)CUT_{t-1})$

A = The coefficient of adjustment (the fraction of the desired change actually occuring)

CUT_t* = Equilibrium customer stock, as in equation (11).

CUT_t = Actual customer stock, period t.

d = Rate of stock depreciation

$(1-d)CUT_{t-1}$ is the stock of customers at the beginning of period t.

To estimate (10), we had to write the function in (9) explicitly. We said that (9) depended linearly on its independent variables. That is:

$$11) \quad CUT_t* = b + c*RWAP_t + f*NR21\&_t$$

By substituting for CUT_t* from equation (11) into equation (10) we had:

$$(12) \quad GCUT_t = A*b + A*c*RW@P_t + A*f*NR21\&_t - A*(1-d)*CUT_{t-1}$$

Equation (12), however, could be estimated. We do not observe $GCUT_t$; and it cannot be calculated because d, the rate of depreciation, is unknown. The net change in customer stock, the change from one period to the next, is observed. In fact,

$$(13) \quad NCUT_t = CUT_t - CUT_{t-1}$$

is found as the difference between the number of customers from one period to the next. $NCUT_t$ is related to $GCUT_t$ as shown in equation (14).

$$(14) \quad NCUT_t = CUT_t - d*CUT_{t-1} - (1-d)*CUT_{t-1} = GCUT_t - d*CUT_{t-1}$$

In words, the net change in customer stock equals the gross change less the replacement of depreciated customer stock.

By subtracting $d*CUT_{t-1}$ from the left and right hand sides of (12) we have our estimable equation.

$$(15) \quad NCUT_t = A*b + A*c*RWAP_t + A*f*NR2164_t - (A*(1-d) + d)CUT_{t-1}$$

B. ELECTRICALLY HEATED HOMES

The share of electically heated homes is determined by the number of new homes using electric heat and the net number of old homes switching to electric heat. We began the derivation of an estimable form for this relation by noting an algebraic identity.

$$(16) \quad CUER_t = NDER_t + CDER_t + CUER_{t-1}$$

Where: $CUER_t$ = Customer stock, electrically heated, in period t.
$NDER_t$ = New customers, adopting electric heat, period t.
$CDER_t$ = Old customers, adopting electric heat, period t.

We hypothesized that the number of both new and old customers adopting electric heat depended on the relative price of electricity to alternative energy prices, non-price rationing characteristics of natural gas, and real per capita income. Each, old and new, however, depends on prices and natural gas availability in different ways since the cost for conversion to electric heat is much higher and, therefore, old customers are less sensitive to relative price changes. We expressed these relationships in equations (17) and (18).

$$(17)\quad NDER_t/NCUT_t = N(PE_t/PNG_t,\ PE_t/PO_t, ANG_t, RYP@P_t)$$

$$(18)\quad CDER_t/CUT_{t-1} = C(PE_t/PNG_t,\ PE_t/PO_t,\ ANG_t,\ RYP@P_t)$$

Where: $NCUT_t$ = Change in customer stock in period t.
CUT_t = Customer stock, in period t.
PE_t = Price of electricity, period t.
PNG_t = Price of natural gas, period t.
PO_t = Price of oil, period t.
ANG_t = "Availability" natural gas, period t.

Data was not available on general service customers converting to electric heat. As a result, the estimation was performed keeping in mind the underlying relationships summarized in equations (17) and (18) i.e., we could observe the change in all-electric customers from both sources. This statement is written mathematically,

$$(19)\quad CUER_t - CUER_{t-1} = NDER_t + CDER_t$$

For estimations, the general functional forms in equations (17) and (18) were assumed to be linear, i.e.,

$$(20)\quad NDER_t/NCUT_t = a+b*PE_t/PNG_t + c*PE_t/PO_t + d*ANG_t + e*RYP@P_t$$

$$(21)\quad CDER_t/CUT_{t-1} = f+g*PE_t/PNG_t + h*PE_t/PO_t + k*ANG_t + m*RYP@P_t$$

Substituting from (20) and (21) into (19) gave the estimable form of the equation.

$$\begin{aligned}(22)\quad CUER_t - CUER_{t-1} = {} & a*NCUT_t + b*(PE_t/PNG_t)*NCUT_t + d*ANG_t*NCUT_t \\ & + e*RYP@P_t*NCUT_t \\ & + c*(PE_t/PO_t)*NCUT_t + d*ANG_t*NCUT_t \\ & + e*RYP@P_t*NCUT_t \\ & + f*CUT_{t-1} + g*(PE_t/PNG_t)*CUT_{t-1} \\ & + h*(PE_t/PO_t) * CUT_{t-1} \\ & + k*ANG_t*CUT_{t-1} + m*RYP@P_t*CUT_{t-1}\end{aligned}$$

APPENDIX A
THE LOGIT MODEL

By definition the variable $SAPL_{it}$ must take on a value between 0 and 1. A regression of SAPL on independent variables would not embody this constraint. For some values of the independent variable the forecasted value of SAPL may be greater than 1 or negative. Writing the estimating equation with LOG(SAPL) would not cure the problem since forecasted values may still be greater than 1. Instead the dependent variable was specified as LOG (SAPL/(1-SAPL)) . The range of LOG(SAPL/(1-SAPL)) is uncontained, but conversion back to SAPL forced it to lie between 0 and 1.

To see that this is true, take the general expression

$$A) \quad Z = \text{LOG } X/(1-X)$$

Z is of the form of the variable we estimated. It was unconstrained, allowed to take values from minus infinity to plus infinity. The solution for X, the variable of interest in the forecasts, as a function of Z is:[1]

$$B) \quad X = \exp(Z)/\ 1 + \exp(Z)$$

---

1. The solution for X is found as follows:

   $Z = \text{LOG } X/(1-X)$

   $\exp(Z) = \exp(\text{LOG } X/(1-X)\ ) = X/(1-X)$

   Taking the inverse of both sides

   $1/\exp(z) = (1-X)/X = \frac{1}{X} - 1$

   so, $\frac{1}{X} = 1 + 1/\exp(Z)$

   Finally,

   $X = 1/(1 + 1/\exp(Z)) = \exp(Z)/\ 1 + \exp(Z)$

As Z tends to minus infinity, X goes to 0. As Z tends to plus infinity, X goes to 1. All intermediate values of Z cause X to lie between 0 and 1. Thus, our theoretical constraint is met.

This specification is known as LOGIT. It is the natural logarithm of the "odds" that X will occur. In our content, it is the LOG of the odds that a customer will have appliance i. By solving for SAPL, we have the forecasted saturation rate of appliance i.

For ease in estimation, the odds for the saturation of appliance i was hypothesized to be related to the independent variables multiplicatively. That is:

$$C)\ LOG(SAPL_{it}/(1-SAPL_{it})) = a + b*LOG(RW@P_t) + c*LOG(RPAPL_t) + d*LOG(NR@CUT_t) + f*LOG(CUT_t)$$

THE SPECIFICATION
OF THE
INDUSTRIAL SECTOR
OF THE
MIDDLE SOUTH FORECASTING MODEL

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I. INTRODUCTION

The operating companies' classification of customers into Industrial or Commercial classes is often not done in the most economically meaningful way. A similar, but not identical, split is between manufacturing and non-manufacturing industries. Since this latter split was more meaningful economically, the data on the service area was available on this split, and the operating companies' data could be aggregated to fit this split, models were built on the basis of manufacturing/non-manufacturing, not Industrial/Commercial. The specification which follows is that for manufacturing customers. The specification of the model for non-manufacturing energy is described in the section called Commercial which appears later in this volume.

II. SPECIFICATION

The manufacturing sector forecasted electric energy sales to each of the major manufacturing groups in each of the operating companies. The classification of groups was done according to standard industrial classification (SIC). The majority of the breakdown was done at the 2-digit level with 3-and 4-digit groupings used for large sector (eg: aluminum). Not all 2-digit breakdowns were modeled separately since the size of some was too small to allow confidence in the estimated parameters. An aggregate approach to these smaller groups was found to lead to better statistical results and forecasting accuracy.

A. MODEL STRUCTURE

In developing the manufacturing & mining model, four major factors were considered:

- Production Activity
- Factor Substitution
- Technological Change
- Conservation

Electricity is primarily a factor input to production, therefore its use is heavily tied to the levels of production activity. However, the relationship between production and consumption can and will change over time due to factor substitution, technological advances and conservation efforts. The model was developed to include each of these aspects and to test their relative impact on sales.

In arriving at the estimated form, we began with the basic hypothesis that there was a proportional relationship between production and consumption of electricity, i.e.,

$$1) \quad MWH_{it} = A_i * X_{it}$$

Where: MWH_{it} = Megawatt Hour--Sales Industry i, period t.
X_{it} = Industrial Output--Industry i, period t.
A_i = Parameter

This relationship is modified through time as we experience changes in the other determinants, namely, input substitution, technology and conservation efforts. The coefficient A, therefore, is not constant but changes through time as each of these factors change.

The major sources of substitution is between alternative energy sources, namely, fuel oil, natural gas, coal and labor. The substitution was said to be a function of:

1) technological feasibility of substitution
2) availability of alternative fuels
3) relative price of electricity to prices of other fuels and wages.

The first thing considered was the feasibility of substitution, given the production process. In most cases, the industry grouping was aggregate enough such that viable alternatives do exist to the group as a whole. However, some understanding of the industrial group and their major substitution possibilities was developed.

Secondly, once considered technologically feasible, to what extent was the substitute available in the region? Availability is of two types: 1) never available or hardly used in the region of the country and 2) the supply was limited over a portion of the study period. In the former case, the impact is minimal and can be dropped from further consideration during the estimation.[1] However, in the latter case, some account had to be taken for the restricted supply as well as the economics of substitution. For instance, we had to consider the curtailment of natural gas in our estimation to the extent it was a substitute fuel.

Finally, given the feasibility and availability, the choice of inputs was assumed to be a function of relative prices. The price term is included in distributed lag form to account for the fact that 1) it takes time for relative price changes to be perceived as permanent and 2) once changes are perceived, substitution takes time to occur.

Technological change was defined to include voluntary advancements as well as government safety and health standards which required additional/less usage per unit of output produced. The most notable government legislation that has impacted sales growth was the Occupational Safety & Health Act (OSHA) and the EPA's Air Pollution Control act. Every effort was made to identify these changes for each of the industrial groups investigated and to quantify them in order to include them in the estimation.

Finally, conservation efforts on the part of industrial users altered the steady relationship between output and consumption. Conservation was considered to arise for two reasons: 1) the result of the oil embargo and resulting energy crisis of late 1973 and 2) the effort to minimize the impact of increasing energy costs. The first was consider either

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1.) If the fuel source was considered a viable option in the forecast period, then the final forecast reflected that impact. However, if not part of the historical picture, its full impact on sales could not be measured.

to be temporary or permanent depending on the extent of the programs enacted at the time of the crisis and the degree to which they have been maintained. While such efforts were difficult to quantify, an effort was made to obtain information on the major programs undertaken in the different industrial groups. Where explicit information was available on such programs, it was used; otherwise a conservation pattern was depicted over the interval allowing the statistics to measure the impact. The second reason, increased energy costs, was considered by including the real price of electricity. To account for the time span required to effect a significant change in usage, the price of electricity was entered in distributed lag form.

Thus, the factor of proportionality, A, in equation (1) was considered to be not constant but rather a function of: 1) input substitution, 2) technological change and 3) conservation efforts.

Thus (1) was modified as follows:

$$2) \quad MWH_{it} = A(P_{jit}, T_{it}, CONS_{it}, RPE_{it}) * X_{it}$$

where:

MWH_{it} = Megawatt Hour - Sales -- industry i - period t
X_{it} = Industrial Output -- industry i - period t
P_{jit} = Relative Price of Electricity to Fuel or Wage j -- industry i - period t
T_{it} = Vector of Technological Changes -- industry i - period t
$CONS_{it}$ = Proxy for conservation efforts
RPE_{it} = Real price of electricity -- industry i - period t

We assumed, that the functional form of A was multiplicative, so we rewrote (2):

$$3) \quad MWH_{it} = a * P_{jit}^{bj} * T_{it}^{c} * CONS_{it}^{d} * RPE_{it}^{f} * X_{it}^{k}$$

An estimable form was derived by taking the natural logarithm of both sides of (3):

$$4) \quad LOG(MWH_{it}) = LOG(a) + \ldots b_j * LOG(P_{jit}) + \ldots + C * LOG(T_{it}) + d * LOG(CONS_{it}) + f * LOG(RPE_{it}) + k * LOG(X_{it})$$

The proportional relationship hypothesized between production and consumption suggests that the coefficient on output, k, should be close to one. In fact, k differed from one when estimated for a variety of reasons. The present specification assumed that the fixed level of consumption (i.e. independent of the level of production) was small in proportion to the variable usage. To the extent it was not, a percentage increase in production will lead to less than 1% percent change in KWH use. Second, in the short run, as present plant capacity becomes fully utilized, the returns to scale diminish in some processes leading to a change in the proportional relationship. Finally, the inability to quantify the variables in A(.) may have caused severe bias in the estimation of k. Every attempt was made to gather as much information as possible that will impact A.

One crucial item that was not addressed in this specification is self-generation. To the extent customers generate their own power, a potential bias is created as sales do not reflect the electricity required to generate the estimated output.

B. DATA DEVELOPMENT

In this section the development of the explanatory variables is outlined:

1) Industrial Output

The index of industrial output was developed for manufacturing and mining groups. It was obtained by combining national information on employee productivity with regional data of the level of manufacturing employment activity. The local production index was constructed as follows:

$$X^s_{it} = \frac{JQIND_{it}}{E_{it}} * E_i@s_t$$

where:

X^s_{it} = Index of Industrial Output -- Industry i - Region s

$JQIND_{it}$ = Federal Reserve Board index of Industrial Production -- Industry i - U.S.

E_{it} = Total Employment -- Industry i - U.S.

$E_i@s_t$ = Total Employment -- Industry i - Region s

The term $JQIND_{it}/E_{it}$ is the average level of production per employee on a national basis, for each of the industrial groups. We multiplied this ratio, as a proxy of production per employee in the individual industries by the number of employees in the area to arrive at an estimate of area production. The assumption made was that the gains in output per employee in the area could be proxied by those in that industry group on a national basis. Given the level of disaggregation at which estimation was done, this was probably reasonable.

2) Energy Substitution

Two concepts had to be quantified here: 1) availability of natural gas and 2) energy and labor costs. The availability of natural gas was not easily quantified. Where availability was an issue a qualitative variable was developed.

Price terms for both electricity and alternative fuel sources had to be developed. The criterion used in developing all price estimates was that the term should reflect the change in prices that had occurred. In addition, in developing the price term for electricity, two criteria were followed: 1) the term was derived from the rate schedules, and if possible reflected the fact that customers fall into different blocks of a schedule and therefore face different prices and 2) the term did not change simply because energy consumption levels changed, a problem known as simultaneous bias.

Two possibilities existed for constructing electrcity prices,

a) "typical bill"
b) weighted marginal price

A) "Typical Bill"

The typical bill was constructed in the following steps:

i) define a "typical" or representable level of usage based on KWH consumption and KW demand for a billing period for each rate schedule.

ii) hold the typical usage constant, calculate the cost of this level of use by applying the rates in effect (KWH and KW charges) as well as fuel adjustment and any tax surcharges.

iii) weigh the average of the "typical bills" for the individual rates. The weights were based on the percent of the classes KWH sales that were billed under each rate.

Thus:

$$PETB_j = \sum_{i=1}^{N} \alpha_{ij} * TB_i/KWH_i$$

where:

$PETB_j$ = "Typical bill" price of electricity (cents per KWH)

α_{ij} = Proportion of KWH sales to industry j billed under rate i

TB_{ij} = "Typical Bill" - Rate i (cents)

KWH_i = "Typical" KWH usage - Rate i (fixed)

The typical bill approach avoided the simultaneity problem and was derived from the rate schedules, but it did require an assumption of "typical usage".

B) Weighted Marginal Price

The weighted marginal price was a weighted average of KWH charges, or consumption charges faced by the industrial user. The price term was constructed in the following steps:

i) A weighted marginal price for each applicable rate schedule was constructed. Each of the energy block prices was weighted by the proportion of customers whose end usage fell within each block. For example:

Rate Schedule - Large Power Service:

\$5,000 for the 1st 1,500 KW or less of load
\$ 2.75 per KW for the next 6,500 KW of load
\$ 2.10 per KW for all additional KW
1.35¢ per KWH for the 1st 360 KWH per KW of load
1.15¢ per KWH for all addition KWH

The weighted marginal price for this rate schedule is

$$WMP_{p-3} = \alpha_1 * 1.35¢ + \alpha_2 * 1.15¢$$

where:

α_1 = % of customers whose KWH per is between 0-360

α_2 = % of customers whose KWH per KW is greater than 360

ii) The weighted marginal price for each industrial group was a second weighting of rate prices developed by the method in (1). This second weighting was based on the proportion of KWH billed in a given industrial group under each of the applicable rates. This second weighting took into account the relative importance of each rate to the industrial groups. Thus:

$$WMP_j = \sum_{\substack{i=1 \\ j=1}}^{N,M} \alpha ij * WMP_i$$

where:

WMP_j = weighted marginal price -- industry j

α_{ij} = proportion of KWH sales to industry j billed under rate i

WMP_i = weighted marginal price -- rate i

Marginal price was based on KWH consumption and price per KWH. As such, it did not include the demand charges incurred under these rate schedules. The omission implicitly assumed that demand charges do not significantly affect total consumption but only the distribution of consumption throughout the day. To the extent that this was not true, the exclusion of the demand charge was invalid.

Price terms were included to reflect two phenomena: 1) conservation and 2) fuel substitution. The weighted marginal price, in that it reflects costs on the margin, was included to take into account conservation. For substitution of energy sources the entire cost structure was considered, by using the "typical bill" relative to alternative fuel costs and labor costs.

3) Technological Changes

The exact form of variables to reflect technological change depended on the information available.

All major structural changes were noted along with their installation date in order to account for shifts in energy during the equation estimations.

4) Conservation

As mentioned, conservation of electricity was considered to be of two types. Reaction to increased energy costs was tested by including the real price of electricity. The price was deflated by the wholesale price index for the relevant industrial group. Conservation for "patriotic" purposes was also considered. A qualitative variable was constructed to depict a reasonable conservation pattern.

THE SPECIFICATION
OF THE
COMMERCIAL SECTOR
OF THE
MIDDLE SOUTH FORECASTING MODEL

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I. Introduction

The Commercial sector presented a difficult forecasting problem. The sector has shown substantial growth over the historical period both in employments and in energy. As a result, relating energy to employment effectively explains a great deal of the variation in energy. On the other hand, the causal between employment and energy is complex. The growth of air conditioning and electric heat and the growth of square footage of commercial establishments are also known to be important determinants in the growth of the sector's energy. The problem arises from the paucity of data for these significant causes. Thus it is possible to show good summary statistics, R-squares and so on, in the estimation of the sector while little understanding of the behavioral characteristics of the sector are formed.

In making our forecasts, we were careful to appreciate the historical relationship between energy and employments might not persist in the forecast period if the factors which we were unable to quantify changed radically.

II. Model Structure

Consumption in the commercial/non-manufacturing sector was analyzed within, at most, seven major classes:

1) Wholesale and Retail Trade

2) Finance, Insurance, and Real Estate

3) Personal Services

4) Construction

5) Communications, Transportation, and Public Utilities

6) Government

7) Mining

The number of classes considered were reduced, when (1) the energy data from an operating company was not at the same detail, or (2) the employment data for a class was not available. Estimating at the highest level of feasible detail was useful since the model was better able to analyze the particular growth patterns of each class.

In general, energy consumption of the commercial sector is dependent on:

1) growth of the sector of employments

2) consumption per employee - in particular, responses caused by:

   a. the saturations of heating and cooling equipment

   b. voluntary conservation effort

   c. the price of electricity

   d. weather

   e. technology

   f. establishment size

The growth of each class within the sector was proxied by the growth in the number of employees in the class. Using employees, rather than the number of establishments or commercial customers, measures the growth in the number, as well as growth in the size, of commercial establishments. The growth of employment in each class was not estimated within the commercial block of the model since it was already considered within the service area economic models.

We specified that consumption per employee depended on a number of factors. For some factors, it was a relatively easy task to identify variables which represented the history of the factors. For other factors, no time series were available. We began with the factors which could be easily modeled.

The price of electricity was modeled in much the same way as the price had been modeled in previous sectors. The price of electricity relative to the prices of alternative fuels and wages was included to capture the choice of technology. The less expensive electricity becomes relative to other fuels, and labor, the greater the propensity for commercial establishments to choose electricity-based technology for heating, cooling, and other energy-consuming loads. The price of electricity used for this purpose is the typical price as described in the Industrial Specification. It included KW, as well as KWH charges. Similarly, the real price of electricity was included to account for effects resulting from the increased or decreased cost of using electricity, the cost per kilowatt-hour in the last block of consumption, deflated by the consumer price index for the the southern United States. The deflation was performed to correct for overall inflation in the sector and the economy.

A dummy variable was introduced to account for the voluntary, non-price related, conservation efforts which occurred in 1973 and 1974, in response to the oil embargo. The variable's impact was seen not to persist into the forecast.

Cooling-degree days and heating-degree days were included to reflect the impact of weather on commercial energy consumption. The effect of weather on energy will increase as the saturation of electricity-consuming heating and cooling equipment increases. However, time series were not available for the saturations of this equipment. Thus the weather variables were included without any modification. We were implicitly assuming that the saturations have been constant over the period of historical analysis. While this assumption may be appropriate for air-conditioning since the greatest penetration of air-conditioning occurred in the early 60's, it is not true for the saturations of electric-heating equipment. Since the growth of electric heating will increase with shortfalls in natural gas production, the assumption of constancy is a serious shortcoming of the specification as it now exists. Effort ought to be made in the future to measure the changes in commercial customers having electric heat load.

Technology affects electricity consumption in two ways. First, there are technological innovations which perform energy-consuming tasks more efficiently. These types of technology will reduce the consumption of electricity. Second, there are innovations which reduce the need for employees to perform the activities of the sector. These will, generally, increase the consumption of electricity per employee. The first type of technology was modeled by discerning important historical innovations which occurred and modeling them with qualitative, or dummy variables. The second type of technology might have been modeled by qualitative variables. However, since the impact of labor-saving technology could not be readily quantified, the coefficient on the number of employees was estimated without constraints. An elasticity of more than one on employment is interpreted as increased load from labor-saving, electricity-consuming equipment.

The saturation, or stock, of electricity-consuming equipment in the sector was not available. The hope was that the relative cost of electricity to other fuels would proxy the growth in the accumulation of these stocks.

III. Specification of the Estimable Form

The consumption of electricity in the commercial/non-manufacturing sector was specified to be in multiplicative form, infact,

$$1)\quad MWH_i = A*(TPEL/P_1)^{b1} * (TPEL/P_2)^{b2} * \ldots * (TPEL/AHEM)^{bn} *$$

$$*(MPEL/CPIS)^{c}\ CON^{d}$$

$$*TECH^{e} * \exp[f*DNCDD] * \exp[g*DNHDD] * E_i^{h}$$

where:

MWH_i = megawatt-hours, commercial class i

TPEL = typical price of electricity

P_j = price of fuel j

AHEM = average hourly earnings

MPEL = marginal price of electricity

CPIS = consumer price index, Southern region

CON = dummy for embargo induced voluntary conservation

TECH = technology

DNCDD = difference from normal, cooling-degree days

DNHDD = difference from normal, heating-degree days

E_i = employees commercial class i

NOTE: exp (.) = e (.), i.e. the base of natural logarithms to the power implied by the expression in parenthesis

NOTE: The general "TECH" was replaced by the growth rate of employment data.

The actual estimation was performed linearly. Equation (1) was converted to linear form by taking the natural logarithm of each side.

$$2) \quad \log(MWH_i) = \log(A) + b_1 * \log(TPEL/P_1) + b_2 * \ldots$$

$$+ b_n * \log(TPEL/AHEM)$$

$$+ c * \log(MPEL/CPIS) + d * (CON)$$

$$+ e * \log(TECH) + f * DNCDD + g * DNHDD + h * \log(E_i)$$

THE SPECIFICATION
OF THE
WHOLESALE SECTOR
OF THE
MIDDLE SOUTH FORECASTING MODEL

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Electricity sales to cooperatives and municipals result from their ultimate sales to their customers. In modeling this sector, we sought to capture the behavior of their customers, as it relates to electricity consumption, from which the operating companies' sales could be derived.

I. SALES BY THE COOPERATIVES AND MUNICIPALS

Optimally, we hoped to model the sales of cooperatives and municipals as the sales of the operating companies had been modeled. This was, in fact, impossible. First, there were discrepancies in class definitions. There generally were classes, or combinations of classes, equivalent to the residential class. But, less likely were commercial and industrial classes. Even when they existed they tended to be very different from the manufacturing - non-manufacturing dicotomy which is most meaningful economically. Instead, non-residential customers were classified as large-power and small-power users. The distinction by cooperatives and municipals is made on the basis of KW demand, so that large-power include both manufacturing and large non-manufacturing like hospitals. Small-power users are closer to commercial, or non-manufacturing, but some small industrial are also included.

Second, a more severe shortcoming was data availability. The sales by cooperatives and municipals were often not available or available on an annual basis only. Even when data from cooperatives and municipals were available, time series on casual factors in our models were not. For example, appliance saturations and employment data were not available for cooperatives and municipals.

The approach to forecasting the sales of the wholesale sector began by considering the ideal. But no analysis was done following the guidelines set forth for operating company sales. Although this was not possible, as few compromises as necessary were made. This required the modeling effort to be tailored on a case by case basis. The following specification fits what was the case closest to the ideal.

A. Residential Sales

The analysis of residential sales for the operating companies considered three major areas: 1. appliance saturations, 2. energy per customer, and 3. customer growth. For the wholesale sector, the analysis of appliance saturations could not be made; and energy per customer could not be considered in the same level of detail. The causal variables for customers were available and the specification for operating customers was followed.

1. Usage per customer - By assuming the municipal and cooperative customers are similar to those served by the operating companies, the history of saturation rates, income, prices, and weather was proxied by usage per customer of the operating companies.

That is,

1) MWH@CWS = f(MWH@C)

where: MWH@CWS = usage per customer (residential) of cooperatives and municipals

MWH@C = usage per customer (residential) of the operating company

2. Customer Growth - For the cooperative and municipal customer growth, the specification for the residential sector was applied.

Therefore,

2) $CUT - CUT_{-1} = a + b * RW@P + c * NR2164 - d * CUT_{-1}$

where: CUT = customer stock (-1 subscript represents last periods stock)

RW@P = per capita wealth of the operating company service area

NR2164 = population 21 to 64 years of age in the operating company service area

B. Commercial and Industrial Sales

The industrial sales for the wholesale sector are relatively insignificant. Most customers who are classified as manufacturing are small and serve a local market. Consequently, they are similar to commercial, or non-manufacturing, industries in their behavior. No causal data, or size of firm data, was available on the wholesale level. Under these two constraints - 1. most non-residential energy is similar to the operating companies' commercial sector and 2. detailed industrial analysis is difficult - non-residential energy for cooperatives and municipals was related directly to operating company commercial sales.

3) MWHCIWS = f(MWHC)

where: MWHCIWS = megawatt hour sales by cooperatives and municipals to non-residential customers

MWHC = megawatt hour sales by operating company to commercial customers

II. SALES TO COOPERATIVES AND MUNICIPALS

Discrepancies between sales by cooperatives and municipals and sales to cooperatives and municipals come from three major sources, 1. energy generated by the cooperatives and municipals, 2. energy purchased from other electric utilities, and 3. losses. The relationship between sales by and sales to cooperatives and municipals were considered on an econometric basis. In making the forecast, in an econometric mode, judgemental decisions had to be made and inputted. The possibilities to consider included:

1. would the cooperatives and municipals continue self-generation following the pattern demonstrated by history.

2. would they continue to buy power needs from vendors in the same historical percentages.

3. would technological innovation or service area changes lead to changes in loss factors.

Given historical relationships and qualitive assumptions in the forecast, sales to the cooperatives and municipals were made from forecasts of sales by cooperatives and municipals.

LOUISIANA POWER AND LIGHT COMPANY

LOAD FORECASTING SYSTEM

Middle South Services, Inc.
May 1, 1979

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	PAGE	PAGE	PAGE
TOTAL RESIDENTIAL CUSTOMERS	7	33	74
ALL-ELECTRIC RESIDENTIAL CUSTOMERS	9	36	76
RESIDENTIAL MEGAWATT HOUR USAGE PER CUSTOMER	10	37	78
MANUFACTURING USAGE:			
Oil and gas extraction & Petroleum refining and related industries	12	40	80
Mining and quarrying of nonmetallic minerals, except fuels & Stone, clay, glass, and concrete products	14	43	82
Food and kindred products	16	46	84
Textile mill products & Apparel and other finished products made from fabrics and similar materials	17	49	86
Lumber and wood products, except furniture & Furniture and fixtures & Paper and allied products	19	52	88
Printing, publishing, and allied industries & Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks & Miscellaneous manufacturing industries	21	55	90
Chemicals and allied products & Rubber and miscellaneous plastics products	22	57	92
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MUNICIPALS, EXCEPT EMERGENCIES USAGE	30	69	104

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ENERGY MODEL

ENDOGENOUS AND EXOGENOUS VARIABLES

HISTORICAL VALUES

LP&L RESIDENTIAL TOTAL CUSTOMERS

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
CURTL4	212,797	219,506	226,995	234,819	244,561	253,931	265,088	277,710	286,259	294,679	303,667
%CH		3.2	3.4	3.4	4.1	3.8	4.4	4.8	3.1	2.9	3.1
NR21&@LPLCO	0.829234	0.835464	0.850030	0.866326	0.897432	0.925197	0.947690	0.960825	0.993502	1.017088	1.005032
%CH		0.8	1.7	1.9	3.6	3.1	2.4	1.4	3.4	2.4	-1.2
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TH1771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ3	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP9POLD	1.680	1.723	1.764	1.839	1.928	2.025	2.194	2.376	2.446	2.430	2.460
%CH		2.6	2.4	4.3	4.8	5.0	8.4	8.3	3.0	-0.6	1.2
RYP9PNEW	1.680	1.723	1.764	1.839	1.928	2.025	2.194	2.376	2.446	2.430	2.460
%CH		2.6	2.4	4.3	4.8	5.0	8.4	8.3	3.0	-0.6	1.2
BET654RES	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	-100.0	NC	NC	NC	NC
BUR664RES	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	-100.0	NC	NC	NC

LP&L RESIDENTIAL TOTAL CUSTOMERS (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
CURTLA	312,322	326,597	340,767	351,644	361,340	372,912	389,939
%CH	2.8	4.6	4.3	3.2	2.8	3.2	4.6
NR21&@LPLCO	1.039697	1.060289	1.084908	1.106351	1.139745	1.165505	1.165505
%CH	3.4	2.0	2.3	2.0	3.0	2.3	0.0
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
HOU704RES	0.250	0.000	0.000	0.000	0.000	0.000	0.000
%CH	0.0	-100.0	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH	NC	NC	NC	NC	NC	NC	-100.0
TH1771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.250
%CH	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.750	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	-100.0	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ3	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC
RYP@PNEW	2.455	2.600	2.709	2.699	2.710	2.863	2.959
%CH	-0.2	5.9	4.2	-0.4	0.4	5.6	3.4
BET654RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
BUR664RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC

LP&L RESIDENTIAL TOTAL ALL-ELECTRIC CUSTOMERS

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
CUERTLA	6,201	7,322	8,919	10,626	14,728	19,988	25,238	29,075	32,727	37,603
%CH	NA	18.0	21.8	19.1	38.6	35.7	26.3	15.2	12.6	14.9
CURTLA	286,269	294,679	303,667	312,322	326,567	340,767	351,644	361,340	372,912	389,939
%CH	3.1	2.9	3.1	2.8	4.6	4.3	3.2	2.8	3.2	4.6
HOU704RES	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	0.0	-100.0	NC	NC	NC	NC	NC
RYP@PNEW	2.446	2.430	2.460	2.455	2.600	2.709	2.699	2.710	2.863	2.959
%CH	3.0	-0.6	1.2	-0.2	5.9	4.2	-0.4	0.4	5.6	3.4
RYP@POLD	2.446	2.430	2.460	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	3.0	-0.6	1.2	-100.0	NC	NC	NC	NC	NC	NC
DV723TO744	0.000	0.000	0.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	100.0	0.0	-100.0	NC	NC

LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
M@CRTSALA	3.45	3.58	4.32	4.73	5.21	5.64	6.23	6.73	7.69	8.40
%CH		3.7	20.9	9.3	10.2	8.3	10.4	8.1	14.2	9.3
EFSATLA	7,380.878	7,959.410	8,792.414	9,306.355	9,708.814	10,143.454	10,642.465	11,199.444	11,763.065	12,133.901
%CH		7.8	10.5	5.8	4.3	4.5	4.9	5.2	5.0	3.2
RPE	1.775	1.811	1.794	1.760	1.684	1.596	1.536	1.483	1.417	1.338
%CH		2.0	-0.9	-1.9	-4.3	-5.3	-3.7	-3.5	-4.4	-5.6
MPRTLA	1.57	1.62	1.63	1.61	1.57	1.51	1.49	1.49	1.48	1.48
%CH		3.1	0.2	-0.7	-3.0	-3.8	-0.8	-0.6	-0.2	0.0
CPISOUTHNS	0.886	0.896	0.906	0.918	0.930	0.944	0.973	1.003	1.047	1.109
%CH		1.1	1.2	1.2	1.3	1.6	3.0	3.0	4.4	5.9
RYP@PNEW	1.680	1.723	1.764	1.839	1.928	2.025	2.194	2.376	2.446	2.430
%CH		2.6	2.4	4.3	4.8	5.0	8.4	8.3	3.0	-0.6
RYP@POLD	1.680	1.723	1.764	1.839	1.928	2.025	2.194	2.376	2.446	2.430
%CH		2.6	2.4	4.3	4.8	5.0	8.4	8.3	3.0	-0.6
SAT3RMLA	0.357	0.405	0.470	0.489	0.486	0.481	0.478	0.474	0.468	0.461
%CH		13.4	16.3	3.8	-0.6	-0.9	-0.6	-0.8	-1.4	-1.5
SAT3CLA	0.156	0.162	0.173	0.190	0.212	0.237	0.263	0.293	0.324	0.343
%CH		4.1	6.7	9.5	11.7	11.7	11.3	11.2	10.6	6.0
L1DNCDDNOLA		-293.111	187.889	98.889	-118.111	-159.111	-171.111	-41.111	-109.111	-105.111
%CH			NM	-47.4	NM	-34.7	-7.5	76.0	-165.4	3.7
L1DNCDDMOLA		-199.056	194.944	329.944	4.944	258.944	-12.056	-167.056	-279.056	-25.056
%CH			NM	69.3	-98.5	5,137.1	NM	-1,285.7	-67.0	91.0
SATHTLA	0.004	0.005	0.006	0.008	0.010	0.012	0.015	0.018	0.022	0.025
%CH		19.6	24.2	24.2	24.2	24.2	24.2	24.2	19.0	14.7
L1DNHDDNOLA		33.278	-71.722	214.278	399.278	-216.722	100.278	-44.722	304.278	124.278
%CH			NM	NM	86.3	NM	NM	NM	NM	-59.2
L1DNHDDMOLA		-26.333	49.667	46.667	278.667	-214.333	-65.333	-130.333	176.667	255.667
%CH			NM	-6.0	497.1	NM	69.5	-99.5	NM	44.7

LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED (CONT'D)

	1970	1971	1972	1973	1974	1975	1976	1977
M@CRTSALA	9.15	9.90	11.12	11.53	11.26	12.07	12.32	13.68
%CH	8.9	8.2	12.4	3.6	-2.4	7.2	2.1	11.1
EFSATLA	12,331.393	12,419.456	12,596.389	12,938.565	13,356.380	13,681.748	14,242.119	15,009.060
%CH	1.6	0.7	1.4	2.7	3.2	2.4	4.1	5.4
RPE	1.274	1.240	1.227	1.190	1.151	0.994	0.950	1.056
%CH	-4.8	-2.7	-1.0	-3.0	-3.3	-13.7	-4.4	11.1
MPRTLA	1.49	1.51	1.54	1.59	1.73	1.63	1.65	1.96
%CH	0.3	1.1	2.0	3.8	8.6	-5.6	0.9	18.8
CPISOUTHNS	1.169	1.214	1.251	1.340	1.506	1.646	1.735	1.854
%CH	5.4	3.9	3.0	7.1	12.4	9.3	5.4	6.8
RYP@PNEW	2.460	2.455	2.600	2.709	2.699	2.710	2.863	2.959
%CH	1.2	-0.2	5.9	4.2	-0.4	0.4	5.6	3.4
RYP@POLD	2.460	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	1.2	-100.0	NC	NC	NC	NC	NC	NC
SAT3RMLA	0.451	0.440	0.432	0.425	0.410	0.393	0.369	0.344
%CH	-2.0	-2.5	-1.8	-1.6	-3.4	-4.3	-6.1	-6.6
SAT3CLA	0.353	0.357	0.362	0.376	0.398	0.418	0.454	0.501
%CH	2.8	1.1	1.6	3.8	5.8	4.9	8.7	10.3
L1DNCDDNOLA	-31.111	40.889	232.889	383.889	7.889	24.889	-186.111	290.889
%CH	70.4	NM	469.6	64.8	-97.9	215.5	NM	NM
L1DNCDDMOLA	122.944	-81.056	207.944	25.944	-54.056	-75.056	-412.556	260.444
%CH	NM	NM	NM	-87.5	NM	-38.8	-449.7	NM
SATHTLA	0.029	0.034	0.045	0.059	0.072	0.080	0.088	0.096
%CH	18.2	15.8	32.5	30.1	22.4	12.1	9.1	9.9
L1DNHDDNOLA	215.278	-139.722	-419.722	-174.722	-493.722	-237.722	75.278	123.278
%CH	73.2	NM	-200.4	58.4	-186.0	52.4	NM	63.8
L1DNHDDMOLA	337.667	-118.333	-389.333	-141.333	-313.333	-123.333	53.667	52.167
%CH	32.1	NM	-229.0	63.7	-121.7	60.6	NM	-2.8

LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
MH1329SALA	277,712	326,018	362,184	263,728	315,125	355,168	413,258	649,607	880,919	945,917	1,022,878
%CH		17.4	11.1	-27.2	19.5	12.7	16.4	57.2	35.6	7.4	8.1
JQIND29	0.767	0.798	0.840	0.879	0.903	0.921	0.961	1.000	1.050	1.084	1.132
%CH	3.4	4.1	5.3	4.6	2.7	2.0	4.4	4.0	5.0	3.3	4.3
E29	0.212	0.202	0.195	0.189	0.184	0.183	0.184	0.183	0.187	0.182	0.191
%CH	-1.6	-4.7	-3.3	-3.3	-2.6	-0.4	0.5	-0.5	2.0	-2.5	4.7
E29LA	2,316.997	2,263.651	1,945.736	1,801.139	1,844.858	1,847.194	1,945.559	2,148.512	2,373.061	2,437.950	2,522.596
%CH		-2.3	-14.0	-7.4	2.4	0.1	5.3	10.4	10.5	2.7	3.5
RECLASS29			0.825	0.825	0.825	0.825	0.825	0.825	0.825	0.825	0.825
%CH				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMP1329	0.520	0.566	0.573	0.563	0.526	0.455	0.432	0.414	0.416	0.408	0.392
%CH		8.8	1.2	-1.6	-6.5	-13.5	-5.1	-4.2	0.4	-1.9	-3.9
WMPT1329LA	0.501	0.550	0.554	0.543	0.493	0.435	0.422	0.414	0.411	0.412	0.416
%CH		9.8	0.7	-2.0	-9.0	-11.9	-2.8	-2.0	-0.6	0.0	1.1
WPI05	0.962	0.972	0.967	0.963	0.937	0.954	0.978	1.000	0.989	1.009	1.062
%CH	1.0	1.1	-0.5	-0.4	-2.7	1.8	2.5	2.3	-1.1	2.0	5.3
UNCLASS29				0.840	0.840	0.840	0.840	0.840	0.840	0.840	0.840
%CH					0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHELL29				0.730	0.730	0.730	0.730	0.933	1.000	1.000	1.000
%CH					0.0	0.0	0.0	27.7	7.2	0.0	0.0
STRIKES29				0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH					NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
MH1329SALA	1,310,196	1,424,272	1,520,444	1,553,948	1,534,244	1,686,700	1,939,086
%CH	28.1	8.7	6.8	2.2	-1.3	9.9	15.0
JQIND29	1.167	1.219	1.284	1.248	1.240	1.331	1.414
%CH	3.1	4.5	5.3	-2.8	-0.7	7.3	6.3
E29	0.193	0.194	0.194	0.199	0.197	0.203	0.209
%CH	1.0	0.8	-0.4	2.6	-0.6	2.8	3.1
E29LA	2,673.631	2,959.794	3,001.254	3,218.414	2,658.233	2,637.252	2,927.901
%CH	6.0	10.7	1.4	7.2	-17.4	-0.8	11.0
RECLASS29	0.825	0.825	0.825	0.825	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	21.2	0.0	0.0
RWMP1329	0.376	0.390	0.389	0.319	0.230	0.217	0.294
%CH	-4.1	3.7	-0.2	-18.0	-27.8	-5.8	35.3
WMPT1329LA	0.433	0.463	0.522	0.659	0.562	0.576	0.888
%CH	4.1	6.8	12.7	26.4	-14.8	2.6	54.1
WPI05	1.152	1.187	1.343	2.082	2.450	2.655	3.021
%CH	8.5	3.0	13.2	55.0	17.7	8.3	13.8
UNCLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	19.0	0.0	0.0	0.0	0.0	0.0	0.0
SHELL29	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIKES29	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	-100.0	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
MH1432SALA				45,026	49,610	57,139	57,770	55,717	65,503	144,872
%CH					10.2	15.2	1.1	-3.6	17.6	121.2
JQIND32	0.790	0.786	0.835	0.884	0.926	0.983	1.011	1.000	1.063	1.096
%CH	-3.5	-0.5	6.2	5.9	4.8	6.1	2.9	-1.1	6.2	3.2
E32	0.604	0.582	0.592	0.601	0.614	0.628	0.644	0.629	0.635	0.657
%CH	0.1	-3.7	1.7	1.4	2.2	2.4	2.5	-2.4	1.1	3.4
E32LA	2,102.410	2,059.839	2,149.610	2,220.986	2,516.666	2,655.493	2,880.599	3,025.319	3,320.976	3,351.168
%CH		-2.0	4.4	3.3	13.3	5.5	8.5	5.0	9.8	0.9
RELPNG1432	0.040	0.039	0.033	0.033	0.032	0.032	0.032	0.031	0.031	0.030
%CH		-2.7	-13.4	-1.0	-4.4	1.1	-1.2	-0.8	-0.3	-2.9
TYPT1432LA	1.083	1.132	1.136	1.125	1.076	1.017	1.005	0.997	0.994	0.994
%CH		4.5	0.3	-1.0	-4.4	-5.5	-1.2	-0.8	-0.3	0.0
TYPTNGITLA	27.35	29.33	33.99	33.99	33.99	31.79	31.79	31.79	31.79	32.74
%CH		7.2	15.9	0.0	0.0	-6.5	0.0	0.0	0.0	3.0
INTERSTATE14				1.000	1.000	1.000	1.000	1.000	1.153	2.528
%CH					0.0	0.0	0.0	0.0	15.3	117.6
JMANS32				1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH					0.0	0.0	0.0	0.0	0.0	0.0
STEMP32				1.000	1.000	1.000	1.000	1.053	1.080	1.000
%CH					0.0	0.0	0.0	5.3	2.6	-7.4
LAUREN32				0.750	0.750	0.750	0.750	0.750	0.750	0.750
%CH					0.0	0.0	0.0	0.0	0.0	0.0
DOW32				1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH					0.0	0.0	0.0	0.0	0.0	0.0
RECESSION32				0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH					NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED (CONT'D)

	1970	1971	1972	1973	1974	1975	1976	1977
MH1432SALA	95,165	63,955	84,778	95,302	105,769	121,965	134,382	143,612
%CH	-34.3	-32.8	32.6	12.4	11.0	15.3	10.2	6.9
JQIND32	1.060	1.109	1.208	1.336	1.331	1.179	1.371	1.461
%CH	-3.3	4.6	8.9	10.6	-0.3	-11.4	16.2	6.6
E32	0.640	0.634	0.659	0.692	0.690	0.614	0.626	0.652
%CH	-2.5	-1.1	4.0	4.9	-0.2	-11.1	2.0	4.2
E32LA	3,263.741	3,105.200	3,015.671	3,199.762	3,463.548	3,292.234	3,250.725	3,214.907
%CH	-2.6	-4.9	-2.9	6.1	8.2	-4.9	-1.3	-1.1
RELPNG1432	0.030	0.026	0.021	0.017	0.016	0.011	0.009	0.009
%CH	0.5	-15.5	-18.1	-21.5	-4.9	-29.9	-17.4	-6.1
TYPT1432LA	0.999	1.016	1.045	1.104	1.242	1.144	1.159	1.474
%CH	0.5	1.7	2.9	5.6	12.5	-7.8	1.3	27.2
TYPTNGITLA	32.74	40.21	49.64	66.71	79.85	107.39	122.36	175.98
%CH	0.0	22.8	23.4	34.4	19.7	34.5	13.9	43.8
INTERSTATE14	1.630	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	-35.0	-38.7	0.0	0.0	0.0	0.0	0.0	0.0
JMANS32	0.973	0.758	1.000	1.000	1.000	1.000	1.000	1.000
%CH	-2.8	-22.1	32.0	0.0	0.0	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAUREN32	0.750	0.750	0.750	0.973	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	29.7	2.8	0.0	0.0	0.0
DOW32	1.000	1.000	1.193	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	19.3	-16.1	0.0	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	-100.0	NC

LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
MH20SALA	60,982	61,542	72,192	74,561	80,756	81,622	82,542	77,568	83,771	84,109
%CH		0.9	17.3	3.3	8.3	1.1	1.1	-6.0	8.0	0.4
JQIND20	0.786	0.808	0.833	0.864	0.904	0.924	0.960	1.000	1.025	1.062
%CH	2.8	2.8	3.2	3.7	4.6	2.2	3.8	4.2	2.5	3.6
E20	1.790	1.775	1.763	1.752	1.750	1.757	1.777	1.787	1.781	1.791
%CH	0.0	-0.9	-0.7	-0.6	-0.1	0.4	1.2	0.5	-0.3	0.6
E20LA	11,598.803	11,094.390	11,140.129	11,186.787	11,166.831	11,445.820	11,329.322	11,320.785	11,492.700	11,462.437
%CH		-4.4	0.5	0.4	-0.2	2.5	-1.0	-0.1	1.5	-0.3
SUGAR20			1.000	1.000	1.000	1.000	1.000	1.000	1.008	1.000
%CH				0.0	0.0	0.0	0.0	0.0	0.8	-0.7
UNOIL20			1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.985
%CH				0.0	0.0	0.0	0.0	0.0	0.0	-1.5
UNCLASS20			0.650	0.650	0.650	0.650	0.650	0.650	0.650	0.650
%CH				0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAG20			0.850	0.850	0.850	0.850	0.850	0.850	0.850	0.850
%CH				0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1970	1971	1972	1973	1974	1975	1976	1977
MH20SALA	88,646	145,441	162,246	163,147	161,242	162,711	175,735	202,344
%CH	5.4	64.1	11.6	0.6	-1.2	0.9	8.0	15.1
JQIND20	1.089	1.128	1.169	1.208	1.240	1.232	1.323	1.380
%CH	2.6	3.6	3.6	3.4	2.6	-0.6	7.3	4.3
E20	1.783	1.755	1.739	1.719	1.713	1.676	1.709	1.721
%CH	-0.4	-1.6	-0.9	-1.1	-0.4	-2.2	2.0	0.7
E20LA	11,422.592	11,466.808	11,946.151	11,886.912	11,979.422	11,401.793	11,339.927	11,286.913
%CH	-0.3	0.4	4.2	-0.5	0.8	-4.8	-0.5	-0.5
SUGAR20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS20	0.650	0.950	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	46.2	5.3	0.0	0.0	0.0	0.0	0.0
BAG20	0.850	0.850	0.850	0.850	0.850	0.850	0.850	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
MH2223SALA				1,193	1,273	1,836	2,109	2,182	2,287	2,582	2,400
%CH					6.7	44.2	14.9	3.4	4.8	12.9	-7.0
JQIND22	0.693	0.714	0.762	0.789	0.853	0.928	0.985	1.000	1.079	1.126	1.117
%CH	-1.9	3.0	6.7	3.6	8.0	8.8	6.1	1.6	7.9	4.3	-0.7
JQIND23	0.816	0.822	0.855	0.891	0.922	0.974	0.999	1.000	1.028	1.066	1.014
%CH	1.9	0.7	4.0	4.1	3.5	5.6	2.6	0.1	2.8	3.7	-4.9
E22	0.925	0.893	0.902	0.886	0.892	0.926	0.963	0.959	0.994	1.003	0.976
%CH	-2.2	-3.4	1.0	-1.9	0.7	3.8	4.1	-0.5	3.7	0.9	-2.6
E23	1.233	1.214	1.264	1.283	1.303	1.354	1.402	1.398	1.406	1.409	1.365
%CH	0.6	-1.5	4.0	1.5	1.5	4.0	3.5	-0.3	0.6	0.2	-3.1
E2223LA	939.486	850.459	1,102.949	1,063.295	1,203.829	1,775.900	1,977.286	1,934.555	2,060.320	2,196.971	2,682.362
%CH		-9.5	29.7	-3.6	13.2	47.5	11.3	-2.2	6.5	6.6	22.1
RELPOI2223	1.247	1.250	1.274	1.308	1.297	1.208	1.227	1.283	1.336	1.369	1.055
%CH		0.2	1.9	2.7	-0.9	-6.9	1.6	4.5	4.2	2.5	-22.9
TYPT2223LA	1.367	1.417	1.420	1.409	1.360	1.301	1.289	1.281	1.278	1.278	1.283
%CH		3.6	0.3	-0.8	-3.5	-4.3	-0.9	-0.6	-0.2	0.0	0.4
WPI0574	1.097	1.134	1.115	1.077	1.048	1.077	1.050	1.000	0.957	0.934	1.259
%CH		3.3	-1.6	-3.4	-2.7	2.8	-2.5	-4.8	-4.3	-2.4	34.8
UNCLASS2223					0.400	0.400	0.400	0.400	0.400	0.400	0.400
%CH						0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
MH2223SALA	6,675	9,545	13,009	15,412	15,314	18,369	19,637
%CH	178.1	43.0	36.3	18.5	-0.6	19.9	6.9
JQIND22	1.165	1.327	1.429	1.326	1.225	1.364	1.373
%CH	4.3	13.9	7.7	-7.2	-7.6	11.4	0.6
JQIND23	1.048	1.094	1.173	1.143	1.077	1.221	1.241
%CH	3.3	4.4	7.2	-2.6	-5.7	13.4	1.6
E22	0.959	0.994	1.026	0.988	0.902	0.966	0.982
%CH	-1.8	3.7	3.2	-3.7	-8.8	7.2	1.6
E23	1.345	1.375	1.405	1.348	1.235	1.299	1.288
%CH	-1.4	2.2	2.2	-4.1	-8.4	5.2	-0.8
E2223LA	3,150.490	4,035.402	5,095.154	5,783.101	5,364.868	6,498.047	7,547.307
%CH	17.5	28.1	26.3	13.5	-7.2	21.1	16.1
RELPOI2223	0.782	0.835	0.739	0.317	0.289	0.319	0.337
%CH	-25.9	6.8	-11.5	-57.1	-8.9	10.3	5.6
TYPT2223LA	1.300	1.329	1.388	1.526	1.428	1.443	1.759
%CH	1.3	2.3	4.4	9.9	-6.4	1.0	21.9
WPI0574	1.663	1.593	1.914	4.866	4.949	4.532	5.224
%CH	32.1	-4.2	20.2	154.2	1.7	-8.4	15.3
UNCLASS2223	0.915	1.000	1.000	1.000	1.000	1.000	1.000
%CH	128.8	9.3	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25 & 26, SEASONALLY ADJUSTED

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
MH242526SALA	228,117	280,645	304,562	379,789	383,871	389,402	404,454	458,762	594,753	770,939
%CH		23.0	8.5	24.7	1.1	1.4	3.9	13.4	29.6	29.6
JQIND24	0.863	0.926	0.963	1.000	1.001	1.055	1.079	1.057	1.138	1.208
%CH	4.7	7.3	4.0	3.8	0.1	5.4	2.3	-2.0	7.7	6.2
JQIND25	0.812	0.871	0.947	1.018	1.000	1.068	1.148	1.081	1.160	1.305
%CH	3.9	7.3	8.7	7.6	-1.8	6.9	7.4	-5.8	7.4	12.5
JQIND26	0.806	0.855	0.919	0.992	1.000	1.073	1.158	1.152	1.205	1.289
%CH	5.8	6.0	7.6	7.9	0.8	7.3	7.9	-0.5	4.6	7.0
E24	0.593	0.604	0.607	0.614	0.597	0.600	0.607	0.573	0.586	0.622
%CH	0.6	1.9	0.5	1.2	-2.9	0.5	1.1	-5.6	2.3	6.2
E25	0.390	0.406	0.431	0.462	0.455	0.472	0.484	0.460	0.461	0.503
%CH	1.3	4.1	6.2	7.1	-1.3	3.6	2.7	-5.0	0.2	9.2
E26	0.619	0.626	0.639	0.667	0.679	0.691	0.711	0.706	0.682	0.689
%CH	0.7	1.1	2.2	4.3	1.8	1.8	2.9	-0.8	-3.4	1.0
E242526LA	23,666.412	23,721.829	23,646.926	24,930.795	23,898.123	23,239.253	23,456.961	23,005.318	22,984.911	23,740.023
%CH	0.9	0.2	-0.3	5.4	-4.1	-2.8	0.9	-1.9	-0.1	3.3
RELPNG242526	0.028	0.027	0.026	0.026	0.026	0.026	0.025	0.025	0.021	0.018
%CH	-1.2	-5.2	-0.1	-1.4	-1.0	-0.3	-2.9	0.5	-15.2	-17.6
TYPT242526LA	0.950	0.901	0.842	0.830	0.822	0.819	0.819	0.824	0.841	0.870
%CH	-1.2	-5.2	-6.5	-1.4	-1.0	-0.3	0.0	0.5	2.1	3.5
TYPTNGITLA	33.99	33.99	31.79	31.79	31.79	31.79	32.74	32.74	40.21	49.64
%CH	0.0	0.0	-6.5	0.0	0.0	0.0	3.0	0.0	22.8	23.4
RELPWA242526	0.398	0.362	0.331	0.313	0.301	0.281	0.266	0.251	0.243	0.236
%CH	-4.6	-9.2	-8.5	-5.3	-3.8	-6.6	-5.6	-5.6	-3.1	-2.8
AHEMPLA	2.386	2.493	2.545	2.650	2.727	2.912	3.084	3.282	3.458	3.682
%CH	3.6	4.5	2.1	4.1	2.9	6.8	5.9	6.4	5.4	6.5
UNCLASS24	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.625	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	4.2	60.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	-100.0
DV712242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	-100.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25 & 26, SEASONALLY ADJUSTED (CONT'D)

	1973	1974	1975	1976	1977
MH24252GSALA	877,112	918,989	826,841	946,857	976,680
%CH	13.8	4.8	-10.0	14.5	3.1
JQIND24	1.260	1.161	1.076	1.251	1.338
%CH	4.3	-7.9	-7.3	16.2	7.0
JQIND25	1.437	1.376	1.183	1.328	1.409
%CH	10.1	-4.3	-14.0	12.2	6.1
JQIND26	1.374	1.344	1.164	1.330	1.375
%CH	6.6	-2.2	-13.4	14.2	3.4
E24	0.643	0.626	0.557	0.605	0.642
%CH	3.3	-2.6	-11.1	8.7	6.1
E25	0.535	0.517	0.451	0.490	0.510
%CH	6.4	-3.5	-12.8	8.6	4.2
E26	0.701	0.702	0.643	0.676	0.698
%CH	1.8	0.1	-8.4	5.2	3.3
E24252GLA	24,505.137	23,647.595	21,055.478	22,074.169	22,670.742
%CH	3.2	-3.5	-11.0	4.8	2.7
RELPNG242526	0.014	0.014	0.009	0.008	0.008
%CH	-20.6	-2.9	-30.8	-17.3	-2.5
TYPT242526LA	0.929	1.067	0.970	0.984	1.298
%CH	6.8	14.8	-9.1	1.5	31.9
TYPTNGITLA	66.71	79.85	107.39	122.36	175.98
%CH	34.4	19.7	34.5	13.9	43.8
RELPWA242526	0.234	0.243	0.202	0.185	0.224
%CH	-1.0	3.7	-16.6	-8.8	21.3
AHEM9LA	3.973	4.402	4.803	5.331	5.796
%CH	7.9	10.8	9.1	11.0	8.7
UNCLASS24	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 27, 38 & 39, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
MH273839SALA	48,631	48,597	62,400	8,148	7,578	6,894	7,712	8,286	6,916	5,112	5,360	14,285	23,494
%CH		-0.1	28.4	-86.9	-7.0	-9.0	11.9	7.5	-16.5	-26.1	4.9	166.5	64.5
JQIND39	0.709	0.733	0.781	0.818	0.862	0.936	0.976	1.000	1.061	1.126	1.111	1.120	1.271
%CH	3.8	3.5	6.5	4.8	5.4	8.5	4.4	2.4	6.2	6.1	-1.3	0.8	13.5
E39	0.390	0.378	0.390	0.387	0.398	0.419	0.433	0.428	0.433	0.441	0.426	0.412	0.434
%CH	0.6	-3.1	3.1	-0.8	2.8	5.5	3.4	-1.2	1.1	1.7	-3.4	-3.4	5.4
E3839LA	382.645	336.467	372.424	380.058	485.573	570.778	677.711	655.298	676.810	546.572	324.942	458.021	548.569
%CH		-12.1	10.7	2.0	27.8	17.5	18.7	-3.3	3.3	-19.2	-40.5	41.0	19.8
UNCLASS273839				0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.925	1.000
%CH					0.0	0.0	0.0	0.0	0.0	0.0	0.0	115.1	8.1

	1973	1974	1975	1976	1977
MH273839SALA	25,539	25,819	25,738	26,418	30,009
%CH	8.7	1.1	-0.3	2.6	13.6
JQIND39	1.377	1.374	1.282	1.435	1.491
%CH	8.3	-0.2	-6.7	11.9	3.9
E39	0.451	0.448	0.405	0.421	0.418
%CH	3.8	-0.6	-9.7	4.0	-0.6
E3839LA	629.609	780.136	879.112	1,129.298	1,102.101
%CH	14.8	23.9	12.7	28.5	-2.4
UNCLASS273839	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 28 & 30, SEASONALLY ADJUSTED

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
MH2830SALA	276,041	284,579	349,766	610,259	949,599	1,280,983	1,471,912	1,673,826	1,784,253	2,033,462	2,080,509	2,277,789
%CH		3.1	22.9	74.5	55.6	34.9	14.9	13.7	6.6	14.0	2.3	9.5
JQIND28	0.718	0.787	0.877	0.956	0.999	1.094	1.183	1.204	1.259	1.436	1.545	1.594
%CH	9.3	9.6	11.4	9.0	4.5	9.5	8.1	1.8	4.5	14.1	7.6	3.2
E28	0.865	0.879	0.908	0.961	1.001	1.030	1.060	1.049	1.010	1.008	1.033	1.056
%CH	2.0	1.5	3.3	5.9	4.2	2.8	2.9	-1.0	-3.7	-0.2	2.5	2.3
E2830NSLA	5,437	6,165	6,546	7,522	7,936	8,425	9,389	9,415	9,843	10,133	10,680	11,508
%CH	4.1	13.4	6.2	14.9	5.5	6.2	11.4	0.3	4.5	2.9	5.4	7.8
UNCARA28	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	0.970	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0
STRIKE28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
CHEM28			0.770	0.770	0.770	0.770	0.770	0.770	0.770	0.770	0.770	0.770
%CH				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1975	1976	1977
MH2830SALA	2,976,887	4,061,988	4,376,622
%CH	30.7	36.5	7.7
JQIND28	1.474	1.692	1.807
%CH	-7.5	14.8	6.8
E28	1.012	1.034	1.057
%CH	-4.2	2.1	2.3
E2830NSLA	12,027	13,956	15,374
%CH	4.5	16.0	10.2
UNCARA28	1.000	1.000	1.000
%CH	0.0	0.0	0.0
STRIKE28	0.500	0.000	0.000
%CH	NC	-100.0	NC
CHEM28	1.000	1.000	1.000
%CH	29.9	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCPET KAISER ALUMINUM, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
MH3334XKASALA	20,577	13,180	15,201	23,440	25,110	26,633	29,224	29,865	37,517	58,139
%CH		-35.9	15.3	54.2	7.1	6.1	9.7	2.2	25.6	55.0
JQIND33	0.720	0.718	0.760	0.822	0.930	1.020	1.085	1.001	1.042	1.140
%CH	0.9	-0.3	5.9	8.1	13.1	9.7	6.4	-7.7	4.0	9.4
E33	1.231	1.143	1.166	1.172	1.233	1.301	1.351	1.322	1.315	1.361
%CH	4.0	-7.2	2.0	0.6	5.2	5.5	3.8	-2.1	-0.5	3.5
E33LA	2,587.181	2,195.014	2,476.777	2,611.920	2,738.545	2,730.780	2,771.535	2,773.090	3,182.555	3,158.150
%CH		-15.2	12.8	5.5	4.8	-0.3	1.5	0.1	14.8	-0.8
JQIND34	0.711	0.693	0.754	0.779	0.826	0.908	0.973	1.000	1.056	1.079
%CH	0.1	-2.6	8.7	3.3	6.1	9.9	7.1	2.8	5.6	2.2
E34	1.136	1.084	1.128	1.150	1.190	1.269	1.351	1.363	1.390	1.440
%CH	1.1	-4.5	4.0	2.0	3.4	6.7	6.5	0.9	2.0	3.6
E34NSLA	1,854	1,986	2,002	2,066	2,147	2,375	2,579	2,701	2,958	3,113
%CH		7.1	0.8	3.2	3.9	10.6	8.6	4.7	9.5	5.3
RELPOI3334XKA	0.823	0.840	0.858	0.878	0.855	0.777	0.786	0.818	0.851	0.872
%CH		2.0	2.1	2.3	-2.6	-9.1	1.1	4.1	4.0	2.5
TYPT3334XKALA	0.903	0.953	0.956	0.945	0.896	0.837	0.825	0.817	0.814	0.814
%CH		5.4	0.4	-1.2	-5.2	-6.6	-1.5	-1.0	-0.3	0.0
WPI0574	1.097	1.134	1.115	1.077	1.048	1.077	1.050	1.000	0.957	0.934
%CH		3.3	-1.6	-3.4	-2.7	2.8	-2.5	-4.8	-4.3	-2.4
DIBAN33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
UNCLASS34	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790	0.790
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED (CONT'D)

	1970	1971	1972	1973	1974	1975	1976	1977
MH3334XKASALA	71,285	88,007	132,378	141,559	148,135	168,136	245,020	255,987
%CH	22.6	23.5	50.4	6.9	4.6	13.5	45.7	4.5
JQIND33	1.065	0.997	1.122	1.269	1.230	0.965	1.090	1.104
%CH	-6.5	-6.4	12.6	13.1	-3.1	-21.6	12.9	1.3
E33	1.316	1.229	1.241	1.324	1.344	1.180	1.190	1.203
%CH	-3.3	-6.6	0.9	6.7	1.5	-12.2	0.9	1.1
E33LA	2,984.864	2,856.788	3,273.519	4,004.069	4,000.611	3,690.099	3,871.026	4,189.006
%CH	-5.5	-4.3	14.6	22.3	-0.1	-7.8	4.9	8.2
JQIND34	1.024	1.035	1.120	1.247	1.242	1.099	1.233	1.309
%CH	-5.1	1.1	8.2	11.3	-0.4	-11.5	12.2	6.2
E34	1.381	1.334	1.396	1.500	1.505	1.336	1.387	1.451
%CH	-4.1	-3.4	4.6	7.5	0.4	-11.3	3.8	4.6
E34NSLA	3,110	3,528	3,700	4,073	4,489	5,100	6,638	7,047
%CH	-0.1	13.5	4.9	10.1	10.2	13.6	30.2	6.2
RELPO13334XKA	0.673	0.503	0.543	0.491	0.221	0.195	0.216	0.247
%CH	-22.8	-25.3	8.1	-9.5	-55.1	-11.6	10.8	14.4
TYPT3334XKALA	0.819	0.836	0.865	0.924	1.062	0.964	0.979	1.293
%CH	0.6	2.1	3.5	6.8	14.9	-9.2	1.5	32.1
WPI0574	1.259	1.663	1.593	1.914	4.866	4.949	4.532	5.224
%CH	34.8	32.1	-4.2	20.2	154.2	1.7	-8.4	15.3
DIBAN33	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	-100.0	NC	NC	NC	NC	NC
UNCLASS34	0.790	0.883	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	11.7	13.3	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 35, 36 & 37, SEASONALLY ADJUSTED

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
MH353637SALA	42,335	48,237	57,635	67,461	69,466	86,677	94,569	107,561	153,436	150,355
%CH		14.1	19.3	17.0	3.0	24.8	9.1	13.7	42.7	-2.0
JQIND37	0.780	0.802	0.951	1.017	0.999	1.110	1.085	0.895	0.979	1.083
%CH	9.7	2.7	18.6	6.9	-1.7	11.1	-2.3	-17.5	9.4	10.6
E37	1.610	1.605	1.741	1.918	1.948	2.039	2.060	1.799	1.730	1.771
%CH	4.0	-0.3	8.5	10.2	1.6	4.7	1.0	-12.7	-3.8	2.4
E353637LA	6,850.454	8,104.239	9,373.244	10,726.384	11,201.243	13,710.084	14,834.983	15,623.024	16,587.903	17,306.357
%CH	9.5	18.3	15.7	14.4	4.4	22.4	8.2	5.3	6.2	4.3
BETSY37	1.000	1.000	0.983	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	-1.7	1.8	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	0.700	0.700	0.700	0.700	0.700	0.700	0.700	0.700	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0

	1973	1974	1975	1976	1977
MH353637SALA	158,922	147,229	166,773	176,456	197,104
%CH	5.7	-7.4	13.3	5.8	11.7
JQIND37	1.180	1.088	0.976	1.107	1.213
%CH	9.0	-7.8	-10.2	13.4	9.5
E37	1.904	1.821	1.649	1.733	1.802
%CH	7.5	-4.3	-9.4	5.1	4.0
E353637LA	17,886.508	17,134.556	17,494.450	18,134.084	19,376.317
%CH	3.4	-4.2	2.1	3.7	6.9
BETSY37	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0

LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
MHNMSALA	447,159	497,568	537,945	607,986	666,243	739,324	848,850	1,000,139	1,137,535	1,265,288	1,392,263
%CH		11.3	8.1	13.0	9.6	11.0	14.8	17.8	13.7	11.2	10.0
ENMLA	0.353	0.359	0.378	0.400	0.434	0.487	0.537	0.577	0.600	0.627	0.639
%CH		1.7	5.2	6.0	8.5	12.1	10.3	7.4	4.0	4.5	1.9
L1DNCDDNDLA		-293.111	187.889	98.889	-118.111	-159.111	-171.111	-41.111	-109.111	-105.111	-31.111
%CH			NM	-47.4	NM	-34.7	-7.5	76.0	-165.4	3.7	70.4
COMPUTNM	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMPNM	2.294	2.325	2.302	2.261	2.179	2.083	2.009	1.941	1.857	1.753	1.667
%CH		1.3	-1.0	-1.8	-3.6	-4.4	-3.5	-3.4	-4.4	-5.6	-4.9
MNMLA	2.03	2.08	2.09	2.08	2.03	1.97	1.95	1.95	1.94	1.94	1.95
%CH		2.4	0.2	-0.5	-2.4	-2.9	-0.6	-0.4	-0.1	0.0	0.2
CPISOUTHNS	0.886	0.896	0.906	0.918	0.930	0.944	0.973	1.003	1.047	1.109	1.169
%CH		1.1	1.2	1.2	1.3	1.6	3.0	3.0	4.4	5.9	5.4
EMPLOY722NM	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800	0.800
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMPLOY734NM	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
MHNMSALA	1,671,530	2,172,840	2,276,866	2,325,899	2,548,220	2,759,950	3,227,575
%CH	20.1	30.0	4.8	2.2	9.6	8.3	16.9
ENMLA	0.665	0.719	0.811	0.869	0.934	1.000	1.073
%CH	4.1	8.2	12.7	7.2	7.5	7.1	7.3
L1DNCDONOLA	40.889	232.889	383.889	7.889	24.889	-186.111	290.889
%CH	NM	469.6	64.8	-97.9	215.5	NM	NM
COMPUTNM	0.850	1.000	1.000	1.000	1.000	1.000	1.000
%CH	13.3	17.6	0.0	0.0	0.0	0.0	0.0
RWMPNM	1.619	1.595	1.534	1.457	1.273	1.215	1.304
%CH	-2.9	-1.5	-3.9	-5.0	-12.6	-4.5	7.3
MNMLA	1.97	2.00	2.05	2.19	2.09	2.11	2.42
%CH	0.9	1.5	3.0	6.7	-4.4	0.7	14.7
CPISOUTHNS	1.214	1.251	1.340	1.506	1.646	1.735	1.854
%CH	3.9	3.0	7.1	12.4	9.3	5.4	6.8
EMPLOY722NM	0.800	0.950	1.000	1.000	1.000	1.000	1.000
%CH	0.0	18.7	5.3	0.0	0.0	0.0	0.0
EMPLOY734NM	0.900	0.900	0.925	1.000	1.000	1.000	1.000
%CH	0.0	0.0	2.8	8.1	0.0	0.0	0.0

LP&L STREETLIGHTING TOTAL CONSUMPTION

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
MHSLTLA	39,466	41,992	45,798	48,704	50,741	54,921	58,237	61,326	62,904	65,917	65,278	66,998	69,117
%CH		6.4	9.1	6.3	4.2	8.2	6.0	5.3	2.6	4.8	-1.0	2.6	3.2
CURTLA	226,995	234,819	244,561	253,931	265,088	277,710	286,269	294,679	303,667	312,322	326,597	340,767	351,644
%CH	3.4	3.4	4.1	3.8	4.4	4.8	3.1	2.9	3.1	2.8	4.6	4.3	3.2
BETSYSL		0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH			NC	NC	NC	-100.0	NC	NC	NC	NC	NC	NC	NC
ACCTNG714SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC	NC
ACCTNG721SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC

	1975	1976	1977
MHSLTLA	71,983	75,122	80,073
%CH	4.1	4.4	6.6
CURTLA	361,340	372,912	389,939
%CH	2.8	3.2	4.6
BETSYSL	0.000	0.000	0.000
%CH	NC	NC	NC
ACCTNG714SL	0.000	0.000	0.000
%CH	NC	NC	NC
ACCTNG721SL	0.000	0.000	0.000
%CH	NC	NC	NC

LP&L CO-OPERATIVE TOTAL CONSUMPTION, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
MHWCSALA	187,469	196,241	222,698	249,134	281,842	322,287	365,083	400,692	455,888	522,304	589,494
%CH		4.7	13.5	11.9	13.1	14.4	13.3	9.8	13.8	14.6	12.9
MHRTSALA	734,173	784,997	981,972	1,109,971	1,274,516	1,432,849	1,651,949	1,870,090	2,202,257	2,477,665	2,780,369
%CH		6.9	25.1	13.0	14.8	12.4	15.3	13.2	17.8	12.5	12.2
MHNMSALA	447,159	497,568	537,945	607,986	666,243	739,324	848,850	1,000,139	1,137,535	1,265,288	1,392,263
%CH		11.3	8.1	13.0	9.6	11.0	14.8	17.8	13.7	11.2	10.0

	1971	1972	1973	1974	1975	1976	1977
MHWCSALA	635,720	717,723	782,232	815,452	893,654	971,828	1,093,554
%CH	7.8	12.9	9.0	4.2	9.6	8.7	12.5
MHRTSALA	3,093,404	3,636,004	3,931,038	3,958,656	4,360,501	4,594,000	5,334,429
%CH	11.3	17.5	8.1	0.7	10.2	5.4	16.1
MHNMSALA	1,671,530	2,172,840	2,276,866	2,325,899	2,548,220	2,759,950	3,227,575
%CH	20.1	30.0	4.8	2.2	9.6	8.3	16.9

LP&L MUNICIPAL TOTAL CONSUMPTION, EXCEPT MINDEN & EMERGENCY SALES, SEASONALLY ADJUSTED

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
MHMTLEMSALA	43,937	48,460	59,131	64,436	70,498	75,509	83,076	88,574	94,163	96,784	98,279
%CH		10.3	22.0	9.0	9.4	7.1	10.0	6.6	6.3	2.8	1.5
MHRTSALA	1,274,516	1,432,849	1,651,949	1,870,090	2,202,257	2,477,665	2,780,309	3,093,404	3,636,004	3,931,038	3,958,656
%CH	14.8	12.4	15.3	13.2	17.8	12.5	12.2	11.3	17.5	8.1	0.7

	1975	1976	1977
MHMTLEMSALA	101,729	106,333	119,745
%CH	3.5	4.5	12.6
MHRTSALA	4,360,501	4,594,000	5,334,429
%CH	10.2	5.4	16.1

ENERGY MODEL

ENDOGENOUS AND EXOGENOUS VARIABLES

FORECASTED VALUES

LP&L RESIDENTIAL TOTAL CUSTOMERS

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
CURTLA	416,830	433,249	443,949	455,023	466,357	477,892	489.716	501,861	514,304	526,930	539,653	552,448
%CH	6.9	3.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4
NR21&@LPLCO	1.208193	1.230992	1.253898	1.274909	1.295406	1.316348	1.337898	1.360005	1.382630	1.405815	1.429674	1.454274
%CH	1.7	1.9	1.9	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TH1771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ3	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.135	3.218	3.347	3.450	3.562	3.685	3.811	3.933	4.040	4.140	4.237
%CH	4.5	1.9	2.6	4.0	3.1	3.2	3.4	3.4	3.2	2.7	2.5	2.3
BET654RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BUR664RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&CURTLA	4,808	385	385	385	385	385	385	385	385	385	385	385
%CH		-92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L RESIDENTIAL TOTAL CUSTOMERS (CONT'D)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
CURTLA	565,301	578,219	591,214	604,309	617,505	630,776	644,067	657,376	670,735	684,180	697,752	711,482
%CH	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0
NR21&@LPLCO	1.479625	1.505329	1.530613	1.555371	1.579654	1.603551	1.627123	1.650401	1.673382	1.696055	1.718427	1.740528
%CH	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TH1771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ3	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	4.332	4.429	4.529	4.634	4.740	4.843	4.941	5.043	5.150	5.264	5.384	5.510
%CH	2.2	2.2	2.3	2.3	2.3	2.2	2.0	2.1	2.1	2.2	2.3	2.3
BET654RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BUR664RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&CURTLA	385	385	385	385	385	385	385	385	385	385	385	385
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L RESIDENTIAL TOTAL ALL-ELECTRIC CUSTOMERS

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CUERTLA	45,996	53,467	59,636	66,390	73,697	81,536	89,967	99,021	108,698	118,934	129,677	140,903	152,592
%CH		16.2	11.5	11.3	11.0	10.6	10.3	10.1	9.8	9.4	9.0	8.7	8.3
CURTLA	416,830	433,249	443,949	455,023	466,357	477,892	489,716	501,861	514,304	526,930	539,653	552,448	565,301
%CH	6.9	3.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.135	3.218	3.347	3.450	3.562	3.685	3.811	3.933	4.040	4.140	4.237	4.332
%CH	4.5	1.9	2.6	4.0	3.1	3.2	3.4	3.4	3.2	2.7	2.5	2.3	2.2
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV723TO744	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&CUERTLA	428	0	0	0	0	0	0	0	0	0	0	0	0
%CH		-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CUERTLA	164,737	177,341	189,675	202,064	214,946	228,280	242,056	255,292	268,439	281,631	294,607	307,666	321,000
%CH	8.0	7.7	7.0	6.5	6.4	6.2	6.0	5.5	5.2	4.9	4.6	4.4	4.3
CURTLA	578,219	591,214	604,309	617,505	630,776	644,067	657,376	670,735	684,180	697,752	711,482	725,409	739,576
%CH	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	4.429	4.529	4.634	4.740	4.843	4.941	5.043	5.150	5.264	5.384	5.510	5.644	5.786
%CH	2.2	2.3	2.3	2.3	2.2	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV723TO744	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&CUERTLA	0	0	-300	-300	-300	-300	-300	-700	-700	-900	-1,100	-1,200	-1,300
%CH	NC	NC	NC	0.0	0.0	0.0	0.0	-133.3	0.0	-28.6	-22.2	-9.1	-8.3

LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
M@CRTSALA	14.49	14.89	15.31	15.85	16.42	16.91	17.41	18.00	18.56	19.09
%CH	5.9	2.8	2.8	3.5	3.6	3.0	3.0	3.4	3.1	2.9
EFSATLA	15,635.775	15,977.937	16,263.356	16,540.331	16,828.722	17,137.172	17,435.712	17,733.166	18,031.690	18,317.139
%CH	4.2	2.2	1.8	1.7	1.7	1.8	1.7	1.7	1.7	1.6
RPE	1.058	1.051	1.053	1.043	1.027	1.038	1.035	1.028	1.025	1.020
%CH	0.1	-0.6	0.2	-0.9	-1.6	1.1	-0.3	-0.7	-0.3	-0.5
MPRTLA	2.11	2.25	2.41	2.55	2.68	2.88	3.05	3.20	3.37	3.55
%CH	7.7	6.8	7.1	5.9	4.9	7.5	5.8	5.1	5.4	5.3
CPISOUTHNS	1.992	2.144	2.291	2.449	2.609	2.776	2.945	3.115	3.292	3.482
%CH	7.5	7.6	6.9	6.9	6.6	6.4	6.1	5.8	5.7	5.8
RYP@PNEW	3.078	3.135	3.218	3.347	3.450	3.562	3.685	3.811	3.933	4.040
%CH	4.5	1.9	2.6	4.0	3.1	3.2	3.4	3.4	3.2	2.7
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SAT3RMLA	0.330	0.329	0.326	0.324	0.320	0.315	0.310	0.304	0.298	0.292
%CH	-4.1	-0.5	-0.7	-0.9	-1.1	-1.5	-1.6	-1.9	-2.1	-2.2
SAT3CLA	0.534	0.549	0.562	0.574	0.586	0.600	0.614	0.627	0.640	0.652
%CH	6.8	2.7	2.3	2.1	2.2	2.4	2.2	2.2	2.1	1.9
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNCDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC
SATHTLA	0.110	0.123	0.134	0.146	0.158	0.171	0.184	0.197	0.211	0.226
%CH	14.4	11.9	8.9	8.6	8.3	8.0	7.7	7.4	7.1	6.8
L1DNHDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNHDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
M@CRTSALA	19.60	20.07	20.51	20.96	21.41	21.87	22.32	22.77	23.20	23.63
%CH	2.7	2.4	2.2	2.2	2.2	2.1	2.1	2.0	1.9	1.8
EFSATLA	18,582.395	18,827.930	19,060.078	19,284.486	19,504.529	19,716.063	19,923.514	20,129.869	20,330.999	20,526.603
%CH	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0
RPE	1.014	1.012	1.010	1.006	1.002	0.999	0.997	0.994	0.992	0.990
%CH	-0.6	-0.3	-0.2	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.2
MPRTLA	3.74	3.95	4.17	4.40	4.64	4.90	5.17	5.45	5.75	6.07
%CH	5.2	5.6	5.7	5.5	5.5	5.5	5.5	5.5	5.5	5.5
CPISOUTHNS	3.685	3.900	4.130	4.375	4.633	4.902	5.186	5.486	5.801	6.131
%CH	5.8	5.8	5.9	5.9	5.9	5.8	5.8	5.8	5.7	5.7
RYP@PNEW	4.140	4.237	4.332	4.429	4.529	4.634	4.740	4.843	4.941	5.043
%CH	2.5	2.3	2.2	2.2	2.3	2.3	2.3	2.2	2.0	2.1
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SAT3RMLA	0.285	0.280	0.274	0.269	0.264	0.258	0.253	0.247	0.242	0.237
%CH	-2.1	-2.0	-1.9	-1.9	-2.0	-2.0	-2.1	-2.2	-2.2	-2.1
SAT3CLA	0.664	0.673	0.682	0.691	0.699	0.707	0.715	0.723	0.730	0.737
%CH	1.7	1.5	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNCDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SATHTLA	0.240	0.255	0.270	0.285	0.300	0.314	0.327	0.341	0.354	0.368
%CH	6.5	6.1	5.8	5.5	5.3	4.6	4.3	4.1	4.0	3.9
L1DNHDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNHDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
M@CRTSALA	24.05	24.47	24.91	25.36	25.82	26.30
%CH	1.8	1.8	1.8	1.8	1.8	1.9
EFSATLA	20,709.964	20,889.377	21,067.811	21,243.013	21,417.649	21,593.174
%CH	0.9	0.9	0.9	0.8	0.8	0.8
RPE	0.989	0.988	0.987	0.986	0.984	0.983
%CH	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2
MPRTLA	6.40	6.75	7.13	7.52	7.93	8.37
%CH	5.5	5.5	5.5	5.5	5.5	5.5
CPISOUTHNS	6.476	6.839	7.222	7.627	8.057	8.513
%CH	5.6	5.6	5.6	5.6	5.6	5.7
RYP@PNEW	5.150	5.264	5.384	5.510	5.644	5.786
%CH	2.1	2.2	2.3	2.3	2.4	2.5
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
SAT3RMLA	0.232	0.227	0.221	0.216	0.210	0.205
%CH	-2.1	-2.2	-2.3	-2.5	-2.6	-2.7
SAT3CLA	0.744	0.750	0.757	0.764	0.771	0.778
%CH	0.9	0.9	0.9	0.9	0.9	0.9
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
L1DNCDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
SATHTLA	0.381	0.392	0.404	0.414	0.424	0.434
%CH	3.4	3.1	2.9	2.6	2.4	2.3
L1DNHDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
L1DNHDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC

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LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MH1329SALA	2,157,417	2,323,468	2,545,213	2,765,978	2,847,857	2,951,460	3,079,727	3,232,781	3,347,395	3,448,147	3,562,722
%CH	11.3	7.7	9.5	8.7	3.0	3.6	4.3	5.0	3.5	3.0	3.3
JQIND29	1.438	1.487	1.539	1.599	1.639	1.685	1.731	1.778	1.812	1.835	1.860
%CH	1.7	3.4	3.5	3.9	2.5	2.8	2.7	2.7	1.9	1.3	1.3
E29	0.208	0.208	0.207	0.208	0.214	0.219	0.222	0.225	0.226	0.226	0.226
%CH	-0.4	-0.2	-0.4	0.5	2.7	2.5	1.5	1.1	0.7	0.1	0.0
E29LA	3,138.496	3,272.981	3,402.871	3,547.810	3,642.529	3,749.691	3,855.434	3,962.654	4,039.384	4,093.154	4,147.962
%CH	7.2	4.3	4.0	4.3	2.7	2.9	2.8	2.8	1.9	1.3	1.3
RECLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMP1329	0.305	0.276	0.275	0.274	0.268	0.272	0.273	0.274	0.272	0.266	0.260
%CH	3.9	-9.5	-0.3	-0.4	-2.3	1.4	0.5	0.1	-0.6	-2.0	-2.5
WMPT1329LA	0.983	0.996	1.116	1.224	1.318	1.470	1.597	1.713	1.845	1.980	2.120
%CH	10.7	1.3	12.0	9.7	7.7	11.5	8.6	7.3	7.7	7.3	7.1
WPI05	3.221	3.606	4.050	4.460	4.916	5.407	5.845	6.264	6.784	7.430	8.164
%CH	6.6	12.0	12.3	10.1	10.2	10.0	8.1	7.2	8.3	9.5	9.9
UNCLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHELL29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIKES29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1329SALA	34,219	0	0	0	0	0	0	0	0	0	0
%CH		-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED (CONT'D)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MH1329SALA	3,686,747	3,820,810	3,982,262	4,180,151	4,383,236	4,575,010	4,765,381	4,968,158	5,181,452	5,413,845	5,675,375
%CH	3.5	3.6	4.2	5.0	4.9	4.4	4.2	4.3	4.3	4.5	4.8
JQIND29	1.886	1.915	1.951	1.999	2.052	2.101	2.148	2.197	2.248	2.304	2.366
%CH	1.4	1.5	1.9	2.5	2.6	2.4	2.3	2.3	2.3	2.5	2.7
E29	0.226	0.227	0.228	0.229	0.232	0.234	0.236	0.237	0.239	0.241	0.244
%CH	0.0	0.1	0.4	0.8	1.0	0.9	0.8	0.8	0.8	0.9	1.1
E29LA	4,206.653	4,271.564	4,353.427	4,461.112	4,577.724	4,687.896	4,793.562	4,902.953	5,016.656	5,139.918	5,279.655
%CH	1.4	1.5	1.9	2.5	2.6	2.4	2.3	2.3	2.3	2.5	2.7
RECLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMP1329	0.253	0.246	0.240	0.235	0.234	0.234	0.234	0.234	0.234	0.234	0.234
%CH	-2.5	-2.7	-2.8	-1.9	-0.4	-0.1	-0.1	0.0	0.1	0.1	0.1
WMPT1329LA	2.277	2.445	2.619	2.803	2.999	3.209	3.433	3.674	3.931	4.206	4.501
%CH	7.4	7.4	7.1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
WPI05	8.993	9.928	10.935	11.924	12.808	13.718	14.686	15.713	16.804	17.962	19.196
%CH	10.2	10.4	10.1	9.0	7.4	7.1	7.1	7.0	6.9	6.9	6.9
UNCLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHELL29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIKES29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1329SALA	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29,
SEASONALLY ADJUSTED (CONT'D)

	2000	2001	2002	2003
MH1329SALA	5,950,650	6,231,713	6,524,390	6,822,725
%CH	4.9	4.7	4.7	4.6
JQIND29	2.433	2.502	2.573	2.645
%CH	2.8	2.8	2.8	2.8
E29	0.247	0.251	0.254	0.258
%CH	1.3	1.4	1.5	1.5
E29LA	5,429.181	5,582.548	5,741.044	5,901.484
%CH	2.8	2.8	2.8	2.8
RECLASS29	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
RWMP1329	0.235	0.235	0.235	0.235
%CH	0.1	0.1	0.1	0.1
WMPT1329LA	4.816	5.153	5.513	5.899
%CH	7.0	7.0	7.0	7.0
WPI05	20.512	21.921	23.431	25.054
%CH	6.9	6.9	6.9	6.9
UNCLASS29	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
SHELL29	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
STRIKES29	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
&MH1329SALA	0	0	0	0
%CH	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH1432SALA	159,311	126,237	136,349	143,305	143,548	148,715	153,668	157,791	161,446	164,189
%CH	10.9	-20.8	8.0	5.1	0.2	3.6	3.3	2.7	2.3	1.7
JQIND32	1.581	1.553	1.689	1.801	1.779	1.869	1.982	2.053	2.099	2.134
%CH	8.2	-1.7	8.7	6.6	-1.2	5.1	6.0	3.6	2.2	1.7
E32	0.696	0.675	0.684	0.720	0.719	0.726	0.744	0.754	0.755	0.746
%CH	6.6	-3.0	1.4	5.3	-0.2	1.1	2.5	1.3	0.1	-1.1
E32LA	3,388.176	3,370.224	3,326.635	3,478.081	3,504.463	3,526.755	3,621.122	3,706.179	3,761.106	3,779.694
%CH	5.4	-0.5	-1.3	4.6	0.8	0.6	2.7	2.3	1.5	0.5
RELPNG1432	0.012	0.010	0.010	0.009	0.009	0.009	0.009	0.010	0.010	0.010
%CH	44.8	-22.1	-0.7	-1.3	-2.5	2.0	0.6	0.4	1.4	1.1
TYPT1432LA	1.672	1.698	1.902	2.086	2.247	2.506	2.722	2.921	3.145	3.374
%CH	13.5	1.5	12.0	9.7	7.7	11.5	8.6	7.3	7.7	7.3
TYPTNGITLA	165.99	175.55	198.05	220.20	243.26	265.79	286.97	306.60	325.64	345.51
%CH	-5.7	5.8	12.8	11.2	10.5	9.3	8.0	6.8	6.2	6.1
INTERSTATE14	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JMANS32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAUREN32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOW32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1432SALA	8,978	-17,009	-17,565	-18,122	-18,678	-19,235	-19,791	-20,000	-20,000	-20,000
%CH		NM	-3.3	-3.2	-3.1	-3.0	-2.9	-1.1	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MH1432SALA	168,344	172,613	176,759	180,103	182,347	184,452	186,688	189,230	192,002	195,069
%CH	2.5	2.5	2.4	1.9	1.2	1.2	1.2	1.4	1.5	1.6
JQIND32	2.191	2.246	2.301	2.353	2.396	2.436	2.475	2.519	2.572	2.633
%CH	2.7	2.5	2.5	2.2	1.8	1.7	1.6	1.8	2.1	2.4
E32	0.739	0.731	0.723	0.714	0.702	0.688	0.674	0.659	0.646	0.636
%CH	-1.0	-1.0	-1.1	-1.3	-1.7	-1.9	-2.1	-2.1	-1.9	-1.7
E32LA	3,806.509	3,839.729	3,872.737	3,886.892	3,861.727	3,822.904	3,782.596	3,744.164	3,707.742	3,678.368
%CH	0.7	0.9	0.9	0.4	-0.6	-1.0	-1.1	-1.0	-1.0	-0.8
RELPNG1432	0.010	0.010	0.010	0.010	0.011	0.011	0.011	0.011	0.011	0.011
%CH	1.1	1.5	1.8	1.6	1.4	1.4	1.4	1.4	1.4	1.4
TYPT1432LA	3.614	3.881	4.168	4.465	4.777	5.112	5.470	5.852	6.262	6.701
%CH	7.1	7.4	7.4	7.1	7.0	7.0	7.0	7.8	7.0	7.0
TYPTNGITLA	366.15	387.29	408.63	430.96	454.66	479.67	506.05	533.88	563.24	594.22
%CH	6.0	5.8	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
INTERSTATE14	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JMANS32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAUREN32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOW32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1432SALA	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH1432SALA	198,585	202,373	206,126	209,877	213,795	217,583
%CH	1.8	1.9	1.9	1.8	1.9	1.8
JQIND32	2.707	2.792	2.880	2.973	3.074	3.171
%CH	2.8	3.1	3.2	3.2	3.4	3.2
E32	0.627	0.622	0.618	0.615	0.613	0.611
%CH	-1.3	-0.9	-0.6	-0.5	-0.3	-0.3
E32LA	3,659.146	3,649.787	3,645.151	3,642.255	3,643.093	3,645.570
%CH	-0.5	-0.3	-0.1	-0.1	0.0	0.1
RELPNG1432	0.011	0.012	0.012	0.012	0.012	0.012
%CH	1.4	1.4	1.4	1.4	1.4	1.4
TYPT1432LA	7.170	7.671	8.208	8.783	9.398	10.056
%CH	7.0	7.0	7.0	7.0	7.0	7.0
TYPTNGITLA	626.90	661.38	697.76	736.14	776.62	819.34
%CH	5.5	5.5	5.5	5.5	5.5	5.5
INTERSTATE14	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
JMANS32	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
LAUREN32	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
DOW32	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
&MH1432SALA	-20,000	-20,000	-20,000	-20,000	-20,000	-20,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH20SALA	217,474	215,172	217,495	220,588	224,031	229,258	234,425	239,016	243,143	246,953
%CH	7.5	-1.1	1.1	1.4	1.6	2.3	2.3	2.0	1.7	1.6
JQIND20	1.428	1.467	1.510	1.551	1.600	1.663	1.724	1.778	1.829	1.878
%CH	3.5	2.7	2.9	2.7	3.2	3.9	3.6	3.2	2.9	2.7
E20	1.690	1.672	1.676	1.676	1.672	1.680	1.683	1.681	1.673	1.663
%CH	-1.8	-1.1	0.2	0.0	-0.2	0.4	0.2	-0.2	-0.5	-0.6
E20LA	11,425.351	11,428.984	11,337.024	11,301.866	11,218.463	11,269.317	11,311.499	11,307.607	11,262.683	11,190.337
%CH	1.2	0.0	-0.8	-0.3	-0.7	0.5	0.4	0.0	-0.4	-0.6
SUGAR20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAG20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH20SALA	7,082	0	0	0	0	0	0	0	0	0
%CH		-100.0	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MH20SALA	250,860	254,867	258,458	261,755	264,903	268,085	271,210	274,338	277,738	281,442
%CH	1.6	1.6	1.4	1.3	1.2	1.2	1.2	1.2	1.2	1.3
JOIND20	1.929	1.981	2.029	2.076	2.122	2.170	2.217	2.265	2.317	2.373
%CH	2.7	2.7	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.4
E20	1.652	1.642	1.629	1.615	1.600	1.585	1.570	1.555	1.541	1.528
%CH	-0.6	-0.6	-0.8	-0.9	-0.9	-0.9	-0.9	-1.0	-0.9	-0.8
E20LA	11,114.526	11,045.235	10,955.586	10,845.165	10,723.362	10,601.819	10,478.758	10,353.420	10,238.880	10,136.860
%CH	-0.7	-0.6	-0.8	-1.0	-1.1	-1.1	-1.2	-1.2	-1.1	-1.0
SUGAR20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAG20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH20SALA	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH20SALA	285,446	289,773	294,252	298,687	303,083	307,364
%CH	1.4	1.5	1.5	1.5	1.5	1.4
JQIND20	2.433	2.497	2.563	2.629	2.696	2.762
%CH	2.5	2.6	2.6	2.6	2.5	2.5
E20	1.516	1.505	1.495	1.485	1.474	1.463
%CH	-0.8	-0.7	-0.7	-0.7	-0.7	-0.8
E20LA	10,048.470	9,971.153	9,901.846	9,828.939	9,751.718	9,669.392
%CH	-0.9	-0.8	-0.7	-0.7	-0.8	-0.8
SUGAR20	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS20	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
BAG20	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
&MH20SALA	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH2223SALA	23,345	24,166	26,632	29,800	31,674	34,291	36,878	39,567	42,150	44,610
%CH	18.9	3.5	10.2	11.9	6.3	8.3	7.5	7.3	6.5	5.8
JQIND22	1.397	1.398	1.475	1.599	1.627	1.728	1.834	1.927	1.995	2.050
%CH	1.8	0.1	5.5	8.4	1.7	6.2	6.1	5.1	3.6	2.7
JQIND23	1.256	1.270	1.336	1.426	1.455	1.518	1.577	1.635	1.683	1.724
%CH	1.2	1.1	5.1	6.8	2.0	4.3	3.9	3.7	2.9	2.5
E22	0.910	0.883	0.874	0.898	0.899	0.915	0.938	0.959	0.973	0.980
%CH	-7.3	-2.9	-1.1	2.8	0.1	1.8	2.5	2.3	1.5	0.7
E23	1.315	1.296	1.310	1.367	1.371	1.383	1.391	1.396	1.395	1.385
%CH	2.1	-1.4	1.1	4.3	0.3	0.8	0.6	0.4	-0.1	-0.7
E2223LA	8,089.485	8,688.751	9,280.744	10,252.290	10,845.497	11,575.522	12,332.054	13,067.273	13,743.065	14,337.134
%CH	7.2	7.4	6.8	10.5	5.8	6.7	6.5	6.0	5.2	4.3
RELPDI2223	0.400	0.369	0.359	0.356	0.361	0.373	0.373	0.368	0.366	0.364
%CH	19.0	-7.8	-2.8	-0.7	1.4	3.3	-0.1	-1.1	-0.6	-0.7
TYPT2223LA	2.008	2.040	2.285	2.506	2.700	3.011	3.271	3.509	3.778	4.054
%CH	14.1	1.6	12.0	9.7	7.7	11.5	8.6	7.3	7.7	7.3
WPI0574	5.013	5.523	6.370	7.033	7.476	8.069	8.777	9.523	10.311	11.144
%CH	-4.0	10.2	15.3	10.4	6.3	7.9	8.8	8.5	8.3	8.1
UNCLASS2223	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH2223SALA	1,540	0	0	0	0	0	0	0	0	0
%CH		-100.0	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MH2223SALA	47,251	50,026	52,955	55,996	59,115	62,296	65,474	68,675	72,056	75,626
%CH	5.9	5.9	5.9	5.7	5.6	5.4	5.1	4.9	4.9	5.0
JQIND22	2.113	2.182	2.259	2.340	2.417	2.492	2.560	2.622	2.689	2.762
%CH	3.1	3.3	3.5	3.6	3.3	3.1	2.7	2.4	2.5	2.7
JQIND23	1.769	1.816	1.870	1.926	1.984	2.042	2.097	2.149	2.205	2.264
%CH	2.6	2.7	2.9	3.0	3.0	2.9	2.7	2.5	2.6	2.7
E22	0.986	0.992	1.000	1.009	1.018	1.025	1.030	1.033	1.036	1.039
%CH	0.6	0.7	0.8	0.9	0.8	0.7	0.5	0.3	0.2	0.3
E23	1.375	1.365	1.357	1.349	1.342	1.334	1.324	1.311	1.298	1.286
%CH	-0.7	-0.7	-0.6	-0.6	-0.5	-0.6	-0.8	-1.0	-1.0	-0.9
E2223LA	14,929.798	15,528.297	16,138.679	16,768.523	17,396.816	18,019.447	18,620.667	19,190.535	19,767.945	20,360.067
%CH	4.1	4.0	3.9	3.9	3.7	3.6	3.3	3.1	3.0	3.0
RELPOI2223	0.361	0.360	0.360	0.362	0.364	0.365	0.367	0.369	0.371	0.372
%CH	-0.8	-0.4	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5
TYPT2223LA	4.343	4.663	5.008	5.365	5.740	6.142	6.572	7.032	7.524	8.051
%CH	7.1	7.4	7.4	7.1	7.0	7.0	7.0	7.0	7.0	7.0
WPI0574	12.028	12.963	13.896	14.820	15.783	16.809	17.902	19.065	20.305	21.624
%CH	7.9	7.8	7.2	6.6	6.5	6.5	6.5	6.5	6.5	6.5
UNCLASS2223	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH2223SALA	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH2223SALA	79,454	83,604	87,981	92,538	97,302	102,235
%CH	5.1	5.2	5.2	5.2	5.1	5.1
JQIND22	2.846	2.946	3.052	3.161	3.274	3.385
%CH	3.1	3.5	3.6	3.6	3.6	3.4
JQIND23	2.328	2.399	2.474	2.550	2.629	2.708
%CH	2.8	3.0	3.1	3.1	3.1	3.0
E22	1.044	1.053	1.064	1.076	1.088	1.100
%CH	0.5	0.8	1.0	1.1	1.1	1.1
E23	1.275	1.266	1.258	1.250	1.241	1.232
%CH	-0.9	-0.7	-0.6	-0.7	-0.7	-0.7
E2223LA	20,983.288	21,657.467	22,370.255	23,103.885	23,859.467	24,629.905
%CH	3.1	3.2	3.3	3.3	3.3	3.2
RELPOI2223	0.374	0.376	0.378	0.379	0.381	0.383
%CH	0.5	0.5	0.5	0.5	0.5	0.5
TYPT2223LA	8.614	9.217	9.863	10.553	11.292	12.082
%CH	7.0	7.0	7.0	7.0	7.0	7.0
WPI0574	23.030	24.527	26.121	27.819	29.627	31.553
%CH	6.5	6.5	6.5	6.5	6.5	6.5
UNCLASS2223	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
&MH2223SALA	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25, & 26, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
MH242526SALA	1,044,781	987,650	1,026,059	1,077,044	1,101,010	1,164,768	1,238,622	1,297,873	1,343,257
%CH	7.0	-5.5	3.9	5.0	2.2	5.8	6.3	4.8	3.5
JQIND24	1.379	1.317	1.429	1.511	1.512	1.629	1.731	1.776	1.803
%CH	3.1	-4.5	8.5	5.7	0.1	7.7	6.3	2.6	1.5
JQIND25	1.556	1.584	1.642	1.729	1.771	1.878	2.000	2.111	2.208
%CH	10.4	1.8	3.7	5.3	2.4	6.0	6.5	5.6	4.6
JQIND26	1.442	1.446	1.506	1.587	1.630	1.720	1.816	1.902	1.979
%CH	4.8	0.3	4.2	5.4	2.7	5.5	5.6	4.7	4.1
E24	0.749	0.731	0.741	0.793	0.785	0.797	0.807	0.804	0.798
%CH	16.6	-2.4	1.4	7.1	-1.0	1.5	1.3	-0.4	-0.7
E25	0.485	0.481	0.488	0.505	0.508	0.524	0.544	0.562	0.578
%CH	-4.9	-1.0	1.6	3.5	0.7	3.1	3.8	3.4	2.7
E26	0.701	0.685	0.687	0.703	0.707	0.717	0.729	0.739	0.746
%CH	0.4	-2.3	0.4	2.3	0.5	1.4	1.8	1.3	1.0
E242526LA	22,845.416	22,577.880	22,136.896	22,810.467	22,705.921	22,967.814	23,545.432	23,875.045	24,011.303
%CH	0.8	-1.2	-2.0	3.0	-0.5	1.2	2.5	1.4	0.6
RELPNG242526	0.011	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
%CH	44.1	-22.2	-0.7	-1.3	-2.5	2.0	0.6	0.4	1.4
TYPT242526LA	1.465	1.487	1.666	1.827	1.968	2.195	2.384	2.558	2.754
%CH	12.9	1.5	12.0	9.7	7.7	11.5	8.6	7.3	7.7
TYPTNGITLA	165.99	175.55	198.05	220.20	243.26	265.79	286.97	306.60	325.64
%CH	-5.7	5.8	12.8	11.2	10.5	9.3	8.0	6.8	6.2
RELPWA242526	0.231	0.219	0.228	0.232	0.231	0.239	0.242	0.241	0.242
%CH	3.0	-4.8	4.0	1.5	-0.2	3.4	1.0	0.0	0.3
AHEM@LA	6.353	6.776	7.297	7.890	8.516	9.178	9.871	10.593	11.368
%CH	9.6	6.7	7.7	8.1	7.9	7.8	7.5	7.3	7.3
UNCLASS24	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH242526SALA	35,071	6,207	5,052	3,897	2,743	1,588	433	0	0
%CH		-82.3	-18.6	-22.9	-29.6	-42.1	-72.7	-100.0	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25 & 26, SEASONALLY ADJUSTED (CONT'D)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
MH242526SALA	1,368,152	1,398,065	1,432,006	1,466,846	1,501,797	1,533,668	1,557,167	1,579,543	1,600,096
%CH	1.9	2.2	2.4	2.4	2.4	2.1	1.5	1.4	1.3
JOIND24	1.822	1.862	1.898	1.931	1.958	1.976	1.990	2.001	2.017
%CH	1.0	2.2	1.9	1.7	1.4	0.9	0.7	0.6	0.8
JOIND25	2.289	2.367	2.446	2.525	2.605	2.684	2.761	2.836	2.909
%CH	3.6	3.4	3.3	3.3	3.1	3.0	2.9	2.7	2.6
JOIND26	2.042	2.107	2.177	2.251	2.326	2.400	2.474	2.545	2.614
%CH	3.2	3.2	3.4	3.4	3.3	3.2	3.1	2.9	2.7
E24	0.792	0.787	0.781	0.772	0.761	0.749	0.744	0.737	0.731
%CH	-0.7	-0.6	-0.8	-1.2	-1.4	-1.6	-0.6	-1.0	-0.8
E25	0.589	0.599	0.608	0.617	0.625	0.633	0.640	0.646	0.652
%CH	1.9	1.7	1.5	1.4	1.4	1.2	1.1	1.0	0.9
E26	0.750	0.753	0.756	0.760	0.764	0.767	0.770	0.773	0.774
%CH	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.2
E242526LA	23,935.204	23,841.646	23,772.218	23,690.326	23,602.838	23,472.285	23,312.489	23,132.727	22,938.602
%CH	-0.3	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7	-0.8	-0.8
RELPNG242526	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.010
%CH	1.1	1.1	1.5	1.8	1.6	1.4	1.4	1.4	1.4
TYPT242526LA	2.955	3.166	3.399	3.651	3.911	4.184	4.477	4.791	5.126
%CH	7.3	7.1	7.4	7.4	7.1	7.0	7.0	7.0	7.0
TYPTNGITLA	345.51	366.15	387.29	408.63	430.96	454.66	479.67	506.05	533.88
%CH	6.1	6.0	5.8	5.5	5.5	5.5	5.5	5.5	5.5
RELPWA242526	0.242	0.241	0.241	0.241	0.240	0.239	0.237	0.236	0.235
%CH	-0.1	-0.3	-0.1	-0.1	-0.4	-0.5	-0.5	-0.5	-0.5
AHEM9LA	12.211	13.120	14.098	15.152	16.294	17.529	18.857	20.283	21.809
%CH	7.4	7.4	7.4	7.5	7.5	7.6	7.6	7.6	7.5
UNCLAS524	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
[illegible]H242526SALA	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25 & 26, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
MH242526SALA	1,619,278	1,638,974	1,662,763	1,691,942	1,723,119	1,754,939	1,788,083	1,819,872
%CH	1.2	1.2	1.5	1.8	1.8	1.8	1.9	1.8
JQIND24	2.037	2.063	2.101	2.147	2.193	2.241	2.295	2.340
%CH	1.0	1.3	1.8	2.2	2.1	2.2	2.4	2.0
JQIND25	2.985	3.063	3.146	3.237	3.330	3.426	3.525	3.625
%CH	2.6	2.6	2.7	2.9	2.9	2.9	2.9	2.8
JQIND26	2.689	2.769	2.856	2.953	3.054	3.158	3.265	3.374
%CH	2.9	3.0	3.2	3.4	3.4	3.4	3.4	3.3
E24	0.732	0.737	0.746	0.759	0.773	0.788	0.804	0.819
%CH	0.1	0.7	1.3	1.7	1.8	1.9	2.0	1.9
E25	0.658	0.664	0.670	0.677	0.684	0.691	0.699	0.707
%CH	0.9	0.9	0.9	1.0	1.1	1.1	1.1	1.1
E26	0.776	0.778	0.781	0.785	0.789	0.793	0.798	0.802
%CH	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.5
E242526LA	22,770.336	22,630.459	22,535.406	22,496.426	22,481.425	22,472.099	22,473.835	22,473.823
%CH	-0.7	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0
RELPNG242526	0.010	0.010	0.010	0.010	0.010	0.010	0.011	0.011
%CH	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
TYPT242526LA	5.485	5.869	6.280	6.719	7.190	7.693	8.231	8.808
%CH	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
TYPTNGITLA	563.24	594.22	626.90	661.38	697.76	736.14	776.62	819.34
%CH	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
RELPWA242526	0.234	0.233	0.233	0.232	0.232	0.231	0.231	0.230
%CH	-0.4	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2
AHEM@LA	23.435	25.162	26.992	28.940	31.023	33.257	35.660	38.250
%CH	7.5	7.4	7.3	7.2	7.2	7.2	7.2	7.3
UNCLASS24	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
&MH242526SALA	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC

LP&L INDUSTRIAL CONSUMPTION IN SICS 27, 38 & 39, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH273839SALA	33,094	35,037	35,783	36,564	37,240	38,197	39,194	40,173	41,056	41,833
%CH	10.3	5.9	2.1	2.2	1.8	2.6	2.6	2.5	2.2	1.9
JQIND39	1.539	1.569	1.674	1.817	1.926	2.079	2.228	2.373	2.500	2.609
%CH	3.2	2.0	6.7	8.5	6.0	7.9	7.2	6.5	5.4	4.3
E39	0.453	0.446	0.442	0.451	0.457	0.466	0.474	0.480	0.482	0.481
%CH	8.4	-1.6	-1.0	2.1	1.2	2.0	1.7	1.3	0.5	-0.3
E3839LA	1,209.149	1,284.985	1,272.304	1,277.682	1,289.939	1,315.945	1,349.231	1,381.685	1,406.943	1,422.389
%CH	9.7	6.3	-1.0	0.4	1.0	2.0	2.5	2.4	1.8	1.1
UNCLASS273839	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH273839SALA	3,147	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
%CH		27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MH273839SALA	42,587	43,388	44,219	44,998	45,726	46,447	47,110	47,717	48,335	48,979
%CH	1.8	1.9	1.9	1.8	1.6	1.6	1.4	1.3	1.3	1.3
JQIND39	2.716	2.836	2.965	3.080	3.185	3.290	3.385	3.478	3.577	3.684
%CH	4.1	4.4	4.5	3.9	3.4	3.3	2.9	2.7	2.8	3.0
E39	0.478	0.475	0.472	0.468	0.462	0.455	0.448	0.439	0.430	0.422
%CH	-0.7	-0.6	-0.6	-0.9	-1.3	-1.5	-1.7	-1.9	-1.9	-1.9
E3839LA	1,431.653	1,439.935	1,449.003	1,455.770	1,457.365	1,456.158	1,449.902	1,437.539	1,423.609	1,410.260
%CH	0.7	0.6	0.6	0.5	0.1	-0.1	-0.4	-0.9	-1.0	-0.9
UNCLASS273839	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH273839SALA	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 27, 38 & 39, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH273839SALA	49,660	50,383	51,136	51,906	52,687	53,469
%CH	1.4	1.5	1.5	1.5	1.5	1.5
JQIND39	3.800	3.928	4.065	4.206	4.351	4.496
%CH	3.2	3.4	3.5	3.5	3.5	3.3
E39	0.415	0.408	0.402	0.395	0.389	0.383
%CH	-1.8	-1.7	-1.6	-1.5	-1.6	-1.6
E3839LA	1,398.257	,387.990	1,379.117	1,370.747	1,362.637	1,354.152
%CH	-0.9	-0.7	-0.6	-0.6	-0.6	-0.6
UNCLASS273839	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
&MH273839SALA	4,000	4,000	4,000	4,000	4,000	4,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 28 & 30, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
I2830SALA	4,633,977	5,851,347	6,190,594	6,941,136	7,106,841	7,509,510	7,990,114	8,575,982	9,347,969	10,075,360
:H	5.9	26.3	5.8	12.1	2.4	5.7	6.4	7.3	9.0	7.8
)IND28	1.896	1.950	2.085	2.280	2.373	2.531	2.713	2.910	3.085	3.240
:H	4.9	2.8	6.9	9.3	4.1	6.6	7.2	7.3	6.0	5.0
:8	1.087	1.084	1.089	1.117	1.123	1.132	1.151	1.171	1.189	1.201
:H	2.8	-0.3	0.5	2.6	0.5	0.8	1.7	1.7	1.5	1.0
:830NSLA	15,574	15,922	16,130	16,829	17,515	18,098	18,815	19,649	20,509	21,268
:H	1.3	2.2	1.3	4.3	4.1	3.3	4.0	4.4	4.4	3.7
ICARA28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
:H	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRIKE28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
:H	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HEM28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
:H	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MH2830SALA	-2,200	960,000	910,000	1,060,000	760,000	560,000	360,000	160,000	160,000	160,000
:H		NM	-5.2	16.5	-28.3	-26.3	-35.7	-55.6	0.0	0.0

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
H2830SALA	10,820,696	11,609,837	12,465,884	13,418,963	14,420,740	15,451,557	16,475,240	17,487,237	18,545,450	19,668,973
CH	7.4	7.3	7.4	7.6	7.5	7.1	6.6	6.1	6.1	6.1
QIND28	3.401	3.572	3.758	3.966	4.175	4.384	4.583	4.775	4.978	5.192
CH	5.0	5.0	5.2	5.5	5.3	5.0	4.5	4.2	4.2	4.3
28	1.210	1.219	1.228	1.239	1.250	1.261	1.269	1.275	1.279	1.283
CH	0.8	0.7	0.7	0.9	0.9	0.8	0.7	0.5	0.4	0.3
2830NSLA	21,928	22,554	23,177	23,845	24,552	25,256	25,923	26,516	27,059	27,590
CH	3.1	2.9	2.8	2.9	3.0	2.9	2.6	2.3	2.0	2.0
NCARA28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRIKE28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HEM28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MH2830SALA	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000	160,000
CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 28 & 30, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH2830SALA	20,904,559	22,310,760	23,862,997	25,553,407	27,396,953	29,354,824
%CH	6.3	6.7	7.0	7.1	7.2	7.1
JQIND28	5.427	5.696	5.986	6.295	6.626	6.968
%CH	4.5	5.0	5.1	5.2	5.3	5.2
E28	1.288	1.295	1.304	1.315	1.326	1.339
%CH	0.4	0.5	0.7	0.8	0.9	0.9
E2830NSLA	28,138	28,751	29,446	30,205	31,016	31,875
%CH	2.0	2.2	2.4	2.6	2.7	2.8
UNCARA28	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
STRIKE28	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
CHEM28	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
&MH2830SALA	160,000	160,000	160,000	160,000	160,000	160,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH3334XKASALA	240,690	264,149	401,234	806,207	808,576	817,212	829,820	847,836	866,793	882,979
%CH	-6.0	9.7	51.9	100.9	0.3	1.1	1.5	2.2	2.2	1.9
JQIND33	1.179	1.205	1.236	1.296	1.265	1.324	1.414	1.499	1.567	1.607
%CH	6.8	2.2	2.6	4.9	-2.4	4.6	6.8	6.0	4.5	2.6
E33	1.204	1.210	1.220	1.227	1.193	1.194	1.214	1.240	1.258	1.261
%CH	0.1	0.5	0.8	0.5	-2.8	0.1	1.7	2.1	1.5	0.2
E33LA	4,438.942	4,679.000	4,829.190	5,050.787	5,202.349	5,347.349	5,539.240	5,761.094	5,983.755	6,180.123
%CH	6.0	5.4	3.2	4.6	3.0	2.8	3.6	4.0	3.9	3.3
JQIND34	1.425	1.424	1.476	1.533	1.528	1.600	1.701	1.795	1.874	1.932
%CH	8.8	0.0	3.7	3.9	-0.3	4.7	6.3	5.5	4.4	3.1
E34	1.650	1.655	1.669	1.700	1.681	1.702	1.733	1.761	1.793	1.809
%CH	13.7	0.3	0.8	1.8	-1.1	1.2	1.8	1.6	1.9	0.8
E34NSLA	7,251	7,463	7,532	7,792	7,840	7,998	8,331	8,731	9,113	9,417
%CH	2.9	2.9	0.9	3.4	0.6	2.0	4.2	4.8	4.4	3.3
RELPOI3334XKA	0.291	0.268	0.261	0.259	0.262	0.271	0.271	0.268	0.266	0.264
%CH	17.7	-7.8	-2.8	-0.7	1.4	3.3	-0.1	-1.1	-0.6	-0.7
TYPT3334XKALA	1.459	1.481	1.659	1.819	1.960	2.186	2.374	2.548	2.743	2.943
%CH	12.9	1.5	12.0	9.7	7.7	11.5	8.6	7.3	7.7	7.3
WPI0574	5.013	5.523	6.370	7.033	7.476	8.069	8.777	9.523	10.311	11.144
%CH	-4.0	10.2	15.3	10.4	6.3	7.9	8.8	8.5	8.3	8.1
DIBAN33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
UNCLASS34	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH3334XKASALA	19,243	22,435	148,261	534,087	529,913	525,739	521,565	520,000	520,000	520,000
%CH		16.6	560.9	260.2	-0.8	-0.8	-0.8	-0.3	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MH3334XKASALA	898,748	914,795	931,231	946,723	961,685	976,630	991,040	1,005,261	1,020,041	1,035,403
%CH	1.8	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.5	1.5
JQIND33	1.645	1.688	1.738	1.788	1.836	1.882	1.923	1.961	2.003	2.048
%CH	2.4	2.6	3.0	2.9	2.6	2.5	2.2	2.0	2.1	2.3
E33	1.259	1.258	1.257	1.258	1.257	1.255	1.251	1.244	1.238	1.233
%CH	-0.1	-0.1	-0.1	0.1	-0.1	-0.2	-0.3	-0.5	-0.5	-0.4
E33LA	6,349.478	6,504.539	6,654.140	6,801.296	6,942.576	7,078.076	7,206.443	7,325.874	7,440.194	7,553.641
%CH	2.7	2.4	2.3	2.2	2.1	2.0	1.8	1.7	1.6	1.5
JQIND34	1.991	2.049	2.109	2.167	2.221	2.274	2.322	2.368	2.417	2.468
%CH	3.1	2.9	2.9	2.8	2.5	2.4	2.1	2.0	2.1	2.1
E34	1.824	1.837	1.848	1.857	1.863	1.865	1.864	1.859	1.854	1.850
%CH	0.9	0.7	0.6	0.5	0.3	0.1	-0.1	-0.3	-0.3	-0.2
E34NSLA	9,682	9,933	10,181	10,431	10,669	10,897	11,110	11,304	11,499	11,703
%CH	2.8	2.6	2.5	2.5	2.3	2.1	2.0	1.8	1.7	1.8
RELPOI3334XKA	0.262	0.261	0.262	0.263	0.264	0.265	0.267	0.268	0.269	0.270
%CH	-0.8	-0.4	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.5
TYPT3334XKALA	3.153	3.385	3.636	3.895	4.167	4.459	4.771	5.105	5.462	5.845
%CH	7.1	7.4	7.4	7.1	7.0	7.0	7.0	7.0	7.0	7.0
WPI0574	12.028	12.963	13.896	14.820	15.783	16.809	17.902	19.065	20.305	21.624
%CH	7.9	7.8	7.2	6.6	6.5	6.5	6.5	6.5	6.5	6.5
DIBAN33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
UNCLASS34	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH3334XKASALA	520,000	520,000	520,000	520,000	520,000	520,000	520,000	520,000	520,000	520,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34,
EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
MH3334XKASALA	1,051,674	1,069,257	1,087,449	1,105,989	1,125,064	1,144,501
%CH	1.6	1.7	1.7	1.7	1.7	1.7
JQIND33	2.098	2.156	2.217	2.277	2.337	2.399
%CH	2.4	2.8	2.8	2.7	2.7	2.6
E33	1.229	1.228	1.227	1.226	1.225	1.223
%CH	-0.3	-0.1	0.0	-0.1	-0.1	-0.1
E33LA	7,668.931	7,789.218	7,914.213	8,041.448	8,169.436	8,297.369
%CH	1.5	1.6	1.6	1.6	1.6	1.6
JQIND34	2.524	2.587	2.652	2.716	2.781	2.845
%CH	2.3	2.5	2.5	2.4	2.4	2.3
E34	1.848	1.850	1.852	1.854	1.855	1.855
%CH	-0.1	0.1	0.1	0.1	0.1	0.0
E34NSLA	11,921	12,168	12,434	12,707	12,982	13,258
%CH	1.9	2.1	2.2	2.2	2.2	2.1
RELPDI3334XKA	0.272	0.273	0.274	0.275	0.277	0.278
%CH	0.5	0.5	0.5	0.5	0.5	0.5
TYPT3334XKALA	6.254	6.692	7.160	7.661	8.197	8.771
%CH	7.0	7.0	7.0	7.0	7.0	7.0
WPI0574	23.030	24.527	26.121	27.819	29.627	31.553
%CH	6.5	6.5	6.5	6.5	6.5	6.5
DIBAN33	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
UNCLASS34	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
&MH3334XKASALA	520,000	520,000	520,000	520,000	520,000	520,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 35, 36 & 37, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
MH353637SALA	229,996	234,558	247,140	262,918	280,555	308,276	336,617	363,779	391,636
%CH	16.7	2.0	5.4	6.4	6.7	9.9	9.2	8.1	7.7
JQIND37	1.298	1.313	1.345	1.387	1.382	1.466	1.567	1.658	1.738
%CH	7.0	1.2	2.4	3.1	-0.4	6.1	6.9	5.8	4.8
E37	1.948	1.957	1.961	1.970	1.891	1.879	1.909	1.954	1.994
%CH	8.1	0.5	0.2	0.4	-4.0	-0.6	1.6	2.4	2.0
E353637LA	20,708.290	21,657.003	22,415.842	23,336.547	24,104.702	24,961.520	26,052.509	27,353.751	28,786.986
%CH	6.9	4.6	3.5	4.1	3.3	3.6	4.4	5.0	5.2
BETSY37	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH353637SALA	22,271	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
%CH		-28.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1987	1988	1989	1990	1991	1992	1993	1994	1995
MH353637SALA	419,218	449,450	481,956	516,838	553,502	591,577	631,891	672,943	715,997
%CH	7.0	7.2	7.2	7.2	7.1	6.9	6.8	6.5	6.4
JQIND37	1.793	1.850	1.911	1.978	2.046	2.111	2.176	2.233	2.287
%CH	3.2	3.1	3.3	3.5	3.5	3.1	3.1	2.6	2.4
E37	2.013	2.023	2.032	2.043	2.055	2.063	2.069	2.070	2.064
%CH	1.0	0.5	0.5	0.6	0.6	0.4	0.3	0.0	-0.3
E353637LA	30,251.874	31,701.657	33,158.023	34,647.006	36,178.566	37,732.526	39,307.216	40,888.023	42,450.877
%CH	5.1	4.8	4.6	4.5	4.4	4.3	4.2	4.0	3.8
BETSY37	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH353637SALA	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L INDUSTRIAL CONSUMPTION IN SICS 35, 36 & 37, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
MH353637SALA	761,803	809,919	861,703	918,520	978,313	1,041,349	1,108,874	1,180,941
%CH	6.4	6.3	6.4	6.6	6.5	6.4	6.5	6.5
JQIND37	2.345	2.406	2.474	2.557	2.643	2.728	2.816	2.906
%CH	2.6	2.6	2.8	3.4	3.4	3.2	3.2	3.2
E37	2.059	2.054	2.052	2.057	2.066	2.074	2.081	2.089
%CH	-0.3	-0.2	-0.1	0.3	0.4	0.4	0.3	0.3
E353637LA	44,011.846	45,590.944	47,205.699	48,899.302	50,686.057	52,556.120	54,502.161	56,527.230
%CH	3.7	3.6	3.5	3.6	3.7	3.7	3.7	3.7
BETSY37	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH353637SALA	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
[illegible]SALA	3,677,186	4,052,142	4,352,783	4,713,990	5,200,068	5,424,429	5,673,388	5,943,167	6,209,445	6,459,170	6,696,404
%CH	13.9	10.2	7.4	8.3	10.3	4.3	4.6	4.8	4.5	4.0	3.7
[illegible]LA	1.151	1.228	1.288	1.355	1.410	1.467	1.525	1.585	1.646	1.701	1.754
%CH	7.2	6.7	4.9	5.1	4.1	4.0	4.0	4.0	3.8	3.4	3.1
[illegible]LA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
[illegible]NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[illegible]NM	1.311	1.309	1.331	1.334	1.325	1.356	1.365	1.366	1.372	1.375	1.377
%CH	0.5	-0.2	1.7	0.3	-0.7	2.4	0.6	0.1	0.5	0.2	0.1
[illegible]LA	2.61	2.81	3.05	3.27	3.46	3.76	4.02	4.25	4.52	4.79	5.08
%CH	8.1	7.4	8.7	7.2	5.8	8.9	6.8	5.8	6.2	6.0	6.0
CPISOUTHNS	1.992	2.144	2.291	2.449	2.609	2.776	2.945	3.115	3.292	3.482	3.685
%CH	7.5	7.6	6.9	6.9	6.6	6.4	6.1	5.8	5.7	5.8	5.8
EMPLOY722NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMPLOY734NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
[illegible]HNMSALA	303,880	386,558	468,435	573,999	836,370	856,766	879,399	903,924	928,131	950,834	972,400
%CH		27.2	21.2	22.5	45.7	2.4	2.6	2.8	2.7	2.4	2.3

LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED (CONT'D)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
MHNMSALA	6,924,715	7,151,657	7,382,830	7,610,695	7,833,849	8,053,161	8,263,031	8,452,821	8,647,138	8,844,423	9,052,037
%CH	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.3	2.3	2.3	2.3
ENMLA	1.804	1.854	1.904	1.953	2.000	2.047	2.091	2.131	2.172	2.214	2.258
%CH	2.9	2.8	2.7	2.6	2.4	2.3	2.2	1.9	1.9	1.9	2.0
L1DNCDONOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
COMPUTNM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMPNM	1.383	1.389	1.390	1.392	1.394	1.397	1.400	1.403	1.407	1.412	1.418
%CH	0.4	0.4	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.4
MNMLA	5.39	5.74	6.08	6.45	6.84	7.25	7.68	8.14	8.63	9.15	9.70
%CH	6.3	6.3	6.1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
CPISOUTHNS	3.900	4.130	4.375	4.633	4.902	5.186	5.486	5.801	6.131	6.476	6.839
%CH	5.8	5.9	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.6	5.6
EMPLOY722NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMPLOY734NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MHNMSALA	993,156	1,013,787	1,034,803	1,055,518	1,075,804	1,095,742	1,114,821	1,132,075	1,149,740	1,167,675	1,186,549
%CH	2.1	2.1	2.1	2.0	1.9	1.9	1.7	1.5	1.6	1.6	1.6

LP&L NON-MANUFACTURING TOTAL CONSUMPTION,
SEASONALLY ADJUSTED (CONT'D)

	2000	2001	2002	2003
MHNMSALA	9,272,604	9,506,204	9,756,797	10,022,842
%CH	2.4	2.5	2.6	2.7
ENMLA	2.304	2.353	2.405	2.459
%CH	2.0	2.1	2.2	2.3
L1DNCDDNOLA	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
COMPUTNM	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
RWMPNM	1.423	1.428	1.433	1.438
%CH	0.4	0.4	0.3	0.3
MNMLA	10.28	10.89	11.55	12.24
%CH	6.0	6.0	6.0	6.0
CPISOUTHNS	7.222	7.627	8.057	8.513
%CH	5.6	5.6	5.6	5.7
EMPLOY722NM	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
EMPLOY734NM	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
&MHNMSALA	1,206,600	1,227,837	1,250,618	1,274,804
%CH	1.7	1.8	1.9	1.9

LP&L STREETLIGHTING TOTAL CONSUMPTION

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MHSLTLA	87,705	88,103	91,697	94,839	97,768	100,604	103,419	106,260	109,151	112,097	115,088	118,115	121,172
%CH	9.5	0.5	4.1	3.4	3.1	2.9	2.8	2.7	2.7	2.7	2.7	2.6	2.6
CURTLA	416,830	433,249	443,949	455,023	466,357	477,892	489,716	501,861	514,304	526,930	539,653	552,448	565,301
%CH	6.9	3.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.3
BETSYSL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG714SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG721SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MHSLTLA	124,254	127,360	130,492	133,653	136,841	140,051	143,277	146,518	149,779	153,065	156,384	159,744	163,155
%CH	2.5	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1
CURTLA	578,219	591,214	604,309	617,505	630,776	644,067	657,376	670,735	684,180	697,752	711,482	725,409	739,576
%CH	2.3	2.2	2.2	2.2	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
BETSYSL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG714SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG721SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LP&L CO-OPERATIVE TOTAL CONSUMPTION, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MHWCSALA	1,208,099	1,313,691	683,031	0	0	0	0	0	0	0	0
%CH	10.5	8.7	-48.0	-100.0	NC	NC	NC	NC	NC	NC	NC
MHRTSALA	5,861,890	6,452,577	6,799,264	7,211,017	7,658,693	8,079,946	8,524,988	9,036,141	9,543,856	10,060,631	10,576,862
%CH	9.9	10.1	5.4	6.1	6.2	5.5	5.5	6.0	5.6	5.4	5.1
MHNMSALA	3,677,186	4,052,142	4,352,783	4,713,990	5,200,068	5,424,429	5,673,388	5,943,167	6,209,445	6,459,170	6,696,404
%CH	13.9	10.2	7.4	8.3	10.3	4.3	4.6	4.8	4.5	4.0	3.7
&MHWCSALA	11,310	0	0	0	0	0	0	0	0	0	0
%CH		-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MHWCSALA	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MHRTSALA	11,086,599	11,593,574	12,118,339	12,660,437	13,214,470	13,782,217	14,361,816	14,942,510	15,533,049	16,130,312
%CH	4.8	4.6	4.5	4.5	4.4	4.3	4.2	4.0	4.0	3.8
MHNMSALA	6,924,715	7,151,657	7,382,830	7,610,695	7,833,849	8,053,161	8,263,031	8,452,821	8,647,138	8,844,423
%CH	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.3	2.3	2.3
&MHWCSALA	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1999	2000	2001	2002	2003
MHWCSALA	0	0	0	0	0
%CH	NC	NC	NC	NC	NC
MHRTSALA	16,744,285	17,381,442	18,041,408	18,730,084	19,451,631
%CH	3.8	3.8	3.8	3.8	3.9
MHNMSALA	9,052,037	9,272,604	9,506,204	9,756,797	10,022,842
%CH	2.3	2.4	2.5	2.6	2.7
&MHWCSALA	0	0	0	0	0
%CH	NC	NC	NC	NC	NC

LP&L MUNICIPAL TOTAL CONSUMPTION, EXCEPT MINDEN & EMERGENCY SALES, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MHMTLEMSALA	125,299	130,920	136,675	143,204	150,089	156,522	163,149	169,832	175,958	182,076
%CH	4.6	4.5	4.4	4.8	4.8	4.3	4.2	4.1	3.6	3.5
MHRTSALA	5,861,890	6,452,577	6,799,264	7,211,017	7,658,693	8,079,946	8,524,988	9,036,141	9,543,856	10,060,631
%CH	9.9	10.1	5.4	6.1	6.2	5.5	5.5	6.0	5.6	5.4
&MHMTLEMSALA	-2,963	-5,609	-4,565	-3,522	-2,478	-1,435	-391	0	0	0
%CH		-89.3	18.6	22.9	29.6	42.1	72.7	100.0	NC	NC

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
MHMTLEMSALA	188,079	193,906	199,608	205,418	211,329	217,278	223,284	229,326	235,294	241,281
%CH	3.3	3.1	2.9	2.9	2.9	2.8	2.8	2.7	2.6	2.5
MHRTSALA	10,576,862	11,086,599	11,593,574	12,118,339	12,660,437	13,214,470	13,782,217	14,361,816	14,942,510	15,533,049
%CH	5.1	4.8	4.6	4.5	4.5	4.4	4.3	4.2	4.0	4.0
&MHMTLEMSALA	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1998	1999	2000	2001	2002	2003
MHMTLEMSALA	247,254	253,314	259,521	265,866	272,400	279,157
%CH	2.5	2.5	2.5	2.4	2.5	2.5
MHRTSALA	16,130,312	16,744,285	17,381,442	18,041,408	18,730,084	19,451,631
%CH	3.8	3.8	3.8	3.8	3.8	3.9
&MHMTLEMSALA	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC

ENERGY MODEL

REGRESSION RESULTS AND

PLOTS OF FITTED VS. ACTUAL

LP&L RESIDENTIAL TOTAL CUSTOMERS

ORDINARY LEAST SQUARES

QUARTERLY(1960:2 TO 1977:4) 71 OBSERVATIONS
DEPENDENT VARIABLE: CURTLA-CURTLA\1

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	2034.72	1049	1.939	RYP@PNEW
2)	-241.960	135.4	-1.787	RYP@POLD
3)	4756.56	1826	2.605	NR21&@LPLCO
4)	-0.0233419	0.01171	-1.993	CURTLA\1
5)	-1689.91	528.7	-3.196	BET654RES
6)	4532.91	534.6	8.479	BUR664RES
7)	-1820.70	538.2	-3.383	CAM694RES
8)	-1428.21	377.0	-3.789	HOU704RES
9)	1156.01	348.9	3.313	NW722RES
10)	4272.97	536.0	7.972	LAK764RES
11)	2999.26	550.1	5.452	THI771RES
12)	-262.677	161.1	-1.631	SEASONQ1
13)	666.737	153.3	4.350	SEASONQ3

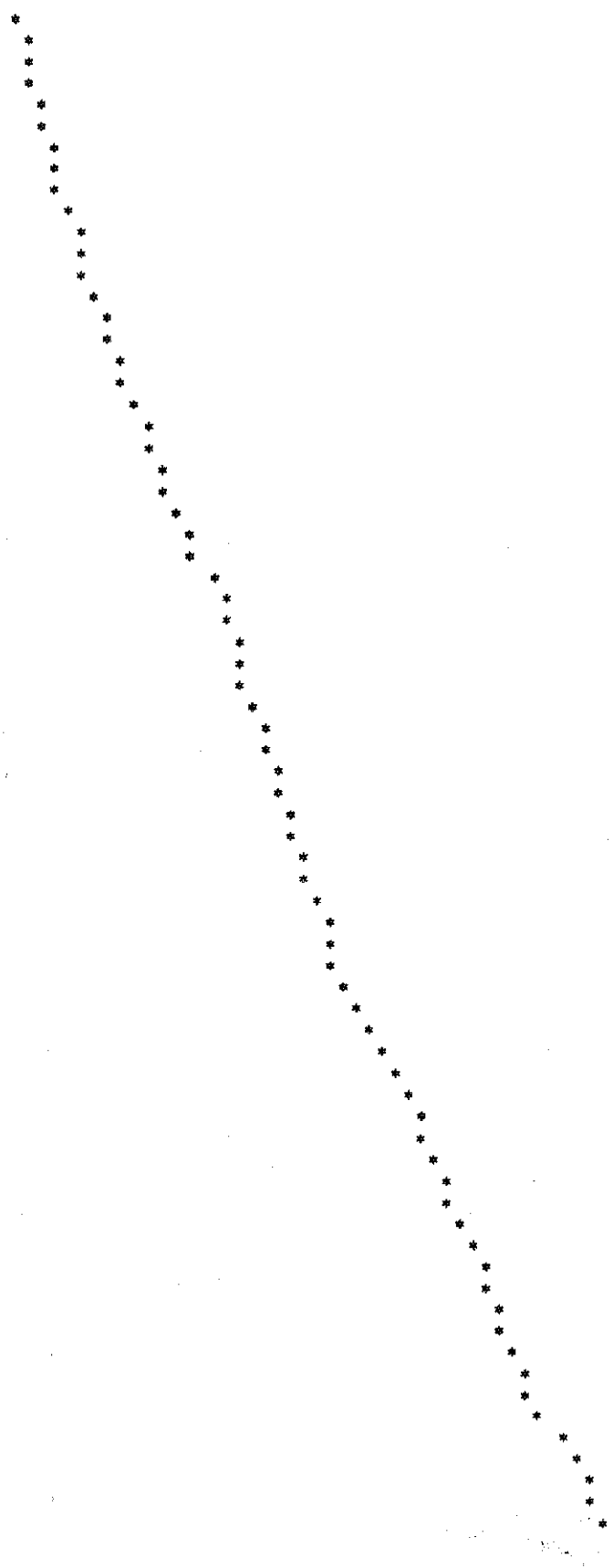
R-BAR SQUARED: 0.8100 (RELATIVE TO Y=0, RBSQ: 0.9672)
DURBIN-WATSON STATISTIC: 1.3475
STANDARD ERROR OF THE REGRESSION: 517.4 NORMALIZED: 0.1989

WHERE:

BET654RES	HURRICANE BETSY CAUSES CUSTOMER LOSS (1965:4)
BUR664RES	BURAL,LA UTILITY PURCHASED BY LP&L (1966:4)
CAM694RES	HURRICANE CAMILLE CAUSES CUSTOMER LOSS (1969:4)
CURTLA	LP&L RESIDENTIAL TOTAL CUSTOMERS
HOU704RES	LOW HOUSING STARTS 1970:4 - 1971:1
LAK764RES	LAKE PROVIDENCE,LA UTILITY PURCHASED BY LP&L (1976:4)
NR21&@LPLCO	RESIDENT POPULATION, 21 YEARS & OVER - L.P.& L. SERVICE AREA
NW722RES	INCLUSION OF NIGHTWATCHMEN INTO CUSTOMER COUNT +4000 (1972:2-4)
RYP@PNEW	REAL PERSONAL INCOME PER CAPITA - REVISED 1971:1
RYP@POLD	REAL PERSONAL INCOME PER CAPITA
SEASONQ1	SEASONAL QUALITATIVE VARIABLE FOR 1ST QUARTER
SEASONQ3	SEASONAL QUALITATIVE VARIABLE FOR 3RD QUARTER
THI771RES	THIBODEAUX,LA UTILITY PURCHASED BY LP&L (1977:1)

PLOT OF FITTED VERSUS ACTUAL RESULTS: CURTLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1960:2	211,215	211,674	
1960:3	214,384	213,905	
1960:4	215,976	216,329	
1961:1	216,811	217,661	
1961:2	218,046	218,790	
1961:3	220,579	220,670	
1961:4	222,587	222,603	
1962:1	223,843	224,288	
1962:2	225,319	225,782	
1962:3	228,260	227,954	
1962:4	230,557	230,171	
1963:1	231,718	232,201	
1963:2	233,210	233,672	
1963:3	235,939	235,877	
1963:4	238,409	237,987	
1964:1	240,938	240,179	
1964:2	243,607	242,990	
1964:3	245,771	246,335	
1964:4	247,928	247,839	
1965:1	250,104	249,738	
1965:2	252,607	252,203	
1965:3	256,256	255,457	
1965:4	256,757	256,757	
1966:1	259,681	258,766	
1966:2	262,106	261,983	
1966:3	265,832	265,154	
1966:4	272,733	272,733	
1967:1	274,719	274,849	
1967:2	276,434	277,092	
1967:3	279,239	279,457	
1967:4	280,447	281,689	
1968:1	282,198	282,678	
1968:2	284,520	284,682	
1968:3	287,920	287,658	
1968:4	290,438	290,327	
1969:1	291,993	292,510	
1969:2	293,507	294,361	
1969:3	296,386	296,528	
1969:4	296,830	296,830	
1970:1	299,567	298,809	
1970:2	302,461	301,813	
1970:3	305,702	305,296	
1970:4	306,939	306,405	
1971:1	307,425	307,959	
1971:2	310,376	310,113	
1971:3	314,039	313,720	
1971:4	317,446	316,711	
1972:1	320,483	319,895	
1972:2	324,333	324,439	
1972:3	328,508	328,964	
1972:4	333,063	332,502	
1973:1	336,176	335,618	
1973:2	339,235	338,920	
1973:3	342,403	342,707	
1973:4	345,254	345,132	
1974:1	347,217	347,653	
1974:2	350,302	349,846	
1974:3	353,304	353,468	
1974:4	355,751	355,905	
1975:1	357,806	357,982	
1975:2	359,919	360,328	
1975:3	362,393	363,116	
1975:4	365,240	364,985	
1976:1	367,854	367,744	
1976:2	370,354	370,683	
1976:3	373,223	373,647	
1976:4	380,219	380,219	
1977:1	385,638	385,638	
1977:2	388,393	388,240	
1977:3	391,439	391,665	
1977:4	394,287	394,154	



LP&L RESIDENTIAL TOTAL ALL-ELECTRIC CUSTOMERS

ORDINARY LEAST SQUARES

QUARTERLY(1968:2 TO 1977:4) 39 OBSERVATIONS
DEPENDENT VARIABLE: CUERTLA-CUERTLA\1

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.0611789	0.02970	2.060	(CURTLA-CURTLA\1)
2)	0.120598	0.02265	5.324	(CURTLA-CURTLA\1)* DV723TO744
3)	-0.00493536	0.001979	-2.494	(CURTLA\1-CUERTLA\1)
4)	-320.177	147.4	-2.172	HOU704RES
5)	-0.000317258	0.0001290	-2.459	(CURTLA\1-CUERTLA\1)* RYP@POLD
6)	0.00268831	0.0007133	3.769	(CURTLA\1-CUERTLA\1)* RYP@PNEW

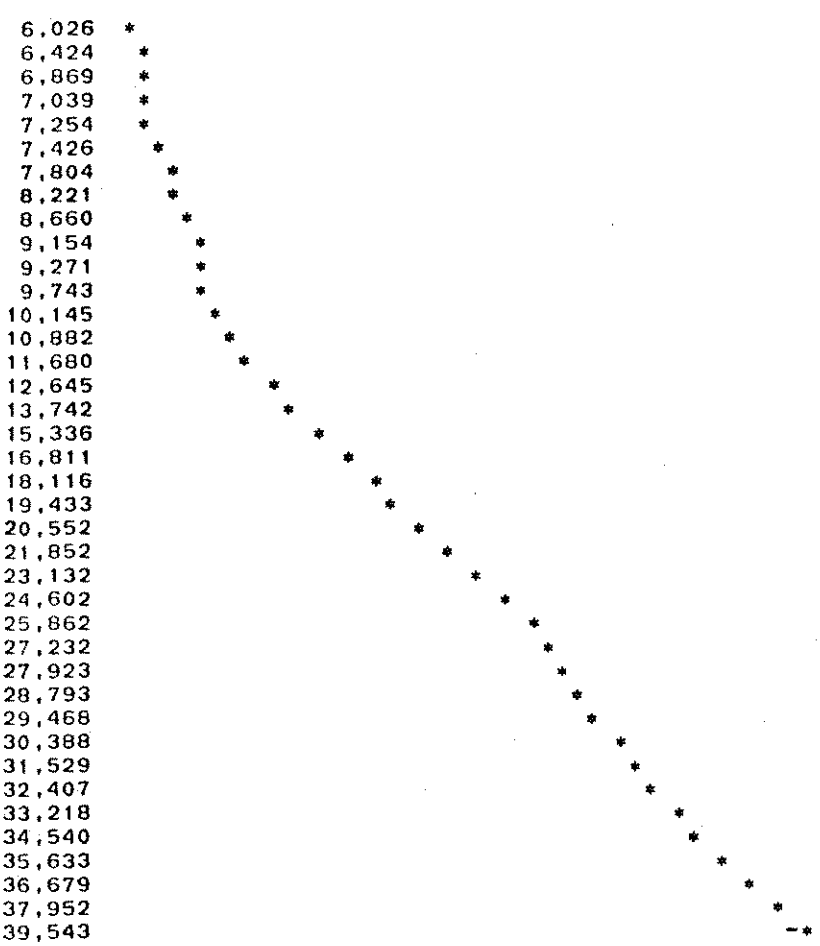
R-BAR SQUARED: 0.8370 (RELATIVE TO Y=0, RBSQ: 0.9655)
DURBIN-WATSON STATISTIC: 1.2692
STANDARD ERROR OF THE REGRESSION: 183.5 NORMALIZED: 0.2085

WHERE:

CUERTLA	LP&L RESIDENTIAL TOTAL ALL-ELECTRIC CUSTOMERS
CURTLA	LP&L RESIDENTIAL TOTAL CUSTOMERS
DV723TO744	UNUSUAL ALL-ELECTRIC CUSTOMER GROWTH (1972:3-1974:4)
HOU704RES	LOW HOUSING STARTS 1970:4 - 1971:1
RYP@PNEW	REAL PERSONAL INCOME PER CAPITA - REVISED 1971:1
RYP@POLD	REAL PERSONAL INCOME PER CAPITA

PLOT OF FITTED VERSUS ACTUAL RESULTS: CUERTLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1968:2	5,976	6,026	
1968:3	6,477	6,424	
1968:4	6,719	6,869	
1969:1	6,920	7,039	
1969:2	7,010	7,254	
1969:3	7,540	7,426	
1969:4	7,818	7,804	
1970:1	8,215	8,221	
1970:2	8,686	8,660	
1970:3	9,243	9,154	
1970:4	9,533	9,271	
1971:1	9,484	9,743	
1971:2	10,167	10,145	
1971:3	10,954	10,882	
1971:4	11,899	11,680	
1972:1	12,888	12,645	
1972:2	13,923	13,742	
1972:3	15,283	15,336	
1972:4	16,819	16,811	
1973:1	18,155	18,116	
1973:2	19,206	19,433	
1973:3	20,591	20,552	
1973:4	22,022	21,852	
1974:1	23,291	23,132	
1974:2	24,598	24,602	
1974:3	26,009	25,862	
1974:4	27,054	27,232	
1975:1	27,903	27,923	
1975:2	28,544	28,793	
1975:3	29,398	29,468	
1975:4	30,456	30,388	
1976:1	31,295	31,529	
1976:2	32,157	32,407	
1976:3	33,162	33,218	
1976:4	34,293	34,540	
1977:1	35,483	35,633	
1977:2	36,717	36,679	
1977:3	38,245	37,952	
1977:4	39,967	39,543	



LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1966:1 TO 1977:4) 48 OBSERVATIONS
DEPENDENT VARIABLE: LOG(M@CRTSALA/EFSATLA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	-8.79544	0.2401	-36.64	CONSTANT
1)				PDL(LRPE,1,3,FAR)
\0	-0.178919	0.07035	-2.543	
\1	-0.119279	0.04690	-2.543	
\2	-0.0596397	0.02345	-2.543	
SUM	-0.357838	0.1407	-2.543	
AVG	0.666667	0.0	NC	
2)				PDL(LRYP@PNEW,1,4,FAR)
\0	0.158363	0.09228	1.716	
\1	0.118772	0.06921	1.716	
\2	0.0791814	0.04614	1.716	
\3	0.0395907	0.02307	1.716	
SUM	0.395907	0.2307	1.716	
AVG	1.00000	0.0	NC	
3)				PDL(LRYP@POLD,1,4,FAR)
\0	-0.0594954	0.01307	-4.553	
\1	-0.0446215	0.009800	-4.553	
\2	-0.0297477	0.006534	-4.553	
\3	-0.0148738	0.003267	-4.553	
SUM	-0.148738	0.03267	-4.553	
AVG	1.00000	0.0	NC	
4)	0.000289864	6.209E-05	4.669	(1.6*SAT3RMLA+3.131* SAT3CLA)*(.75* L1DNCDDNOLA+ .25* L1DNCDDMOLA)
5)	0.00210725	0.001094	1.927	SATHTLA*(.75*L1DNHDDNOLA+ .25*L1DNHDDMOLA)

R-BAR SQUARED: 0.8917
DURBIN-WATSON STATISTIC: 0.6145
STANDARD ERROR OF THE REGRESSION: 0.05282 NORMALIZED: 0.006173

WHERE:

EFSATLA	EFFECTIVE SATURATION OF APPLIANCES
LRPE	LOGARITHM OF THE REAL PRICE OF ELECTRICITY
LRYP@PNEW	LOGARITHM OF REAL PERSONAL INCOME PER CAPITA - REVISED 1971:1
LRYP@POLD	LOGARITHM OF REAL PERSONAL INCOME PER CAPITA
L1DNCDDMOLA	LAG ONE DIFFERENCE FROM NORMAL COOLING DEGREE DAYS - MONROE
L1DNCDDNOLA	LAG ONE DIFFERENCE FROM NORMAL COOLING DEGREE DAYS - NEW ORLEANS
L1DNHDDMOLA	LAG ONE DIFFERENCE FROM NORMAL HEATING DEGREE DAYS - MONROE
L1DNHDDNOLA	LAG ONE DIFFERENCE FROM NORMAL HEATING DEGREE DAYS - NEW ORLEANS
M@CRTSALA	LP&L RESIDENTIAL USE PER CUSTOMER, SEASONALLY ADJUSTED
SATHTLA	APPLIANCE SATURATION - ELECTRIC HEAT
SAT3CLA	APPLIANCE SATURATION - CENTRAL AIR CONDITIONER
SAT3RMLA	APPLIANCE SATURATION - ROOM AIR CONDITIONER

PLOT OF FITTED VERSUS ACTUAL RESULTS: M@CRTSALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1966:1	1.51	1.59	*++
1966:2	1.53	1.63	*++
1966:3	1.63	1.65	*+
1966:4	1.56	1.68	*++
1967:1	1.63	1.75	*++
1967:2	1.81	1.86	*+
1967:3	1.64	1.80	*++
1967:4	1.65	1.76	*++
1968:1	1.85	1.92	*+
1968:2	1.89	1.88	*
1968:3	1.95	1.99	*+
1968:4	2.00	1.89	-*
1969:1	1.96	2.00	*+
1969:2	2.00	1.94	-*
1969:3	2.29	2.10	----*
1969:4	2.15	2.08	-*
1970:1	2.17	2.09	-*
1970:2	2.32	2.14	----*
1970:3	2.37	2.13	-----*
1970:4	2.30	2.19	-*
1971:1	2.35	2.27	-*
1971:2	2.48	2.29	----*
1971:3	2.45	2.43	*
1971:4	2.62	2.59	-*
1972:1	2.61	2.54	-*
1972:2	2.68	2.56	-*
1972:3	2.82	2.57	-----*
1972:4	3.01	2.83	----*
1973:1	2.77	2.62	---*
1973:2	2.68	2.56	-*
1973:3	2.92	2.95	*+
1973:4	3.16	3.12	-*
1974:1	2.71	2.74	*+
1974:2	3.00	2.97	-*
1974:3	2.80	2.71	-*
1974:4	2.75	2.73	*
1975:1	2.92	2.90	*
1975:2	3.17	3.07	-*
1975:3	2.96	2.99	*+
1975:4	3.01	3.10	*++
1976:1	3.06	3.17	*++
1976:2	2.93	3.14	*+++
1976:3	3.11	3.22	*++
1976:4	3.21	3.30	*++
1977:1	3.40	3.52	*++
1977:2	3.47	3.52	*+
1977:3	3.41	3.72	*++++++
1977:4	3.40	3.57	*++++

LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1963:3 TO 1977:4) 58 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH1329SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.95579	1.045	1.872	CONSTANT
1)	1.10891	0.1116	9.939	LOG(JQIND29/E29* RECLASS29*E29LA)
2)				PDL(LRWMP1329,1,5,FAR)
\0	-0.0426052	0.02239	-1.902	
\1	-0.0340842	0.01792	-1.902	
\2	-0.0255631	0.01344	-1.902	
\3	-0.0170421	0.008958	-1.902	
\4	-0.00852104	0.004479	-1.902	
SUM	-0.127816	0.06718	-1.902	
AVG	1.33333	0.0	NC	
3)	0.609397	0.2456	2.481	LOG(UNCLASS29)
4)	1.59524	0.1448	11.02	LOG(SHELL29)
5)	0.117334	0.07614	1.541	STRIKES29

R-BAR SQUARED: 0.9866
DURBIN-WATSON STATISTIC: 1.0770
STANDARD ERROR OF THE REGRESSION: 0.07338 NORMALIZED: 0.005946

WHERE:

E29	TOTAL EMPLOYMENT - PETROLEUM AND PRODUCTS (SEASONALLY ADJUSTED)
E29LA	EMPLOYMENT, PETROLEUM & COAL - L.P.&L SERV. AREA, SEASONALLY ADJUSTED
JQIND29	INDUSTRIAL PRODUCTION INDEX - PETROLEUM PRODUCTS
LRWMP1329	LOG OF REAL WEIGHTED MARGINAL PRICE OF ELECTRICITY (SICS 13 & 29)
MH1329SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 13 & 29, SEASONALLY ADJUSTED
RECLASS29	RECLASSIFICATION OF SERVICE AREA EMPLOYMENTS IN SIC 29 (75:1)
SHELL29	SHELL OIL REFINERY EXPANSION APRIL 67 +14,000 MWH/MO. (1967:2)
STRIKES29	SHELL OIL NORCO STRIKE FEB-MAR 1973 -450 EMP. (1973:1)
UNCLASS29	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1971:1)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH1329SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1963:3	62,801	76,408	*+
1963:4	67,082	77,364	*+
1964:1	69,869	80,193	*+
1964:2	78,520	80,217	*
1964:3	82,359	82,599	*
1964:4	84,377	83,449	*
1965:1	88,687	83,577	-*
1965:2	90,089	82,467	-*
1965:3	88,491	86,548	*
1965:4	87,901	89,979	*
1966:1	101,889	92,774	-*
1966:2	102,083	93,548	-*
1966:3	104,877	96,947	-*
1966:4	104,409	98,020	-*
1967:1	117,349	107,743	-*
1967:2	154,400	185,205	*+++
1967:3	179,168	188,199	*+
1967:4	198,780	192,736	-*
1968:1	207,925	203,478	*
1968:2	214,789	216,898	*
1968:3	222,602	217,628	-*
1968:4	235,604	221,186	-*
1969:1	236,805	249,772	*+
1969:2	220,117	212,753	-*
1969:3	230,479	242,473	*+
1969:4	258,516	241,455	-*
1970:1	249,312	237,205	-*
1970:2	259,923	243,327	-*
1970:3	257,396	248,580	-*
1970:4	256,247	251,480	*
1971:1	307,975	293,247	-*
1971:2	324,262	289,815	-*
1971:3	345,106	300,777	-*
1971:4	332,854	312,437	-*
1972:1	330,952	333,168	*
1972:2	371,826	338,361	-*
1972:3	374,418	359,888	-*
1972:4	347,076	363,403	*+
1973:1	386,247	384,576	*
1973:2	362,305	403,175	*+
1973:3	367,786	375,964	*+
1973:4	404,107	378,706	-*
1974:1	375,650	363,903	-*
1974:2	379,355	398,888	*+
1974:3	398,108	399,905	*
1974:4	400,835	390,925	-*
1975:1	397,671	441,915	*+
1975:2	384,371	385,633	*
1975:3	378,071	399,510	*+
1975:4	374,131	384,911	*+
1976:1	392,916	419,081	*+
1976:2	416,271	439,909	*+
1976:3	426,133	420,600	-*
1976:4	451,381	437,477	-*
1977:1	475,848	469,220	-*
1977:2	473,093	484,320	*+
1977:3	489,601	492,257	*
1977:4	500,544	491,568	-*

LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1963:1 TO 1977:4) 60 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH1432SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	2.96048	0.4680	6.325	CONSTANT
1)	0.625515	0.05937	10.54	LOG(JQIND32/E32*E32LA)
2)				PDL(LRELPNG1432,2,8,BOTH)
\0	-0.0282710	0.002637	-10.72	
\1	-0.0494743	0.004614	-10.72	
\2	-0.0636098	0.005933	-10.72	
\3	-0.0706776	0.006592	-10.72	
\4	-0.0706776	0.006592	-10.72	
\5	-0.0636098	0.005933	-10.72	
\6	-0.0494743	0.004614	-10.72	
\7	-0.0282710	0.002637	-10.72	
SUM	-0.424065	0.03955	-10.72	
AVG	3.50000	0.0	NC	
3)	0.830133	0.03188	26.04	LOG(INTERSTATE14)
4)	0.203170	0.07912	2.568	LOG(JMANS32)
5)	-1.11290	0.2245	-4.957	LOG(STEMP32)
6)	0.404779	0.1227	3.298	LOG(LAUREN32)
7)	0.833558	0.1074	7.764	LOG(DOW32)
8)	0.151217	0.03503	4.316	RECESSION32

R-BAR SQUARED: 0.9872
DURBIN-WATSON STATISTIC: 1.7811
STANDARD ERROR OF THE REGRESSION: 0.04538 NORMALIZED: 0.004574

WHERE:

DOW32	DOW CHEMICAL MISCLASSIFICATION PLAQUEMINE, LA. (1972:1-2)
E32	TOTAL EMPLOYMENT - STONE, CLAY AND GLASS (SEASONALLY ADJUSTED)
E32LA	EMPLOYMENT, STONE,CLAY&GLASS - L.P.&L SERV. AREA, SEASONALLY ADJUSTED
INTERSTATE14	CONSTRUCTION OF INTERSTATE HWY SYSTEM (1968:3-1970)
JMANS32	JOHNS MANVILLE PLANT CLOSING (1970:4-1971:3)
JQIND32	INDUSTRIAL PRODUCTION INDEX - CLAY, GLASS AND STONE PRODUCTS
LAUREN32	LAURENS GLASS INC. ADDITION FEB-MAY (1973)
LRELPNG1432	LOG OF PRICE OF ELECTRICITY RELATIVE TO NATURAL GAS (SICS 14 & 32)
MH1432SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 14 & 32, SEASONALLY ADJUSTED
RECESSION32	DISPROPORTIONATE DROP IN NATIONAL PRODUCTION INDEX FOR SIC 32 (75:1-2)
STEMP32	GROWTH OF EMPLOYEES IN INDUSTRIES IN ST.TAMMANY PARISH +300 (1967)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH1432SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1963:1	10,833	11,094	*
1963:2	10,783	11,439	*+
1963:3	11,563	11,498	*
1963:4	11,846	11,544	*
1964:1	11,190	12,052	*+
1964:2	12,645	12,612	*
1964:3	13,197	12,913	*
1964:4	12,578	13,127	*+
1965:1	13,487	13,115	-*
1965:2	13,996	13,403	-*
1965:3	14,094	13,821	*
1965:4	15,561	14,039	--*
1966:1	14,836	14,375	-*
1966:2	14,941	14,434	-*
1966:3	14,111	14,242	*
1966:4	13,881	14,476	*+
1967:1	14,398	14,243	*
1967:2	13,439	14,216	*+
1967:3	14,001	14,243	*
1967:4	13,879	13,904	*
1968:1	13,997	13,950	*
1968:2	13,991	13,869	*
1968:3	16,806	18,879	*+++
1968:4	20,708	22,154	*++
1969:1	29,084	28,581	-*
1969:2	40,057	39,274	-*
1969:3	36,179	35,740	-*
1969:4	39,552	38,185	--*
1970:1	28,183	26,717	--*
1970:2	23,011	24,607	*+++
1970:3	22,507	23,686	*++
1970:4	21,465	22,403	*++
1971:1	16,563	15,069	--*
1971:2	14,801	15,235	*+
1971:3	14,617	15,356	*+
1971:4	17,974	16,865	--*
1972:1	24,318	24,413	*
1972:2	21,503	21,417	*
1972:3	19,708	18,157	--*
1972:4	19,249	19,163	*
1973:1	21,229	21,850	*+
1973:2	22,954	23,572	*+
1973:3	25,604	24,375	--*
1973:4	25,516	24,648	-*
1974:1	25,741	25,756	*
1974:2	26,158	26,915	*+
1974:3	26,466	27,453	*++
1974:4	27,405	26,980	-*
1975:1	29,199	29,413	*
1975:2	30,147	29,986	*
1975:3	30,854	29,463	--*
1975:4	31,765	30,606	--*
1976:1	31,721	31,700	*
1976:2	32,798	34,180	*++
1976:3	34,543	33,736	-*
1976:4	35,320	35,068	*
1977:1	35,005	35,768	*+
1977:2	34,977	35,878	*+
1977:3	36,871	36,650	*
1977:4	36,758	38,241	*++

LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1962:1 TO 1977:4) 64 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH20SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	5.40855	0.6286	8.604	CONSTANT
1)	0.595266	0.06897	8.631	LOG(JQIND20/E20*E20LA)
2)	2.50636	1.449	1.730	LOG(SUGAR20)
3)	1.07343	0.7003	1.533	LOG(UNOIL20)
4)	1.22672	0.05588	21.95	LOG(UNCLASS20)
5)	0.995094	0.1442	6.901	LOG(BAG20)

R-BAR SQUARED: 0.9875
DURBIN-WATSON STATISTIC: 1.0937
STANDARD ERROR OF THE REGRESSION: 0.04188 NORMALIZED: 0.004095

WHERE:

BAG20	SUGAR MILLS INCR. MWH USAGE DUE TO ENVIR.BAN ON BURNING BAGASS (77:1)
E20	TOTAL EMPLOYMENT - FOOD AND PRODUCTS (SEASONALLY ADJUSTED)
E20LA	EMPLOYMENT, FOOD - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND20	INDUSTRIAL PRODUCTION INDEX - FOODS
MH20SALA	LP&L INDUSTRIAL CONSUMPTION IN SIC 20, SEASONALLY ADJUSTED
SUGAR20	SUGAR MILL DOWN 400 MWH PER MONTH (1968:4)
UNCLASS20	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1971:2)
UNOIL20	UNION OIL MILL HAS NO COTTON SEED, DOWN 400 MWH (1969:3)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH20SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1962:1	17,909	18,015	*
1962:2	17,424	18,440	*+
1962:3	18,446	18,318	*
1962:4	18,413	18,775	*
1963:1	16,385	18,241	*++
1963:2	18,967	18,999	*
1963:3	19,639	19,299	*
1963:4	19,569	19,068	-*
1964:1	20,123	19,351	-*
1964:2	20,031	19,404	-*
1964:3	20,276	19,581	-*
1964:4	20,326	19,294	-*
1965:1	20,422	19,866	-*
1965:2	20,652	19,761	-*
1965:3	20,353	19,874	-*
1965:4	20,195	20,159	*
1966:1	21,203	19,989	--*
1966:2	19,386	19,996	*+
1966:3	21,255	20,147	-*
1966:4	20,698	20,274	-*
1967:1	18,808	20,048	*++
1967:2	19,611	20,751	*++
1967:3	19,399	20,497	*+
1967:4	19,749	20,813	*+
1968:1	20,981	21,054	*
1968:2	20,266	21,034	*+
1968:3	19,906	21,142	*++
1968:4	22,617	22,622	*
1969:1	21,135	20,966	*
1969:2	20,900	21,071	*
1969:3	20,199	20,204	*
1969:4	21,875	21,983	*
1970:1	20,948	21,359	*+
1970:2	21,305	21,845	*+
1970:3	22,488	21,739	-*
1970:4	23,905	22,026	--*
1971:1	30,777	28,603	---*
1971:2	37,387	38,032	*+
1971:3	39,395	38,389	-*
1971:4	37,882	38,400	*+
1972:1	40,226	39,137	-*
1972:2	39,727	39,483	*
1972:3	40,701	40,421	*
1972:4	41,592	41,318	*
1973:1	42,420	40,120	---*
1973:2	40,764	40,586	*
1973:3	40,713	41,651	*+
1973:4	39,249	41,857	*+++
1974:1	38,790	42,697	*++++
1974:2	40,658	42,237	*++
1974:3	41,699	42,178	*+
1974:4	40,095	40,792	*+
1975:1	39,366	40,719	*++
1975:2	39,871	40,644	*+
1975:3	40,671	41,194	*+
1975:4	42,803	41,962	-*
1976:1	42,355	42,420	*
1976:2	42,981	42,627	*
1976:3	43,974	42,039	---*
1976:4	46,424	41,967	-------*
1977:1	49,814	49,094	-*
1977:2	50,285	50,908	*+
1977:3	50,617	50,513	*
1977:4	51,629	51,897	*

LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1964:1 TO 1977:4) 56 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH2223SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.57577	0.4643	3.394	CONSTANT
1)	0.819494	0.06142	13.34	LOG((.2*JQIND22+.8* JQIND23)/(E22+E23)* E2223LA)
2)				PDL(LRELPOI2223,2,8,BOTH)
\0	-0.00857534	0.003554	-2.413	
\1	-0.0150068	0.006220	-2.413	
\2	-0.0192945	0.007998	-2.413	
\3	-0.0214384	0.008886	-2.413	
\4	-0.0214384	0.008886	-2.413	
\5	-0.0192945	0.007998	-2.413	
\6	-0.0150068	0.006220	-2.413	
\7	-0.00857534	0.003554	-2.413	
SUM	-0.128630	0.05332	-2.413	
AVG	3.50000	0.0	NC	
3)	0.887952	0.06791	13.07	LOG(UNCLASS2223)

R-BAR SQUARED: 0.9897
DURBIN-WATSON STATISTIC: 0.8972
STANDARD ERROR OF THE REGRESSION: 0.1007 NORMALIZED: 0.01406

WHERE:

E22	TOTAL EMPLOYMENT - TEXTILE MILL PRODUCTS (SEASONALLY ADJUSTED)
E2223LA	EMPLOYMENT, TEXTILES & APPAREL - L.P.&L SERV.AREA, SEAS. ADJUSTED
E23	TOTAL EMPLOYMENT - APPAREL AND PRODUCTS (SEASONALLY ADJUSTED)
JQIND22	INDUSTRIAL PRODUCTION INDEX - TEXTILE MILL PRODUCTS
JQIND23	INDUSTRIAL PRODUCTION INDEX - APPAREL PRODUCTS
LRELPOI2223	LOGARITHM OF PRICE OF ELECTRICITY RELATIVE TO FUEL OIL (SICS 22 & 23)
MH2223SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 22 & 23, SEASONALLY ADJUSTED
UNCLASS2223	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1971:1-2)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH2223SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1964:1	332	306	*
1964:2	309	327	*
1964:3	301	351	*
1964:4	331	357	*
1965:1	401	416	*
1965:2	450	470	*
1965:3	478	488	*
1965:4	506	508	*
1966:1	471	509	*
1966:2	527	507	*
1966:3	579	511	-*
1966:4	533	534	*
1967:1	556	511	*
1967:2	569	507	-*
1967:3	538	500	*
1967:4	519	518	*
1968:1	556	546	*
1968:2	531	537	*
1968:3	593	533	-*
1968:4	607	548	-*
1969:1	584	567	*
1969:2	613	563	*
1969:3	668	608	-*
1969:4	718	593	-*
1970:1	651	644	*
1970:2	582	664	*+
1970:3	629	703	*+
1970:4	538	719	*++
1971:1	1,002	1,169	*++
1971:2	1,492	1,895	*+++
1971:3	1,831	1,950	*+
1971:4	2,349	2,057	-*-
1972:1	2,357	2,089	-*-
1972:2	2,297	2,607	*++
1972:3	2,445	2,504	*+
1972:4	2,447	2,613	*++
1973:1	2,747	2,873	*+
1973:2	3,185	3,043	-*
1973:3	3,408	3,095	-*-
1973:4	3,670	3,303	-*-
1974:1	3,489	3,419	-*
1974:2	4,214	3,529	-*-
1974:3	3,915	3,633	-*-
1974:4	3,794	3,663	-*
1975:1	3,760	3,279	-*-
1975:2	3,690	3,403	-*-
1975:3	3,726	3,860	*+
1975:4	4,137	4,188	*
1976:1	4,680	4,472	-*-
1976:2	4,572	4,632	*+
1976:3	4,653	4,721	*+
1976:4	4,464	4,614	*+
1977:1	4,749	4,941	*++
1977:2	4,880	5,255	*++
1977:3	4,937	5,301	*++
1977:4	5,072	5,376	*++

LP&L INDUSTRIAL CONSUMPTION IN SICS 24,25 & 26, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1966:1 TO 1977:4) 48 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH242526SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	1.12617	0.01514	74.41	LOG((.24*JQIND24+.01*JQIND25+.75*JQIND26)/(E24+E25+E26)*E242526LA)
2)				PDL(LRELPNG242526,2,8,BOTH)
\0	-0.0176946	0.002270	-7.794	
\1	-0.0309656	0.003973	-7.794	
\2	-0.0398129	0.005108	-7.794	
\3	-0.0442366	0.005676	-7.794	
\4	-0.0442366	0.005676	-7.794	
\5	-0.0398129	0.005108	-7.794	
\6	-0.0309656	0.003973	-7.794	
\7	-0.0176946	0.002270	-7.794	
SUM	-0.265420	0.03406	-7.794	
AVG	3.50000	0.0	NC	
3)	-0.138952	0.09567	-1.452	LRELPWA242526
4)	0.815120	0.05273	15.46	LOG(UNCLASS24)
5)	-0.231816	0.05924	-3.913	DV711242526
6)	-0.190710	0.05929	-3.217	DV712242526

R-BAR SQUARED: 0.9796 (RELATIVE TO Y=0, RBSQ: 1.0000)
DURBIN-WATSON STATISTIC: 0.7069
STANDARD ERROR OF THE REGRESSION: 0.05548 NORMALIZED: 0.004645

WHERE:

DV711242526	QUALITATIVE VARIABLE FOR SICS 24,25 & 26 (1971:1)
DV712242526	QUALITATIVE VARIABLE FOR SICS 24,25 & 26 (1971:2)
E24	TOTAL EMPLOYMENT - LUMBER AND PRODUCTS (SEASONALLY ADJUSTED)
E242526LA	EMPLOYMENT, LUMBER,FURNITURE&PAPER - L.P.&L SERV.AREA, SEAS.ADJUSTED
E25	TOTAL EMPLOYMENT - FURNITURE AND FIXTURES (SEASONALLY ADJUSTED)
E26	TOTAL EMPLOYMENT - PAPER AND PRODUCTS (SEASONALLY ADJUSTED)
JQIND24	INDUSTRIAL PRODUCTION INDEX - LUMBER AND PRODUCTS
JQIND25	INDUSTRIAL PRODUCTION INDEX - FURNITURE AND FIXTURES
JQIND26	INDUSTRIAL PRODUCTION INDEX - PAPER AND PRODUCTS
LRELPNG242526	LOG OF PRICE OF ELECTRICITY RELATIVE TO NATURAL GAS (SICS 24,25 & 26)
LRELPWA242526	LOGARITHM OF PRICE OF ELECTRICITY RELATIVE TO WAGES (SICS 24,25 & 26)
MH242526SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 24, 25 & 26, SEASONALLY ADJUSTED
UNCLASS24	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1970:4-1971:1)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH242526SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1966:1	86,863	94,842	*++
1966:2	93,606	96,072	*+
1966:3	98,485	97,937	*
1966:4	100,835	97,770	-*
1967:1	96,081	95,851	*
1967:2	96,148	93,613	-*
1967:3	95,459	92,627	-*
1967:4	96,183	94,410	*
1968:1	93,339	93,819	*
1968:2	93,925	96,980	*+
1968:3	97,742	98,557	*
1968:4	104,397	100,620	-*
1969:1	102,723	102,961	*
1969:2	105,282	104,443	*
1969:3	94,564	103,854	*++
1969:4	101,886	106,263	*+
1970:1	107,771	107,261	*
1970:2	111,662	104,629	--*
1970:3	116,847	106,694	---*
1970:4	122,482	121,934	*
1971:1	134,701	134,527	*
1971:2	143,612	143,426	*
1971:3	155,214	175,307	*++++
1971:4	161,226	177,767	*++++
1972:1	178,810	184,012	*+
1972:2	185,154	189,564	*+
1972:3	196,758	196,098	*
1972:4	210,218	205,064	-*
1973:1	209,930	211,933	*+
1973:2	218,392	217,593	*
1973:3	225,407	222,546	-*
1973:4	223,382	221,255	-*
1974:1	230,540	214,846	----*
1974:2	248,139	220,235	-------*
1974:3	221,479	213,261	--*
1974:4	218,831	201,956	----*
1975:1	207,163	180,777	-------*
1975:2	197,017	181,299	----*
1975:3	208,879	200,509	--*
1975:4	213,783	220,042	*++
1976:1	229,227	235,567	*++
1976:2	241,017	244,744	*+
1976:3	236,653	245,687	*++
1976:4	239,960	246,332	*++
1977:1	239,381	252,291	*+++
1977:2	242,041	253,777	*+++
1977:3	247,070	256,587	*+++
1977:4	248,189	256,544	*++

LP&L INDUSTRIAL CONSUMPTION IN SICS 27,38 & 39, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1969:4 TO 1977:4) 33 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH273839SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	5.83726	0.5060	11.54	CONSTANT
1)	0.370640	0.06498	5.704	LOG(JQIND39/E39*E3839LA)
2)	1.35271	0.1101	12.28	LOG(UNCLASS273839)

R-BAR SQUARED: 0.9427
DURBIN-WATSON STATISTIC: 1.5051
STANDARD ERROR OF THE REGRESSION: 0.1400 NORMALIZED: 0.01653

WHERE:

E3839LA	EMPLOYMENT, INSTRUMENTS & MISC. - L.P.&L SERV.AREA, SEAS. ADJUSTED
E39	TOTAL EMPLOYMENT - MISCELLANEOUS MANUFACTURING (SEASONALLY ADJUSTED)
JQIND39	INDUSTRIAL PRODUCTION INDEX - MISCELLANEOUS MANUFACTURES
MH273839SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 27, 38 & 39, SEASONALLY ADJUSTED
UNCLASS273839	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1971:2)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH273839SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1969:4	1,681	1,593	
1970:1	1,580	1,375	
1970:2	930	1,280	
1970:3	1,495	1,193	
1970:4	1,355	1,473	
1971:1	2,693	2,941	
1971:2	3,752	4,934	
1971:3	3,450	4,774	
1971:4	4,391	4,853	
1972:1	5,162	5,118	
1972:2	5,592	5,234	
1972:3	6,255	5,398	
1972:4	6,484	5,486	
1973:1	6,278	5,493	
1973:2	6,363	5,528	
1973:3	6,467	5,821	
1973:4	6,432	5,853	
1974:1	5,976	5,976	
1974:2	6,438	6,417	
1974:3	6,433	6,285	
1974:4	6,972	5,920	
1975:1	5,705	6,242	
1975:2	6,847	6,296	
1975:3	6,672	6,596	
1975:4	6,513	6,899	
1976:1	6,428	7,229	
1976:2	6,569	7,418	
1976:3	6,681	7,417	
1976:4	6,741	7,298	
1977:1	7,690	7,276	
1977:2	7,223	7,199	
1977:3	7,587	7,397	
1977:4	7,509	7,710	

LP&L INDUSTRIAL CONSUMPTION IN SICS 28 & 30, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1967:4 TO 1977:4) 41 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH2830SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	3.57726	0.5850	6.115	CONSTANT
1)	1.01721	0.05816	17.49	LOG(JQIND28/E28* E2830NSLA)
2)	-3.42398	1.069	-3.204	LOG(UNCARA28)
3)	0.0493936	0.04656	1.061	STRIKE28
4)	0.987572	0.1223	8.076	LOG(CHEM28)

R-BAR SQUARED: 0.9830
DURBIN-WATSON STATISTIC: 1.3575
STANDARD ERROR OF THE REGRESSION: 0.05356 NORMALIZED: 0.004055

WHERE:

CHEM28	HOOKER CHEMICAL CO. PLANT EXPANSION CAME ON (75:1)
E28	TOTAL EMPLOYMENT - CHEMICALS AND PRODUCTS (SEASONALLY ADJUSTED)
E2830NSLA	EMPLOYMENT, CHEMICALS & RUBBER - L.P.& L SERVICE AREA
JQIND28	INDUSTRIAL PRODUCTION INDEX - CHEMICALS AND PRODUCTS
MH2830SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 28 & 30, SEASONALLY ADJUSTED
STRIKE28	DOW CHEMICAL STRIKE OF 1500 EMPLOYEES APR-SEP 75 (1975:2-3)
UNCARA28	UNION CARBIDE TERMINATES PLANT MAINTENANCE PERSONNEL (1973)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH2830SALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1967:4	263,766	289,258	*+
1968:1	290,688	300,404	*
1968:2	322,591	310,797	-*
1968:3	327,372	333,822	*
1968:4	340,332	341,053	*
1969:1	378,960	356,672	-*
1969:2	349,493	378,939	*+
1969:3	345,727	387,787	*++
1969:4	397,762	385,892	-*
1970:1	407,370	379,531	-*
1970:2	425,477	394,062	-*
1970:3	428,123	384,074	--*
1970:4	412,857	399,506	-*
1971:1	421,279	411,033	*
1971:2	415,693	432,928	*+
1971:3	445,143	449,379	*
1971:4	502,138	479,397	-*
1972:1	508,776	496,985	-*
1972:2	512,147	511,489	*
1972:3	515,403	537,736	*+
1972:4	497,136	544,785	*++
1973:1	513,097	510,650	*
1973:2	502,778	528,119	*+
1973:3	546,587	520,149	-*
1973:4	518,048	528,661	*
1974:1	521,376	538,832	*+
1974:2	580,090	554,667	-*
1974:3	588,418	599,782	*+
1974:4	587,905	577,928	*
1975:1	704,736	730,946	*+
1975:2	698,552	698,132	*
1975:3	736,311	737,718	*
1975:4	837,287	870,610	*++
1976:1	894,536	918,983	*+
1976:2	1,008,404	966,065	--*
1976:3	1,046,014	985,050	---*
1976:4	1,113,034	1,018,683	----*
1977:1	1,070,655	1,078,148	*
1977:2	1,113,441	1,147,406	*++
1977:3	1,100,950	1,133,953	*++
1977:4	1,091,576	1,123,680	*+

LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1970:1 TO 1977:4) 32 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH3334XKASALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	9.79832	0.05652	173.4	CONSTANT
1)	0.777535	0.1144	6.798	LOG(.75*JQIND33/E33* E33LA/2101+.25*JQIND34/ E34*E34NSLA/1982)
2)				PDL(LRELPOI3334XKA,2,8, BOTH)
\0	-0.0263626	0.003083	-8.552	
\1	-0.0461345	0.005395	-8.552	
\2	-0.0593158	0.006936	-8.552	
\3	-0.0659065	0.007707	-8.552	
\4	-0.0659065	0.007707	-8.552	
\5	-0.0593158	0.006936	-8.552	
\6	-0.0461345	0.005395	-8.552	
\7	-0.0263626	0.003083	-8.552	
SUM	-0.395439	0.04624	-8.552	
AVG	3.50000	0.0	NC	
3)	-0.158198	0.08869	-1.784	DIBAN33
4)	0.824125	0.2568	3.209	LOG(UNCLASS34)

R-BAR SQUARED: 0.9656
DURBIN-WATSON STATISTIC: 0.5676
STANDARD ERROR OF THE REGRESSION: 0.08031 NORMALIZED: 0.007658

WHERE:

DIBAN33	DIEBERT BANCROFT COMPANY SHUT DOWN (1971:1)
E33	TOTAL EMPLOYMENT - PRIMARY METAL INDUSTRIES (SEASONALLY ADJUSTED)
E33LA	EMPLOYMENT, PRIMARY METALS - L.P.& L SERV. AREA, SEASONALLY ADJUSTED
E34	TOTAL EMPLOYMENT - FABRICATED METAL PRODUCTS (SEASONALLY ADJUSTED)
E34NSLA	EMPLOYMENT, FABRICATED METALS - L.P.& L SERVICE AREA
JQIND33	INDUSTRIAL PRODUCTION INDEX - PRIMARY METALS
JQIND34	INDUSTRIAL PRODUCTION INDEX - FABRICATED METAL PRODUCTS
LRELPOI3334XKA	LOGARITHM OF PRICE OF ELECTRICITY RELATIVE TO FUEL OIL (SICS 33 & 34)
MH3334XKASALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 33 & 34, EXCEPT KAISER ALUMINUM, SEASONALLY ADJUSTED
UNCLASS34	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (71:2-4)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH3334XKASALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1970:1	18,077	17,498	-*
1970:2	18,120	17,895	*
1970:3	18,110	18,259	*
1970:4	16,977	18,366	*+
1971:1	16,202	16,362	*
1971:2	20,678	21,922	*+
1971:3	23,244	22,272	-*
1971:4	27,884	25,599	--*
1972:1	30,032	28,940	-*
1972:2	33,042	30,290	--*
1972:3	34,513	31,656	--*
1972:4	34,791	33,488	-*
1973:1	34,922	34,078	-*
1973:2	34,117	35,638	*+
1973:3	35,611	38,472	*++
1973:4	36,909	39,169	*++
1974:1	36,416	37,835	*+
1974:2	34,655	39,861	*+++
1974:3	39,769	42,743	*+++
1974:4	37,295	42,399	*+++
1975:1	39,632	46,088	*+++++
1975:2	41,468	44,876	*+++
1975:3	40,568	46,398	*++++
1975:4	46,468	49,059	*++
1976:1	57,314	55,558	--*
1976:2	60,360	58,902	-*
1976:3	63,753	60,920	--*
1976:4	63,593	60,190	---*
1977:1	61,381	59,948	-*
1977:2	61,065	61,605	*
1977:3	62,918	60,457	--*
1977:4	70,623	60,163	---------*

LP&L INDUSTRIAL CONSUMPTION IN SICS 35,36 & 37, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1963:1 TO 1977:4) 60 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MH353637SALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.41418	0.3501	4.039	CONSTANT
1)	0.990683	0.03766	26.30	LOG(JQIND37/E37* E353637LA)
2)	2.97490	1.242	2.395	LOG(BETSY37)
3)	0.605511	0.08450	7.166	LOG(UNCLASS353637)

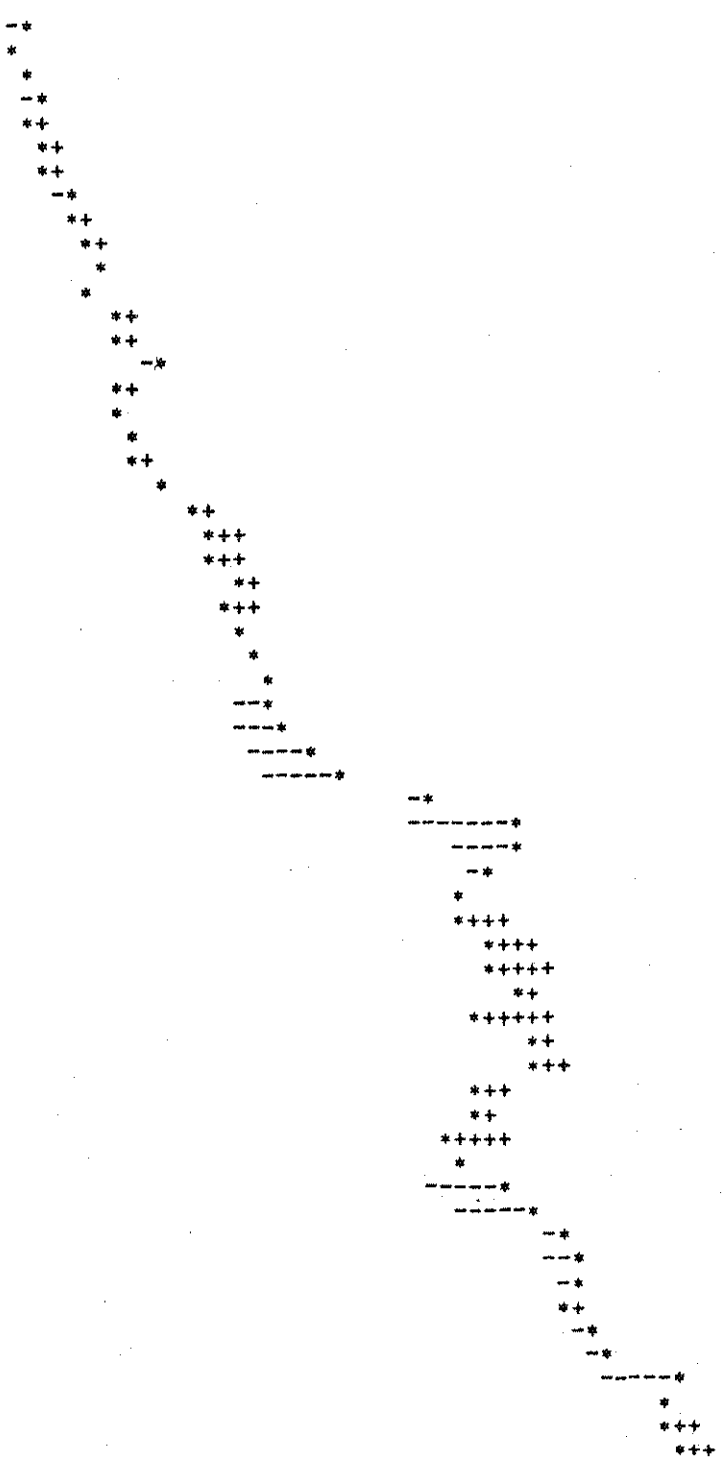
R-BAR SQUARED: 0.9822
DURBIN-WATSON STATISTIC: 0.9084
STANDARD ERROR OF THE REGRESSION: 0.06663 NORMALIZED: 0.006562

WHERE:

BETSY37	BETSY RESULTS IN AVONDALE LOSS OF -800 & -1600 MWH/MO (1965:3-4)
E353637LA	EMPLOYMENT, MACHINERY & TRANSP.EQUIP.- L.P.&L SERV.AREA, SEAS.ADJUST.
E37	TOTAL EMPLOYMENT - TRANSPORTATION EQUIPMENT (SEASONALLY ADJUSTED)
JQIND37	INDUSTRIAL PRODUCTION INDEX - TRANSPORTATION EQUIPMENT
MH353637SALA	LP&L INDUSTRIAL CONSUMPTION IN SICS 35, 36 & 37, SEASONALLY ADJUSTED
UNCLASS353637	UNCLASSIFIED CUSTOMERS PRIOR TO COMPUTER CONVERSION (1971:1)

PLOT OF FITTED VERSUS ACTUAL RESULTS: MH353637SALA

DATE	ACTUAL	FITTED
1963:1	10,613	9,912
1963:2	9,961	9,983
1963:3	10,500	10,304
1963:4	11,262	10,593
1964:1	11,155	11,713
1964:2	11,821	12,588
1964:3	12,129	12,718
1964:4	13,192	12,629
1965:1	13,457	14,242
1965:2	14,686	15,384
1965:3	14,854	15,213
1965:4	14,638	14,491
1966:1	16,355	17,358
1966:2	16,243	17,442
1966:3	18,565	17,406
1966:4	16,299	17,284
1967:1	16,390	16,330
1967:2	16,651	16,849
1967:3	17,223	17,695
1967:4	19,202	19,384
1968:1	20,791	21,499
1968:2	21,053	22,817
1968:3	21,687	23,076
1968:4	23,146	23,632
1969:1	22,453	23,794
1969:2	23,405	23,211
1969:3	24,067	23,935
1969:4	24,634	24,312
1970:1	24,757	22,763
1970:2	25,964	23,610
1970:3	27,829	23,934
1970:4	29,010	24,476
1971:1	34,852	33,763
1971:2	40,026	33,946
1971:3	39,820	35,945
1971:4	38,738	38,236
1972:1	36,801	37,174
1972:2	36,624	39,382
1972:3	38,440	41,400
1972:4	38,491	41,610
1973:1	39,804	41,084
1973:2	37,515	41,782
1973:3	40,730	41,689
1973:4	40,874	42,590
1974:1	37,686	39,842
1974:2	37,717	39,015
1974:3	35,238	38,968
1974:4	36,588	36,531
1975:1	39,065	35,022
1975:2	41,103	37,049
1975:3	42,622	41,887
1975:4	43,983	42,312
1976:1	43,666	43,029
1976:2	42,472	43,700
1976:3	44,895	43,653
1976:4	45,425	44,218
1977:1	49,487	45,150
1977:2	48,595	48,762
1977:3	49,280	50,885
1977:4	49,742	51,639



LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1968:1 TO 1977:4) 40 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MHNMSALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	13.5228	0.04766	283.7	CONSTANT
1)	1.28199	0.1719	7.456	LOG(ENMLA)
2)	0.000262076	0.0001063	2.466	L1DNCDDNOLA
3)	1.03341	0.1330	7.772	LOG(COMPUTNM)
4)	-0.230533	0.1866	-1.235	LOG(EMPLOY722NM)
5)	-1.25195	0.3347	-3.740	LOG(EMPLOY734NM)
6)	-0.215567	0.1888	-1.142	LRWMPNM

R-BAR SQUARED: 0.9808
DURBIN-WATSON STATISTIC: 0.8671
STANDARD ERROR OF THE REGRESSION: 0.04761 NORMALIZED: 0.003633

WHERE:

COMPUTNM	COMPUTER CONVERSION OF NON-MANUFUCTURING CUSTOMERS (1971:3-4)
EMPLOY722NM	EMPLOYMENT LEVEL CHANGE (1972:2)
EMPLOY734NM	EMPLOYMENT LEVEL CHANGE (1973:4)
ENMLA	EMPLOYMENT, NON-MANUFACTURING - L.P.&L SERV.AREA, SEASONALLY ADJUST.
LRWMPNM	LOG OF REAL WEIGHTED MARGINAL PRICE OF ELECTRICITY FOR NON-MANUFACT.
L1DNCDONOLA	LAG ONE DIFFERENCE FROM NORMAL COOLING DEGREE DAYS - NEW ORLEANS
MHNMSALA	LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED

PLOT OF FITTED VERSUS ACTUAL RESULTS: MHNMSALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1968:1	275,972	295,415	*++
1968:2	281,445	296,092	*+
1968:3	286,061	308,212	*++
1968:4	294,056	301,465	*+
1969:1	300,668	312,635	*+
1969:2	309,521	310,963	*
1969:3	325,414	330,430	*
1969:4	329,686	334,212	*
1970:1	333,868	323,793	-*
1970:2	349,731	332,773	-*
1970:3	354,722	338,451	-*
1970:4	353,941	344,661	-*
1971:1	362,331	348,549	-*
1971:2	376,522	344,870	---*
1971:3	448,422	433,353	-*
1971:4	484,255	504,416	*++
1972:1	514,256	504,319	-*
1972:2	524,845	499,739	--*
1972:3	556,301	519,543	---*
1972:4	577,439	551,170	--*
1973:1	558,478	560,898	*
1973:2	553,224	575,361	*++
1973:3	564,259	635,885	*+++++
1973:4	600,905	583,537	-*
1974:1	576,145	557,448	--*
1974:2	587,609	578,429	-*
1974:3	579,192	568,603	-*
1974:4	582,953	594,219	*+
1975:1	627,334	629,797	*
1975:2	639,865	644,145	*
1975:3	630,982	645,858	*+
1975:4	650,040	681,056	*+++
1976:1	663,632	689,044	*++
1976:2	662,282	698,530	*+++
1976:3	699,142	720,809	*++
1976:4	734,895	718,171	-*
1977:1	775,462	735,303	---*
1977:2	807,542	782,706	--*
1977:3	816,938	800,536	-*
1977:4	827,633	828,234	*

LP&L STREETLIGHTING TOTAL CONSUMPTION

ORDINARY LEAST SQUARES

QUARTERLY(1962:2 TO 1977:4) 63 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MHSLTLA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	-0.585932	0.3394	-1.726	CONSTANT
1)	0.853477	0.05199	16.41	LOG(MHSLTLA\1)
2)	0.158796	0.06469	2.455	LOG(CURTLA)
3)	-0.0587389	0.01572	-3.736	BETSYSL
4)	0.0960329	0.01569	6.121	ACCTNG714SL
5)	-0.0457452	0.01681	-2.722	ACCTNG721SL

R-BAR SQUARED: 0.9941
DURBIN-WATSON STATISTIC: 1.7956
STANDARD ERROR OF THE REGRESSION: 0.01548 NORMALIZED: 0.001613

WHERE:

ACCTNG714SL	ACCOUNTING PROBLEMS W/STREET LIGHTING ENERGY (1971:4)
ACCTNG721SL	ACCOUNTING PROBLEMS W/STREET LIGHTING ENERGY (1972:1)
BETSYSL	STREET LIGHT ADJUSTMENT FOLLOWING HURRICANE BETSY (1966:1)
CURTLA	LP&L RESIDENTIAL TOTAL CUSTOMERS
MHSLTLA	LP&L STREETLIGHTING TOTAL CONSUMPTION

PLOT OF FITTED VERSUS ACTUAL RESULTS: MHSLTLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1962:2	9,735	10,002	*+
1962:3	9,941	10,008	*
1962:4	10,039	10,205	*+
1963:1	10,262	10,299	*
1963:2	10,424	10,505	*
1963:3	10,565	10,666	*
1963:4	10,741	10,806	*
1964:1	11,189	10,978	-*
1964:2	11,402	11,388	*
1964:3	11,518	11,589	*
1964:4	11,689	11,706	*
1965:1	11,901	11,870	*
1965:2	12,132	12,073	*
1965:3	12,304	12,301	*
1965:4	12,367	12,453	*
1966:1	11,816	11,815	*
1966:2	12,732	12,070	---*
1966:3	12,916	12,893	*
1966:4	13,277	13,105	-*
1967:1	13,487	13,432	*
1967:2	13,508	13,627	*+
1967:3	13,763	13,667	*
1967:4	14,163	13,896	-*
1968:1	14,371	14,254	-*
1968:2	14,398	14,452	*
1968:3	14,535	14,502	*
1968:4	14,933	14,640	-*
1969:1	15,143	14,994	-*
1969:2	15,172	15,187	*
1969:3	15,346	15,235	*
1969:4	15,665	15,388	-*
1970:1	15,766	15,683	*
1970:2	15,651	15,793	*+
1970:3	15,780	15,722	*
1970:4	15,707	15,842	*+
1971:1	16,139	15,784	--*
1971:2	15,960	16,178	*+
1971:3	16,039	16,055	*
1971:4	17,779	17,778	*
1972:1	16,872	16,871	*
1972:2	15,898	16,921	*++++
1972:3	16,040	16,116	*
1972:4	16,468	16,274	-*
1973:1	16,675	16,669	*
1973:2	16,519	16,872	*++
1973:3	16,691	16,762	*
1973:4	17,113	16,933	-*
1974:1	17,174	17,313	*+
1974:2	17,039	17,390	*++
1974:3	17,264	17,297	*
1974:4	17,640	17,511	-*
1975:1	17,746	17,852	*
1975:2	17,827	17,961	*+
1975:3	17,993	18,050	*
1975:4	18,417	18,216	-*
1976:1	18,696	18,603	*
1976:2	18,568	18,863	*+
1976:3	18,735	18,776	*
1976:4	19,123	18,976	-*
1977:1	19,894	19,354	--*
1977:2	19,914	20,041	*+
1977:3	19,983	20,083	*
1977:4	20,282	20,166	-*

LP&L CO-OPERATIVE TOTAL CONSUMPTION, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1960:1 TO 1977:4) 72 OBSERVATIONS
DEPENDENT VARIABLE: MHWCSALA

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	9628.92	1226	7.852	CONSTANT
1)	0.171180	0.01281	13.37	MHRTSALA
2)	0.0421070	0.02099	2.006	MHNMSALA

R-BAR SQUARED: 0.9959
DURBIN-WATSON STATISTIC: 1.0279
STANDARD ERROR OF THE REGRESSION: 4501 NORMALIZED: 0.03340

WHERE:

MHNMSALA	LP&L NON-MANUFACTURING TOTAL CONSUMPTION, SEASONALLY ADJUSTED
MHRTSALA	LP&L RESIDENTIAL TOTAL ENERGY, SEASONALLY ADJUSTED
MHWCSALA	LP&L CO-OPERATIVE TOTAL CONSUMPTION, SEASONALLY ADJUSTED

PLOT OF FITTED VERSUS ACTUAL RESULTS: MHWCSALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1960:1	44,905	44,690	*
1960:2	45,876	44,269	*
1960:3	47,389	46,347	*
1960:4	49,299	47,714	*
1961:1	49,014	49,657	*
1961:2	50,216	47,636	*
1961:3	45,476	45,972	*
1961:4	51,534	50,578	*
1962:1	52,224	53,197	*
1962:2	53,806	56,783	*+
1962:3	57,788	59,219	*
1962:4	58,880	60,061	*
1963:1	60,148	60,879	*
1963:2	62,251	63,472	*
1963:3	61,857	63,436	*
1963:4	64,877	66,335	*
1964:1	67,587	68,632	*
1964:2	69,514	68,633	*
1964:3	71,695	72,796	*
1964:4	73,046	74,680	*
1965:1	75,973	74,213	*
1965:2	80,583	82,327	*
1965:3	81,762	78,351	-*
1965:4	83,968	80,032	-*
1966:1	88,392	85,179	-*
1966:2	89,223	86,933	*
1966:3	93,682	93,012	*
1966:4	93,787	91,916	*
1967:1	96,588	96,254	*
1967:2	99,260	105,954	*+
1967:3	98,916	98,667	*
1967:4	105,928	99,876	-*
1968:1	112,181	110,675	*
1968:2	113,156	113,416	*
1968:3	112,668	117,800	*+
1968:4	117,883	121,506	*+
1969:1	120,561	120,478	*
1969:2	124,843	123,204	*
1969:3	140,347	139,732	*
1969:4	136,552	132,506	-*
1970:1	140,889	134,715	-*
1970:2	150,834	144,355	-*
1970:3	151,459	148,444	-*
1970:4	146,312	145,570	*
1971:1	152,373	148,445	-*
1971:2	157,637	157,377	*
1971:3	160,795	160,353	*
1971:4	164,916	172,253	*+
1972:1	165,206	174,554	*+
1972:2	174,793	180,480	*+
1972:3	186,020	191,892	*+
1972:4	191,704	205,494	*+++
1973:1	192,022	192,786	*
1973:2	181,631	188,323	*+
1973:3	200,430	204,674	*+
1973:4	208,149	221,521	*+++
1974:1	191,689	194,918	*+
1974:2	212,032	214,117	*
1974:3	204,789	203,312	*
1974:4	206,942	201,749	-*
1975:1	212,265	214,843	*
1975:2	231,259	231,872	*
1975:3	225,265	220,052	-*
1975:4	224,865	225,479	*
1976:1	235,849	230,465	-*
1976:2	230,062	223,393	-*
1976:3	243,529	237,936	-*
1976:4	262,389	249,337	---*
1977:1	265,771	266,543	*
1977:2	271,218	274,465	*+
1977:3	278,410	272,577	-*
1977:4	278,155	273,983	-*

LP&L MUNICIPAL TOTAL CONSUMPTION, EXCEPT MINDEN & EMERGENCY SALES, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1964:1 TO 1977:4) 56 OBSERVATIONS
DEPENDENT VARIABLE: LOG(MHMTLEMSALA)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.17334	0.1997	5.876	CONSTANT
1)	0.648166	0.01484	43.68	LOG(MHRTSALA)

R-BAR SQUARED: 0.9720
DURBIN-WATSON STATISTIC: 0.5242
STANDARD ERROR OF THE REGRESSION: 0.04951 NORMALIZED: 0.005006

WHERE:

MHMTLEMSALA	LP&L MUNICIPAL TOTAL CONSUMPTION, EXCEPT MINDEN & EMERGENCY SALES, SEASONALLY ADJUSTED
MHRTSALA	LP&L RESIDENTIAL TOTAL ENERGY, SEASONALLY ADJUSTED

PLOT OF FITTED VERSUS ACTUAL RESULTS: MHMTLEMSALA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1964:1	10,783	11,561	*+
1964:2	10,674	11,562	*+
1964:3	11,078	12,117	*+
1964:4	11,402	12,348	*+
1965:1	11,416	12,270	*+
1965:2	11,968	13,303	*+
1965:3	12,445	12,770	*+
1965:4	12,631	12,999	*+
1966:1	13,963	13,613	-*
1966:2	14,700	13,825	-*
1966:3	15,212	14,522	-*
1966:4	15,256	14,344	-*
1967:1	15,923	14,822	-*
1967:2	16,107	15,948	*
1967:3	15,343	15,074	-*
1967:4	17,064	15,172	-*
1968:1	17,668	16,395	-*
1968:2	17,741	16,692	-*
1968:3	17,152	17,181	*
1968:4	17,937	17,569	-*
1969:1	17,964	17,419	-*
1969:2	18,471	17,689	-*
1969:3	20,042	19,450	-*
1969:4	19,033	18,639	-*
1970:1	19,689	18,864	-*
1970:2	20,822	19,838	-*
1970:3	21,721	20,251	-*
1970:4	20,842	19,949	-*
1971:1	21,391	20,218	-*
1971:2	21,914	21,091	-*
1971:3	22,173	21,086	-*
1971:4	23.096	22,149	-*
1972:1	22,594	22,253	-*
1972:2	23,620	22,801	-*
1972:3	23,661	23,792	*
1972:4	24,288	25,009	*+
1973:1	23,959	23,870	*
1973:2	21,782	23,457	*+
1973:3	24,436	24,984	*+
1973:4	26,607	26,409	*
1974:1	24,223	24,004	-*
1974:2	26,190	25,777	-*
1974:3	24,222	24,796	*+
1974:4	23,644	24,632	*+
1975:1	24,998	25,689	*+
1975:2	25,962	27,202	*+
1975:3	25,803	26,158	*+
1975:4	24,966	26,582	*+
1976:1	27,075	26,984	*
1976:2	24,828	26,344	*+
1976:3	26,659	27,523	*+
1976:4	27,771	28,403	*+
1977:1	28,346	29,753	*+
1977:2	30,671	30,315	-*
1977:3	30,489	30,120	-*
1977:4	30,239	30,202	*

ENERGY MODEL

FORECAST BY ANNUAL REPORT CATEGORIES

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	1979	1980	1981	1982	1983	1984	1985
I. RESIDENTIAL,TOTAL	6,452,577	6,799,264	7,211,017	7,658,693	8,079,946	8,524,988	9,036,141
%CH FROM YEAR AGO	10.1	5.4	6.1	6.2	5.5	5.5	6.0
A. CUSTOMERS,TOTAL	433,249	443,949	455,023	466,357	477,892	489,716	501,861
B. CUSTOMERS,ALL-ELECTRIC	53,467	59,636	66,390	73,697	81,536	89,967	99,021
C. MWH PER CUSTOMER	14.892	15.314	15.846	16.421	16.907	17.407	18.004
%CH FROM YEAR AGO	2.8	2.8	3.5	3.6	3.0	3.0	3.4
II. WHOLESALE,TOTAL	1,541,811	864,321	143,204	150,089	156,522	163,149	169,832
%CH FROM YEAR AGO	0.0	-43.9	-83.4	4.8	4.3	4.2	4.1
A. MUNICIPALS	130,920	136,675	143,204	150,089	156,522	163,149	169,832
B. CO-OPS	1,313,691	683,031	0	0	0	0	0
C. MINDEN	97,200	44,615	0	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	425,242	446,449	479,029	495,573	515,573	537,433	560,912
%CH FROM YEAR AGO	8.0	5.0	7.3	3.5	4.0	4.2	4.4
IV. INDUSTRIAL,TOTAL	11,454,892	12,406,258	14,877,089	15,478,776	16,093,181	16,959,864	18,069,765
%CH FROM YEAR AGO	18.2	8.3	19.9	4.0	4.0	5.4	6.5
A. MANUFACTURING	10,061,783	10,826,500	12,283,540	12,581,332	13,201,687	13,939,065	14,794,796
%CH FROM YEAR AGO	15.1	7.6	13.5	2.4	4.9	5.6	6.1
B. KAISER ALUMINUM	247,941	239,148	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	22.9	-3.5	376.2	0.0	0.0	0.0	0.0
C. NON-MANUFACTURING	822,990	948,907	1,027,650	1,391,018	1,451,035	1,517,631	1,589,797
%CH FROM YEAR AGO	10.2	15.3	8.3	35.4	4.3	4.6	4.8
D. NATURAL GAS EFFECT	322,178	391,703	427,099	367,627	301,659	364,367	546,372
V. COMMERCIAL	2,892,014	3,046,513	3,299,322	3,411,244	3,558,425	3,721,742	3,898,718
%CH FROM YEAR AGO	10.2	5.3	8.3	3.4	4.3	4.6	4.8
TOTAL MWH SALES	22,766,536	23,565,415	26,012,488	27,194,375	28,403,647	29,907,177	31,735,368
%CH FROM YEAR AGO	13.2	3.5	10.4	4.5	4.4	5.3	6.1

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	1986	1987	1988	1989	1990	1991	1992
I. RESIDENTIAL,TOTAL	9,543,856	10,060,631	10,576,862	11,086,599	11,593,574	12,118,339	12,660,437
%CH FROM YEAR AGO	5.6	5.4	5.1	4.8	4.6	4.5	4.5
A. CUSTOMERS,TOTAL	514,304	526,930	539,653	552,448	565,301	578,219	591,214
B. CUSTOMERS,ALL-ELECTRIC	108,698	118,934	129,677	140,903	152,592	164,737	177,341
C. MWH PER CUSTOMER	18.556	19.092	19.598	20.067	20.508	20.957	21.413
%CH FROM YEAR AGO	3.1	2.9	2.7	2.4	2.2	2.2	2.2
II. WHOLESALE,TOTAL	175,958	182,076	188,079	193,906	199,608	205,418	211,329
%CH FROM YEAR AGO	3.6	3.5	3.3	3.1	2.9	2.9	2.9
A. MUNICIPALS	175,958	182,076	188,079	193,906	199,608	205,418	211,329
B. CO-OPS	0	0	0	0	0	0	0
C. MINDEN	0	0	0	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	584,173	606,223	627,363	647,856	668,274	689,040	709,578
%CH FROM YEAR AGO	4.1	3.8	3.5	3.3	3.2	3.1	3.0
IV. INDUSTRIAL,TOTAL	19,334,609	20,429,529	21,798,230	23,044,815	24,399,319	25,886,027	27,474,285
%CH FROM YEAR AGO	7.0	5.7	6.7	5.7	5.9	6.1	6.1
A. MANUFACTURING	15,784,844	16,691,441	17,638,723	18,646,236	19,733,999	20,946,099	22,239,912
%CH FROM YEAR AGO	6.7	5.7	5.7	5.7	5.8	6.1	6.2
B. KAISER ALUMINUM	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C. NON-MANUFACTURING	1,661,027	1,727,828	1,791,288	1,852,361	1,913,068	1,974,907	2,035,861
%CH FROM YEAR AGO	4.5	4.0	3.7	3.4	3.3	3.2	3.1
D. NATURAL GAS EFFECT	749,938	871,460	1,229,419	1,407,418	1,613,452	1,826,221	2,059,713
V. COMMERCIAL	4,073,396	4,237,215	4,392,841	4,542,613	4,691,487	4,843,137	4,992,616
%CH FROM YEAR AGO	4.5	4.0	3.7	3.4	3.3	3.2	3.1
TOTAL MWH SALES	33,711,991	35,515,674	37,583,375	39,515,788	41,552,262	43,741,961	46,048;245
%CH FROM YEAR AGO	6.2	5.4	5.8	5.1	5.2	5.3	5.3

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	1993	1994	1995	1996	1997	1998	1999
I. RESIDENTIAL,TOTAL	13,214,470	13,782,217	14,361,816	14,942,510	15,533,049	16,130,312	16,744,285
%CH FROM YEAR AGO	4.4	4.3	4.2	4.0	4.0	3.8	3.8
A. CUSTOMERS,TOTAL	604,309	617,505	630,776	644,067	657,376	670,735	684,180
B. CUSTOMERS,ALL-ELECTRIC	189,675	202,064	214,946	228,280	242,056	255,292	268,439
C. MWH PER CUSTOMER	21.866	22.318	22.768	23.200	23.628	24.048	24.473
%CH FROM YEAR AGO	2.1	2.1	2.0	1.9	1.8	1.8	1.8
II. WHOLESALE,TOTAL	217,278	223,284	229,326	235,294	241,281	247,254	253,314
%CH FROM YEAR AGO	2.8	2.8	2.7	2.6	2.5	2.5	2.5
A. MUNICIPALS	217,278	223,284	229,326	235,294	241,281	247,254	253,314
B. CO-OPS	0	0	0	0	0	0	0
C. MINDEN	0	0	0	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	729,782	749,720	768,963	786,692	804,783	823,117	842,260
%CH FROM YEAR AGO	2.8	2.7	2.6	2.3	2.3	2.3	2.3
IV. INDUSTRIAL,TOTAL	29,106,114	30,729,900	32,351,082	34,049,146	35,852,718	37,831,121	40,069,541
%CH FROM YEAR AGO	5.9	5.6	5.3	5.2	5.3	5.5	5.9
A. MANUFACTURING	23,561,764	24,864,257	26,153,932	27,504,861	28,935,838	30,507,689	32,291,987
%CH FROM YEAR AGO	5.9	5.5	5.2	5.2	5.2	5.4	5.8
B. KAISER ALUMINUM	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C. NON-MANUFACTURING	2,095,554	2,154,220	2,210,361	2,261,129	2,313,109	2,365,883	2,421,420
%CH FROM YEAR AGO	2.9	2.8	2.6	2.3	2.3	2.3	2.3
D. NATURAL GAS EFFECT	2,309,996	2,572,622	2,847,989	3,144,356	3,464,971	3,818,750	4,217,334
V. COMMERCIAL	5,139,005	5,282,873	5,420,548	5,545,050	5,672,522	5,801,941	5,938,136
%CH FROM YEAR AGO	2.9	2.8	2.6	2.3	2.3	2.3	2.3
TOTAL MWH SALES	48,406,648	50,767,994	53,131,735	55,558,692	58,104,353	60,833,745	63,847,536
%CH FROM YEAR AGO	5.1	4.9	4.7	4.6	4.6	4.7	5.0

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	2000	2001	2002	2003
I. RESIDENTIAL,TOTAL	17,381,442	18,041,408	18,730,084	19,451,631
%CH FROM YEAR AGO	3.8	3.8	3.8	3.9
A. CUSTOMERS,TOTAL	697,752	711,482	725,409	739,576
B. CUSTOMERS,ALL-ELECTRIC	281,631	294,607	307,666	321,000
C. MWH PER CUSTOMER	24.910	25.357	25.819	26.300
%CH FROM YEAR AGO	1.8	1.8	1.8	1.9
II. WHOLESALE,TOTAL	259,521	265,866	272,400	279,157
%CH FROM YEAR AGO	2.5	2.4	2.5	2.5
A. MUNICIPALS	259,521	265,866	272,400	279,157
B. CO-OPS	0	0	0	0
C. MINDEN	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	862,419	883,609	906,139	929,902
%CH FROM YEAR AGO	2.4	2.5	2.5	2.6
IV. INDUSTRIAL,TOTAL	42,519,072	45,162,588	48,030,046	51,068,534
%CH FROM YEAR AGO	6.1	6.2	6.3	6.3
A. MANUFACTURING	34,242,022	36,340,406	38,610,230	41,003,514
%CH FROM YEAR AGO	6.0	6.1	6.2	6.2
B. KAISER ALUMINUM	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	0.0	0.0	0.0	0.0
C. NON-MANUFACTURING	2,480,422	2,542,910	2,609,943	2,681,110
%CH FROM YEAR AGO	2.4	2.5	2.6	2.7
D. NATURAL GAS EFFECT	4,657,829	5,140,473	5,671,072	6,245,110
V. COMMERCIAL	6,082,828	6,236,070	6,400,459	6,574,984
%CH FROM YEAR AGO	2.4	2.5	2.6	2.7
TOTAL MWH SALES	67,105,282	70,589,541	74,339,129	78,304,208
%CH FROM YEAR AGO	5.1	5.2	5.3	5.3

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1979												TOTAL FOR 1979
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
RESIDENTIAL,TOTAL	406562	397332	356435	348134	409579	620297	769410	838709	852397	666763	413572	373386	6452577
CUST'S,RESID.TOTAL	428256	429030	429891	430709	431570	432648	433876	434954	435801	436599	437446	438210	433249
CUST'S,ALL-ELEC.	50738	51219	51711	52200	52691	53200	53717	54226	54726	55222	55722	56226	53467
MWH/CUST	0.952	0.927	0.829	0.810	0.950	1.436	1.774	1.931	1.956	1.531	0.948	0.848	14.892
WHOLESALE,TOTAL	117825	116063	101696	100107	106707	144209	163391	177487	166518	119881	113561	114369	1541811
MUNICIPALS	8532	8772	7911	8196	9734	12944	14814	15916	15339	10803	9312	8647	130920
CO-OPS	102067	100065	86559	84265	89328	123620	138694	151688	141296	101432	96602	98076	1313691
MINDEN	7225	7225	7225	7645	7645	7645	9883	9883	9883	7646	7646	7646	97200
GOVT&MUN(INCL STRTLITES)	32224	32266	31257	32152	33529	37150	38821	39885	40550	38003	35867	33538	425241
INDUSTRIAL,TOTAL	950369	883496	847623	952500	942296	988631	961561	986867	1004595	979359	977114	980481	11454892
MANUFACTURING	850390	780861	744969	848354	832348	867258	834750	857027	872721	853165	855708	864232	10061783
KAISER ALUMINUM	22860	22860	22860	19929	19929	19929	19929	19929	19929	19929	19929	19929	247941
NON-MANUFACTURING	60996	61171	58710	60653	63973	72918	76849	79342	80841	74625	69302	63609	822990
NAT GAS EFFECT	16123	18604	21084	23565	26045	28526	30034	30569	31104	31640	32175	32710	322178
COMMERCIAL	214343	214958	206307	213136	224804	256237	270050	278811	284076	262234	243531	223526	2892014
TOTAL MWH SALES	1721323	1644115	1543317	1646030	1716916	2046524	2203233	2321758	2348136	2066240	1783644	1725299	22766536

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1980												TOTAL FOR
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	1980
RESIDENTIAL,TOTAL	430592	420823	377534	366038	430599	652003	809460	882344	896740	703090	436200	393840	6799264
CUST'S,RESID.TOTAL	438914	439678	440539	441355	442216	443310	444554	445648	446528	447361	448240	449043	443949
CUST'S,ALL-ELEC.	56725	57229	57749	58266	58786	59333	59888	60436	60984	61530	62078	62635	59636
MWH/CUST	0.983	0.958	0.857	0.831	0.975	1.473	1.822	1.983	2.009	1.575	0.976	0.873	15.314
WHOLESALE,TOTAL	134995	133126	117925	115635	122566	162000	15447	16596	15994	11281	9725	9030	864321
MUNICIPALS	8940	9191	8290	8544	10146	13491	15447	16596	15994	11281	9725	9030	136675
CO-OPS	118830	116710	102410	99445	104773	140863	0	0	0	0	0	0	683031
MINDEN	7225	7225	7225	7646	7646	7646	0	0	0	0	0	0	44615
GOVT&MUN(INCL STRTLITES)	33849	33894	32831	33782	35233	39048	40947	42073	42776	39637	37406	34973	446449
INDUSTRIAL,TOTAL	1018169	944194	903786	1034570	1021790	1070319	1045050	1070845	1090041	1071263	1068474	1070369	12408870
MANUFACTURING	897381	822716	784659	912638	895537	933250	902659	925313	942522	931851	934906	943069	10826500
KAISER ALUMINUM	19929	19929	19929	19929	19929	19929	19929	19929	19929	19929	19929	19929	239148
NON-MANUFACTURING	70543	70744	67905	70222	74055	84382	89337	92229	93967	85611	79519	73003	951518
NAT GAS EFFECT	30317	30805	31293	31781	32269	32757	33126	33374	33623	33871	34120	34368	391703
COMMERCIAL	225782	226430	217315	224752	237059	270214	286122	295407	300987	274161	254602	233682	3046513
TOTAL MWH SALES	1843363	1758443	1649360	1774752	1847233	2193598	2197055	2307300	2346578	2099449	1806407	1741877	23565415

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1981												TOTAL FOR 1981
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
RESIDENTIAL,TOTAL	455121	444792	399019	387913	456362	691100	859255	936637	951922	747071	463422	418402	7211017
CUST'S,RESID.TOTAL	449787	450589	451490	452347	453248	454377	455657	456787	457694	458553	459460	460281	455023
CUST'S,ALL-ELEC.	63188	63745	64319	64891	65465	66065	66674	67274	67871	68466	69063	69664	66390
MWH/CUST	1.014	0.988	0.884	0.859	1.008	1.523	1.887	2.053	2.080	1.633	1.011	0.905	15.846
WHOLESALE,TOTAL	9349	9612	8669	8950	10629	14132	16194	17399	16768	11832	10200	9471	143204
MUNICIPALS	9349	9612	8669	8950	10629	14132	16194	17399	16768	11832	10200	9471	143204
CO-OPS	0	0	0	0	0	0	0	0	0	0	0	0	0
MINDEN	0	0	0	0	0	0	0	0	0	0	0	0	0
GOVT&MUN(INCL STRTLITES)	35928	35977	34841	35813	37361	41435	43340	44536	45282	41841	39473	36892	472719
INDUSTRIAL,TOTAL	1244920	1161746	1115911	1258237	1240887	1297659	1239850	1267365	1287668	1279572	1273914	1273899	14941629
MANUFACTURING	1039318	955675	912621	1052303	1030608	1076105	1013394	1038257	1057135	1030748	1033965	1043413	12283540
KAISER ALUMINUM	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	1138800
NON-MANUFACTURING	75485	75701	72667	75058	79150	90172	95161	98238	100087	118803	110353	101314	1092190
NAT GAS EFFECT	35217	35470	35723	35976	36229	36482	36396	35971	35546	35121	34696	34272	427099
COMMERCIAL	241292	241984	232245	239921	253058	288447	304463	314342	320279	290500	269778	247612	3243920
TOTAL MWH SALES	1986643	1894144	1790710	1930865	1998340	2332847	2463189	2580375	2622020	2370642	2056612	1986102	26012488

PEAK DEMAND MODEL INDEX

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SUMMER PEAK REGRESSION RESULTS AND
PLOT OF FITTED VS. ACTUAL . . . . . Page 120

LOUISIANA POWER & LIGHT COMPANY

ENERGY AND PEAK DEMAND

1967 - 2003

YEAR	ENERGY *	%	PEAK ** DEMAND	%
ACTUAL				
1967	5,913,948	19.2	1,284	11.1
1968	6,999,630	18.4	1,498	16.3
1969	7,983,323	14.1	1,779	19.2
1970	8,726,057	9.3	1,872	5.2
1971	9,765,689	11.9	2,096	12.0
1972	11,526,449	18.0	2,389	14.0
1973	12,497,925	8.4	2,563	7.3
1974	12,957,931	3.7	2,692	5.0
1975	14,099,279	8.8	2,883	7.1
1976	16,088,493	14.1	3,180	10.3
1977	18,340,818	14.0	3,515	10.5
1978	20,110,464	9.6	3,852	9.6
FORECAST				
1979	22,766,536	13.2	4,220	9.6
1980	23,565,415	3.5	4,156	-1.5
1981	26,012,488	10.4	4,664	12.2
1982	27,194,375	4.5	4,934	5.8
1983	28,403,647	4.4	5,166	4.7
1984	29,907,177	5.3	5,454	5.6
1985	31,735,368	6.1	5,781	6.0
1986	33,711,991	6.2	6,122	5.9
1987	35,515,674	5.4	6,443	5.2
1988	37,583,375	5.8	6,800	5.5
1989	39,515,788	5.1	7,131	4.9
1990	41,552,262	5.2	7,480	4.9
1991	43,741,961	5.3	7,850	4.9
1992	46,048,245	5.3	8,238	4.9
1993	48,406,648	5.1	8,633	4.8
1994	50,767,994	4.9	9,029	4.6
1995	53,131,735	4.7	9,429	4.4
1996	55,558,692	4.6	9,835	4.3
1997	58,104,353	4.6	10,259	4.3
1998	60,833,745	4.7	10,707	4.4
1999	63,847,536	5.0	11,195	4.6
2000	67,105,282	5.1	11,716	4.7
2001	70,589,541	5.2	12,269	4.7
2002	74,339,129	5.3	12,860	4.8
2003	78,304,208	5.3	13,483	4.8

* Millions of kilowatt-hours

** Megawatts

SUMMER MEGAWATT DEMAND MINUS KAISER ALUMINUM PEAK PLUS HOOKER CHEMICAL ENERGY MINUS HOOKER CHEMICAL PEAK

ORDINARY LEAST SQUARES

WEEKLY@FRIDAY(1967:22 TO 1977:34) 535 OBSERVATIONS (382 OMITTED)
DEPENDENT VARIABLE: MGWLP16*DV-SUMKAPEAK+(PLUSHCPEAK-SUMHOPEAK)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.0120848	0.0009031	13.38	TRWSLAD*((CDDHRNOLA*DV/ CDDNOLAD*DV*24)**.5)
2)	0.00111414	0.0003639	3.062	SUMTNMWSLAD*((CDDHRNOLA* DV/CDDNOLAD*DV*24)**.9)
3)	1.06527	0.02756	38.65	(SUMTNMBASELAD+ SUMINDBASELAD+1.4* TRBASELAD)/24

R-BAR SQUARED: 0.9788 (RELATIVE TO Y=0, RBSQ: 0.9986)
DURBIN-WATSON STATISTIC: 1.0434 ADJUSTED FOR 9 GAPS.
STANDARD ERROR OF THE REGRESSION: 87.93 NORMALIZED: 0.03876

WHERE:

MGWLP16*DV-SUMKAPEAK+ (PLUSHCPEAK-SUMHOPEAK)	SUMMER MEGAWATT DEMAND MINUS KAISER ALUMINUM PEAK PLUS HOOKER CHEMICAL ENERGY MINUS HOOKER CHEMICAL PEAK
TRWSLAD	SUMMER TOTAL RESIDENTIAL WEATHER SENSITIVE DEMAND
CDDHRNOLA	COOLING DEGREE DAYS AT PEAK HOUR FOR NEW ORLEANS
CDDNOLAD	COOLING DEGREE DAYS - DAILY AVERAGE FOR MONTH FOR NEW ORLEANS
DV	QUALITATIVE VARIABLE TO EXCLUDE NON-SUMMER DATA POINTS FROM THE REGRESSION
SUMTNMWSLAD	SUMMER TOTAL NON-MANUFACTURING WEATHER SENSITIVE DEMAND
SUMTNMBASELAD	SUMMER TOTAL NON-MANUFACTURING BASE DEMAND
SUMINDBASELAD	SUMMER INDUSTRIAL BASE DEMAND
TRBASELAD	SUMMER TOTAL RESIDENTIAL BASE DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: MGWLP V-SUMKAPEAK+(PLUSHCPEAK-SUMHOPEAK)

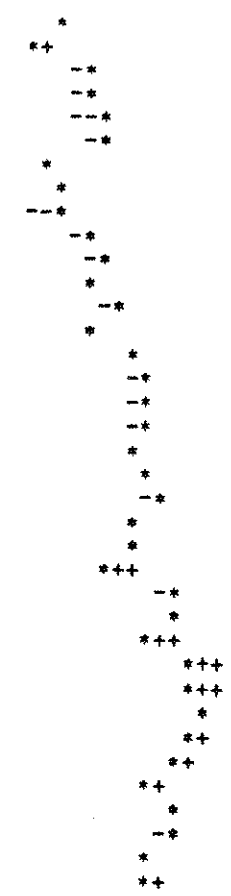
	DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
06/07/68	1968:23	1,327.920	1,291.567	
06/14/68	1968:24	1,421.128	1,324.737	
06/21/68	1968:25	1,292.172	1,279.367	
06/28/68	1968:26	1,385.262	1,339.118	
07/05/68	1968:27	1,411.299	1,370.080	
07/12/68	1968:28	1,338.034	1,337.496	
07/19/68	1968:29	1,379.777	1,295.330	
07/26/68	1968:30	1,410.683	1,382.746	
08/02/68	1968:31	1,473.274	1,398.594	
08/09/68	1968:32	1,442.614	1,431.450	
08/16/68	1968:33	1,431.307	1,407.385	
08/23/68	1968:34	1,465.354	1,440.148	
08/30/68	1968:35	1,438.592	1,417.090	
09/06/68	1968:36	1,253.525	1,338.799	
09/13/68	1968:37	1,285.424	1,381.770	
06/06/69	1969:23	1,302.190	1,391.953	
06/13/69	1969:24	1,500.064	1,548.201	
06/20/69	1969:25	1,577.373	1,682.630	
06/27/69	1969:26	1,651.437	1,692.985	
07/04/69	1969:27	1,737.618	1,697.088	
07/11/69	1969:28	1,777.004	1,691.156	
07/18/69	1969:29	1,706.430	1,607.404	
07/25/69	1969:30	1,563.066	1,561.477	
08/01/69	1969:31	1,615.256	1,564.440	
08/08/69	1969:32	1,589.176	1,620.249	
08/15/69	1969:33	1,623.127	1,622.899	
08/22/69	1969:34	1,693.581	1,669.112	
08/29/69	1969:35	1,571.906	1,623.505	
09/05/69	1969:36	1,554.612	1,555.521	
09/12/69	1969:37	1,617.691	1,578.474	
09/19/69	1969:38	1,526.347	1,576.428	
06/05/70	1970:23	1,278.617	1,461.602	
06/12/70	1970:24	1,655.830	1,712.656	
06/19/70	1970:25	1,805.189	1,782.759	
06/26/70	1970:26	1,720.258	1,744.345	
07/03/70	1970:27	1,864.878	1,866.540	
07/10/70	1970:28	1,851.280	1,809.483	
07/17/70	1970:29	1,797.571	1,704.592	
07/24/70	1970:30	1,827.586	1,763.650	
07/31/70	1970:31	1,861.749	1,789.965	
08/07/70	1970:32	1,846.494	1,786.644	
08/14/70	1970:33	1,820.563	1,778.967	
08/21/70	1970:34	1,814.920	1,722.791	
08/28/70	1970:35	1,667.931	1,681.912	
09/04/70	1970:36	1,849.971	1,760.019	
09/11/70	1970:37	1,807.275	1,680.554	
09/18/70	1970:38	1,827.333	1,702.615	
06/04/71	1971:23	1,859.058	1,779.195	
06/11/71	1971:24	1,902.875	1,911.365	
06/18/71	1971:25	2,046.143	2,031.449	
06/25/71	1971:26	1,985.720	1,992.184	
07/02/71	1971:27	1,912.508	1,805.287	
07/09/71	1971:28	1,921.548	1,799.083	
07/16/71	1971:29	2,126.738	2,046.361	
07/23/71	1971:30	2,069.891	2,014.998	

PLOT OF FITTED VERSUS ACTUAL RESULTS: MGWLP16*DV-SUMKAPEAK+(PLUSHCPEAK-SUMHCPEAK)

07/30/71	1971:31	1,864.643	1,858.083
08/06/71	1971:32	1,913.621	1,920.641
08/13/71	1971:33	2,003.258	1,942.975
08/20/71	1971:34	1,993.832	1,964.621
08/27/71	1971:35	2,092.937	2,002.147
09/03/71	1971:36	1,787.429	1,839.527
09/10/71	1971:37	1,769.320	1,822.511
09/17/71	1971:38	1,866.334	1,929.862
06/09/72	1972:23	2,238.909	2,177.652
06/16/72	1972:24	2,110.245	2,188.267
06/23/72	1972:25	2,265.791	2,335.599
06/30/72	1972:26	2,353.773	2,381.401
07/07/72	1972:27	2,174.285	2,277.237
07/14/72	1972:28	2,095.598	2,251.975
07/21/72	1972:29	2,208.774	2,382.948
07/28/72	1972:30	2,271.563	2,402.883
08/04/72	1972:31	2,328.886	2,431.490
08/11/72	1972:32	2,375.834	2,426.233
08/18/72	1972:33	2,257.365	2,227.557
08/25/72	1972:34	2,411.408	2,400.661
09/01/72	1972:35	2,241.012	2,316.889
09/08/72	1972:36	2,327.264	2,399.870
09/15/72	1972:37	2,307.585	2,354.173
06/08/73	1973:23	2,144.411	2,152.059
06/15/73	1973:24	2,161.809	2,267.068
06/22/73	1973:25	2,377.293	2,429.051
06/29/73	1973:26	2,384.663	2,428.946
07/06/73	1973:27	2,440.744	2,400.778
07/13/73	1973:28	2,495.269	2,451.782
07/20/73	1973:29	2,520.117	2,467.739
07/27/73	1973:30	2,481.017	2,459.980
08/03/73	1973:31	2,427.835	2,436.181
08/10/73	1973:32	2,411.210	2,474.736
08/17/73	1973:33	2,342.257	2,457.606
08/24/73	1973:34	2,526.012	2,485.698
08/31/73	1973:35	2,351.799	2,393.563
09/07/73	1973:36	2,160.085	2,404.202
09/14/73	1973:37	2,399.474	2,350.192
06/07/74	1974:23	2,357.335	2,373.532
06/14/74	1974:24	2,370.968	2,386.006
06/21/74	1974:25	2,514.255	2,514.193
06/28/74	1974:26	2,424.969	2,422.853
07/05/74	1974:27	2,415.648	2,426.087
07/12/74	1974:28	2,581.346	2,546.016
07/19/74	1974:29	2,529.602	2,448.857
07/26/74	1974:30	2,648.262	2,479.603
08/02/74	1974:31	2,564.157	2,502.590
08/09/74	1974:32	2,535.636	2,541.152
08/16/74	1974:33	2,589.383	2,491.145
08/23/74	1974:34	2,640.948	2,541.743
08/30/74	1974:35	2,397.629	2,446.193
09/06/74	1974:36	1,896.100	2,114.980
09/13/74	1974:37	2,268.480	2,342.907
06/06/75	1975:23	2,646.150	2,506.146
06/13/75	1975:24	2,429.264	2,489.606
06/20/75	1975:25	2,717.952	2,645.537
06/27/75	1975:26	2,636.613	2,601.787
07/04/75	1975:27	2,612.340	2,592.661
07/11/75	1975:28	2,804.070	2,630.139
[illegible]/75	1975:29	2,718.608	2,571.442
[illegible]/75	1975:30	2,724.877	2,531.005

PLOT OF FITTED VERSUS ACTUAL RESULTS: MGWLP16*DV-SUMKAPEAK+(PLUSHCPEAK-SUMHOPEAK)

08/01/75	1975:31	2,670.234	2,634.313
08/08/75	1975:32	2,480.646	2,531.863
08/15/75	1975:33	2,872.853	2,765.675
08/22/75	1975:34	2,844.076	2,726.850
08/29/75	1975:35	2,897.255	2,751.791
09/05/75	1975:36	2,929.148	2,807.948
09/12/75	1975:37	2,595.689	2,554.908
09/19/75	1975:38	2,622.591	2,623.412
06/04/76	1976:23	2,680.237	2,524.127
06/11/76	1976:24	2,815.556	2,758.895
06/18/76	1976:25	2,893.646	2,843.031
06/25/76	1976:26	2,825.037	2,857.184
07/02/76	1976:27	3,033.277	2,955.158
07/09/76	1976:28	2,852.015	2,858.640
07/16/76	1976:29	3,091.043	3,125.054
07/23/76	1976:30	3,205.489	3,080.876
07/30/76	1976:31	3,233.996	3,140.294
08/06/76	1976:32	3,218.785	3,164.558
08/13/76	1976:33	3,116.438	3,125.301
08/20/76	1976:34	3,232.407	3,231.332
08/27/76	1976:35	3,259.445	3,205.675
09/03/76	1976:36	3,082.937	3,116.440
09/10/76	1976:37	3,124.922	3,156.885
09/17/76	1976:38	2,912.545	3,105.026
06/03/77	1977:22	3,359.703	3,250.910
06/10/77	1977:23	3,346.311	3,389.918
06/17/77	1977:24	3,225.194	3,431.553
06/24/77	1977:25	3,493.061	3,638.053
07/01/77	1977:26	3,419.699	3,601.718
07/08/77	1977:27	3,521.928	3,499.529
07/15/77	1977:28	3,485.211	3,545.561
07/22/77	1977:29	3,360.003	3,408.228
07/29/77	1977:30	3,226.808	3,359.365
08/05/77	1977:31	3,330.369	3,369.267
08/12/77	1977:32	3,369.480	3,290.090
08/19/77	1977:33	3,229.493	3,269.724
08/26/77	1977:34	3,181.762	3,291.352



ECONOMIC MODEL INDEX

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ECONOMIC MODEL

ENDOGENOUS AND EXOGENOUS VARIABLES

HISTORICAL VALUES

HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
AHEM	2.318	2.390	2.457	2.530	2.613	2.716	2.827	3.008	3.191	3.357	3.565	3.807	4.075	4.412	4.806	5.186	5.631
%CH		3.1	2.8	3.0	3.3	3.9	4.1	6.4	6.1	5.2	6.2	6.8	7.0	8.3	8.9	7.9	8.6
JAHEADJEA	0.810	0.836	0.860	0.882	0.912	0.952	0.999	1.061	1.131	1.207	1.292	1.376	1.464	1.584	1.725	1.850	1.985
%CH		3.2	2.9	2.6	3.4	4.4	4.9	6.2	6.7	6.7	7.1	6.5	6.4	8.2	8.9	7.3	7.3

HOURLY EARNINGS OF PROD. WORKERS, MANUFACTURING - LOUISIANA

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
AHEM@LA	2.219	2.302	2.386	2.493	2.545	2.650	2.727	2.912	3.084	3.282
%CH	4.5	3.8	3.6	4.5	2.1	4.1	2.9	6.8	5.9	6.4
AHEM	2.318	2.390	2.457	2.530	2.613	2.716	2.827	3.008	3.191	3.357
%CH		3.1	2.8	3.0	3.3	3.9	4.1	6.4	6.1	5.2
CPISOUTHNS	0.896	0.906	0.918	0.930	0.944	0.973	1.003	1.047	1.109	1.169
%CH	1.1	1.2	1.2	1.3	1.6	3.0	3.0	4.4	5.9	5.4
CPIU	0.896	0.906	0.918	0.930	0.944	0.973	1.000	1.042	1.098	1.163
%CH	1.1	1.2	1.2	1.3	1.6	3.0	2.8	4.2	5.4	5.9
EM	16.326	16.853	16.996	17.276	18.062	19.213	19.448	19.780	20.168	19.371
%CH		3.2	0.8	1.6	4.5	6.4	1.2	1.7	2.0	-3.9
EMLA	55,757.831	56,880.823	58,080.868	60,947.599	63,873.214	68,311.140	68,687.925	72,569.229	75,122.951	75,593.922
%CH	-4.7	2.0	2.1	4.9	4.8	6.9	0.6	5.7	3.5	0.6
N	183.691	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878
%CH	1.7	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1
NR@LPLCO	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400
%CH	1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1	1.6

	1971	1972	1973	1974	1975	1976	1977
AHEM@LA	3.458	3.682	3.973	4.402	4.803	5.331	5.796
%CH	5.4	6.5	7.9	10.8	9.1	11.0	8.7
AHEM	3.565	3.807	4.075	4.412	4.806	5.186	5.631
%CH	6.2	6.8	7.0	8.3	8.9	7.9	8.6
CPISOUTHNS	1.214	1.251	1.340	1.506	1.646	1.735	1.854
%CH	3.9	3.0	7.1	12.4	9.3	5.4	6.8
CPIU	1.213	1.253	1.331	1.478	1.612	1.705	1.816
%CH	4.3	3.3	6.2	11.0	9.1	5.8	6.5
EM	18.623	19.152	20.153	20.080	18.322	18.997	19.647
%CH	-3.9	2.8	5.2	-0.4	-8.8	3.7	3.4
EMLA	77,978.202	82,178.632	86,592.821	87,664.671	84,783.343	91,482.971	96,749.100
%CH	3.2	5.4	5.4	1.2	-3.3	7.9	5.8
N	207.053	208.846	210.410	211.901	213.559	215.142	216.817
%CH	1.1	0.9	0.7	0.7	0.8	0.7	0.8
NR@LPLCO	1.834000	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.8	1.2	1.1	0.9	1.9	2.0	2.0

NUMBER OF LIVE BIRTHS - LP&L SERVICE AREA

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
BIR@LPLCO	34.909	34.622	33.588	33.211	34.011	33.404	32.978	30.701	30.121	30.294	31.231
%CH	-14.9	-0.8	-3.0	-1.1	2.4	-1.8	-1.3	-6.9	-1.9	0.6	3.1
BIR@US	3,760.358	3,606.274	3,520.959	3,501.564	3,578.016	3,718.035	3,571.287	3,257.777	3,136.965	3,150.354	3,149.811
%CH	-6.6	-4.1	-2.4	-0.6	2.2	3.9	-3.9	-8.8	-3.7	0.4	0.0
N	194.303	196.560	198.712	200.706	202.677	204.878	207.053	208.846	210.410	211.901	213.559
%CH	1.3	1.2	1.1	1.0	1.0	1.1	1.1	0.9	0.7	0.7	0.8
NR@LPLCO	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000	1.856500	1.876300	1.892720	1.928800
%CH	2.6	2.0	1.1	1.6	1.1	1.6	1.8	1.2	1.1	0.9	1.9
TIME	74.500	78.500	82.500	86.500	90.500	94.500	98.500	102.500	106.500	110.500	114.500
%CH		5.4	5.1	4.8	4.6	4.4	4.2	4.1	3.9	3.8	3.6

	1976	1977
BIR@LPLCO	32.097	35.304
%CH	2.8	10.0
BIR@US	3,162.221	3,177.367
%CH	0.4	0.5
N	215.142	216.817
%CH	0.7	0.8
NR@LPLCO	1.967900	2.007000
%CH	2.0	2.0
TIME	118.500	122.500
%CH	3.5	3.4

NUMBER OF LIVE BIRTHS BY PLACE OF RESIDENCE - TOTAL US

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
BIR@US	4,257.850	4,268.326	4,167.362	4,098.020	4,027.490	3,760.358	3,606.274	3,520.959	3,501.564	3,578.016	3,718.035
%CH	0.3	0.2	-2.4	-1.7	-1.7	-6.6	-4.1	-2.4	-0.6	2.2	3.9
N	180.671	183.691	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878
%CH	1.6	1.7	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1

	1971	1972	1973	1974	1975	1976	1977
BIR@US	3,571.287	3,257.777	3,136.965	3,150.354	3,149.811	3,162.221	3,177.367
%CH	-3.9	-8.8	-3.7	0.4	0.0	0.4	0.5
N	207.053	208.846	210.410	211.901	213.559	215.142	216.817
%CH	1.1	0.9	0.7	0.7	0.8	0.7	0.8

CORPORATE INCOME TAX RATE - STATE OF LOUISIANA

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
CORPTX	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.080
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
RTCGSL	0.026	0.026	0.028	0.029	0.028	0.026	0.028	0.032	0.037	0.041	0.051	0.051	0.052	0.049	0.051	0.059	0.060	0.061
%CH		1.7	7.1	2.0	-1.3	-6.9	6.1	13.7	15.3	12.4	25.3	-0.3	1.5	-4.9	2.8	15.4	2.5	0.6

SOUTH REGION . . : ALL ITEMS

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
CPISOUTHNS	0.886	0.896	0.906	0.918	0.930	0.944	0.973	1.003	1.047	1.109	1.169	1.214	1.251	1.340	1.506	1.616	1.735
%CH		1.1	1.2	1.2	1.3	1.6	3.0	3.0	4.4	5.9	5.4	3.9	3.0	7.1	12.4	9.3	5.4
CPIU	0.886	0.896	0.906	0.918	0.930	0.944	0.973	1.000	1.042	1.098	1.163	1.213	1.253	1.331	1.478	1.612	1.705
%CH		1.1	1.2	1.2	1.3	1.6	3.0	2.8	4.2	5.4	5.9	4.3	3.3	6.2	11.0	9.1	5.8
CPIUF&B	0.881	0.890	0.899	0.912	0.924	0.945	0.992	1.000	1.036	1.087	1.147	1.183	1.232	1.394	1.587	1.720	1.774
%CH		1.1	1.0	1.4	1.3	2.3	5.0	0.8	3.6	4.9	5.5	3.1	4.2	13.2	13.8	8.4	3.1

	1977
CPISOUTHNS	1.854
%CH	6.8
CPIU	1.816
%CH	6.5
CPIUF&B	1.881
%CH	6.0

NUMBER OF DEATHS - LP&L SERVICE AREA

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
DEA@LPLCO	12.866	13.292	13.145	13.997	14.010	13.786	13.737	14.500	14.821	14.459	14.548
%CH	-14.3	3.3	-1.1	6.5	0.1	-1.6	-0.4	5.6	2.2	-2.4	0.6
DEA@US	1,828.136	1,863.149	1,851.323	1,930.082	1,915.452	1,919.688	1,926.047	1,965.694	1,979.332	1,930.254	1,905.029
%CH	1.7	1.9	-0.6	4.3	-0.8	0.2	0.3	2.1	0.7	-2.5	-1.3
DV76	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
N	194.303	196.560	198.712	200.706	202.677	204.878	207.053	208.846	210.410	211.901	213.559
%CH	1.3	1.2	1.1	1.0	1.0	1.1	1.1	0.9	0.7	0.7	0.8
NR@LPLCO	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000	1.856500	1.876300	1.892720	1.928800
%CH	2.6	2.0	1.1	1.6	1.1	1.6	1.8	1.2	1.1	0.9	1.9
TIME	74.500	78.500	82.500	86.500	90.500	94.500	98.500	102.500	106.500	110.500	114.500
%CH		5.4	5.1	4.8	4.6	4.4	4.2	4.1	3.9	3.8	3.6

	1976	1977
DEA@LPLCO	15.452	15.176
%CH	6.2	-1.8
DEA@US	1,910.947	1,920.100
%CH	0.3	0.5
DV76	1	0
%CH	NC	-100.0
N	215.142	216.817
%CH	0.7	0.8
NR@LPLCO	1.967900	2.007000
%CH	2.0	2.0
TIME	118.500	122.500
%CH	3.5	3.4

NUMBER OF DEATHS BY PLACE OF RESIDENCE - TOTAL US

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
DEA@US	1,711.982	1,701.522	1,756.720	1,813.549	1,798.051	1,828.136	1,863.149	1,851.323	1,930.082	1,915.452	1,919.688
%CH	3.3	-0.6	3.2	3.2	-0.9	1.7	1.9	-0.6	4.3	-0.8	0.2
N	180.671	183.691	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878
%CH	1.6	1.7	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1

	1971	1972	1973	1974	1975	1976	1977
DEA@US	1,926.047	1,965.694	1,979.332	1,930.254	1,905.029	1,910.947	1,920.100
%CH	0.3	2.1	0.7	-2.5	-1.3	0.3	0.5
N	207.053	208.846	210.410	211.901	213.559	215.142	216.817
%CH	1.1	0.9	0.7	0.7	0.8	0.7	0.8

(8/10/88)

EMPLOYMENT, CONSTRUCTION, FINANCE, INSURANCE AND REAL ESTATE - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
ECFIRLA	18,627.824	19,576.353	21,589.943	25,685.977	30,484.591	36,357.411	36,359.500	34,317.009	31,605.155	30,543.573
%CH		5.1	10.3	19.0	18.7	19.3	0.0	-5.6	-7.9	-3.4
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
EC	2.815	2.898	2.958	3.047	3.184	3.276	3.208	3.304	3.522	3.537
%CH		3.0	2.1	3.0	4.5	2.9	-2.1	3.0	6.6	0.4
EFIR	2.731	2.800	2.877	2.957	3.022	3.100	3.225	3.381	3.563	3.687
%CH		2.5	2.8	2.8	2.2	2.6	4.0	4.8	5.4	3.5
EM	16.326	16.853	16.996	17.276	18.062	19.213	19.448	19.780	20.168	19.371
%CH		3.2	0.8	1.6	4.5	6.4	1.2	1.7	2.0	-3.9
EMLA	55,757.831	56,880.823	58,080.868	60,947.599	63,873.214	68,311.140	68,687.925	72,569.229	75,122.951	75,593.922
%CH	-4.7	2.0	2.1	4.9	4.8	6.9	0.6	5.7	3.5	0.6
N	183.691	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878
%CH	1.7	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1
NR@LPLCO	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400
%CH	1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1	1.6
RECLNM72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, CONSTRUCTION, FINANCE, INSURANCE AND REAL ESTATE - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
ECFIRLA	31,994.371	40,112.814	45,293.793	49,509.440	56,836.596	60,715.968	65,535.548
%CH	4.7	25.4	12.9	9.3	14.8	6.8	7.9
DV721	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	-100.0	NC	NC	NC	NC
EC	3.635	3.830	4.012	3.963	3.515	3.594	3.837
%CH	2.8	5.4	4.8	-1.2	-11.3	2.2	6.8
EFIR	3.802	3.943	4.091	4.209	4.223	4.315	4.508
%CH	3.1	3.7	3.8	2.9	0.3	2.2	4.5
EM	18.623	19.152	20.153	20.080	18.322	18.997	19.647
%CH	-3.9	2.8	5.2	-0.4	-8.8	3.7	3.4
EMLA	77,978.202	82,178.632	86,592.821	87,664.671	84,783.343	91,482.971	96,749.100
%CH	3.2	5.4	5.4	1.2	-3.3	7.9	5.8
N	207.053	208.846	210.410	211.901	213.559	215.142	216.817
%CH	1.1	0.9	0.7	0.7	0.8	0.7	0.8
NR@LPLCO	1.834000	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.8	1.2	1.1	0.9	1.9	2.0	2.0
RECLNM72ON	0.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NC	NC	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, NONAGRICULTURAL WAGE & SALARY - LOUISIANA

	1960	1961	1962	1963	1964	1965	1966	1967	1968
EEALA	154,064.834	152,046.318	157,128.552	164,055.597	176,816.638	193,378.825	211,665.443	218,758.682	226,235.406
%CH		-1.3	3.3	4.4	7.8	9.4	9.5	3.4	3.4
ECFIRLA	19,004.080	18,627.824	19,576.353	21,589.943	25,685.977	30,484.591	36,357.411	36,359.500	34,317.009
%CH		-2.0	5.1	10.3	19.0	18.7	19.3	0.0	-5.6
EMILA	16,064.715	16,293.667	16,047.502	15,946.277	16,780.175	17,807.810	18,362.522	18,067.849	18,394.977
%CH		1.4	-1.5	-0.6	5.2	6.1	3.1	-1.6	1.8
ERLA	12,186.998	12,627.923	13,026.697	13,323.534	14,067.790	16,134.572	17,528.744	19,407.928	20,011.270
%CH		3.6	3.2	2.3	5.6	14.7	8.6	10.7	3.1
ESVLA	9,912.894	10,600.972	11,484.671	12,301.353	13,587.752	15,187.834	16,559.592	18,362.573	19,567.914
%CH		6.9	8.3	7.1	10.5	11.8	9.0	10.9	6.6
ETLA	38,373.243	38,130.779	40,115.469	42,809.840	45,751.180	49,901.714	54,563.084	57,849.997	61,374.948
%CH		-0.6	5.2	6.7	6.9	9.1	9.3	6.0	6.1
E20LA	11,598.803	11,084.390	11,140.129	11,186.787	11,166.831	11,445.820	11,329.322	11,320.785	11,492.700
%CH		-4.4	0.5	0.4	-0.2	2.5	-1.0	-0.1	1.5
E2223LA	939.486	850.459	1,102.949	1,063.295	1,203.829	1,775.900	1,977.286	1,934.555	2,060.320
%CH		-9.5	29.7	-3.6	13.2	47.5	11.3	-2.2	6.5
E242526LA	25,813.212	23,847.327	23,458.220	23,666.412	23,721.829	23,646.926	24,930.795	23,898.123	23,219.253
%CH		-7.6	-1.6	0.9	0.2	-0.3	5.4	-4.1	-2.8
E27LA	790.403	748.083	755.783	797.401	853.181	905.744	970.615	1,094.417	1,130.972
%CH		-5.4	1.0	5.5	7.0	6.2	7.2	12.8	3.3
E2830NSLA	5,380	5,394	5,221	5,437	6,165	6,546	7,522	7,936	8,425
%CH		0.3	-3.2	4.1	13.4	6.2	14.9	5.5	6.2
E29LA	2,316.997	2,263.651	1,945.736	1,801.139	1,844.858	1,847.194	1,945.559	2,148.512	2,373.061
%CH		-2.3	-14.0	-7.4	2.4	0.1	5.3	10.4	10.5
E32LA	2,102.410	2,059.839	2,149.610	2,220.986	2,516.666	2,655.493	2,880.599	3,025.319	3,320.976
%CH		-2.0	4.4	3.3	13.3	5.5	8.5	5.0	9.8
E33LA	2,587.181	2,195.014	2,476.777	2,611.920	2,738.545	2,730.780	2,771.535	2,773.090	3,182.555
%CH		-15.2	12.8	5.5	4.8	-0.3	1.5	0.1	14.8
E34NSLA	1,854	1,986	2,002	2,066	2,147	2,375	2,579	2,701	2,958
%CH		7.1	0.8	3.2	3.9	10.6	8.6	4.7	9.5
E353637LA	4,753.070	4,992.768	6,256.445	6,850.454	8,104.289	9,373.244	10,726.384	11,201.243	13,710.084
%CH		5.0	25.3	9.5	18.3	15.7	14.4	4.4	22.4
E3839LA	382.645	336.467	372.424	380.058	485.573	570.778	677.711	655.298	676.810
%CH		-12.1	10.7	2.0	27.8	17.5	18.7	-3.3	3.3

EMPLOYMENT, NONAGRICULTURAL WAGE & SALARY - LOUISIANA (CONT'D)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
EEALA	233,494.975	234,367.724	242,859.551	280,246.800	306,331.010	323,165.675	346,415.317	369,203.383	396,677.824
%CH	3.2	0.4	3.6	15.4	9.3	5.5	7.2	6.6	7.4
ECFIRLA	31,605.155	30,543.573	31,994.371	40,112.814	45,293.793	49,509.440	56,836.596	60,715.968	65,535.548
%CH	-7.9	-3.4	4.7	25.4	12.9	9.3	14.8	6.8	7.9
EMILA	19,494.066	18,667.090	18,224.712	18,561.084	17,836.962	19,394.515	20,069.273	18,619.408	21,051.953
%CH	6.0	-4.2	-2.4	1.8	-3.9	8.7	3.5	-7.2	13.1
ERLA	21,078.437	21,803.150	21,815.411	23,456.523	26,552.136	28,763.399	29,903.267	31,336.439	33,193.935
%CH	5.3	3.4	0.1	7.5	13.2	8.3	4.0	4.8	5.9
ESVLA	20,755.528	21,502.848	22,676.472	32,906.888	38,305.850	42,811.975	55,221.137	60,538.851	64,001.539
%CH	6.1	3.6	5.5	45.1	16.4	11.8	29.0	9.6	5.7
ETLA	65,442.702	66,277.821	70,165.237	83,048.718	91,752.764	95,018.816	99,624.986	106,512.504	116,039.108
%CH	6.6	1.3	5.9	18.4	10.5	3.6	4.8	6.9	9.0
E20LA	11,462.437	11,422.592	11,466.808	11,946.151	11,886.912	11,979.422	11,401.793	11,339.927	11,276.913
%CH	-0.3	-0.3	0.4	4.2	-0.5	0.8	-4.8	-0.5	-0.5
E2223LA	2,196.971	2,682.362	3,150.490	4,035.402	5,095.154	5,783.101	5,364.868	6,498.047	7,547.307
%CH	6.6	22.1	17.5	28.1	26.3	13.5	-7.2	21.1	16.1
E242526LA	23,456.961	23,005.318	22,984.911	23,740.023	24,505.137	23,647.595	21,055.478	22,074.169	22,670.742
%CH	0.9	-1.9	-0.1	3.3	3.2	-3.5	-11.0	4.8	2.7
E27LA	1,175.509	1,240.233	1,323.117	1,519.647	1,632.251	1,660.204	1,820.825	1,954.277	2,012.657
%CH	3.9	5.5	6.7	14.9	7.4	1.7	9.7	7.3	3.0
E2830NSLA	9,389	9,415	9,843	10,133	10,680	11,508	12,027	13,956	15,374
%CH	11.4	0.3	4.5	2.9	5.4	7.8	4.5	16.0	10.2
E29LA	2,437.950	2,522.596	2,673.631	2,959.794	3,001.254	3,218.414	2,658.233	2,637.252	2,927.901
%CH	2.7	3.5	6.0	10.7	1.4	7.2	-17.4	-0.8	11.0
E32LA	3,351.168	3,263.741	3,105.200	3,015.671	3,199.762	3,463.548	3,292.234	3,250.725	3,214.907
%CH	0.9	-2.6	-4.9	-2.9	6.1	8.2	-4.9	-1.3	-1.1
E33LA	3,158.150	2,984.864	2,856.788	3,273.519	4,004.069	4,000.611	3,690.099	3,871.026	4,189.006
%CH	-0.8	-5.5	-4.3	14.6	22.3	-0.1	-7.8	4.9	8.2
E34NSLA	3,113	3,110	3,528	3,700	4,073	4,489	5,100	6,638	7,047
%CH	5.3	-0.1	13.5	4.9	10.1	10.2	13.6	30.2	6.2
E353637LA	14,834.983	15,623.024	16,587.903	17,306.357	17,886.508	17,134.556	17,494.450	18,134.084	19,376.317
%CH	8.2	5.3	6.2	4.3	3.4	-4.2	2.1	3.7	6.9
E3839LA	546.572	324.942	458.021	548.569	629.609	780.136	879.112	1,129.298	1,102.101
%CH	-19.2	-40.5	41.0	19.8	14.8	23.9	12.7	28.5	-2.4

EMPLOYMENT, MINING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
EMILA	16,047.502	15,946.277	16,780.175	17,807.810	18,362.522	18,067.849	18,394.977	19,494.066	18,667.090	18,224.712
%CH		-0.6	5.2	6.1	3.1	-1.6	1.8	6.0	-4.2	-2.4
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQINDMI	0.830	0.864	0.899	0.932	0.982	0.999	1.043	1.083	1.122	1.098
%CH		4.1	4.1	3.6	5.4	1.7	4.4	3.9	3.6	-2.2
OSHA74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
TIME	62.500	66.500	70.500	74.500	78.500	82.500	86.500	90.500	94.500	98.500
%CH		6.4	6.0	5.7	5.4	5.1	4.8	4.6	4.4	4.2

	1972	1973	1974	1975	1976	1977
EMILA	18,561.084	17,836.962	19,394.515	20,068.273	18,619.408	21,051.953
%CH	1.8	-3.9	8.7	3.5	-7.2	13.1
DV732	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	-100.0	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.250	0.000
%CH	NC	NC	NC	NC	NC	-100.0
DV763	0.000	0.000	0.000	0.000	0.250	0.000
%CH	NC	NC	NC	NC	NC	-100.0
JQINDMI	1.132	1.147	1.153	1.129	1.142	1.180
%CH	3.1	1.4	0.5	-2.1	1.2	3.3
OSHA74	0.000	0.000	1.000	1.000	1.000	1.000
%CH	NC	NC	NC	0.0	0.0	0.0
TIME	102.500	106.500	110.500	114.500	118.500	122.500
%CH	4.1	3.9	3.8	3.6	3.5	3.4

EMPLOYMENT, TOTAL MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
EMLA	58,518.207	55,757.831	56,880.823	58,080.868	60,947.599	63,873.214	68,311.140	68,667.925	72,569.229	75,122.951
%CH		-4.7	2.0	2.1	4.9	4.8	6.9	0.6	5.7	3.5
E20LA	11,598.803	11,084.390	11,140.129	11,186.787	11,166.831	11,445.820	11,329.322	11,320.785	11,492.700	11,462.437
%CH		-4.4	0.5	0.4	-0.2	2.5	-1.0	-0.1	1.5	-0.3
E2223LA	939.486	850.459	1,102.949	1,063.295	1,203.829	1,775.900	1,977.286	1,934.555	2,060.320	2,196.971
%CH		-9.5	29.7	-3.6	13.2	47.5	11.3	-2.2	6.5	6.6
E242526LA	25,813.212	23,847.327	23,458.220	23,666.412	23,721.829	23,646.926	24,930.795	23,898.123	23,239.253	23,456.961
%CH		-7.6	-1.6	0.9	0.2	-0.3	5.4	-4.1	-2.8	0.9
E27LA	790.403	748.083	755.783	797.401	853.181	905.744	970.615	1,094.417	1,130.972	1,175.509
%CH		-5.4	1.0	5.5	7.0	6.2	7.2	12.8	3.3	3.9
E2830NSLA	5,380	5,394	5,221	5,437	6,165	6,546	7,522	7,936	8,425	9,389
%CH		0.3	-3.2	4.1	13.4	6.2	14.9	5.5	6.2	11.4
E29LA	2,316.997	2,263.651	1,945.736	1,801.139	1,844.858	1,847.194	1,945.559	2,148.512	2,373.061	2,437.950
%CH		-2.3	-14.0	-7.4	2.4	0.1	5.3	10.4	10.5	2.7
E32LA	2,102.410	2,059.839	2,149.610	2,220.986	2,516.666	2,655.493	2,880.599	3,025.319	3,320.976	3,351.168
%CH		-2.0	4.4	3.3	13.3	5.5	8.5	5.0	9.8	0.9
E33LA	2,587.181	2,195.014	2,476.777	2,611.920	2,738.545	2,730.780	2,771.535	2,773.090	3,182.555	3,158.150
%CH		-15.2	12.8	5.5	4.8	-0.3	1.5	0.1	14.8	-0.8
E34NSLA	1,854	1,986	2,002	2,066	2,147	2,375	2,579	2,701	2,958	3,113
%CH		7.1	0.8	3.2	3.9	10.6	8.6	4.7	9.5	5.3
E353637LA	4,753.070	4,992.768	6,256.445	6,850.454	8,104.289	9,373.244	10,726.384	11,201.243	13,710.084	14,834.983
%CH		5.0	25.3	9.5	18.3	15.7	14.4	4.4	22.4	8.2
E3839LA	382.645	336.467	372.424	380.058	485.573	570.778	677.711	655.298	676.810	546.572
%CH		-12.1	10.7	2.0	27.8	17.5	18.7	-3.3	3.3	-19.2

EMPLOYMENT, TOTAL MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1970	1971	1972	1973	1974	1975	1976	1977
EMLA	75,593.922	77,978.202	82,178.632	86,592.821	87,664.671	84,783.343	91,482.971	96,749.100
%CH	0.6	3.2	5.4	5.4	1.2	-3.3	7.9	5.8
E20LA	11,422.592	11,466.808	11,946.151	11,886.912	11,979.422	11,401.793	11,339.927	11,286.913
%CH	-0.3	0.4	4.2	-0.5	0.8	-4.8	-0.5	-0.5
E2223LA	2,682.362	3,150.490	4,035.402	5,095.154	5,783.101	5,364.868	6,498.047	7,547.307
%CH	22.1	17.5	28.1	26.3	13.5	-7.2	21.1	16.1
E24252GLA	23,005.318	22,984.911	23,740.023	24,505.137	23,647.595	21,055.478	22,074.169	22,670.742
%CH	-1.9	-0.1	3.3	3.2	-3.5	-11.0	4.8	2.7
E27LA	1,240.233	1,323.117	1,519.647	1,632.251	1,660.204	1,820.825	1,954.277	2,012.657
%CH	5.5	6.7	14.9	7.4	1.7	9.7	7.3	3.0
E2830NSLA	9,415	9,843	10,133	10,680	11,508	12,027	13,956	15,374
%CH	0.3	4.5	2.9	5.4	7.8	4.5	16.0	10.2
E29LA	2,522.596	2,673.631	2,959.794	3,001.254	3,218.414	2,658.233	2,637.252	2,927.901
%CH	3.5	6.0	10.7	1.4	7.2	-17.4	-0.8	11.0
E32LA	3,263.741	3,105.200	3,015.671	3,199.762	3,463.548	3,292.234	3,250.725	3,214.907
%CH	-2.6	-4.9	-2.9	6.1	8.2	-4.9	-1.3	-1.1
E33LA	2,984.864	2,856.788	3,273.519	4,004.069	4,000.611	3,690.099	3,871.026	4,189.006
%CH	-5.5	-4.3	14.6	22.3	-0.1	-7.8	4.9	8.2
E34NSLA	3,110	3,528	3,700	4,073	4,489	5,100	6,638	7,047
%CH	-0.1	13.5	4.9	10.1	10.2	13.6	30.2	6.2
E353637LA	15,623.024	16,587.903	17,306.357	17,886.508	17,134.556	17,494.450	18,134.084	19,376.317
%CH	5.3	6.2	4.3	3.4	-4.2	2.1	3.7	6.9
E3839LA	324.942	458.021	548.569	629.609	780.136	879.112	1,129.298	1,102.101
%CH	-40.5	41.0	19.8	14.8	23.9	12.7	28.5	-2.4

EMPLOYMENT, TOTAL NON-MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1960	1961	1962	1963	1964	1965	1966	1967	1968
ENMLA	95,546.626	96,288.487	100,247.729	105,974.729	115,869.039	129,505.611	143,354.333	150,070.757	153,666.177
%CH		0.8	4.1	5.7	9.3	11.8	10.7	4.7	2.4
ECFIRLA	19,004.080	18,627.824	19,576.353	21,589.943	25,685.977	30,481.591	36,357.411	36,359.500	34,317.009
%CH		-2.0	5.1	10.3	19.0	18.7	19.3	0.0	-5.6
EMILA	16,064.715	16,293.667	16,047.502	15,946.277	16,780.175	17,807.810	18,362.522	18,067.849	18,394.977
%CH		1.4	-1.5	-0.6	5.2	6.1	3.1	-1.6	1.8
ERLA	12,186.998	12,627.923	13,026.697	13,323.534	14,067.790	16,134.572	17,528.744	19,407.928	20,011.270
%CH		3.6	3.2	2.3	5.6	14.7	8.6	10.7	3.1
ESVLA	9,912.894	10,600.972	11,484.671	12,301.353	13,587.752	15,187.834	16,559.592	18,362.573	19,567.914
%CH		6.9	8.3	7.1	10.5	11.8	9.0	10.9	6.6
ETLA	38,373.243	38,130.779	40,115.469	42,809.840	45,751.180	49,901.714	54,563.084	57,849.997	61,374.918
%CH		-0.6	5.2	6.7	6.9	9.1	9.3	6.0	6.1

	1969	1970	1971	1972	1973	1974	1975	1976	1977
ENMLA	158,372.024	158,773.802	164,881.348	198,068.168	219,738.189	235,501.004	261,631.974	277,720.412	299,928.724
%CH	3.1	0.3	3.8	20.1	10.9	7.2	11.1	6.1	8.0
ECFIRLA	31,605.155	30,543.573	31,994.371	40,112.814	45,203.793	49,509.440	56,836.546	60,715.968	65,535.518
%CH	-7.9	-3.4	4.7	25.4	12.9	9.3	14.8	6.8	7.9
EMILA	19,494.066	18,667.090	18,224.712	18,561.084	17,836.962	19,394.515	20,068.273	18,619.408	21,051.953
%CH	6.0	-4.2	-2.4	1.8	-3.9	8.7	3.5	-7.2	13.1
ERLA	21,078.437	21,803.150	21,815.411	23,456.523	26,552.136	28,763.399	29,903.227	31,336.439	33,193.935
%CH	5.3	3.4	0.1	7.5	13.2	8.3	4.0	4.8	5.9
ESVLA	20,755.528	21,502.848	22,676.472	32,906.888	38,305.850	42,811.975	55,221.137	60,538.851	64,001.539
%CH	6.1	3.6	5.5	45.1	16.4	11.8	29.0	9.6	5.7
ETLA	65,442.702	66,277.821	70,165.237	83,048.718	91,752.764	95,018.816	99,624.936	106,512.504	116,099.108
%CH	6.6	1.3	5.9	18.4	10.5	3.6	4.8	6.9	9.0

EMPLOYMENT, TRANSPORTATION, COMM. & PUBLIC UTILITIES -
LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
ERLA	12,627.923	13,026.697	13,323.534	14,067.790	16,134.572	17,528.744	19,407.928	20,011.270	21,078.437	21,803.150
%CH		3.2	2.3	5.6	14.7	8.6	10.7	3.1	5.3	3.4
DV652	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH			NC	NC	NC	-100.0	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	-100.0	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH			NC	NC	NC	NC	NC	NC	NC	NC
ER	3.903	3.907	3.902	3.951	4.035	4.151	4.262	4.311	4.435	4.503
%CH		0.1	-0.1	1.2	2.1	2.9	2.7	1.2	2.9	1.5
N	183.691	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878
%CH		1.7	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1
NR@LPLCO	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400
%CH		1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1	1.6
RECLNM72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH			NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, TRANSPORTATION, COMM. & PUBLIC UTILITIES -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
ERLA	21,815.411	23,456.523	26,552.136	28,763.399	29,903.267	31,336.439	33,193.935
%CH	0.1	7.5	13.2	8.3	4.0	4.8	5.9
DV652	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	-100.0	NC	NC	NC
DV771	0.000	0.000	0.000	0.000	0.000	0.000	0.250
%CH	NC	NC	NC	NC	NC	NC	NC
ER	4.457	4.517	4.645	4.696	4.499	4.510	4.590
%CH	-1.0	1.3	2.8	1.1	-4.2	0.2	1.8
N	207.053	208.846	210.410	211.901	213.559	215.142	216.817
%CH	1.1	0.9	0.7	0.7	0.8	0.7	0.6
NR@LPLCO	1.834000	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.8	1.2	1.1	0.9	1.9	2.0	2.0
RECLNM72ON	0.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NC	NC	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, SERVICES - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
ESVLA	13,587.752	15,187.834	16,559.592	18,362.573	19,567.914	20,755.528	21,502.848	22,676.472	32,906.888	38,305.850
%CH		11.8	9.0	10.9	6.6	6.1	3.6	5.5	45.1	16.4
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	-100.0
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
ESV	8.708	9.087	9.551	10.098	10.621	11.227	11.621	11.903	12.390	13.020
%CH		4.3	5.1	5.7	5.2	5.7	3.5	2.4	4.1	5.1
N	191.889	194.303	196.560	198.712	200.706	202.677	204.878	207.053	208.846	210.410
%CH	1.4	1.3	1.2	1.1	1.0	1.0	1.1	1.1	0.9	0.7
NR@LPLCO	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000	1.856500	1.876300
%CH	3.3	2.6	2.0	1.1	1.6	1.1	1.6	1.8	1.2	1.1
RECLNM72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	1.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	0.0

	1974	1975	1976	1977
ESVLA	42,811.975	55,221.137	60,538.851	64,001.539
%CH	11.8	29.0	9.6	5.7
DV721	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
DV751	0.000	0.250	0.000	0.000
%CH	NC	NC	-100.0	NC
ESV	13.617	14.007	14.642	15.331
%CH	4.6	2.9	4.5	4.7
N	211.901	213.559	215.142	216.817
%CH	0.7	0.8	0.7	0.8
NR@LPLCO	1.892720	1.928800	1.967900	2.007000
%CH	0.9	1.9	2.0	2.0
RECLNM72ON	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0

EMPLOYMENT, WHOLESALE & RETAIL TRADE - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
ETLA	40,115.469	42,809.840	45,751.180	49,901.714	54,563.084	57,849.997	61,374.948	65,442.702	66,277.821	70,165.237
%CH		6.7	6.9	9.1	9.3	6.0	6.1	6.6	1.3	5.9
ET	11.565	11.777	12.156	12.713	13.244	13.606	14.098	14.700	15.042	15.351
%CH		1.8	3.2	4.6	4.2	2.7	3.6	4.3	2.3	2.1
LRELYP	-0.390	-0.371	-0.364	-0.368	-0.331	-0.280	-0.287	-0.310	-0.307	-0.330
%CH		4.8	1.7	-0.9	9.9	15.5	-2.4	-8.3	1.1	-7.5
N	186.538	189.242	191.889	194.303	196.560	198.712	200.706	202.677	204.878	207.053
%CH	1.5	1.4	1.4	1.3	1.2	1.1	1.0	1.0	1.1	1.1
NR@LPLCO	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000
%CH	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1	1.6	1.8
RECLNM72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

	1972	1973	1974	1975	1976	1977
ETLA	83,048.718	91,752.764	95,018.816	99,624.986	106,512.504	116,099.108
%CH	18.4	10.5	3.6	4.8	6.9	9.0
ET	15.973	16.671	17.016	16.999	17.690	18.288
%CH	4.1	4.4	2.1	-0.1	4.1	3.4
LRELYP	-0.327	-0.320	-0.293	-0.275	-0.256	-0.251
%CH	0.8	2.2	8.3	6.2	7.1	2.0
N	208.846	210.410	211.901	213.559	215.142	216.817
%CH	0.9	0.7	0.7	0.8	0.7	0.8
NR@LPLCO	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.2	1.1	0.9	1.9	2.0	2.0
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NC	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, FOOD - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
E20LA	11,084.390	11,140.129	11,186.787	11,166.831	11,445.820	11,329.322	11,320.785	11,492.700	11,462.437	11,422.592
%CH		0.5	0.4	-0.2	2.5	-1.0	-0.1	1.5	-0.3	-0.3
AHEMFLA	2.219	2.302	2.386	2.493	2.545	2.650	2.727	2.912	3.084	3.282
%CH		4.5	3.8	3.6	4.5	2.1	4.1	2.9	6.8	5.9	6.4
CORPTX	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV631	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	-100.0	NC	NC
DV673&731	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	-100.0	NC	NC
JQIND20	0.808	0.833	0.864	0.904	0.924	0.960	1.000	1.025	1.062	1.089
%CH		3.2	3.7	4.6	2.2	3.8	4.2	2.5	3.6	2.6
L1DMCDDNOLA	-293.111	187.889	98.889	-118.111	-159.111	-171.111	-41.111	-109.111	-105.111	-31.111
%CH		NM	-47.4	NM	-34.7	-7.5	76.0	-165.4	3.7	70.4
RTCGSL	0.026	0.028	0.029	0.028	0.026	0.028	0.032	0.037	0.041	0.051
%CH		7.1	2.0	-1.3	-6.9	6.1	13.7	15.3	12.4	25.3
TIME	58.500	62.500	66.500	70.500	74.500	78.500	82.500	86.500	90.500	94.500
%CH		6.8	6.4	6.0	5.7	5.4	5.1	4.8	4.6	4.4
WP102	0.909	0.919	0.925	0.922	0.955	1.012	1.000	1.022	1.073	1.121
%CH		1.1	0.6	-0.2	3.6	5.9	-1.2	2.2	5.0	4.4

EMPLOYMENT, FOOD - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1971	1972	1973	1974	1975	1976	1977
E20LA	11,466.808	11,946.151	11,886.912	11,979.422	11,401.793	11,339.927	11,280.913
%CH	0.4	4.2	-0.5	0.8	-4.8	-0.5	-0.5
AHEM@LA	3.458	3.682	3.973	4.402	4.803	5.331	5.796
%CH	5.4	6.5	7.9	10.8	9.1	11.0	8.7
CORPTX	0.040	0.040	0.040	0.040	0.040	0.040	0.080
%CH	0.0	0.0	0.0	0.0	0.0	0.0	100.0
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV673&731	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	-100.0	NC	NC	NC
JQIND20	1.128	1.169	1.208	1.240	1.232	1.323	1.380
%CH	3.6	3.6	3.4	2.6	-0.6	7.3	4.3
L1DNCDDNOLA	40.889	232.889	383.889	7.889	24.889	-186.111	290.899
%CH	NM	469.6	64.8	-97.9	215.5	NM	NM
RTCGSL	0.051	0.052	0.049	0.051	0.059	0.060	0.061
%CH	-0.3	1.5	-4.9	2.8	15.4	2.5	0.6
TIME	98.500	102.500	106.500	110.500	114.500	118.500	122.500
%CH	4.2	4.1	3.9	3.8	3.6	3.5	3.4
WPI02	1.145	1.208	1.481	1.709	1.826	1.780	1.860
%CH	2.2	5.5	22.6	15.4	6.9	-2.5	4.5

EMPLOYMENT, TEXTILES & APPAREL - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1970	1971	1972	1973	1974	1975	1976	1977
E2223LA	2,682.362	3,150.490	4,035.402	5,095.154	5,783.101	5,364.868	6,498.047	7,547.307
%CH		17.5	28.1	26.3	13.5	-7.2	21.1	16.1
ADD23CO722	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC
ADD23LAG723	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC
JQIND22	1.117	1.165	1.327	1.429	1.326	1.225	1.364	1.373
%CH		4.3	13.9	7.7	-7.2	-7.6	11.4	0.6
JQIND23	1.014	1.048	1.094	1.173	1.143	1.077	1.221	1.241
%CH		3.3	4.4	7.2	-2.6	-5.7	13.4	1.6
RECL23@751	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	-100.0	NC

EMPLOYMENT, LUMBER, FURNITURE & PAPER - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969
E242526LA %CH	23,847.327	23,458.220 -1.6	23,666.412 0.9	23,721.829 0.2	23,646.926 -0.3	24,930.795 5.4	23,828.123 -4.1	23,239.253 -2.8	23,456.961 0.9
CELOTEX26LAG624 %CH	0.000	0.250 NC	0.000 -100.0	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC
CELOTEX26STRIKE623 %CH	0.000	0.250 NC	0.000 -100.0	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC
CROWN26STRIKE614 %CH	0.250	0.000 -100.0	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC
JQIND24 %CH	0.781	0.824 5.6	0.863 4.7	0.926 7.3	0.963 4.0	1.000 3.8	1.001 0.1	1.055 5.4	1.079 2.3
JQIND25 %CH	0.710	0.781 10.0	0.812 3.9	0.871 7.3	0.947 8.7	1.018 7.6	1.000 -1.8	1.068 6.9	1.148 7.4
JQIND26 %CH	0.718	0.762 6.1	0.806 5.8	0.855 6.0	0.919 7.6	0.992 7.9	1.000 0.8	1.073 7.3	1.158 7.9
LOSS24CO702 %CH	0.000	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC
LOSS24CO734 %CH	0.000	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC	0.000 NC
PEINDLA %CH	0.83 6.3	0.84 0.5	0.83 -1.3	0.78 -5.9	0.72 -7.6	0.70 -1.7	0.70 -1.2	0.69 -0.4	0.69 0.0
TIME %CH	58.500	62.500 6.8	66.500 6.4	70.500 6.0	74.500 5.7	78.500 5.4	82.500 5.1	86.500 4.8	90.500 4.6
WPI0543NS %CH	1.007	1.019 1.2	1.011 -0.8	1.003 -0.8	1.003 0.0	0.998 -0.5	1.000 0.2	1.009 0.8	1.022 1.3

EMPLOYMENT, LUMBER, FURNITURE & PAPER - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1970	1971	1972	1973	1974	1975	1976	1977
E242526LA	23,005.318	22,984.911	23,740.023	24,505.137	23,647.595	21,055.478	22,074.169	22,670.742
%CH	-1.9	-0.1	3.3	3.2	-3.5	-11.0	4.8	2.7
CELOTEX26LAG624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
CELOTEX26STRIKE623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
CROWN26STRIKE614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
JQIND24	1.057	1.138	1.208	1.260	1.161	1.076	1.251	1.338
%CH	-2.0	7.7	6.2	4.3	-7.9	-7.3	16.2	7.0
JQIND25	1.081	1.160	1.305	1.437	1.376	1.183	1.328	1.409
%CH	-5.8	7.4	12.5	10.1	-4.3	-14.0	12.2	6.1
JQIND26	1.152	1.205	1.289	1.374	1.344	1.164	1.330	1.375
%CH	-0.5	4.6	7.0	6.6	-2.2	-13.4	14.2	3.4
LOSS24CO702	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	-100.0	NC	NC	NC	NC	NC	NC
LOSS24CO734	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	-100.0	NC	NC	NC
PEINDLA	0.70	0.72	0.75	0.80	0.94	0.84	0.86	1.17
%CH	0.6	2.4	4.1	7.9	17.1	-10.3	1.7	36.5
TIME	94.500	98.500	102.500	106.500	110.500	114.500	118.500	122.500
%CH	4.4	4.2	4.1	3.9	3.8	3.6	3.5	3.4
WPI0543NS	1.065	1.173	1.239	1.326	1.723	2.097	2.267	2.570
%CH	4.3	10.1	5.7	7.0	30.0	21.7	8.1	13.3

EMPLOYMENT, PRINTING & PUBLISHING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
E27LA	748.083	755.783	797.401	853.181	905.744	970.615	1,094.417	1,130.972	1,175.509	1,240.233	1,323.117	1,519.647
%CH		1.0	5.5	7.0	6.2	7.2	12.8	3.3	3.9	5.5	6.7	14.9
CORPTX	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC
DV754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND27	0.713	0.739	0.777	0.825	0.878	0.946	0.999	1.031	1.073	1.070	1.071	1.126
%CH		3.8	5.1	6.2	6.4	7.7	5.7	3.2	4.1	-0.3	0.1	5.2
RTCGSL	0.026	0.028	0.029	0.028	0.026	0.028	0.032	0.037	0.041	0.051	0.051	0.052
%CH		7.1	2.0	-1.3	-6.9	6.1	13.7	15.3	12.4	25.3	-0.3	1.5

	1973	1974	1975	1976	1977
E27LA	1,632.251	1,660.204	1,820.825	1,954.277	2,012.657
%CH	7.4	1.7	9.7	7.3	3.0
CORPTX	0.040	0.040	0.040	0.040	0.080
%CH	0.0	0.0	0.0	0.0	100.0
DV702	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC
DV754	0.000	0.000	0.250	0.000	0.000
%CH	NC	NC	NC	-100.0	NC
JQIND27	1.182	1.182	1.132	1.207	1.248
%CH	4.9	0.0	-4.2	6.6	3.4
RTCGSL	0.049	0.051	0.059	0.060	0.061
%CH	-4.9	2.8	15.4	2.5	0.6

EMPLOYMENT, CHEMICALS & RUBBER - LP&L SERVICE AREA

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
E2830NSLA	5,394	5,221	5,437	6,165	6,546	7,522	7,936	8,425	9,389	9,415	9,843	10,133	10,680	11,508
%CH	0.3	-3.2	4.1	13.4	6.2	14.9	5.5	6.2	11.4	0.3	4.5	2.9	5.4	7.8
ADD28DV643	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND28	0.592	0.657	0.718	0.787	0.877	0.956	0.999	1.094	1.183	1.204	1.259	1.436	1.545	1.594
%CH		11.0	9.3	9.6	11.4	9.0	4.5	9.5	8.1	1.8	4.5	14.1	7.6	3.2
JQIND30	0.546	0.618	0.664	0.753	0.861	0.968	0.996	1.198	1.302	1.323	1.478	1.724	1.841	1.954
%CH		13.3	7.5	13.4	14.3	12.4	2.9	20.2	8.7	1.6	11.7	16.7	6.8	6.2
PEINDLA	0.83	0.84	0.83	0.78	0.72	0.70	0.70	0.69	0.69	0.70	0.72	0.75	0.80	0.94
%CH	6.3	0.5	-1.3	-5.9	-7.6	-1.7	-1.2	-0.4	0.0	0.6	2.4	4.1	7.9	17.1
STRIKE28AMC624	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28DOW752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG632	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TIME	58.500	62.500	66.500	70.500	74.500	78.500	82.500	86.500	90.500	94.500	98.500	102.500	106.500	110.500
%CH		6.8	6.4	6.0	5.7	5.4	5.1	4.8	4.6	4.4	4.2	4.1	3.9	3.8
WP10543NS	1.007	1.019	1.011	1.003	1.003	0.998	1.000	1.009	1.022	1.065	1.173	1.239	1.326	1.723
%CH		1.2	-0.8	-0.8	0.0	-0.5	0.2	0.8	1.3	4.3	10.1	5.7	7.0	30.0

EMPLOYMENT, CHEMICALS & RUBBER -
LP&L SERVICE AREA (CONT'D)

	1975	1976	1977
E2830NSLA	12,027	13,956	15,374
%CH	4.5	16.0	10.2
ADD28DV643	0.000	0.000	0.000
%CH	NC	NC	NC
JQIND28	1.474	1.692	1.807
%CH	-7.5	14.8	6.8
JQIND30	1.671	2.000	2.321
%CH	-14.5	19.7	16.1
PEINDLA	0.84	0.86	1.17
%CH	-10.3	1.7	36.5
STRIKE28AMC624	0.000	0.000	0.000
%CH	NC	NC	NC
STRIKE28DOW752	0.250	0.000	0.000
%CH	NC	-100.0	NC
STRIKE28LAG632	0.000	0.000	0.000
%CH	NC	NC	NC
STRIKE28LAG754	0.250	0.000	0.000
%CH	NC	-100.0	NC
TIME	114.500	118.500	122.500
%CH	3.6	3.5	3.4
WPI0543NS	2.097	2.267	2.570
%CH	21.7	8.1	13.3

EMPLOYMENT, PETROLEUM & COAL - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
E29LA	2,263.651	1,945.736	1,801.139	1,844.858	1,847.194	1,945.559	2,148.512	2,373.061	2,437.950	2,522.596
%CH		-14.0	-7.4	2.4	0.1	5.3	10.4	10.5	2.7	3.5
DV631	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND29	0.798	0.840	0.879	0.903	0.921	0.961	1.000	1.050	1.084	1.132
%CH		5.3	4.6	2.7	2.0	4.4	4.0	5.0	3.3	4.3
STRIKE29SHL624	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH			-100.0	NC	NC	NC	NC	NC	NC	NC

	1971	1972	1973	1974	1975	1976	1977
E29LA	2,673.631	2,959.794	3,001.254	3,218.414	2,658.233	2,637.252	2,927.901
%CH	6.0	10.7	1.4	7.2	-17.4	-0.8	11.0
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	-100.0	NC	NC	NC
DV732	0.000	0.000	0.250	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	-100.0	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH	NC	NC	NC	NC	NC	-100.0	NC
DV752	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH	NC	NC	NC	NC	NC	-100.0	NC
JQIND29	1.167	1.219	1.284	1.248	1.240	1.331	1.414
%CH	3.1	4.5	5.3	-2.8	-0.7	7.3	6.3
STRIKE29SHL624	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, STONE, CLAY & GLASS - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
E32LA	2,516.666	2,655.493	2,880.599	3,025.319	3,320.976	3,351.168	3,263.741	3,105.200	3,015.671	3,199.762	3,463.548
%CH		5.5	8.5	5.0	9.8	0.9	-2.6	-4.9	-2.9	6.1	8.2
CORPTX	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040	0.040
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND32	0.926	0.983	1.011	1.000	1.063	1.096	1.060	1.109	1.208	1.336	1.331
%CH		6.1	2.9	-1.1	6.2	3.2	-3.3	4.6	8.9	10.6	-0.3
RTCGSL	0.028	0.026	0.028	0.032	0.037	0.041	0.051	0.051	0.052	0.049	0.051
%CH		-6.9	6.1	13.7	15.3	12.4	25.3	-0.3	1.5	-4.9	2.8
TIME	70.500	74.500	78.500	82.500	86.500	90.500	94.500	98.500	102.500	106.500	110.500
%CH		5.7	5.4	5.1	4.8	4.6	4.4	4.2	4.1	3.9	3.8
YP	495.650	537.033	584.875	626.625	685.250	745.833	801.267	859.100	942.550	1,052.450	1,154.950
%CH		8.3	8.9	7.1	9.4	8.8	7.4	7.2	9.7	11.7	9.7
YP@LPLCO	2.911	3.189	3.636	4.109	4.484	4.777	5.172	5.454	6.028	6.803	7.688
%CH		9.6	14.0	13.0	9.1	6.5	8.3	5.5	10.5	12.9	13.0

EMPLOYMENT, STONE, CLAY & GLASS -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1975	1976	1977
E32LA	3,292.234	3,250.725	3,214.907
%CH	-4.9	-1.3	-1.1
CORPTX	0.040	0.040	0.080
%CH	0.0	0.0	100.0
DV753	0.250	0.000	0.000
%CH	NC	-100.0	NC
DV763	0.000	0.250	0.000
%CH	NC	NC	-100.0
JQIND32	1.179	1.371	1.461
%CH	-11.4	16.2	6.6
RTCGSL	0.059	0.060	0.061
%CH	15.4	2.5	0.6
TIME	114.500	118.500	122.500
%CH	3.6	3.5	3.4
YP	1,255.475	1,380.850	1,529.000
%CH	8.7	10.0	10.7
YP@LPLCO	8.589	9.751	10.985
%CH	11.7	13.5	12.7

EMPLOYMENT, PRIMARY METALS - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1972	1973	1974	1975	1976	1977
E33LA	3,273.519	4,004.069	4,000.611	3,690.099	3,871.026	4,189.006
%CH		22.3	-0.1	-7.8	4.9	8.2
DV721	0.250	0.000	0.000	0.000	0.000	0.000
%CH		-100.0	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	-100.0	NC
EXPN33CD741	0.000	0.000	0.250	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC
JQIND333VR	1.212	1.347	1.286	0.979	1.161	1.220
%CH		11.1	-4.5	-23.9	18.6	5.1

EMPLOYMENT, FABRICATED METALS - LP&L SERVICE AREA

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
E34NSLA	1,986	2,002	2,066	2,147	2,375	2,579	2,701	2,958	3,113	3,110	3,528	3,700	4,073	4,489	5,100	6,638	7,047
%CH	7.1	0.8	3.2	3.9	10.6	8.6	4.7	9.5	5.3	-0.1	13.5	4.9	10.1	10.2	13.6	30.2	6.2
ADD34C0713	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC	NC	NC	NC	NC
DV651	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0
JQIND34	0.693	0.754	0.779	0.826	0.908	0.973	1.000	1.056	1.079	1.024	1.035	1.120	1.247	1.242	1.099	1.233	1.309
%CH		8.7	3.3	6.1	9.9	7.1	2.8	5.6	2.2	-5.1	1.1	8.2	11.3	-0.4	-11.5	12.2	6.2
PEINDLA	0.83	0.84	0.83	0.78	0.72	0.70	0.70	0.69	0.69	0.70	0.72	0.75	0.80	0.94	0.84	0.86	1.17
%CH	6.3	0.5	-1.3	-5.9	-7.6	-1.7	-1.2	-0.4	0.0	0.6	2.4	4.1	7.9	17.1	-10.3	1.7	36.5
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ4	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WPI0543NS	1.007	1.019	1.011	1.003	1.003	0.998	1.000	1.009	1.022	1.065	1.173	1.239	1.326	1.723	2.097	2.267	2.570
%CH		1.2	-0.8	-0.8	0.0	-0.5	0.2	0.8	1.3	4.3	10.1	5.7	7.0	30.0	21.7	8.1	13.3

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
E353637LA	6,256.445	6,850.454	8,104.289	9,373.244	10,726.384	11,201.243	13,710.084	14,834.983	15,623.024	16,587.903
%CH		9.5	18.3	15.7	14.4	4.4	22.4	8.2	5.3	6.2
ADD37CD641	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	-100.0	NC	NC	NC	NC	NC	NC
JQIND35	0.621	0.663	0.756	0.850	0.988	1.000	1.017	1.092	1.044	1.002
%CH		6.8	14.0	12.4	16.3	1.2	1.7	7.4	-4.4	-4.0
JQIND36	0.630	0.647	0.684	0.816	0.980	1.000	1.055	1.118	1.081	1.077
%CH		2.8	5.6	19.3	20.1	2.0	5.5	6.0	-3.3	-0.4
JQIND37	0.711	0.780	0.802	0.951	1.017	0.999	1.110	1.085	0.895	0.979
%CH		9.7	2.7	18.6	6.9	-1.7	11.1	-2.3	-17.5	9.4
LOSS37CD631	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	-100.0	NC	NC	NC	NC	NC	NC	NC
LOSS37CD664	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	-100.0	NC	NC	NC	NC
REC37JEFF721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
REC37TWO751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1972	1973	1974	1975	1976	1977
E353637LA	17,306.357	17,886.508	17,134.556	17,494.450	18,134.084	19,376.317
%CH	4.3	3.4	-4.2	2.1	3.7	6.9
ADD37C0641	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND35	1.159	1.337	1.401	1.250	1.350	1.448
%CH	15.7	15.3	4.8	-10.8	8.0	7.3
JQIND36	1.223	1.430	1.438	1.165	1.316	1.419
%CH	13.6	17.0	0.5	-19.0	13.0	7.8
JQIND37	1.083	1.180	1.088	0.976	1.107	1.213
%CH	10.6	9.0	-7.8	-10.2	13.4	9.5
LOSS37C0631	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
LOSS37C0664	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
REC37JEFF721	0.250	0.000	0.000	0.000	0.000	0.000
%CH	NC	-100.0	NC	NC	NC	NC
REC37TW0751	0.000	0.000	0.000	0.250	0.000	0.000
%CH	NC	NC	NC	NC	-100.0	NC

EMPLOYMENT, INSTRUMENTS & MISC. - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
E3839LA	336.467	372.424	380.058	485.573	570.778	677.711	655.298	676.810	546.572	324.942	458.021	548.569
%CH		10.7	2.0	27.8	17.5	18.7	-3.3	3.3	-19.2	-40.5	41.0	19.8
DV3839DATA7@1TO3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC
DV3839DATA7@4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	-100.0	NC
DV662	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	-100.0	NC	NC	NC	NC	NC
JQ1ND38	0.572	0.597	0.663	0.718	0.825	0.905	1.000	1.061	1.150	1.120	1.095	1.203
%CH		4.4	11.1	8.2	15.0	9.7	10.5	6.1	8.3	-2.6	-2.3	9.9
JQ1ND39	0.733	0.781	0.818	0.862	0.936	0.976	1.000	1.061	1.126	1.111	1.120	1.271
%CH		6.5	4.8	5.4	8.5	4.4	2.4	6.2	6.1	-1.3	0.8	13.5
PE1NDLA	0.83	0.84	0.83	0.78	0.72	0.70	0.70	0.69	0.69	0.70	0.72	0.75
%CH	6.3	0.5	-1.3	-5.9	-7.6	-1.7	-1.2	-0.4	0.0	0.6	2.4	4.1
TIME	58.500	62.500	66.500	70.500	74.500	78.500	82.500	86.500	90.500	94.500	98.500	102.500
%CH		6.8	6.4	6.0	5.7	5.4	5.1	4.8	4.6	4.4	4.2	4.1
WPI0543NS	1.007	1.019	1.011	1.003	1.003	0.998	1.000	1.009	1.022	1.065	1.173	1.239
%CH		1.2	-0.8	-0.8	0.0	-0.5	0.2	0.8	1.3	4.3	10.1	5.7

EMPLOYMENT, INSTRUMENTS & MISC. -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1973	1974	1975	1976	1977
E3839LA	629.609	780.136	879.112	1,129.298	1,102.101
%CH	14.8	23.9	12.7	28.5	-2.4
DV3839DATA701TO3	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC
DV3839DATA704	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC
DV662	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC
JQIND38	1.376	1.441	1.323	1.482	1.591
%CH	14.4	4.7	-8.2	12.0	7.4
JQIND39	1.377	1.374	1.282	1.435	1.491
%CH	8.3	-0.2	-6.7	11.9	3.9
PEINDLA	0.80	0.94	0.84	0.86	1.17
%CH	7.9	17.1	-10.3	1.7	36.5
TIME	106.500	110.500	114.500	118.500	122.500
%CH	3.9	3.8	3.6	3.5	3.4
WP10543NS	1.326	1.723	2.097	2.267	2.570
%CH	7.0	30.0	21.7	8.1	13.3

NET IN-MIGRATION - LP&L SERVICE AREA

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
MIG@LPLCO	0.021025	0.012270	-0.000943	0.009086	-0.000801	0.007882	0.013359	0.006299	0.004500	0.000585	0.019397	0.022455
%CH		-41.6	NM	NM	NM	NM	69.5	-52.8	-28.6	-87.0	3,215.7	15.8
AHEM	2.613	2.716	2.827	3.008	3.191	3.357	3.565	3.807	4.075	4.412	4.806	5.186
%CH	3.3	3.9	4.1	6.4	6.1	5.2	6.2	6.8	7.0	8.3	8.9	7.9
AHEM@LA	2.545	2.650	2.727	2.912	3.084	3.282	3.458	3.682	3.973	4.402	4.803	5.331
%CH	2.1	4.1	2.9	6.8	5.9	6.4	5.4	6.5	7.9	10.8	9.1	11.0
CPISOUTHNS	0.944	0.973	1.003	1.047	1.109	1.169	1.214	1.251	1.340	1.506	1.646	1.735
%CH	1.6	3.0	3.0	4.4	5.9	5.4	3.9	3.0	7.1	12.4	9.3	5.4
CPIU	0.944	0.973	1.000	1.042	1.098	1.163	1.213	1.253	1.331	1.478	1.612	1.705
%CH	1.6	3.0	2.8	4.2	5.4	5.9	4.3	3.3	6.2	11.0	9.1	5.8

	1977
MIG@LPLCO	0.018972
%CH	-15.5
AHEM	5.631
%CH	8.6
AHEM@LA	5.796
%CH	8.7
CPISOUTHNS	1.854
%CH	6.8
CPIU	1.816
%CH	6.5

FEDERALLY MANDATED MINIMUM WAGE, DOLLARS PER HOUR

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
MINWAGE	1.000	1.150	1.150	1.250	1.250	1.250	1.250	1.400	1.600	1.600	1.600	1.600	1.600	1.600	2.000	2.100	2.300
%CH		15.0	0.0	8.7	0.0	0.0	0.0	12.0	14.3	0.0	0.0	0.0	0.0	0.0	25.0	5.0	9.5
AHEM		2.318	2.390	2.457	2.530	2.613	2.716	2.827	3.008	3.191	3.357	3.565	3.807	4.075	4.412	4.806	5.186
%CH			3.1	2.8	3.0	3.3	3.9	4.1	6.4	6.1	5.2	6.2	6.8	7.0	8.3	8.9	7.9

	1977
MINWAGE	2.300
%CH	0.0
AHEM	5.631
%CH	8.6

TOTAL RESIDENT POPULATION - LP&L SERVICE AREA

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
NR@LPLCO	1.498506	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000
%CH		1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1	1.6	1.8
BIR@LPLCO	41.466	41.027	40.765	40.063	41.040	34.909	34.622	33.588	33.211	34.011	33.404	32.978
%CH		-1.1	-0.6	-1.7	2.4	-14.9	-0.8	-3.0	-1.1	2.4	-1.8	-1.3
DEA@LPLCO	13.654	13.263	14.143	14.619	15.008	12.866	13.292	13.145	13.997	14.010	13.786	13.737
%CH		-2.9	6.6	3.4	2.7	-14.3	3.3	-1.1	6.5	0.1	-1.6	-0.4
MIG@LPLCO						0.021025	0.012270	-0.000943	0.000086	-0.000801	0.007882	0.013359
%CH							-41.6	NM	NM	NM	NM	69.5

	1972	1973	1974	1975	1976	1977
NR@LPLCO	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.2	1.1	0.9	1.9	2.0	2.0
BIR@LPLCO	30.701	30.121	30.294	31.231	32.097	35.304
%CH	-6.9	-1.9	0.6	3.1	2.8	10.0
DEA@LPLCO	14.500	14.821	14.459	14.548	15.452	15.176
%CH	5.6	2.2	-2.4	0.6	6.2	-1.8
MIG@LPLCO	0.006299	0.004500	0.000585	0.019397	0.022455	0.018972
%CH	-52.8	-28.6	-87.0	3,215.7	15.8	-15.5

RESIDENT POPULATION AGED 21 & OVER - LP&L SERVICE AREA

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
NR21&@LPLCO	0.829234	0.835464	0.850030	0.866326	0.897432	0.925197	0.947690	0.960825	0.993502	1.017088	1.005032	1.039697
%CH		0.8	1.7	1.9	3.6	3.1	2.4	1.4	3.4	2.4	-1.2	3.4
NR2164@LPLCO	0.717	0.720	0.732	0.745	0.773	0.796	0.814	0.823	0.851	0.872	0.855	0.883
%CH		0.4	1.6	1.9	3.7	2.9	2.3	1.2	3.4	2.4	-2.0	3.3
NR65&@LPLCO	0.112	0.115	0.118	0.121	0.124	0.130	0.134	0.138	0.143	0.145	0.151	0.157
%CH		3.1	2.6	2.1	2.8	4.3	3.2	2.8	3.6	2.0	3.5	4.3

	1972	1973	1974	1975	1976	1977
NR21&@LPLCO	1.060289	1.084908	1.106351	1.139745	1.165505	1.165505
%CH	2.0	2.3	2.0	3.0	2.3	0.0
NR2164@LPLCO	0.899	0.920	0.937	0.964	0.984	0.978
%CH	1.9	2.3	1.9	2.9	2.0	-0.6
NR65&@LPLCO	0.161	0.165	0.170	0.175	0.182	0.188
%CH	2.6	2.6	2.6	3.4	3.7	3.4

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RESIDENT POPULATION AGED 21-64 - LP&L SERVICE AREA

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
NR2164@LPLCO	0.796	0.814	0.823	0.851	0.872	0.855	0.883	0.899	0.920	0.937	0.964
%CH	2.9	2.3	1.2	3.4	2.4	-2.0	3.3	1.9	2.3	1.9	2.9
CENSUS70	0	0	0	0	0	1	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	-100.0	NC	NC	NC	NC
MIG@LPLCO	0.021025	0.012270	-0.000943	0.009086	-0.000801	0.007882	0.013359	0.006299	0.004500	0.000585	0.019397
%CH		-41.6	NM	NM	NM	NM	69.5	-52.8	-28.6	-87.0	3,215.7
NR@LPLCO	1.673300	1.706900	1.726400	1.754700	1.773900	1.801400	1.834000	1.856500	1.876300	1.892720	1.928800
%CH	2.6	2.0	1.1	1.6	1.1	1.6	1.8	1.2	1.1	0.9	1.9
NR21&@LPLCO	0.925197	0.947690	0.960825	0.993502	1.017088	1.005032	1.039697	1.060289	1.084908	1.106351	1.139745
%CH	3.1	2.4	1.4	3.4	2.4	-1.2	3.4	2.0	2.3	2.0	3.0

	1976	1977
NR2164@LPLCO	0.984	0.978
%CH	2.0	-0.6
CENSUS70	0	0
%CH	NC	NC
MIG@LPLCO	0.022455	0.018972
%CH	15.8	-15.5
NR@LPLCO	1.967900	2.007000
%CH	2.0	2.0
NR21&@LPLCO	1.165505	1.165505
%CH	2.3	0.0

RESIDENT POPULATION AGED 65 & OVER - LP&L SERVICE AREA

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
NR65&@LPLCO	0.130	0.134	0.138	0.143	0.145	0.151	0.157	0.161	0.165	0.170	0.175
%CH		4.3	3.2	2.8	3.6	2.0	3.5	4.3	2.6	2.6	2.6	3.4
MIG@LPLCO	0.021025	0.012270	-0.000943	0.009086	-0.000801	0.007882	0.013359	0.006299	0.004500	0.000585	0.018397
%CH		-41.6	NM	NM	NM	NM	69.5	-52.8	-28.6	-87.0	3,215.7
NR2164@LPLCO	0.796	0.814	0.823	0.851	0.872	0.855	0.883	0.899	0.920	0.937	0.964
%CH		2.9	2.3	1.2	3.4	2.4	-2.0	3.3	1.9	2.3	1.9	2.9

	1976	1977
NR65&@LPLCO	0.182	0.188
%CH	3.7	3.4
MIG@LPLCO	0.022455	0.018972
%CH	15.8	-15.5
NR2164@LPLCO	0.984	0.978
%CH	2.0	-0.6

THE PRICE OF ELECTRICITY FOR LARGE INDUSTRIAL CUSTOMERS - LOUISIANA POWER AND LIGHT CO.

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976
PEINDLA	0.78	0.83	0.84	0.83	0.78	0.72	0.70	0.70	0.69	0.69	0.70	0.72	0.75	0.80	0.94	0.84	0.86
%CH		6.3	0.5	-1.3	-5.9	-7.6	-1.7	-1.2	-0.4	0.0	0.6	2.4	4.1	7.9	17.1	-10.3	1.7
WPI0543NS		1.007	1.019	1.011	1.003	1.003	0.998	1.000	1.009	1.022	1.065	1.173	1.239	1.326	1.723	2.097	2.267
%CH			1.2	-0.8	-0.8	0.0	-0.5	0.2	0.8	1.3	4.3	10.1	5.7	7.0	30.0	21.7	8.1

	1977
PEINDLA	1.17
%CH	36.5
WPI0543NS	2.570
%CH	13.3

INDUSTRIAL POWER, 500 KW DEMAND

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
WP10543NS	1.007	1.019	1.011	1.003	1.003	0.998	1.000	1.009	1.022	1.065	1.173	1.239	1.326	1.723	2.097	2.267	2.570
%CH		1.2	-0.8	-0.8	0.0	-0.5	0.2	0.8	1.3	4.3	10.1	5.7	7.0	30.0	21.7	8.1	13.3
WP105	0.972	0.967	0.963	0.937	0.954	0.978	1.000	0.989	1.009	1.062	1.152	1.187	1.343	2.082	2.450	2.655	3.021
%CH		-0.5	-0.4	-2.7	1.8	2.5	2.3	-1.1	2.0	5.3	8.5	3.0	13.2	55.0	17.7	8.3	13.8

PERSONAL INCOME - LP&L SERVICE AREA

	1961	1962	1963	1964	1965	1966	1967	1968	1969
YP@LPLCO	2.337	2.465	2.660	2.911	3.189	3.636	4.109	4.484	4.777
%CH		5.5	7.9	9.4	9.6	14.0	13.0	9.1	6.5
AHEM@LA	2.219	2.302	2.386	2.493	2.545	2.650	2.727	2.912	3.084
%CH	4.5	3.8	3.6	4.5	2.1	4.1	2.9	6.8	5.9
EMLA	55,757.831	56,880.823	58,080.868	60,947.599	63,873.214	68,311.140	68,687.925	72,569.229	75,122.951
%CH	-4.7	2.0	2.1	4.9	4.8	6.9	0.6	5.7	3.5
ENMLA	96,288.487	100,247.729	105,974.729	115,869.039	129,505.611	143,354.303	150,070.757	153,666.177	158,372.024
%CH	0.8	4.1	5.7	9.3	11.8	10.7	4.7	2.4	3.1
NR@LPLCO	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700	1.773900
%CH	1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6	1.1
RECLYP720N	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECLYP750N	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1970	1971	1972	1973	1974	1975	1976	1977
YP@LPLCO	5.172	5.454	6.028	6.803	7.688	8.589	9.751	10.985
%CH	8.3	5.5	10.5	12.9	13.0	11.7	13.5	12.7
AHEM@LA	3.282	3.458	3.682	3.973	4.402	4.803	5.331	5.796
%CH	6.4	5.4	6.5	7.9	10.8	9.1	11.0	8.7
EMLA	75,593.922	77,978.202	82,178.632	86,592.821	87,664.671	84,783.343	91,482.971	96,749.100
%CH	0.6	3.2	5.4	5.4	1.2	-3.3	7.9	5.8
ENMLA	158,773.802	164,881.348	198,068.168	219,738.189	235,501.004	261,631.974	277,720.412	299,928.724
%CH	0.3	3.8	20.1	10.9	7.2	11.1	6.1	8.0
NR@LPLCO	1.801400	1.834000	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.6	1.8	1.2	1.1	0.9	1.9	2.0	2.0
RECLYP720N	1.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	0.0	0.0	-100.0	NC	NC	NC	NC	NC
RECLYP750N	1.000	1.000	1.000	1.000	1.000	0.000	0.000	0.000
%CH	0.0	0.0	0.0	0.0	0.0	-100.0	NC	NC

PER CAPITA PERSONAL INCOME - LP&L SERVICE AREA

	1960	1961	1962	1963	1964	1965	1966	1967	1968
YP@LPLCO@P	1,488.66447	1,543.98282	1,598.83935	1,687.92185	1,792.94956	1,912.37565	2,135.94046	2,382.42730	2,561.28511
%CH		3.7	3.6	5.6	6.2	6.7	11.7	11.5	7.5
NR@LPLCO	1.498506	1.514711	1.545300	1.578836	1.630232	1.673300	1.706900	1.726400	1.754700
%CH		1.1	2.0	2.2	3.3	2.6	2.0	1.1	1.6
YP@LPLCO	2.225	2.337	2.465	2.660	2.911	3.189	3.636	4.109	4.484
%CH		5.1	5.5	7.9	9.4	9.6	14.0	13.0	9.1

	1969	1970	1971	1972	1973	1974	1975	1976	1977
YP@LPLCO@P	2,695.83026	2,875.51730	2,981.07912	3,251.97394	3,630.81757	4,063.31260	4,462.20657	4,966.76446	5,485.84596
%CH	5.3	6.7	3.7	9.1	11.6	11.9	9.8	11.3	10.5
NR@LPLCO	1.773900	1.801400	1.834000	1.856500	1.876300	1.892720	1.928800	1.967900	2.007000
%CH	1.1	1.6	1.8	1.2	1.1	0.9	1.9	2.0	2.0
YP@LPLCO	4.777	5.172	5.454	6.028	6.803	7.688	8.589	9.751	10.985
%CH	6.5	8.3	5.5	10.5	12.9	13.0	11.7	13.5	12.7

ECONOMIC MODEL

ENDOGENOUS AND EXOGENOUS VARIABLES

FORECASTED VALUES

HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
AHEM	6.094	6.589	7.138	7.731	8.334	8.964	9.625	10.314	11.053	11.855	12.716	13.643	14.643	15.730	16.904	18.164
%CH		8.1	8.3	8.3	7.8	7.6	7.4	7.2	7.2	7.3	7.3	7.3	7.3	7.4	7.5	7.5
JAHEADJEA	2.148	2.323	2.517	2.726	2.939	3.162	3.396	3.639	3.900	4.184	4.489	4.816	5.170	5.555	5.970	6.416
%CH		8.2	8.3	8.3	7.8	7.6	7.4	7.2	7.2	7.3	7.3	7.3	7.3	7.4	7.5	7.5

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
AHEM	19.511	20.947	22.473	24.089	25.802	27.623	29.565	31.644	33.875	36.278
%CH	7.4	7.4	7.3	7.2	7.1	7.1	7.0	7.0	7.1	7.1
JAHEADJEA	6.893	7.401	7.942	8.514	9.121	9.766	10.454	11.190	11.981	12.833
%CH	7.4	7.4	7.3	7.2	7.1	7.1	7.0	7.0	7.1	7.1

HOURLY EARNINGS OF PROD. WORKERS, MANUFACTURING - LOUISIANA

	1978	1979	1980	1981	1982	1983	1984	1985	1986
AHEM@LA	6.353	6.776	7.297	7.890	8.516	9.178	9.871	10.593	11.368
%CH	9.6	6.7	7.7	8.1	7.9	7.8	7.5	7.3	7.3
AHEM	6.094	6.589	7.138	7.731	8.334	8.964	9.625	10.314	11.053
%CH		8.1	8.3	8.3	7.8	7.6	7.4	7.2	7.2
CPISOUTHNS	1.992	2.144	2.291	2.449	2.609	2.776	2.945	3.115	3.292
%CH	7.5	7.6	6.9	6.9	6.6	6.4	6.1	5.8	5.7
CPIU	1.955	2.109	2.254	2.407	2.565	2.728	2.896	3.063	3.237
%CH	7.7	7.9	6.8	6.8	6.6	6.4	6.1	5.8	5.7
EM	20.291	20.224	20.334	20.789	20.625	20.790	21.160	21.557	21.880
%CH		-0.3	0.5	2.2	-0.8	0.8	1.8	1.9	1.5
EMLA	100,112.956	102,398.156	103,781.035	107,879.954	110,114.551	113,125.635	117,152.577	121,280.894	125,178.610
%CH	3.5	2.3	1.4	3.9	2.1	2.7	3.6	3.5	3.2
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3

	1987	1988	1989	1990	1991	1992	1993	1994	1995
AHEM@LA	12.211	13.120	14.098	15.152	16.294	17.529	18.857	20.283	21.809
%CH	7.4	7.4	7.4	7.5	7.5	7.6	7.6	7.6	7.5
AHEM	11.855	12.716	13.643	14.643	15.730	16.904	18.164	19.511	20.947
%CH	7.3	7.3	7.3	7.3	7.4	7.5	7.5	7.4	7.4
CPISOUTHNS	3.482	3.685	3.900	4.130	4.375	4.633	4.902	5.186	5.486
%CH	5.8	5.8	5.8	5.9	5.9	5.9	5.8	5.8	5.8
CPIU	3.425	3.624	3.836	4.063	4.305	4.559	4.824	5.104	5.398
%CH	5.8	5.8	5.9	5.9	6.0	5.9	5.8	5.8	5.8
EM	22.053	22.176	22.295	22.422	22.547	22.644	22.729	22.774	22.782
%CH	0.8	0.6	0.5	0.6	0.6	0.4	0.4	0.2	0.0
EMLA	128,500.828	131,623.084	134,737.550	137,863.519	141,066.095	144,237.899	147,369.830	150,390.180	153,231.062
%CH	2.7	2.4	2.4	2.3	2.3	2.2	2.2	2.0	1.9
N	237.492	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951
%CH	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7
NR@LPLCO	2.255026	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102
%CH	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3

HOURLY EARNINGS OF PROD. WORKERS, MANUFACTURING - LOUISIANA (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
AHEM@LA	23.435	25.162	26.992	28.940	31.023	33.257	35.660	38.250
%CH	7.5	7.4	7.3	7.2	7.2	7.2	7.2	7.3
AHEM	22.473	24.089	25.802	27.623	29.565	31.644	33.875	36.278
%CH	7.3	7.2	7.1	7.1	7.0	7.0	7.1	7.1
CPISOUTHNS	5.801	6.131	6.476	6.839	7.222	7.627	8.057	8.513
%CH	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
CPIU	5.707	6.031	6.370	6.726	7.102	7.500	7.922	8.370
%CH	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
EM	22.794	22.823	22.877	22.973	23.088	23.205	23.325	23.440
%CH	0.1	0.1	0.2	0.4	0.5	0.5	0.5	0.5
EMLA	156,065.359	158,983.446	162,085.731	165,518.033	169,240.687	173,148.659	177,230.007	181,450.567
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4
N	254.592	256.146	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCQ	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0

NUMBER OF LIVE BIRTHS - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BIR@LPLCO	0.032	0.032	0.032	0.033	0.033	0.033	0.034	0.034	0.034	0.035
%CH	-99.9	1.0	1.0	0.9	0.8	0.9	1.0	1.0	1.1	1.1
BIR@US	12,810.625	12,918.978	13,031.589	13,152.153	13,277.028	13,404.037	13,531.976	13,660.077	13,787.709	13,914.315
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
BIR@LPLCO	0.035	0.035	0.036	0.036	0.037	0.037	0.038	0.038	0.038	0.039
%CH	1.2	1.2	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0
BIR@US	14,039.248	14,161.830	14,281.457	14,397.641	14,510.057	14,617.899	14,721.126	14,820.067	14,916.185	15,007.281
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6
N	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592	256.146
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6
NR@LPLCO	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814	2.587999
%CH	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2
TIME	166.500	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500
%CH	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0

	1998	1999	2000	2001	2002	2003
BIR@LPLCO	0.039	0.040	0.040	0.040	0.041	0.041
%CH	0.9	0.9	0.9	0.8	0.8	0.8
BIR@US	15,096.957	15,182.287	15,266.205	15,351.645	15,434.801	15,519.781
%CH	0.6	0.6	0.6	0.6	0.5	0.6
N	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCO	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.2	1.1	1.1	1.1	1.1	1.0
TIME	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.0	1.9	1.9	1.9	1.8	1.8

NUMBER OF LIVE BIRTHS BY PLACE OF RESIDENCE - TOTAL US

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
BIR@US	12,810.625	12,918.978	13,031.589	13,152.153	13,277.028	13,404.037	13,531.976	13,660.077	13,787.709	13,914.315
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
BIR@US	14,039.248	14,161.830	14,281.457	14,397.641	14,510.057	14,617.899	14,721.126	14,820.067	14,916.185	15,007.281
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6
N	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592	256.146
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6

	1998	1999	2000	2001	2002	2003
BIR@US	15,096.957	15,182.287	15,266.205	15,351.645	15,434.801	15,519.781
%CH	0.6	0.6	0.6	0.6	0.5	0.6
N	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.5	0.6

CORPORATE INCOME TAX RATE - STATE OF LOUISIANA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
CORPTX	0.080	0.081	0.081	0.082	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.077	0.092	0.093	0.094	0.095	0.098
%CH		0.8	0.9	1.3	-8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	1.0	1.0	1.0	1.0
RTCGSL	0.061	0.063	0.063	0.064	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.072	0.073	0.073	0.074	0.075
%CH		2.5	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	1.0	1.0	1.0	1.0

	1996	1997	1998	1999	2000	2001	2002	2003
CORPTX	0.097	0.098	0.099	0.100	0.101	0.102	0.103	0.104
%CH	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
RTCGSL	0.075	0.076	0.077	0.078	0.079	0.079	0.080	0.081
%CH	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

SOUTH REGION . . : ALL ITEMS

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
CPISOUTHNS	1.992	2.144	2.291	2.449	2.609	2.776	2.945	3.115	3.292	3.482	3.685	3.900	4.130	4.375	4.633	4.902	5.186
%CH		7.5	6.9	6.9	6.6	6.4	6.1	5.8	5.7	5.8	5.8	5.8	5.9	5.9	5.9	5.8	5.8
CPIU	1.955	2.109	2.254	2.407	2.565	2.728	2.896	3.063	3.237	3.425	3.624	3.836	4.063	4.305	4.559	4.824	5.104
%CH		7.7	6.8	6.8	6.6	6.4	6.1	5.8	5.7	5.8	5.8	5.9	5.9	6.0	5.9	5.8	5.8
CPIUF&B	2.066	2.232	2.389	2.560	2.729	2.903	3.076	3.252	3.437	3.635	3.846	4.070	4.307	4.560	4.826	5.107	5.403
%CH		8.1	7.0	7.1	6.6	6.4	6.0	5.7	5.7	5.8	5.8	5.8	5.8	5.9	5.8	5.8	5.8

	1995	1996	1997	1998	1999	2000	2001	2002	2003
CPISOUTHNS	5.486	5.801	6.131	6.476	6.839	7.222	7.627	8.057	8.513
%CH	5.8	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
CPIU	5.398	5.707	6.031	6.370	6.726	7.102	7.500	7.922	8.370
%CH	5.8	5.7	5.7	5.6	5.6	5.6	5.6	5.6	5.7
CPIUF&B	5.716	6.047	6.394	6.756	7.136	7.539	7.966	8.418	8.896
%CH	5.8	5.8	5.7	5.7	5.6	5.6	5.7	5.7	5.7

NUMBER OF DEATHS - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DEA@LPLCO	0.015	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.017	0.018	0.018
%CH	-99.9	1.9	1.9	1.8	1.7	1.8	1.8	1.9	1.9	2.0	2.0
DEA@US	7,741.529	7,807.007	7,875.059	7,947.916	8,023.379	8,100.131	8,177.445	8,254.857	8,331.986	8,408.495	8,483.992
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9
DV76	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492	239.624
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026	2.286613
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500	166.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
DEA@LPLCO	0.018	0.019	0.019	0.020	0.020	0.020	0.021	0.021	0.021	0.022	0.022
%CH	2.1	2.1	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7
DEA@US	8,558.069	8,630.361	8,700.571	8,768.504	8,833.674	8,896.055	8,955.846	9,013.930	9,068.980	9,123.171	9,174.737
%CH	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6
DV76	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
N	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592	256.146	257.677	259.133
%CH	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6
NR@LPLCO	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814	2.587999	2.618652	2.648750
%CH	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1
TIME	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500	206.500	210.500
%CH	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9

NUMBER OF DEATHS - LP&L SERVICE AREA (CONT'D)

	2000	2001	2002	2003
DEA@LPLCO	0.023	0.023	0.023	0.024
%CH	1.7	1.7	1.6	1.6
DEA@US	9,225.449	9,277.081	9,327.333	9,378.686
%CH	0.6	0.6	0.5	0.6
DV76	0	0	0	0
%CH	NC	NC	NC	NC
N	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.5	0.6
NR@LPLCO	2.678313	2.707407	2.736124	2.764559
%CH	1.1	1.1	1.1	1.0
TIME	214.500	218.500	222.500	226.500
%CH	1.9	1.9	1.8	1.8

NUMBER OF DEATHS BY PLACE OF RESIDENCE - TOTAL US

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
DEA@US	7,741.529	7,807.007	7,875.059	7,947.916	8,023.379	8,100.131	8,177.445	8,254.857	8,331.986	8,408.495	8,483.992
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492	239.624
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.9

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
DEA@US	8,558.069	8,630.361	8,700.571	8,768.504	8,833.674	8,896.055	8,955.846	9,013.930	9,068.980	9,123.171	9,174.737
%CH	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6
N	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592	256.146	257.677	259.133
%CH	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6

	2000	2001	2002	2003
DEA@US	9,225.449	9,277.081	9,327.333	9,378.686
%CH	0.6	0.6	0.5	0.6
N	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.5	0.6

EMPLOYMENT, CONSTRUCTION, FINANCE, INSURANCE AND REAL ESTATE - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
ECFIRLA	72,130.072	77,358.523	82,348.448	89,060.470	93,466.778	98,720.033	105,150.870	111,118.758	116,717.858
%CH		7.2	6.5	8.2	4.9	5.6	6.5	5.7	5.0
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
EC	4.239	4.298	4.342	4.535	4.575	4.671	4.843	4.992	5.120
%CH		1.4	1.0	4.4	0.9	2.1	3.7	3.1	2.6
EFIR	4.725	4.845	5.002	5.190	5.330	5.466	5.599	5.705	5.797
%CH		2.5	3.2	3.8	2.7	2.6	2.4	1.9	1.6
EM	20.291	20.224	20.334	20.789	20.625	20.790	21.160	21.557	21.880
%CH		-0.3	0.5	2.2	-0.8	0.8	1.8	1.9	1.5
EMLA	100,112.956	102,398.156	103,781.035	107,879.954	110,114.551	113,125.635	117,152.577	121,280.894	125,178.610
%CH	3.5	2.3	1.4	3.9	2.1	2.7	3.6	3.5	3.2
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3
RECLNM72QN	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, CONSTRUCTION, FINANCE, INSURANCE AND REAL ESTATE - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
ECFIRLA	121,347.520	125,728.773	130,050.458	134,291.068	138,577.616	142,639.153	146,211.844	149,470.495	152,256.862
%CH	4.0	3.6	3.4	3.3	3.2	2.9	2.5	2.2	1.9
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
EC	5.189	5.243	5.292	5.336	5.385	5.427	5.448	5.456	5.441
%CH	1.4	1.0	0.9	0.8	0.9	0.8	0.4	0.1	-0.3
EFIR	5.877	5.949	6.012	6.065	6.110	6.147	6.177	6.201	6.219
%CH	1.4	1.2	1.1	0.9	0.7	0.6	0.5	0.4	0.3
EM	22.053	22.176	22.295	22.422	22.547	22.644	22.729	22.774	22.782
%CH	0.8	0.6	0.5	0.6	0.6	0.4	0.4	0.2	0.0
EMLA	128,500.828	131,623.084	134,737.550	137,863.519	141,066.095	144,237.899	147,369.830	150,390.180	153,231.062
%CH	2.7	2.4	2.4	2.3	2.3	2.2	2.2	2.0	1.9
N	237.492	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951
%CH	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7
NR@LPLCO	2.255026	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102
%CH	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, CONSTRUCTION, FINANCE, INSURANCE AND REAL ESTATE - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
ECFIRLA	153,491.324	156,159.452	159,324.956	162,915.155	166,751.164	170,878.302	175,500.314	180,353.300
%CH	0.8	1.7	2.0	2.3	2.4	2.5	2.7	2.8
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
EC	5.353	5.336	5.345	5.371	5.408	5.455	5.517	5.584
%CH	-1.6	-0.3	0.2	0.5	0.7	0.9	1.1	1.2
EFIR	6.233	6.244	6.255	6.269	6.283	6.300	6.321	6.345
%CH	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4
EM	22.794	22.823	22.877	22.973	23.088	23.205	23.325	23.440
%CH	0.1	0.1	0.2	0.4	0.5	0.5	0.5	0.5
EMLA	156,065.359	158,983.446	162,085.731	165,518.033	169,240.687	173,148.659	177,230.007	181,450.567
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4
N	254.592	256.146	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCO	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, NONAGRICULTURAL WAGE & SALARY - LOUISIANA

	1978	1979	1980	1981	1982	1983	1984	1985	1986
EEALA	420,815.764	442,991.007	460,189.030	482,655.876	499,540.868	518,235.347	538,748.117	559,821.910	580,447.583
%CH	6.1	5.3	3.9	4.9	3.5	3.7	4.0	3.9	3.7
ECFIRLA	72,130.072	77,358.523	82,348.448	89,060.470	93,466.778	98,720.033	105,150.870	111,118.758	116,717.858
%CH		7.2	6.5	8.2	4.9	5.6	6.5	5.7	5.0
EMILA	21,167.064	21,543.835	21,681.306	22,056.940	22,272.325	22,489.982	22,691.748	22,970.556	23,198.565
%CH		1.8	0.6	1.7	1.0	1.0	0.9	1.2	1.0
ERLA	36,046.974	39,329.024	41,839.529	44,591.082	46,704.341	48,774.980	50,967.998	53,213.196	55,336.562
%CH		9.1	6.4	6.6	4.7	4.4	4.5	4.4	4.0
ESVLA	68,872.890	73,051.037	77,040.214	80,887.955	84,474.448	87,862.302	91,292.125	94,847.637	98,479.271
%CH		6.1	5.5	5.0	4.4	4.0	3.9	3.9	3.8
ETLA	122,485.807	129,310.431	133,498.498	138,179.475	142,508.423	147,262.414	151,492.796	156,390.868	161,536.716
%CH		5.6	3.2	3.5	3.1	3.3	2.9	3.2	3.3
E20LA	11,425.351	11,428.984	11,337.024	11,301.866	11,218.463	11,269.317	11,311.499	11,307.607	11,262.683
%CH		0.0	-0.8	-0.3	-0.7	0.5	0.4	0.0	-0.4
E2223LA	8,089.485	8,688.751	9,280.744	10,252.290	10,845.497	11,575.522	12,332.054	13,067.273	13,743.065
%CH		7.4	6.8	10.5	5.8	6.7	6.5	6.0	5.2
E242526LA	22,845.416	22,577.880	22,136.896	22,810.467	22,705.921	22,967.814	23,545.432	23,875.045	24,011.303
%CH		-1.2	-2.0	3.0	-0.5	1.2	2.5	1.4	0.6
E27LA	2,045.192	2,053.038	2,117.802	2,203.568	2,245.331	2,316.078	2,399.683	2,485.613	2,561.559
%CH		0.4	3.2	4.0	1.9	3.2	3.6	3.6	3.1
E2830NSLA	15,574	15,922	16,130	16,829	17,515	18,098	18,815	19,649	20,509
%CH	1.3	2.2	1.3	4.3	4.1	3.3	4.0	4.4	4.4
E29LA	3,138.496	3,272.981	3,402.871	3,547.810	3,642.529	3,749.691	3,855.434	3,962.654	4,039.384
%CH		4.3	4.0	4.3	2.7	2.9	2.8	2.8	1.9
E32LA	3,388.176	3,370.224	3,326.635	3,478.081	3,504.463	3,526.755	3,621.122	3,706.179	3,761.106
%CH		-0.5	-1.3	4.6	0.8	0.6	2.7	2.3	1.5
E33LA	4,438.942	4,679.000	4,829.190	5,050.787	5,202.349	5,347.349	5,539.240	5,761.094	5,983.755
%CH		5.4	3.2	4.6	3.0	2.8	3.6	4.0	3.9
E34NSLA	7,251	7,463	7,532	7,792	7,840	7,998	8,331	8,731	9,113
%CH	2.9	2.9	0.9	3.4	0.6	2.0	4.2	4.8	4.4
E353637LA	20,708.290	21,657.003	22,415.842	23,336.547	24,104.702	24,961.520	26,052.509	27,353.751	28,786.986
%CH		4.6	3.5	4.1	3.3	3.6	4.4	5.0	5.2
E3839LA	1,209.149	1,284.985	1,272.304	1,277.682	1,289.939	1,315.945	1,349.231	1,381.685	1,406.943
%CH		6.3	-1.0	0.4	1.0	2.0	2.5	2.4	1.8

EMPLOYMENT, NONAGRICULTURAL WAGE & SALARY - LOUISIANA (CONT'D)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
EEALA	598,815.193	616,073.759	632,972.778	649,735.278	666,634.337	683,265.441	699,513.826	715,374.541	730,379.341
%CH	3.2	2.9	2.7	2.6	2.6	2.5	2.4	2.3	2.1
ECFIRLA	121,347.520	125,728.773	130,050.458	134,291.068	138,577.616	142,639.153	146,211.844	149,470.495	152,256.862
%CH	4.0	3.6	3.4	3.3	3.2	2.9	2.5	2.2	1.9
EMILA	23,294.256	23,330.262	23,346.589	23,358.285	23,411.512	23,519.942	23,677.049	23,830.942	23,948.249
%CH	0.4	0.2	0.1	0.1	0.2	0.5	0.7	0.6	0.5
ERLA	57,202.561	58,885.000	60,473.553	62,003.590	63,481.903	64,832.649	66,049.354	67,107.356	67,985.298
%CH	3.4	2.9	2.7	2.5	2.4	2.1	1.9	1.6	1.3
ESVLA	102,099.349	105,661.343	109,157.985	112,626.967	116,072.192	119,429.542	122,701.995	125,912.825	129,079.231
%CH	3.7	3.5	3.3	3.2	3.1	2.9	2.7	2.6	2.5
ETLA	166,370.678	170,845.295	175,206.643	179,591.849	184,025.018	188,606.254	193,503.752	198,662.741	203,878.638
%CH	3.0	2.7	2.6	2.5	2.5	2.5	2.6	2.7	2.6
E20LA	11,190.337	11,114.526	11,045.235	10,955.586	10,845.165	10,723.362	10,601.819	10,478.758	10,353.420
%CH	-0.6	-0.7	-0.6	-0.8	-1.0	-1.1	-1.1	-1.2	-1.2
E2223LA	14,337.134	14,929.798	15,528.297	16,138.679	16,768.523	17,396.816	18,019.447	18,620.667	19,190.535
%CH	4.3	4.1	4.0	3.9	3.9	3.7	3.6	3.3	3.1
E242526LA	23,935.204	23,841.646	23,772.218	23,690.326	23,602.838	23,472.285	23,312.489	23,132.727	22,938.602
%CH	-0.3	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7	-0.8	-0.8
E27LA	2,625.552	2,689.334	2,755.660	2,825.832	2,897.691	2,969.358	3,041.735	3,110.516	3,176.046
%CH	2.5	2.4	2.5	2.5	2.5	2.5	2.4	2.3	2.1
E2830NSLA	21,268	21,928	22,554	23,177	23,845	24,552	25,256	25,923	26,516
%CH	3.7	3.1	2.9	2.8	2.9	3.0	2.9	2.6	2.3
E29LA	4,093.154	4,147.962	4,206.653	4,271.564	4,353.427	4,461.112	4,577.724	4,687.896	4,793.562
%CH	1.3	1.3	1.4	1.5	1.9	2.5	2.6	2.4	2.3
E32LA	3,779.694	3,806.509	3,839.729	3,872.737	3,886.892	3,861.727	3,822.904	3,782.596	3,744.164
%CH	0.5	0.7	0.9	0.9	0.4	-0.6	-1.0	-1.1	-1.0
E33LA	6,180.123	6,349.478	6,504.539	6,654.140	6,801.296	6,942.576	7,078.076	7,206.443	7,325.874
%CH	3.3	2.7	2.4	2.3	2.2	2.1	2.0	1.8	1.7
E34NSLA	9,417	9,682	9,933	10,181	10,431	10,669	10,897	11,110	11,304
%CH	3.3	2.8	2.6	2.5	2.5	2.3	2.1	2.0	1.8
E353637LA	30,251.874	31,701.657	33,158.023	34,647.006	36,178.566	37,732.526	39,307.216	40,888.023	42,450.877
%CH	5.1	4.8	4.6	4.5	4.4	4.3	4.2	4.0	3.8
E3839LA	1,422.389	1,431.653	1,439.935	1,449.003	1,455.770	1,457.365	1,456.158	1,449.902	1,437.539
%CH	1.1	0.7	0.6	0.6	0.5	0.1	-0.1	-0.4	-0.9

EMPLOYMENT, NONAGRICULTURAL WAGE & SALARY - LOUISIANA (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
EEALA	743,483.421	757,818.897	772,887.631	789,101.107	806,398.875	824,695.276	844,285.740	864,889.739
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4
ECFIRLA	153,491.324	156,159.452	159,324.956	162,915.155	166,751.164	170,878.302	175,500.314	180,353.300
%CH	0.8	1.7	2.0	2.3	2.4	2.5	2.7	2.8
EMILA	24,050.836	24,157.215	24,285.074	24,467.163	24,701.186	24,960.530	25,235.695	25,520.316
%CH	0.4	0.4	0.5	0.7	1.0	1.0	1.1	1.1
ERLA	68,741.991	69,417.593	70,024.841	70,654.938	71,314.279	71,962.344	72,594.963	73,194.018
%CH	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.8
ESVLA	132,219.504	135,356.792	138,517.030	141,729.501	145,061.271	148,562.273	152,271.405	156,225.214
%CH	2.4	2.4	2.3	2.3	2.4	2.4	2.5	2.6
ETLA	208,914.407	213,744.399	218,650.000	223,816.317	229,330.288	235,183.167	241,453.355	248,146.323
%CH	2.5	2.3	2.3	2.4	2.5	2.6	2.7	2.8
E20LA	10,238.880	10,136.860	10,048.470	9,971.153	9,901.846	9,828.939	9,751.718	9,669.392
%CH	-1.1	-1.0	-0.9	-0.8	-0.7	-0.7	-0.8	-0.8
E2223LA	19,767.945	20,360.067	20,983.288	21,657.467	22,370.255	23,103.885	23,859.467	24,629.905
%CH	3.0	3.0	3.1	3.2	3.3	3.3	3.3	3.2
E242526LA	22,770.336	22,630.459	22,535.406	22,496.426	22,481.425	22,472.099	22,473.835	22,473.823
%CH	-0.7	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0
E27LA	3,243.548	3,313.354	3,387.749	3,468.610	3,552.930	3,639.397	3,728.409	3,819.075
%CH	2.1	2.2	2.2	2.4	2.4	2.4	2.4	2.4
E2830NSLA	27,059	27,590	28,138	28,751	29,446	30,205	31,016	31,875
%CH	2.0	2.0	2.0	2.2	2.4	2.6	2.7	2.8
E29LA	4,902.953	5,016.656	5,139.918	5,279.655	5,429.181	5,582.548	5,741.044	5,901.484
%CH	2.3	2.3	2.5	2.7	2.8	2.8	2.8	2.8
E32LA	3,707.742	3,678.368	3,659.146	3,649.787	3,645.151	3,642.255	3,643.093	3,645.570
%CH	-1.0	-0.8	-0.5	-0.3	-0.1	-0.1	0.0	0.1
E33LA	7,440.194	7,553.641	7,668.931	7,789.218	7,914.213	8,041.448	8,169.436	8,297.369
%CH	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6
E34NSLA	11,499	11,703	11,921	12,168	12,434	12,707	12,982	13,258
%CH	1.7	1.8	1.9	2.1	2.2	2.2	2.2	2.1
E353637LA	44,011.846	45,590.944	47,205.699	48,899.302	50,686.057	52,556.120	54,502.161	56,527.230
%CH	3.7	3.6	3.5	3.6	3.7	3.7	3.7	3.7
E3839LA	1,423.609	1,410.260	1,398.257	1,387.990	1,379.117	1,370.747	1,362.637	1,354.152
%CH	-1.0	-0.9	-0.9	-0.7	-0.6	-0.6	-0.6	-0.6

EMPLOYMENT, MINING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
EMILA	21,167.064	21,543.835	21,681.308	22,056.940	22,272.325	22,489.982	22,691.748	22,970.556	23,198.565	23,294.256
%CH		1.8	0.6	1.7	1.0	1.0	0.9	1.2	1.0	0.4
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQINDMI	1.242	1.273	1.312	1.364	1.393	1.432	1.476	1.522	1.559	1.587
%CH		2.5	3.1	4.0	2.1	2.8	3.1	3.1	2.4	1.8
OSHA74	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
EMILA	23,330.262	23,346.589	23,358.285	23,411.512	23,519.942	23,677.049	23,830.942	23,948.249	24,050.836	24,157.215
%CH	0.2	0.1	0.1	0.2	0.5	0.7	0.6	0.5	0.4	0.4
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQINDMI	1.615	1.645	1.678	1.716	1.760	1.806	1.850	1.890	1.933	1.978
%CH	1.8	1.8	2.0	2.3	2.6	2.7	2.4	2.2	2.3	2.3
OSHA74	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TIME	166.500	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500
%CH	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0

EMPLOYMENT, MINING - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
EMILA	24,285.074	24,467.163	24,701.186	24,960.530	25,235.695	25,520.316
%CH	0.5	0.7	1.0	1.0	1.1	1.1
DV732	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQINDMI	2.027	2.085	2.147	2.211	2.278	2.345
%CH	2.5	2.9	3.0	3.0	3.0	3.0
OSHA74	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0
TIME	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.0	1.9	1.9	1.9	1.8	1.8

EMPLOYMENT, TOTAL MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
EMLA	100,112.956	102,398.156	103,781.035	107,879.954	110,114.551	113,125.635	117,152.577	121,280.894	125,178.610
%CH	3.5	2.3	1.4	3.9	2.1	2.7	3.6	3.5	3.2
E20LA	11,425.351	11,428.984	11,337.024	11,301.866	11,218.463	11,269.317	11,311.499	11,307.607	11,262.683
%CH		0.0	-0.8	-0.3	-0.7	0.5	0.4	0.0	-0.4
E2223LA	8,089.485	8,688.751	9,280.744	10,252.290	10,845.497	11,575.522	12,332.054	13,067.273	13,743.065
%CH		7.4	6.8	10.5	5.8	6.7	6.5	6.0	5.2
E242526LA	22,845.416	22,577.880	22,136.896	22,810.467	22,705.921	22,967.814	23,545.432	23,875.045	24,011.303
%CH		-1.2	-2.0	3.0	-0.5	1.2	2.5	1.4	0.6
E27LA	2,045.192	2,053.038	2,117.802	2,203.568	2,245.331	2,316.078	2,399.683	2,485.613	2,561.559
%CH		0.4	3.2	4.0	1.9	3.2	3.6	3.6	3.1
E2830NSLA	15,574	15,922	16,130	16,829	17,515	18,098	18,815	19,649	20,509
%CH	1.3	2.2	1.3	4.3	4.1	3.3	4.0	4.4	4.4
E29LA	3,138.496	3,272.981	3,402.871	3,547.810	3,642.529	3,749.691	3,855.434	3,962.654	4,039.384
%CH		4.3	4.0	4.3	2.7	2.9	2.8	2.8	1.9
E32LA	3,388.176	3,370.224	3,326.635	3,478.081	3,504.463	3,526.755	3,621.122	3,706.179	3,761.106
%CH		-0.5	-1.3	4.6	0.8	0.6	2.7	2.3	1.5
E33LA	4,438.942	4,679.000	4,829.190	5,050.787	5,202.349	5,347.349	5,539.240	5,761.094	5,983.755
%CH		5.4	3.2	4.6	3.0	2.8	3.6	4.0	3.9
E34NSLA	7,251	7,463	7,532	7,792	7,840	7,998	8,331	8,731	9,113
%CH	2.9	2.9	0.9	3.4	0.6	2.0	4.2	4.8	4.4
E353637LA	20,708.290	21,657.003	22,415.842	23,336.547	24,104.702	24,961.520	26,052.509	27,353.751	28,786.986
%CH		4.6	3.5	4.1	3.3	3.6	4.4	5.0	5.2
E3839LA	1,209.149	1,284.985	1,272.304	1,277.682	1,289.939	1,315.945	1,349.231	1,381.685	1,406.943
%CH		6.3	-1.0	0.4	1.0	2.0	2.5	2.4	1.8

EMPLOYMENT, TOTAL MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
EMLA	128,500.828	131,623.084	134,737.550	137,863.519	141,066.095	144,237.899	147,369.830	150,390.180	153,231.062
%CH	2.7	2.4	2.4	2.3	2.3	2.2	2.2	2.0	1.9
E20LA	11,190.337	11,114.526	11,045.235	10,955.586	10,845.165	10,723.362	10,601.819	10,478.758	10,353.420
%CH	-0.6	-0.7	-0.6	-0.8	-1.0	-1.1	-1.1	-1.2	-1.2
E2223LA	14,337.134	14,929.798	15,528.297	16,138.679	16,768.523	17,396.816	18,019.447	18,620.667	19,190.535
%CH	4.3	4.1	4.0	3.9	3.9	3.7	3.6	3.3	3.1
E242526LA	23,935.204	23,841.646	23,772.218	23,690.326	23,602.838	23,472.285	23,312.489	23,132.727	22,938.602
%CH	-0.3	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7	-0.8	-0.8
E27LA	2,625.552	2,689.334	2,755.660	2,825.832	2,897.691	2,969.358	3,041.735	3,110.516	3,176.046
%CH	2.5	2.4	2.5	2.5	2.5	2.5	2.4	2.3	2.1
E2830NSLA	21,268	21,928	22,554	23,177	23,845	24,552	25,256	25,923	26,516
%CH	3.7	3.1	2.9	2.8	2.9	3.0	2.9	2.6	2.3
E29LA	4,093.154	4,147.962	4,206.653	4,271.564	4,353.427	4,461.112	4,577.724	4,687.896	4,793.562
%CH	1.3	1.3	1.4	1.5	1.9	2.5	2.6	2.4	2.3
E32LA	3,779.694	3,806.509	3,839.729	3,872.737	3,886.892	3,861.727	3,822.904	3,782.596	3,744.164
%CH	0.5	0.7	0.9	0.9	0.4	-0.6	-1.0	-1.1	-1.0
E33LA	6,180.123	6,349.478	6,504.539	6,654.140	6,801.296	6,942.576	7,078.076	7,206.443	7,325.874
%CH	3.3	2.7	2.4	2.3	2.2	2.1	2.0	1.8	1.7
E34NSLA	9,417	9,682	9,933	10,181	10,431	10,669	10,897	11,110	11,304
%CH	3.3	2.8	2.6	2.5	2.5	2.3	2.1	2.0	1.8
E353637LA	30,251.874	31,701.657	33,158.023	34,647.006	36,178.566	37,732.526	39,307.216	40,888.023	42,450.077
%CH	5.1	4.8	4.6	4.5	4.4	4.3	4.2	4.0	3.8
E3839LA	1,422.389	1,431.653	1,439.935	1,449.003	1,455.770	1,457.365	1,456.158	1,449.902	1,437.539
%CH	1.1	0.7	0.6	0.6	0.5	0.1	-0.1	-0.4	-0.9

EMPLOYMENT, TOTAL MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
EMLA	156,065.359	158,983.446	162,085.731	165,518.033	169,240.687	173,148.659	177,230.007	181,450.567
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4
E20LA	10,238.880	10,136.860	10,048.470	9,971.153	9,901.846	9,828.939	9,751.718	9,669.392
%CH	-1.1	-1.0	-0.9	-0.8	-0.7	-0.7	-0.8	-0.8
E2223LA	19,767.945	20,360.067	20,983.288	21,657.467	22,370.255	23,103.885	23,859.467	24,629.905
%CH	3.0	3.0	3.1	3.2	3.3	3.3	3.3	3.2
E242526LA	22,770.336	22,630.459	22,535.406	22,496.426	22,481.425	22,472.099	22,473.835	22,473.823
%CH	-0.7	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0
E27LA	3,243.548	3,313.354	3,387.749	3,468.610	3,552.930	3,639.397	3,728.409	3,819.075
%CH	2.1	2.2	2.2	2.4	2.4	2.4	2.4	2.4
E2830NSLA	27,059	27,590	28,138	28,751	29,446	30,205	31,016	31,875
%CH	2.0	2.0	2.0	2.2	2.4	2.6	2.7	2.8
E29LA	4,902.953	5,016.656	5,139.918	5,279.655	5,429.181	5,582.548	5,741.044	5,901.484
%CH	2.3	2.3	2.5	2.7	2.8	2.8	2.8	2.8
E32LA	3,707.742	3,678.368	3,659.146	3,649.787	3,645.151	3,642.255	3,643.093	3,645.570
%CH	-1.0	-0.8	-0.5	-0.3	-0.1	-0.1	0.0	0.1
E33LA	7,440.194	7,553.641	7,668.931	7,789.218	7,914.213	8,041.448	8,169.436	8,297.369
%CH	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.6
E34NSLA	11,499	11,703	11,921	12,168	12,434	12,707	12,982	13,258
%CH	1.7	1.8	1.9	2.1	2.2	2.2	2.2	2.1
E353637LA	44,011.846	45,590.944	47,205.699	48,899.302	50,686.057	52,556.120	54,502.161	56,527.230
%CH	3.7	3.6	3.5	3.6	3.7	3.7	3.7	3.7
E3839LA	1,423.609	1,410.260	1,398.257	1,387.990	1,379.117	1,370.747	1,362.637	1,354.152
%CH	-1.0	-0.9	-0.9	-0.7	-0.6	-0.6	-0.6	-0.6

EMPLOYMENT, TOTAL NON-MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
ENMLA	320,702.806	340,592.849	356,407.995	374,775.920	389,426.314	405,109.708	421,595.536	438,541.012	455,268.970
%CH	6.9	6.2	4.6	5.2	3.9	4.0	4.1	4.0	3.8
ECFIRLA	72,130.072	77,358.523	82,348.448	89,060.470	93,466.778	98,720.033	105,150.870	111,118.758	116,717.858
%CH		7.2	6.5	8.2	4.9	5.6	6.5	5.7	5.0
EMILA	21,167.064	21,543.835	21,681.306	22,056.940	22,272.325	22,489.982	22,691.748	22,970.556	23,198.565
%CH		1.8	0.6	1.7	1.0	1.0	0.9	1.2	1.0
ERLA	36,046.974	39,329.024	41,839.529	44,591.082	46,704.341	48,774.980	50,967.998	53,213.196	55,336.562
%CH		9.1	6.4	6.6	4.7	4.4	4.5	4.4	4.0
ESVLA	68,872.890	73,051.037	77,040.214	80,887.955	84,474.448	87,862.302	91,292.125	94,847.637	98,479.271
%CH		6.1	5.5	5.0	4.4	4.0	3.9	3.9	3.8
ETLA	122,485.807	129,310.431	133,498.498	138,179.475	142,508.423	147,262.414	151,492.796	156,390.868	161,536.716
%CH		5.6	3.2	3.5	3.1	3.3	2.9	3.2	3.3

	1987	1988	1989	1990	1991	1992	1993	1994	1995
ENMLA	470,314.362	484,450.672	498,235.225	511,871.757	525,568.239	539,027.539	552,143.993	564,984.359	577,148.278
%CH	3.3	3.0	2.8	2.7	2.7	2.6	2.4	2.3	2.2
ECFIRLA	121,347.520	125,728.773	130,050.458	134,291.068	138,577.616	142,639.153	146,211.844	149,470.495	152,256.862
%CH	4.0	3.6	3.4	3.3	3.2	2.9	2.5	2.2	1.9
EMILA	23,294.256	23,330.262	23,346.589	23,358.285	23,411.512	23,519.942	23,677.049	23,830.942	23,948.249
%CH	0.4	0.2	0.1	0.1	0.2	0.5	0.7	0.6	0.5
ERLA	57,202.561	58,885.000	60,473.553	62,003.590	63,481.903	64,832.649	66,049.354	67,107.356	67,985.298
%CH	3.4	2.9	2.7	2.5	2.4	2.1	1.9	1.6	1.3
ESVLA	102,099.349	105,661.343	109,157.985	112,626.967	116,072.192	119,429.542	122,701.995	125,912.825	129,079.231
%CH	3.7	3.5	3.3	3.2	3.1	2.9	2.7	2.6	2.5
ETLA	166,370.678	170,845.295	175,206.643	179,591.849	184,025.018	188,606.254	193,503.752	198,662.741	203,878.638
%CH	3.0	2.7	2.6	2.5	2.5	2.5	2.6	2.7	2.6

EMPLOYMENT, TOTAL NON-MANUFACTURING - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
ENMLA	587,418.061	598,835.450	610,801.899	623,583.072	637,158.187	651,546.615	667,055.731	683,439.170
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
ECFIRLA	153,491.324	156,159.452	159,324.956	162,915.155	166,751.164	170,878.302	175,500.314	180,353.300
%CH	0.8	1.7	2.0	2.3	2.4	2.5	2.7	2.8
EMILA	24,050.836	24,157.215	24,285.074	24,467.163	24,701.186	24,960.530	25,235.695	25,520.316
%CH	0.4	0.4	0.5	0.7	1.0	1.0	1.1	1.1
ERLA	68,741.991	69,417.593	70,024.841	70,654.938	71,314.279	71,962.344	72,594.963	73,194.018
%CH	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.8
ESVLA	132,219.504	135,356.792	138,517.030	141,729.501	145,061.271	148,562.273	152,271.405	156,225.214
%CH	2.4	2.4	2.3	2.3	2.4	2.4	2.5	2.6
ETLA	208,914.407	213,744.399	218,650.000	223,816.317	229,330.288	235,183.167	241,453.355	248,146.323
%CH	2.5	2.3	2.3	2.4	2.5	2.6	2.7	2.8

EMPLOYMENT, TRANSPORTATION, COMM. & PUBLIC UTILITIES -
LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
ERLA	36,046.974	39,329.024	41,839.529	44,591.082	46,704.341	48,774.980	50,967.998	53,213.196	55,336.562	57,202.561
%CH		9.1	6.4	6.6	4.7	4.4	4.5	4.4	4.0	3.4
DV652	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
ER	4.747	4.982	5.073	5.225	5.281	5.339	5.420	5.512	5.589	5.633
%CH		5.0	1.8	3.0	1.1	1.1	1.5	1.7	1.4	0.8
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, TRANSPORTATION, COMM. & PUBLIC UTILITIES -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
ERLA	58,885.000	60,473.553	62,003.590	63,481.903	64,832.649	66,049.354	67,107.356	67,985.298	68,741.991	69,417.593
%CH	2.9	2.7	2.5	2.4	2.1	1.9	1.6	1.3	1.1	1.0
DV652	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ER	5.656	5.671	5.683	5.694	5.699	5.699	5.690	5.669	5.643	5.616
%CH	0.4	0.3	0.2	0.2	0.1	0.0	-0.2	-0.4	-0.5	-0.5
N	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592	256.146
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6
NR@LPLCO	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814	2.587999
%CH	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, TRANSPORTATION, COMM. & PUBLIC UTILITIES -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
ERLA	70,024.841	70,654.938	71,314.279	71,962.344	72,594.963	73,194.018
%CH	0.9	0.9	0.9	0.9	0.9	0.8
DV652	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV771	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
ER	5.589	5.572	5.564	5.561	5.560	5.560
%CH	-0.5	-0.3	-0.1	-0.1	0.0	0.0
N	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCO	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.2	1.1	1.1	1.1	1.1	1.0
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, SERVICES - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
ESVLA	68,872.890	73,051.037	77,040.214	80,887.955	84,474.448	87,632.302	91,292.125	94,847.637	98,479.271	102,099.349
%CH		6.1	5.5	5.0	4.4	4.0	3.9	3.9	3.8	3.7
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
ESV	16.038	16.524	17.139	17.724	18.090	18.605	19.236	19.857	20.424	20.899
%CH		3.0	3.7	3.4	2.1	2.8	3.4	3.2	2.9	2.3
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331	237.492
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1988	1989	1990	1991	1992	1993	1994	1995	1996
ESVLA	105,661.343	109,157.985	112,626.967	116,072.192	119,429.542	122,701.995	125,912.825	129,079.231	132,219.504
%CH	3.5	3.3	3.2	3.1	2.9	2.7	2.6	2.5	2.4
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
ESV	21.331	21.742	22.170	22.593	23.010	23.425	23.837	24.243	24.656
%CH	2.1	1.9	2.0	1.9	1.8	1.8	1.8	1.7	1.7
N	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951	254.592
%CH	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
NR@LPLCO	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814
%CH	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, SERVICES - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1997	1998	1999	2000	2001	2002	2003
ESVLA	135,356.792	138,517.030	141,729.501	145,061.271	148,562.273	152,271.405	156,225.214
%CH	2.4	2.3	2.3	2.4	2.4	2.5	2.6
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC
ESV	25.081	25.524	26.012	26.558	27.161	27.816	28.527
%CH	1.7	1.8	1.9	2.1	2.3	2.4	2.6
N	256.146	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCO	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.2	1.2	1.1	1.1	1.1	1.1	1.0
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, WHOLESALE & RETAIL TRADE - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
ETLA	122,485.807	129,310.431	133,498.498	138,179.475	142,508.423	147,262.414	151,492.796	156,390.868	161,536.716
%CH		5.6	3.2	3.5	3.1	3.3	2.9	3.2	3.3
ET	19.145	19.853	20.398	21.145	21.596	22.063	22.554	23.047	23.479
%CH		3.7	2.7	3.7	2.1	2.2	2.2	2.2	1.9
LRELYP	-0.240	-0.239	-0.244	-0.238	-0.231	-0.229	-0.225	-0.219	-0.212
%CH		0.2	-1.9	2.5	3.0	0.6	1.8	2.7	3.0
N	218.654	220.503	222.425	224.483	226.614	228.782	230.966	233.152	235.331
%CH		0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.9
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1987	1988	1989	1990	1991	1992	1993	1994	1995
ETLA	166,370.678	170,845.295	175,206.643	179,591.849	184,025.018	188,606.254	193,503.752	198,662.741	203,878.638
%CH	3.0	2.7	2.6	2.5	2.5	2.5	2.6	2.7	2.6
ET	23.832	24.136	24.424	24.699	24.974	25.255	25.539	25.804	26.037
%CH	1.5	1.3	1.2	1.1	1.1	1.1	1.1	1.0	0.9
LRELYP	-0.207	-0.203	-0.198	-0.194	-0.191	-0.186	-0.180	-0.174	-0.167
%CH	2.5	2.2	2.1	1.9	2.0	2.4	3.1	3.6	3.7
N	237.492	239.624	241.716	243.758	245.741	247.660	249.500	251.262	252.951
%CH	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7
NR@LPLCO	2.255026	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102
%CH	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, WHOLESALE & RETAIL TRADE - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
ETLA	208,914.407	213,744.399	218,650.000	223,816.317	229,330.288	235,183.167	241,453.355	248,146.323
%CH	2.5	2.3	2.3	2.4	2.5	2.6	2.7	2.8
ET	26.253	26.459	26.659	26.883	27.143	27.429	27.736	28.065
%CH	0.8	0.8	0.8	0.8	1.0	1.1	1.1	1.2
LRELYP	-0.162	-0.156	-0.151	-0.146	-0.140	-0.134	-0.128	-0.120
%CH	3.1	3.5	3.5	3.6	3.9	4.3	4.7	5.6
N	254.592	256.146	257.677	259.133	260.566	262.024	263.443	264.894
%CH	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6
NR@LPLCO	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0
RECLNM72ON	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, FOOD - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
E20LA	11,425.351	11,428.984	11,337.024	11,301.866	11,218.463	11,269.317	11,311.499	11,307.607	11,262.683	11,190.337
%CH		0.0	-0.3	-0.3	-0.7	0.5	0.4	0.0	-0.4	-0.6
AHEM@LA	6.353	6.776	7.297	7.890	8.516	9.178	9.871	10.593	11.368	12.211
%CH	9.6	6.7	7.7	8.1	7.9	7.8	7.5	7.3	7.3	7.4
CORPTX	0.080	0.081	0.081	0.082	0.077	0.077	0.077	0.077	0.077	0.077
%CH		0.8	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV673&731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND20	1.429	1.467	1.510	1.551	1.600	1.663	1.724	1.778	1.829	1.878
%CH		2.7	2.9	2.7	3.2	3.9	3.6	3.2	2.9	2.7
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
RTCGSL	0.061	0.063	0.063	0.064	0.060	0.060	0.060	0.060	0.060	0.060
%CH		2.5	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5
WPI02	2.025	2.189	2.337	2.496	2.651	2.813	2.978	3.144	3.321	3.511
%CH		8.1	6.8	6.8	6.2	6.1	5.9	5.6	5.6	5.7

EMPLOYMENT, FOOD - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
E20LA	11,114.526	11,045.235	10,955.586	10,845.165	10,723.362	10,601.819	10,478.758	10,353.420	10,238.880	10,136.860
%CH	-0.7	-0.6	-0.8	-1.0	-1.1	-1.1	-1.2	-1.2	-1.1	-1.0
AHEM@LA	13.120	14.098	15.152	16.294	17.529	18.857	20.283	21.809	23.435	25.162
%CH	7.4	7.4	7.5	7.5	7.6	7.6	7.6	7.5	7.5	7.4
CORPTX	0.077	0.077	0.077	0.092	0.093	0.094	0.095	0.096	0.097	0.098
%CH	0.0	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV673&731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND20	1.929	1.981	2.029	2.076	2.122	2.170	2.217	2.265	2.317	2.373
%CH	2.7	2.7	2.4	2.3	2.2	2.2	2.2	2.2	2.3	2.4
L1DNCDDNQLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RTCGSL	0.060	0.060	0.060	0.072	0.073	0.073	0.074	0.075	0.075	0.076
%CH	0.0	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0
TIME	166.500	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500
%CH	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0
WP102	3.714	3.932	4.165	4.412	4.669	4.935	5.215	5.511	5.824	6.154
%CH	5.8	5.9	5.9	5.9	5.8	5.7	5.7	5.7	5.7	5.7

EMPLOYMENT, FOOD - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
E20LA	10,048.470	9,971.153	9,901.846	9,828.939	9,751.718	9,669.332
%CH	-0.9	-0.8	-0.7	-0.7	-0.8	-0.8
AHEM@LA	26.992	28.940	31.023	33.257	35.660	38.250
%CH	7.3	7.2	7.2	7.2	7.2	7.3
CORPTX	0.099	0.100	0.101	0.102	0.103	0.104
%CH	1.0	1.0	1.0	1.0	1.0	1.0
DV631	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV671	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV673&731	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND20	2.433	2.497	2.563	2.629	2.696	2.762
%CH	2.5	2.6	2.6	2.6	2.5	2.5
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
RTCGSL	0.077	0.078	0.079	0.079	0.080	0.081
%CH	1.0	1.0	1.0	1.0	1.0	1.0
TIME	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.0	1.9	1.9	1.9	1.8	1.8
WPI02	6.501	6.868	7.258	7.672	8.112	8.577
%CH	5.6	5.6	5.7	5.7	5.7	5.7

EMPLOYMENT, TEXTILES & APPAREL - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
E2223LA	8,089.485	8,688.751	9,280.744	10,252.290	10,845.497	11,575.522	12,332.054	13,067.273	13,743.065	14,337.134
%CH		7.4	6.8	10.5	5.8	6.7	6.5	6.0	5.2	4.3
ADD23CO722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
ADD23LAG723	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND22	1.398	1.398	1.475	1.599	1.627	1.728	1.834	1.927	1.995	2.050
%CH		0.0	5.5	8.4	1.7	6.2	6.1	5.1	3.6	2.7
JQIND23	1.257	1.270	1.336	1.426	1.455	1.518	1.577	1.635	1.683	1.724
%CH		1.1	5.1	6.8	2.0	4.3	3.9	3.7	2.9	2.5
RECL23@751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
E2223LA	14,929.798	15,528.297	16,138.679	16,768.523	17,396.816	18,019.447	18,620.667	19,190.535	19,767.945	20,360.067
%CH	4.1	4.0	3.9	3.9	3.7	3.6	3.3	3.1	3.0	3.0
ADD23CO722	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ADD23LAG723	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND22	2.113	2.182	2.259	2.340	2.417	2.492	2.560	2.622	2.689	2.762
%CH	3.1	3.3	3.5	3.6	3.3	3.1	2.7	2.4	2.5	2.7
JQIND23	1.769	1.816	1.870	1.926	1.984	2.042	2.097	2.149	2.205	2.264
%CH	2.6	2.7	2.9	3.0	3.0	2.9	2.7	2.5	2.6	2.7
RECL23@751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, TEXTILES & APPAREL - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
E2223LA	20,983.288	21,657.467	22,370.255	23,103.885	23,859.467	24,629.905
%CH	3.1	3.2	3.3	3.3	3.3	3.2
ADD23CO722	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
ADD23LAG723	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND22	2.846	2.946	3.052	3.161	3.274	3.385
%CH	3.1	3.5	3.6	3.6	3.6	3.4
JQIND23	2.328	2.399	2.474	2.550	2.629	2.708
%CH	2.8	3.0	3.1	3.1	3.1	3.0
RECL23@751	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC

EMPLOYMENT, LUMBER, FURNITURE & PAPER - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986
E242526LA	22,845.416	22,577.880	22,136.896	22,810.467	22,705.921	22,967.814	23,545.432	23,875.045	24,011.303
%CH		-1.2	-2.0	3.0	-0.5	1.2	2.5	1.4	0.6
CELOTEX26LAG624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
CELOTEX26STRIKE623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
CROWN26STRIKE614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
JQIND24	1.382	1.317	1.429	1.511	1.512	1.629	1.731	1.776	1.803
%CH		-4.7	8.5	5.7	0.1	7.7	6.3	2.6	1.5
JQIND25	1.554	1.584	1.642	1.729	1.771	1.878	2.000	2.111	2.208
%CH		1.9	3.7	5.3	2.4	6.0	6.5	5.6	4.6
JQIND26	1.443	1.446	1.506	1.587	1.630	1.720	1.816	1.902	1.979
%CH		0.2	4.2	5.4	2.7	5.5	5.6	4.7	4.1
LOSS24CO702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
LOSS24CO734	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC
PEINDLA	1.23	1.33	1.44	1.55	1.67	1.79	1.91	2.02	2.15
%CH	4.5	8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5
&E242526LA	152.306	225.121	297.937	370.752	443.568	516.383	589.199	662.015	734.830
%CH		47.8	32.3	24.4	19.6	16.4	14.1	12.4	11.0

EMPLOYMENT, LUMBER, FURNITURE & PAPER - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1987	1988	1989	1990	1991	1992	1993	1994	1995
E242526LA	23,935.204	23,841.646	23,772.218	23,690.326	23,602.838	23,472.285	23,312.489	23,132.727	22,938.602
%CH	-0.3	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7	-0.8	-0.8
CELOTEX26LAG624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
CELOTEX26STRIKE623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
CROWN26STRIKE614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND24	1.822	1.862	1.898	1.931	1.958	1.976	1.990	2.001	2.017
%CH	1.0	2.2	1.9	1.7	1.4	0.9	0.7	0.6	0.8
JQIND25	2.289	2.367	2.446	2.525	2.605	2.684	2.761	2.836	2.909
%CH	3.6	3.4	3.3	3.3	3.1	3.0	2.9	2.7	2.6
JQIND26	2.042	2.107	2.177	2.251	2.326	2.400	2.474	2.545	2.614
%CH	3.2	3.2	3.4	3.4	3.3	3.2	3.1	2.9	2.7
LOSS24CO702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
LOSS24CO734	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
PEINDLA	2.30	2.47	2.66	2.86	3.08	3.29	3.49	3.69	3.91
%CH	7.2	7.3	7.5	7.6	7.5	6.9	6.1	5.9	5.9
TIME	162.500	166.500	170.500	174.500	178.500	182.500	186.500	190.500	194.500
%CH	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1
WP10543NS	5.203	5.585	6.003	6.460	6.943	7.423	7.873	8.338	8.828
%CH	7.2	7.3	7.5	7.6	7.5	6.9	6.1	5.9	5.9
&E242526LA	807.646	880.461	953.277	1,026.092	1,098.908	1,171.723	1,244.539	1,317.354	1,390.170
%CH	9.9	9.0	8.3	7.6	7.1	6.6	6.2	5.9	5.5

EMPLOYMENT, LUMBER, FURNITURE & PAPER - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
E242526LA	22,770.336	22,630.459	22,535.406	22,496.426	22,481.425	22,472.099	22,473.835	22,473.823
%CH	-0.7	-0.6	-0.4	-0.2	-0.1	0.0	0.0	0.0
CELOTEX26LAG624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
CELOTEX26STRIKE623	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
CROWN26STRIKE614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
JQIND24	2.037	2.063	2.101	2.147	2.193	2.241	2.295	2.340
%CH	1.0	1.3	1.8	2.2	2.1	2.2	2.4	2.0
JQIND25	2.985	3.063	3.146	3.237	3.330	3.426	3.525	3.625
%CH	2.6	2.6	2.7	2.9	2.9	2.9	2.9	2.8
JQIND26	2.689	2.769	2.856	2.953	3.054	3.158	3.265	3.374
%CH	2.9	3.0	3.2	3.4	3.4	3.4	3.4	3.3
LOSS24CO702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
LOSS24CO734	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
PEINDLA	4.14	4.38	4.63	4.90	5.18	5.48	5.80	6.14
%CH	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
TIME	198.500	202.500	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
WPI0543NS	9.343	9.887	10.459	11.063	11.701	12.377	13.093	13.854
%CH	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
&E242526LA	1,462.985	1,535.801	1,608.617	1,681.432	1,754.248	1,827.063	1,899.879	1,972.694
%CH	5.2	5.0	4.7	4.5	4.3	4.2	4.0	3.8

EMPLOYMENT, PRINTING & PUBLISHING - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
E27LA	2,045.192	2,053.038	2,117.802	2,203.568	2,245.331	2,316.078	2,399.683	2,485.613	2,561.559	2,625.552	2,689.334
%CH		0.4	3.2	4.0	1.9	3.2	3.6	3.6	3.1	2.5	2.4
CORPTX	0.080	0.081	0.081	0.082	0.077	0.077	0.077	0.077	0.077	0.077	0.077
%CH		0.8	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0	0.0
DV702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND27	1.297	1.316	1.370	1.439	1.480	1.540	1.609	1.682	1.748	1.806	1.863
%CH		1.5	4.1	5.1	2.8	4.0	4.5	4.5	3.9	3.3	3.2
RTCGSL	0.061	0.063	0.063	0.064	0.060	0.060	0.060	0.060	0.060	0.060	0.060
%CH		2.5	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0	0.0
&E27LA	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
E27LA	2,755.660	2,825.832	2,897.691	2,969.358	3,041.735	3,110.516	3,176.046	3,243.548	3,313.354	3,387.749	3,468.610
%CH	2.5	2.5	2.5	2.5	2.4	2.3	2.1	2.1	2.2	2.2	2.4
CORPTX	0.077	0.077	0.092	0.093	0.094	0.095	0.096	0.097	0.098	0.099	0.100
%CH	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DV702	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND27	1.923	1.985	2.048	2.111	2.175	2.236	2.295	2.356	2.418	2.483	2.553
%CH	3.2	3.2	3.2	3.1	3.0	2.8	2.6	2.6	2.6	2.7	2.8
RTCGSL	0.060	0.060	0.072	0.073	0.073	0.074	0.075	0.075	0.076	0.077	0.078
%CH	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
&E27LA	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000	38.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, PRINTING & PUBLISHING -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	2000	2001	2002	2003
E27LA	3,552.930	3,639.397	3,728.409	3,819.075
%CH	2.4	2.4	2.4	2.4
CORPTX	0.101	0.102	0.103	0.104
%CH	1.0	1.0	1.0	1.0
DV702	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
DV754	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
JQIND27	2.627	2.702	2.780	2.859
%CH	2.9	2.9	2.9	2.9
RTCGSL	0.079	0.079	0.080	0.081
%CH	1.0	1.0	1.0	1.0
&E27LA	38.000	38.000	38.000	38.000
%CH	0.0	0.0	0.0	0.0

EMPLOYMENT, CHEMICALS & RUBBER - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
E2830NSLA	15,574	15,922	16,130	16,829	17,515	18,098	18,815	19,649	20,509	21,268	21,928	22.554	23,177
%CH		1.3	2.2	1.3	4.3	4.1	3.3	4.0	4.4	4.4	3.7	3.1	2.9	2.8
ADD28DV643	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND28	1.896	1.950	2.085	2.280	2.373	2.531	2.713	2.910	3.085	3.240	3.401	3.572	3.758
%CH		2.8	6.9	9.3	4.1	6.6	7.2	7.3	6.0	5.0	5.0	5.0	5.2
JQIND30	2.537	2.619	2.797	3.069	3.178	3.416	3.677	3.989	4.281	4.548	4.830	5.142	5.472
%CH		3.2	6.8	9.7	3.5	7.5	7.6	8.5	7.3	6.2	6.2	6.4	6.4
PEINDLA	1.23	1.33	1.44	1.55	1.67	1.79	1.91	2.02	2.15	2.30	2.47	2.66	2.86
%CH		4.5	8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6
STRIKE28AMC624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28DOW752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG632	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500	166.500	170.500	174.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.3
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855	5.203	5.585	6.003	6.460
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6

EMPLOYMENT, CHEMICALS & RUBBER - LP&L SERVICE AREA (CONT'D)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
E2830NSLA	23,845	24,552	25,256	25,923	26,516	27,059	27,593	28,138	28,751	29,446	30,205	31,016	31,875
%CH	2.9	3.0	2.9	2.6	2.3	2.0	2.0	2.0	2.2	2.4	2.6	2.7	2.8
ADD28DV643	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND28	3.966	4.175	4.384	4.583	4.775	4.978	5.192	5.427	5.696	5.986	6.295	6.626	6.968
%CH	5.5	5.3	5.0	4.5	4.2	4.2	4.3	4.5	5.0	5.1	5.2	5.3	5.2
JQIND30	5.846	6.230	6.620	6.997	7.366	7.760	8.186	8.657	9.193	9.766	10.365	10.993	11.638
%CH	6.8	6.6	6.3	5.7	5.3	5.4	5.5	5.8	6.2	6.2	6.1	6.1	5.9
PEINDLA	3.08	3.29	3.49	3.69	3.91	4.14	4.38	4.63	4.90	5.18	5.48	5.80	6.14
%CH	7.5	6.9	6.1	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
STRIKE28AMC624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28DOW752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG632	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
STRIKE28LAG754	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TIME	178.500	182.500	186.500	190.500	194.500	198.500	202.500	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8
WPI0543NS	6.943	7.423	7.873	8.338	8.828	9.343	9.887	10.459	11.063	11.701	12.377	13.093	13.854
%CH	7.5	6.9	6.1	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8

EMPLOYMENT, PETROLEUM & COAL - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
E29LA	3,138.496	3,272.981	3,402.871	3,547.810	3,642.529	3,749.691	3,855.434	3,962.654	4,039.384	4,093.154
%CH		4.3	4.0	4.3	2.7	2.9	2.8	2.8	1.9	1.3
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND29	1.436	1.487	1.539	1.599	1.639	1.685	1.731	1.778	1.812	1.835
%CH		3.5	3.5	3.9	2.5	2.8	2.7	2.7	1.9	1.3
STRIKE29SHL624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
E29LA	4,147.962	4,206.653	4,271.564	4,353.427	4,461.112	4,577.724	4,687.896	4,793.562	4,902.953	5,016.656
%CH	1.3	1.4	1.5	1.9	2.5	2.6	2.4	2.3	2.3	2.3
DV631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV732	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND29	1.860	1.886	1.915	1.951	1.999	2.052	2.101	2.148	2.197	2.248
%CH	1.3	1.4	1.5	1.9	2.5	2.6	2.4	2.3	2.3	2.3
STRIKE29SHL624	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, PETROLEUM & COAL - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
E29LA	5,139.918	5,279.655	5,429.181	5,582.548	5,741.044	5,901.484
%CH	2.5	2.7	2.8	2.8	2.8	2.8
DV631	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV731	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV732	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND29	2.304	2.366	2.433	2.502	2.573	2.645
%CH	2.5	2.7	2.8	2.8	2.8	2.8
STRIKE29SHL624	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC

EMPLOYMENT, STONE, CLAY & GLASS - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
E32LA	3,388.176	3,370.224	3,326.635	3,478.081	3,504.463	3,526.755	3,621.122	3,706.179	3,761.106	3,779.694	3,806.509
%CH		-0.5	-1.3	4.6	0.8	0.6	2.7	2.3	1.5	0.5	0.7
CORPTX	0.080	0.081	0.081	0.082	0.077	0.077	0.077	0.077	0.077	0.077	0.077
%CH		0.8	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0	0.0
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND32	1.578	1.553	1.689	1.801	1.779	1.869	1.982	2.053	2.099	2.134	2.191
%CH		-1.5	8.7	6.6	-1.2	5.1	6.0	3.6	2.2	1.7	2.7
RTCGSL	0.061	0.063	0.063	0.064	0.060	0.060	0.060	0.060	0.060	0.060	0.060
%CH		2.5	0.9	1.3	-6.5	0.0	0.0	0.0	0.0	0.0	0.0
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500	166.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5
YP	1,703.849	1,882.568	2,093.539	2,333.674	2,569.829	2,845.593	3,139.153	3,445.520	3,768.557	4,110.114	4,477.111
%CH		10.5	11.2	11.5	10.1	10.7	10.3	9.8	9.4	9.1	8.9
YP@LPLCO	12.414	13.777	15.309	17.200	19.094	21.205	23.547	26.078	28.816	31.730	34.893
%CH		11.0	11.1	12.3	11.0	11.1	11.0	10.8	10.5	10.1	10.0
&E32LA	0.000	0.000	0.000	31.731	49.679	67.628	85.577	103.526	121.474	139.423	157.372
%CH		NC	NC	NC	56.6	36.1	26.5	21.0	17.3	14.8	12.9

EMPLOYMENT, STONE, CLAY & GLASS - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
E32LA	3,839.729	3,872.737	3,886.892	3,861.727	3,822.904	3,782.596	3,744.164	3,707.742	3,678.368	3,659.146	3,649.787
%CH	0.9	0.9	0.4	-0.6	-1.0	-1.1	-1.0	-1.0	-0.8	-0.5	-0.3
CORPTX	0.077	0.077	0.092	0.093	0.094	0.095	0.096	0.097	0.098	0.099	0.100
%CH	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND32	2.246	2.301	2.353	2.396	2.436	2.475	2.519	2.572	2.633	2.707	2.792
%CH	2.5	2.5	2.2	1.8	1.7	1.6	1.8	2.1	2.4	2.8	3.1
RTCGSL	0.060	0.060	0.072	0.073	0.073	0.074	0.075	0.075	0.076	0.077	0.078
%CH	0.0	0.0	19.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
TIME	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500	206.500	210.500
%CH	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0	2.0	1.9
YP	4,871.296	5,298.441	5,761.800	6,259.711	6,788.550	7,349.544	7,946.290	8,582.911	9,262.722	9,995.978	10,789.993
%CH	8.8	8.8	8.7	8.6	8.4	8.3	8.1	8.0	7.9	7.9	7.9
YP@LPLCO	38.349	42.144	46.331	50.910	55.890	61.291	67.105	73.292	80.035	87.353	95.361
%CH	9.9	9.9	9.9	9.9	9.8	9.7	9.5	9.2	9.2	9.1	9.2
&E32LA	175.321	193.269	200.000	200.000	200.000	200.000	200.000	200.000	200.000	200.000	200.000
%CH	11.4	10.2	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

EMPLOYMENT, STONE, CLAY & GLASS -
LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	2000	2001	2002	2003
E32LA	3,645.151	3,642.255	3,643.093	3,645.570
%CH	-0.1	-0.1	0.0	0.1
CORPTX	0.101	0.102	0.103	0.104
%CH	1.0	1.0	1.0	1.0
DV753	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
DV763	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
JQIND32	2.880	2.973	3.074	3.171
%CH	3.2	3.2	3.4	3.2
RTCGSL	0.079	0.079	0.080	0.081
%CH	1.0	1.0	1.0	1.0
TIME	214.500	218.500	222.500	226.500
%CH	1.9	1.9	1.8	1.8
YP	11,652.626	12,590.788	13,612.269	14,720.377
%CH	8.0	8.1	8.1	8.1
YP@LPLCO	104.147	113.801	124.451	136.199
%CH	9.2	9.3	9.4	9.4
&E32LA	200.000	200.000	200.000	200.000
%CH	0.0	0.0	0.0	0.0

EMPLOYMENT, PRIMARY METALS - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
E33LA	4,438.942	4,679.000	4,829.190	5,050.787	5,202.349	5,347.349	5,539.240	5,761.094	5,983.755	6,180.123	6,349.478
%CH		5.4	3.2	4.6	3.0	2.8	3.6	4.0	3.9	3.3	2.7
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
EXPN33CO741	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND333VR	1.297	1.303	1.356	1.447	1.438	1.510	1.615	1.713	1.793	1.846	1.898
%CH		0.4	4.0	6.8	-0.6	5.0	6.9	6.1	4.7	3.0	2.8

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
E33LA	6,504.539	6,654.140	6,801.296	6,942.576	7,078.076	7,206.443	7,325.874	7,440.194	7,553.641	7,668.931	7,789.218
%CH	2.4	2.3	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.5	1.6
DV721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
EXPN33CO741	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND333VR	1.956	2.022	2.086	2.148	2.209	2.265	2.319	2.376	2.439	2.507	2.584
%CH	3.1	3.3	3.2	3.0	2.9	2.5	2.3	2.5	2.6	2.8	3.1

	2000	2001	2002	2003
E33LA	7,914.213	8,041.448	8,169.436	8,297.369
%CH	1.6	1.6	1.6	1.6
DV721	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
DV752	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
EXPN33CO741	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
JQIND333VR	2.664	2.744	2.826	2.908
%CH	3.1	3.0	3.0	2.9

EMPLOYMENT, FABRICATED METALS - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
E34NSLA	7,251	7,463	7,532	7,792	7,840	7,998	8,331	8,731	9,113	9,417	9,682	9,933	10,181	10,431
%CH		2.9	0.9	3.4	0.6	2.0	4.2	4.8	4.4	3.3	2.8	2.6	2.5	2.5
ADD34CO713	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV651	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND34	1.425	1.424	1.476	1.533	1.528	1.600	1.701	1.795	1.874	1.932	1.991	2.049	2.109	2.167
%CH		-0.1	3.7	3.9	-0.3	4.7	6.3	5.5	4.4	3.1	3.1	2.9	2.9	2.8
PEINDLA	1.23	1.33	1.44	1.55	1.67	1.79	1.91	2.02	2.15	2.30	2.47	2.66	2.86	3.08
%CH	4.5	8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6	7.5
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ4	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855	5.203	5.585	6.003	6.460	6.943
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6	7.5
&E34NSLA	126.383	116.170	105.957	95.745	85.532	75.319	65.106	54.894	44.681	34.468	24.255	14.043	3.830	-5.769
%CH		-8.1	-8.8	-9.6	-10.7	-11.9	-13.6	-15.7	-18.6	-22.9	-29.6	-42.1	-72.7	NM

EMPLOYMENT, FABRICATED METALS - LP&L SERVICE AREA (CONT'D)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
E34NSLA	10,669	10,897	11,110	11,304	11,499	11,703	11,921	12,168	12,434	12,707	12,982	13,258
%CH	2.3	2.1	2.0	1.8	1.7	1.8	1.9	2.1	2.2	2.2	2.2	2.1
ADD34C0713	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV651	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV753	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV761	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND34	2.221	2.274	2.322	2.368	2.417	2.468	2.524	2.587	2.652	2.716	2.781	2.845
%CH	2.5	2.4	2.1	2.0	2.1	2.1	2.3	2.5	2.5	2.4	2.4	2.3
PEINDLA	3,29	3.49	3.69	3.91	4.14	4.38	4.63	4.90	5.18	5.48	5.80	6.14
%CH	6.9	6.1	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ4	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WPI0543NS	7.423	7.873	8.338	8.828	9.343	9.887	10.459	11.063	11.701	12.377	13.093	13.854
%CH	6.9	6.1	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
&E34NSLA	-15.000	-24.231	-33.462	-42.692	-51.923	-61.154	-70.385	-79.615	-88.846	-98.077	-107.308	-116.538
%CH	-160.0	-61.5	-38.1	-27.6	-21.6	-17.8	-15.1	-13.1	-11.6	-10.4	-9.4	-8.6

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
E353637LA	20,708.290	21,657.003	22,415.842	23,336.547	24,104.702	24,961.520	26,052.509	27,353.751	28,786.986	30,251.874
%CH		4.6	3.5	4.1	3.3	3.6	4.4	5.0	5.2	5.1
ADD37C0641	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND35	1.553	1.603	1.694	1.800	1.854	1.958	2.108	2.274	2.428	2.559
%CH		3.2	5.7	6.3	3.0	5.6	7.7	7.8	6.8	5.4
JQIND36	1.540	1.592	1.650	1.775	1.817	1.928	2.093	2.277	2.443	2.580
%CH		3.4	3.6	7.6	2.4	6.1	8.6	8.8	7.3	5.6
JQIND37	1.298	1.313	1.345	1.387	1.382	1.466	1.567	1.658	1.738	1.793
%CH		1.2	2.4	3.1	-0.4	6.1	6.9	5.8	4.8	3.2
LOSS37C0631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
LOSS37C0664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
REC37JEFF721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
REC37TWO751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
E353637LA	31,701.657	33,158.023	34,647.006	36,178.566	37,732.526	39,307.216	40,888.023	42,450.877	44,011.846	45,590 944
%CH	4.8	4.6	4.5	4.4	4.3	4.2	4.0	3.8	3.7	3.6
ADD37C0641	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND35	2.687	2.817	2.958	3.098	3.238	3.381	3.522	3.662	3.808	3.962
%CH	5.0	4.8	5.0	4.7	4.5	4.4	4.2	4.0	4.0	4.0
JQIND36	2.711	2.858	3.021	3.184	3.350	3.520	3.687	3.850	4.020	4.204
%CH	5.1	5.4	5.7	5.4	5.2	5.1	4.7	4.4	4.4	4.6
JQIND37	1.850	1.911	1.978	2.046	2.111	2.176	2.233	2.287	2.345	2.406
%CH	3.1	3.3	3.5	3.5	3.1	3.1	2.6	2.4	2.6	2.6
LOSS37C0631	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LOSS37C0664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
REC37JEFF721	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
REC37TWO751	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
E353637LA	47,205.699	48,899.302	50,686.057	52,556.120	54,502.161	56,527.230
%CH	3.5	3.6	3.7	3.7	3.7	3.7
ADD37CO641	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND35	4.126	4.298	4.478	4.665	4.860	5.061
%CH	4.1	4.2	4.2	4.2	4.2	4.1
JQIND36	4.401	4.611	4.834	5.066	5.306	5.557
%CH	4.7	4.8	4.8	4.8	4.8	4.7
JQIND37	2.474	2.557	2.643	2.728	2.816	2.906
%CH	2.8	3.4	3.4	3.2	3.2	3.2
LOSS37CO631	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
LOSS37CO664	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
REC37JEFF721	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
REC37TWO751	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC

EMPLOYMENT, INSTRUMENTS & MISC. - LP&L SERVICE AREA, SEASONALLY ADJUSTED

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
E3839LA	1,209.149	1,284.985	1,272.304	1,277.682	1,289.939	1,315.945	1,349.231	1,381.685	1,406.943	1,422.389
%CH		6.3	-1.0	0.4	1.0	2.0	2.5	2.4	1.8	1.1
DV3839DATA701TO3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV3839DATA704	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
DV662	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND38	1.712	1.750	1.823	1.939	1.988	2.099	2.256	2.417	2.570	2.712
%CH		2.2	4.2	6.3	2.6	5.6	7.5	7.1	6.3	5.5
JQIND39	1.539	1.569	1.674	1.817	1.926	2.079	2.228	2.373	2.500	2.609
%CH		2.0	6.7	8.5	6.0	7.9	7.2	6.5	5.4	4.3
PEINDLA	1.23	1.33	1.44	1.55	1.67	1.79	1.91	2.02	2.15	2.30
%CH	4.5	8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2
TIME	126.500	130.500	134.500	138.500	142.500	146.500	150.500	154.500	158.500	162.500
%CH		3.2	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.5
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855	5.203
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2
&E3839LA	51.500	94.500	64.500	68.500	72.500	76.500	80.500	84.500	88.500	92.500
%CH		83.5	-31.7	6.2	5.8	5.5	5.2	5.0	4.7	4.5

EMPLOYMENT, INSTRUMENTS & MISC. - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
E3839LA	1,431.653	1,439.935	1,449.003	1,455.770	1,457.365	1,456.158	1,449.902	1,437.539	1,423.609	1,410.260
%CH		0.7	0.6	0.6	0.5	0.1	-0.1	-0.4	-0.9	-1.0	-0.9
DV3839DATA701TO3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV3839DATA704	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV662	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
JQIND38	2.856	3.002	3.158	3.314	3.462	3.607	3.746	3.880	4.014	4.152
%CH		5.3	5.1	5.2	4.9	4.5	4.2	3.9	3.6	3.5	3.4
JQIND39	2.716	2.836	2.965	3.080	3.185	3.290	3.385	3.478	3.577	3.684
%CH		4.1	4.4	4.5	3.9	3.4	3.3	2.9	2.7	2.8	3.0
PEINDLA	2.47	2.66	2.86	3.08	3.29	3.49	3.69	3.91	4.14	4.38
%CH		7.3	7.5	7.6	7.5	6.9	6.1	5.9	5.9	5.8	5.8
TIME	166.500	170.500	174.500	178.500	182.500	186.500	190.500	194.500	198.500	202.500
%CH		2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.1	2.1	2.0
WPI0543NS	5.585	6.003	6.460	6.943	7.423	7.873	8.338	8.828	9.343	9.887
%CH		7.3	7.5	7.6	7.5	6.9	6.1	5.9	5.9	5.8	5.8
&E3839LA	96.500	100.500	104.500	108.500	112.500	116.500	119.250	121.250	123.250	125.250
%CH		4.3	4.1	4.0	3.8	3.7	3.6	2.4	1.7	1.6	1.6

EMPLOYMENT, INSTRUMENTS & MISC. - LP&L SERVICE AREA, SEASONALLY ADJUSTED (CONT'D)

	1998	1999	2000	2001	2002	2003
E3839LA	1,398.257	1,387.990	1,379.117	1,370.747	1,362.637	1,354.152
%CH	-0.9	-0.7	-0.6	-0.6	-0.6	-0.6
DV3839DATA701TO3	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV3839DATA704	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
DV662	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC
JQIND38	4.299	4.456	4.619	4.787	4.962	5.141
%CH	3.5	3.6	3.7	3.6	3.6	3.6
JQIND39	3.800	3.928	4.065	4.206	4.351	4.496
%CH	3.2	3.4	3.5	3.5	3.5	3.3
PEINDLA	4.63	4.90	5.18	5.48	5.80	6.14
%CH	5.8	5.8	5.8	5.8	5.8	5.8
TIME	206.500	210.500	214.500	218.500	222.500	226.500
%CH	2.0	1.9	1.9	1.9	1.8	1.8
WPI0543NS	10.459	11.063	11.701	12.377	13.093	13.854
%CH	5.8	5.8	5.8	5.8	5.8	5.8
&E3839LA	127.250	129.250	131.250	133.250	135.250	137.250
%CH	1.6	1.6	1.5	1.5	1.5	1.5

NET IN-MIGRATION - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
MIG@LPLCO	-0.000841	0.003270	0.001862	0.001275	0.001415	0.001856	0.002281	0.002652	0.003000	0.003375	0.003793	0.004213
%CH	NM	NM	-43.1	-31.5	11.0	31.1	22.9	16.3	13.1	12.5	12.4	11.1
AHEM	6.094	6.589	7.138	7.731	8.334	8.964	9.625	10.314	11.053	11.855	12.716	13.643
%CH		8.1	8.3	8.3	7.8	7.6	7.4	7.2	7.2	7.3	7.3	7.3
AHEM@LA	6.353	6.776	7.297	7.890	8.516	9.178	9.871	10.593	11.368	12.211	13.120	14.098
%CH	9.6	6.7	7.7	8.1	7.9	7.8	7.5	7.3	7.3	7.4	7.4	7.4
CPISOUTHNS	1.992	2.144	2.291	2.449	2.609	2.776	2.945	3.115	3.292	3.482	3.685	3.900
%CH	7.5	7.6	6.9	6.9	6.6	6.4	6.1	5.8	5.7	5.8	5.8	5.8
CPIU	1.955	2.109	2.254	2.407	2.565	2.728	2.896	3.063	3.237	3.425	3.624	3.836
%CH	7.7	7.9	6.8	6.8	6.6	6.4	6.1	5.8	5.7	5.8	5.8	5.9
&MIG@LPLCO	-0.013	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007
%CH		44.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
MIG@LPLCO	0.004616	0.004599	0.004334	0.004067	0.003851	0.003682	0.003541	0.003414	0.003282	0.003151	0.003030	0.002931
%CH	9.5	-0.4	-5.8	-6.2	-5.3	-4.4	-3.8	-3.6	-3.9	-4.0	-3.8	-3.2
AHEM	14.643	15.730	16.904	18.164	19.511	20.947	22.473	24.089	25.802	27.623	29.565	31.644
%CH	7.3	7.4	7.5	7.5	7.4	7.4	7.3	7.2	7.1	7.1	7.0	7.0
AHEM@LA	15.152	16.294	17.529	18.857	20.283	21.809	23.435	25.162	26.992	28.940	31.023	33.257
%CH	7.5	7.5	7.6	7.6	7.6	7.5	7.5	7.4	7.3	7.2	7.2	7.2
CPISOUTHNS	4.130	4.375	4.633	4.902	5.186	5.486	5.801	6.131	6.476	6.839	7.222	7.627
%CH	5.9	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.6	5.6	5.6	5.6
CPIU	4.063	4.305	4.559	4.824	5.104	5.398	5.707	6.031	6.370	6.726	7.102	7.500
%CH	5.9	6.0	5.9	5.8	5.8	5.8	5.7	5.7	5.6	5.6	5.6	5.6
&MIG@LPLCO	-0.007	-0.007	-0.008	-0.009	-0.009	-0.010	-0.010	-0.011	-0.012	-0.012	-0.013	-0.014
%CH	0.0	-5.5	-8.3	-7.7	-7.1	-6.7	-6.3	-5.9	-5.6	-5.3	-5.0	-4.8

NET IN-MIGRATION - LP&L SERVICE AREA (CONT'D)

	2002	2003
MIG@LPLCO	0.002859	0.002812
%CH	-2.5	-1.6
AHEM	33.875	36.278
%CH	7.1	7.1
AHEM@LA	35.660	38.250
%CH	7.2	7.3
CPISOUTHNS	8.057	8.513
%CH	5.6	5.7
CPIU	7.922	8.370
%CH	5.6	5.7
&MIG@LPLCO	-0.014	-0.015
%CH	-4.5	-4.3

FEDERALLY MANDATED MINIMUM WAGE, DOLLARS PER HOUR

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MINWAGE	2.650	2.719	2.917	3.132	3.349	3.577	3.816	4.064	4.331	4.621	4.932	5.266	5.628	6.020	6.444	6.899
%CH		2.6	7.3	7.3	7.0	6.8	6.7	6.5	6.6	6.7	6.7	6.8	6.9	7.0	7.0	7.1
AHEM	6.094	6.589	7.138	7.731	8.334	8.964	9.625	10.314	11.053	11.855	12.716	13.643	14.643	15.730	16.904	18.164
%CH		8.1	8.3	8.3	7.8	7.6	7.4	7.2	7.2	7.3	7.3	7.3	7.3	7.4	7.5	7.5

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MINWAGE	7.386	7.904	8.455	9.039	9.657	10.315	11.016	11.767	12.573	13.440
%CH	7.1	7.0	7.0	6.9	6.8	6.8	6.8	6.8	6.8	6.9
AHEM	19.511	20.947	22.473	24.089	25.802	27.623	29.565	31.644	33.875	36.278
%CH	7.4	7.4	7.3	7.2	7.1	7.1	7.0	7.0	7.1	7.1

TOTAL RESIDENT POPULATION - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026	2.286613	2.319936
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.5
BIR@LPLCO	0.032	0.032	0.032	0.033	0.033	0.033	0.034	0.034	0.034	0.035	0.035	0.035
%CH	-99.9	1.0	1.0	0.9	0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.2
DEA@LPLCO	0.015	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.017	0.018	0.018	0.018
%CH	-99.9	1.9	1.9	1.8	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1
MIG@LPLCO	-0.000841	0.003270	0.001862	0.001275	0.001415	0.001856	0.002281	0.002652	0.003000	0.003375	0.003793	0.004213
%CH	NM	NM	-43.1	-31.5	11.0	31.1	22.9	16.3	13.1	12.5	12.4	11.1

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
NR@LPLCO	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407
%CH	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1
BIR@LPLCO	0.036	0.036	0.037	0.037	0.038	0.038	0.038	0.039	0.039	0.040	0.040	0.040
%CH	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8
DEA@LPLCO	0.019	0.019	0.020	0.020	0.020	0.021	0.021	0.021	0.022	0.022	0.023	0.023
%CH	2.1	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7
MIG@LPLCO	0.004616	0.004599	0.004334	0.004067	0.003851	0.003682	0.003541	0.003414	0.003282	0.003151	0.003030	0.002931
%CH	9.5	-0.4	-5.8	-6.2	-5.3	-4.4	-3.8	-3.6	-3.9	-4.0	-3.8	-3.2

	2002	2003
NR@LPLCO	2.736124	2.764559
%CH	1.1	1.0
BIR@LPLCO	0.041	0.041
%CH	0.8	0.8
DEA@LPLCO	0.023	0.024
%CH	1.6	1.6
MIG@LPLCO	0.002859	0.002812
%CH	-2.5	-1.6

RESIDENT POPULATION AGED 21 & OVER - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
NR21&@LPLCO	1.208193	1.230992	1.253898	1.274909	1.295406	1.316348	1.337898	1.360005	1.382630	1.405815	1.429674	1.454274
%CH	3.7	1.9	1.9	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7
NR2164@LPLCO	1.017	1.035	1.054	1.071	1.088	1.105	1.122	1.140	1.158	1.177	1.196	1.216
%CH	4.0	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
NR65&@LPLCO	0.192	0.196	0.200	0.204	0.208	0.211	0.216	0.220	0.224	0.229	0.234	0.239
%CH	1.9	2.1	2.1	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
NR21&@LPLCO	1.479625	1.505329	1.530613	1.555371	1.579654	1.603551	1.627123	1.650401	1.673382	1.696055	1.718427	1.740528
%CH	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.3	1.3
NR2164@LPLCO	1.236	1.256	1.277	1.296	1.316	1.335	1.354	1.373	1.391	1.410	1.428	1.445
%CH	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3	1.2
NR65&@LPLCO	0.244	0.249	0.254	0.259	0.264	0.268	0.273	0.278	0.282	0.286	0.291	0.295
%CH	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.5

	2002	2003
NR21&@LPLCO	1.762403	1.784097
%CH	1.3	1.2
NR2164@LPLCO	1.463	1.481
%CH	1.2	1.2
NR65&@LPLCO	0.299	0.303
%CH	1.4	1.4

RESIDENT POPULATION AGED 21-64 - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
NR2164@LPLCO	1.017	1.035	1.054	1.071	1.088	1.105	1.122	1.140	1.158	1.177	1.196
%CH	4.0	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
CENSUS70	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MIG@LPLCO	-0.000841	0.003270	0.001862	0.001275	0.001415	0.001856	0.002281	0.002652	0.003000	0.003375	0.003793
%CH	NM	NM	-43.1	-31.5	11.0	31.1	22.9	16.3	13.1	12.5	12.4
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097	2.255026	2.286613
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4
NR21&@LPLCO	1.208193	1.230992	1.253898	1.274909	1.295406	1.316348	1.337898	1.360005	1.382630	1.405815	1.429674
%CH	3.7	1.9	1.9	1.7	1.6	1.6	1.6	1.7	1.7	1.7	1.7

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
NR2164@LPLCO	1.216	1.236	1.256	1.277	1.296	1.316	1.335	1.354	1.373	1.391	1.410	1.428
%CH	1.6	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3
CENSUS70	0	0	0	0	0	0	0	0	0	0	0	0
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MIG@LPLCO	0.004213	0.004616	0.004599	0.004334	0.004067	0.003851	0.003682	0.003541	0.003414	0.003282	0.003151	0.003030
%CH	11.1	9.5	-0.4	-5.8	-6.2	-5.3	-4.4	-3.8	-3.6	-3.9	-4.0	-3.8
NR@LPLCO	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102	2.556814	2.587999	2.618652	2.648750	2.678313
%CH	1.5	1.5	1.5	1.5	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1
NR21&@LPLCO	1.454274	1.479625	1.505329	1.530613	1.555371	1.579654	1.603551	1.627123	1.650401	1.673382	1.696055	1.718427
%CH	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.3

	2001	2002	2003
NR2164@LPLCO	1.445	1.463	1.481
%CH	1.2	1.2	1.2
CENSUS70	0	0	0
%CH	NC	NC	NC
MIG@LPLCO	0.002931	0.002859	0.002812
%CH	-3.2	-2.5	-1.6
NR@LPLCO	2.707407	2.736124	2.764559
%CH	1.1	1.1	1.0
NR21&@LPLCO	1.740528	1.762403	1.784097
%CH	1.3	1.3	1.2

RESIDENT POPULATION AGED 65 & OVER - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
NR65&@LPLCO	0.192	0.196	0.200	0.204	0.208	0.211	0.216	0.220	0.224	0.229	0.234
%CH	1.9	2.1	2.1	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1
MIG@LPLCO	-0.000841	0.003270	0.001862	0.001275	0.001415	0.001856	0.002281	0.002652	0.003000	0.003375	0.003793
%CH	NM	NM	-43.1	-31.5	11.0	31.1	22.9	16.3	13.1	12.5	12.4
NR2164@LPLCO	1.017	1.035	1.054	1.071	1.088	1.105	1.122	1.140	1.158	1.177	1.196
%CH	4.0	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
NR65&@LPLCO	0.239	0.244	0.249	0.254	0.259	0.264	0.268	0.273	0.278	0.282	0.286	0.291
%CH	2.1	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.5
MIG@LPLCO	0.004213	0.004616	0.004599	0.004334	0.004067	0.003851	0.003682	0.003541	0.003414	0.003282	0.003151	0.003030
%CH	11.1	9.5	-0.4	-5.8	-6.2	-5.3	-4.4	-3.8	-3.6	-3.9	-4.0	-3.8
NR2164@LPLCO	1.216	1.236	1.256	1.277	1.296	1.316	1.335	1.354	1.373	1.391	1.410	1.428
%CH	1.6	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.4	1.3	1.3	1.3

	2001	2002	2003
NR65&@LPLCO	0.295	0.299	0.303
%CH	1.5	1.4	1.4
MIG@LPLCO	0.002931	0.002859	0.002812
%CH	-3.2	-2.5	-1.6
NR2164@LPLCO	1.445	1.463	1.481
%CH	1.2	1.2	1.2

THE PRICE OF ELECTRICITY FOR LARGE INDUSTRIAL CUSTOMERS - LOUISIANA POWER AND LIGHT CO.

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
PEINDLA	1.23	1.33	1.44	1.55	1.67	1.79	1.91	2.02	2.15	2.30	2.47	2.66	2.86	3.08	3.29	3.49	3.69
%CH		4.5	8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6	7.5	6.9	6.1	5.9
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855	5.203	5.585	6.003	6.460	6.943	7.423	7.873	8.338
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6	7.5	6.9	6.1	5.9

	1995	1996	1997	1998	1999	2000	2001	2002	2003
PEINDLA	3.91	4.14	4.38	4.63	4.90	5.18	5.48	5.80	6.14
%CH	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
WPI0543NS	8.828	9.343	9.887	10.459	11.063	11.701	12.377	13.093	13.854
%CH	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8

INDUSTRIAL POWER, 500 KW DEMAND

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
WPI0543NS	2.766	2.999	3.258	3.501	3.764	4.043	4.303	4.558	4.855	5.203	5.585	6.003	6.460	6.943	7.423	7.873	8.338
%CH		8.4	8.6	7.5	7.5	7.4	6.4	5.9	6.5	7.2	7.3	7.5	7.6	7.5	6.9	6.1	5.9
WPI05	3.221	3.606	4.050	4.460	4.916	5.407	5.845	6.264	6.784	7.430	8.164	8.993	9.928	10.935	11.924	12.808	13.718
%CH		12.0	12.3	10.1	10.2	10.0	8.1	7.2	8.3	9.5	9.9	10.2	10.4	10.1	9.0	7.4	7.1

	1995	1996	1997	1998	1999	2000	2001	2002	2003
WPI0543NS	8.828	9.343	9.887	10.459	11.063	11.701	12.377	13.093	13.854
%CH	5.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
WPI05	14.686	15.713	16.804	17.962	19.196	20.512	21.921	23.431	25.054
%CH	7.1	7.0	6.9	6.9	6.9	6.9	6.9	6.9	6.9

PERSONAL INCOME - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986
YP@LPLCO	12.414	13.777	15.309	17.200	19.094	21.205	23.547	26.078	28.816
%CH		11.0	11.1	12.3	11.0	11.1	11.0	10.8	10.5
AHEM@LA	6.353	6.776	7.297	7.890	8.516	9.178	9.871	10.593	11.368
%CH	9.6	6.7	7.7	8.1	7.9	7.8	7.5	7.3	7.3
EMLA	100,112.956	102,398.156	103,781.035	107,879.954	110,114.551	113,125.635	117,152.577	121,280.894	125,178.610
%CH	3.5	2.3	1.4	3.9	2.1	2.7	3.6	3.5	3.2
ENMLA	320,702.806	340,592.849	356,407.995	374,775.920	389,426.314	405,109.708	421,595.536	438,541.012	455,268.970
%CH	6.9	6.2	4.6	5.2	3.9	4.0	4.1	4.0	3.8
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3
RECLYP72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
RECLYP75ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
&YP@LPLCO	-0.381	-0.331	-0.281	-0.231	-0.181	-0.131	-0.081	-0.031	0.000
%CH		13.1	15.1	17.8	21.6	27.6	38.1	61.5	100.0

	1987	1988	1989	1990	1991	1992	1993	1994	1995
YP@LPLCO	31.730	34.893	38.349	42.144	46.331	50.910	55.890	61.291	67.105
%CH	10.1	10.0	9.9	9.9	9.9	9.9	9.8	9.7	9.5
AHEM@LA	12.211	13.120	14.098	15.152	16.294	17.529	18.857	20.283	21.809
%CH	7.4	7.4	7.4	7.5	7.5	7.6	7.6	7.6	7.5
EMLA	128,500.828	131,623.084	134,737.550	137,863.519	141,066.095	144,237.899	147,369.830	150,390.180	153,231.062
%CH	2.7	2.4	2.4	2.3	2.3	2.2	2.2	2.0	1.9
ENMLA	470,314.362	484,450.672	498,235.225	511,871.757	525,568.239	539,027.539	552,143.993	564,984.359	577,148.278
%CH	3.3	3.0	2.8	2.7	2.7	2.6	2.4	2.3	2.2
NR@LPLCO	2.255026	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794	2.525102
%CH	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.3	1.3
RECLYP72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
RECLYP75ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC
&YP@LPLCO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC

PERSONAL INCOME - LP&L SERVICE AREA (CONT'D)

	1996	1997	1998	1999	2000	2001	2002	2003
YP@LPLCO	73.292	80.035	87.353	95.361	104.147	113.801	124.451	136.199
%CH	9.2	9.2	9.1	9.2	9.2	9.3	9.4	9.4
AHEM@LA	23.435	25.162	26.992	28.940	31.023	33.257	35.660	38.250
%CH	7.5	7.4	7.3	7.2	7.2	7.2	7.2	7.3
EMLA	156,065.359	158,983.446	162,085.731	165,518.033	169,240.687	173,148.659	177,230.007	181,450.567
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4
ENMLA	587,418.061	598,835.450	610,801.899	623,583.072	637,158.187	651,546.615	667,055.731	683,439.170
%CH	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
NR@LPLCO	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124	2.764559
%CH	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.0
RECLYP72ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
RECLYP75ON	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC
&YP@LPLCO	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC

PER CAPITA PERSONAL INCOME - LP&L SERVICE AREA

	1978	1979	1980	1981	1982	1983	1984	1985	1986
YP@LPLCO@P	6,131.87246	6,721.04378	7,374.79216	8,196.10435	9,003.56089	9,888.81683	10,851.94535	11,870.92905	12,949.11415
%CH		9.6	9.7	11.1	9.9	9.8	9.7	9.4	9.1
NR@LPLCO	2.024303	2.049612	2.075697	2.098363	2.120537	2.144202	2.169629	2.196640	2.225097
%CH	0.9	1.3	1.3	1.1	1.1	1.1	1.2	1.2	1.3
YP@LPLCO	12.414	13.777	15.309	17.200	19.094	21.205	23.547	26.078	28.816
%CH		11.0	11.1	12.3	11.0	11.1	11.0	10.8	10.5

	1987	1988	1989	1990	1991	1992	1993	1994
YP@LPLCO@P	14,069.76615	15,258.20589	16,528.77709	17,894.18848	19,377.30321	20,984.89544	22,719.82954	24,585.11191
%CH	8.7	8.4	8.3	8.3	8.3	8.3	8.3	8.2
NR@LPLCO	2.255026	2.286613	2.319936	2.354959	2.390794	2.425799	2.459758	2.492794
%CH	1.3	1.4	1.5	1.5	1.5	1.5	1.4	1.3
YP@LPLCO	31.730	34.893	38.349	42.144	46.331	50.910	55.890	61.294
%CH	10.1	10.0	9.9	9.9	9.9	9.9	9.8	9.7

	1995	1996	1997	1998	1999	2000	2001	2002
YP@LPLCO@P	26,573.23702	28,663.35477	30,923.11106	33,355.67403	35,999.72463	38,882.82270	42,030.38354	45,481.61723
%CH	8.1	7.9	7.9	7.9	7.9	8.0	8.1	8.2
NR@LPLCO	2.525102	2.556814	2.587999	2.618652	2.648750	2.678313	2.707407	2.736124
%CH	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1
YP@LPLCO	67.105	73.292	80.035	87.353	95.361	104.147	113.801	124.451
%CH	9.5	9.2	9.2	9.1	9.2	9.2	9.3	9.4

	2003
YP@LPLCO@P	49,262.92708
%CH	8.3
NR@LPLCO	2.764559
%CH	1.0
YP@LPLCO	136.199
%CH	9.4

ECONOMIC MODEL

REGRESSION RESULTS AND

PLOTS OF FITTED VS. ACTUAL

HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: AHEM/AHEM\1

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.999964	0.0004407	2269	JAHEADJEA/JAHEADJEA\1

R-SQUARED: 0.6898 (RELATIVE TO Y=0, RSQ: 1.0000)
R-BAR SQUARED: 0.6898 (RELATIVE TO Y=0, RBSQ: 1.0000)
F-STATISTIC(1,66): 146.8
DURBIN-WATSON STATISTIC: 2.0406
SUM OF SQUARED RESIDUALS: 0.0008832
STANDARD ERROR OF THE REGRESSION: 0.003658 NORMALIZED: 0.003607

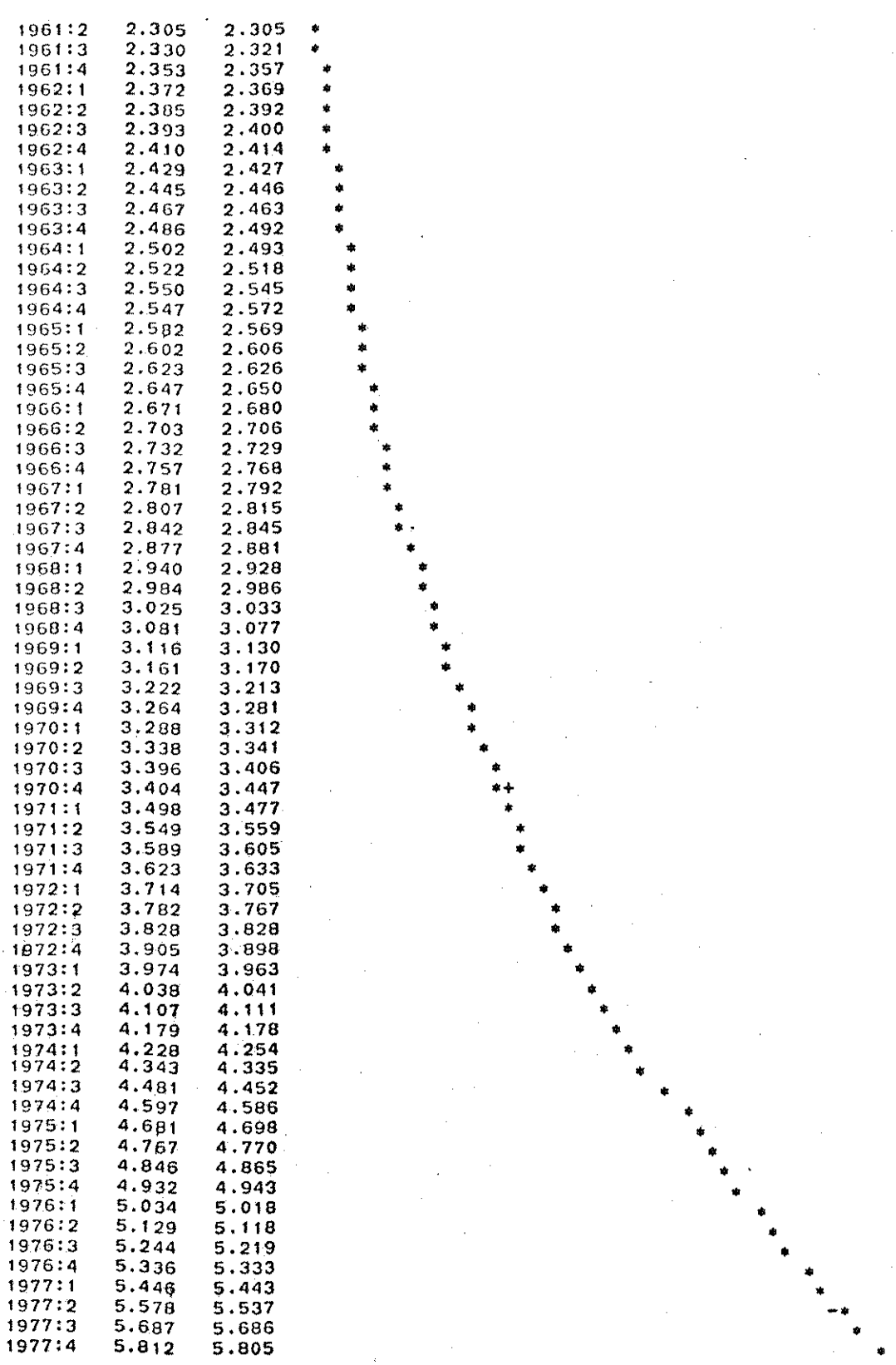
WHERE:

AHEM	HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING
JAHEADJEA	INDEX OF HOURLY EARNINGS OF PRODUCTION WORKERS - PRIVATE NONFARM

PLOT OF FITTED VERSUS ACTUAL RESULTS: AHEM

DATE	ACTUAL	FITTED
1961:2	2.305	2.305
1961:3	2.330	2.321
1961:4	2.353	2.357
1962:1	2.372	2.369
1962:2	2.385	2.392
1962:3	2.393	2.400
1962:4	2.410	2.414
1963:1	2.429	2.427
1963:2	2.445	2.446
1963:3	2.467	2.463
1963:4	2.486	2.492
1964:1	2.502	2.493
1964:2	2.522	2.518
1964:3	2.550	2.545
1964:4	2.547	2.572
1965:1	2.582	2.569
1965:2	2.602	2.606
1965:3	2.623	2.626
1965:4	2.647	2.650
1966:1	2.671	2.680
1966:2	2.703	2.706
1966:3	2.732	2.729
1966:4	2.757	2.768
1967:1	2.781	2.792
1967:2	2.807	2.815
1967:3	2.842	2.845
1967:4	2.877	2.881
1968:1	2.940	2.928
1968:2	2.984	2.986
1968:3	3.025	3.033
1968:4	3.081	3.077
1969:1	3.116	3.130
1969:2	3.161	3.170
1969:3	3.222	3.213
1969:4	3.264	3.281
1970:1	3.288	3.312
1970:2	3.338	3.341
1970:3	3.396	3.406
1970:4	3.404	3.447
1971:1	3.498	3.477
1971:2	3.549	3.559
1971:3	3.589	3.605
1971:4	3.623	3.633
1972:1	3.714	3.705
1972:2	3.782	3.767
1972:3	3.828	3.828
1872:4	3.905	3.898
1973:1	3.974	3.963
1973:2	4.038	4.041
1973:3	4.107	4.111
1973:4	4.179	4.178
1974:1	4.228	4.254
1974:2	4.343	4.335
1974:3	4.481	4.452
1974:4	4.597	4.586
1975:1	4.681	4.698
1975:2	4.767	4.770
1975:3	4.846	4.865
1975:4	4.932	4.943
1976:1	5.034	5.018
1976:2	5.129	5.118
1976:3	5.244	5.219
1976:4	5.336	5.333
1977:1	5.446	5.443
1977:2	5.578	5.537
1977:3	5.687	5.686
1977:4	5.812	5.805

* MARKS ACTUAL VALUES



HOURLY EARNINGS OF PROD WORKERS, MANUFACTURING - LOUISIANA

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG((AHEM@LA/CPISOUTHNS)/(AHEM@LA\1/CPISOUTHNS\1))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	-0.305852	0.1608	-1.902	CONSTANT
1)	0.777087	0.1590	4.886	LOG(AHEM/CPIU/(AHEM@LA\1/ CPISOUTHNS\1))
2)	-0.585516	0.1633	-3.585	LOG(AHEM\1/CPIU\1/ (AHEM@LA\1/CPISOUTHNS\1))
3)	0.0232233	0.01226	1.895	LOG(EMLA\1/NR@LPLCO\1/ (EM\1/N\1))

R-BAR SQUARED: 0.2659
F-STATISTIC(3,63): 8.968
DURBIN-WATSON STATISTIC: 2.2132
SUM OF SQUARED RESIDUALS: 0.003484
STANDARD ERROR OF THE REGRESSION: 0.007436 NORMALIZED: 1.926

WHERE:

AHEM	HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING
AHEM@LA	HOURLY EARNINGS OF PROD WORKERS, MANUFACTURING - LOUISIANA
CPISOUTHNS	SOUTH REGION . . : ALL ITEMS. . . . .
CPIU	ALL URBAN CONSUMER PRICE INDEX - ALL ITEMS
EM	TOTAL EMPLOYMENT - ALL MANUFACTURING
EMLA	EMPLOYMENT, TOTAL MANUFACTURING - L.P.&L. SERVICE AREA, SEASONALLY ADJUSTED
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: AHEM@LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	2.201	2.199	*
1961:3	2.239	2.230	*
1961:4	2.262	2.262	*
1962:1	2.285	2.283	*
1962:2	2.301	2.299	*
1962:3	2.306	2.311	*
1962:4	2.318	2.323	*
1963:1	2.345	2.340	*
1963:2	2.370	2.361	*
1963:3	2.397	2.391	*
1963:4	2.431	2.414	*
1964:1	2.466	2.442	*
1964:2	2.490	2.477	*
1964:3	2.508	2.506	*
1964:4	2.508	2.504	*
1965:1	2.518	2.530	*
1965:2	2.507	2.535	*
1965:3	2.573	2.529	-*
1965:4	2.585	2.590	*
1966:1	2.605	2.607	*
1966:2	2.647	2.633	*
1966:3	2.664	2.671	*
1966:4	2.682	2.691	*
1967:1	2.686	2.699	*
1967:2	2.705	2.723	*
1967:3	2.735	2.738	*
1967:4	2.781	2.770	*
1968:1	2.832	2.844	*
1968:2	2.876	2.887	*
1968:3	2.921	2.920	*
1968:4	3.020	2.981	*
1969:1	3.009	3.074	*+
1969:2	3.067	3.062	*
1969:3	3.098	3.129	*
1969:4	3.159	3.156	*
1970:1	3.219	3.188	*
1970:2	3.248	3.272	*
1970:3	3.315	3.300	*
1970:4	3.348	3.337	*
1971:1	3.407	3.415	*
1971:2	3.452	3.484	*
1971:3	3.475	3.479	*
1971:4	3.500	3.530	*
1972:1	3.598	3.580	*
1972:2	3.649	3.674	*
1972:3	3.708	3.707	*
1972:4	3.773	3.786	*
1973:1	3.816	3.874	*+
1973:2	3.929	3.911	*
1973:3	4.035	4.047	*
1973:4	4.113	4.121	*
1974:1	4.207	4.208	*
1974:2	4.346	4.336	*
1974:3	4.458	4.535	*+
1974:4	4.598	4.578	*
1975:1	4.633	4.684	*+
1975:2	4.719	4.762	*+
1975:3	4.862	4.826	*
1975:4	4.990	4.951	-*
1976:1	5.147	5.067	-*
1976:2	5.257	5.255	*
1976:3	5.379	5.367	*
1976:4	5.539	5.447	-*
1977:1	5.628	5.646	*
1977:2	5.749	5.747	*
1977:3	5.854	5.864	*
1977:4	5.954	5.959	*

NUMBER OF LIVE BIRTHS - LP&L SERVICE AREA

ORDINARY LEAST SQUARES

ANNUAL(1965 TO 1976) 12 OBSERVATIONS
DEPENDENT VARIABLE: ((BIR@LPLCO/1000)/NR@LPLCO)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	1.07721	0.007698	139.9	(BIR@US/1000/N)

R-BAR SQUARED: 0.9352 (RELATIVE TO Y=0, RBSQ: 0.9994)
F-STATISTIC(1,11): 1.958E+04
DURBIN-WATSON STATISTIC: 0.9754
SUM OF SQUARED RESIDUALS: 2.209E-06
STANDARD ERROR OF THE REGRESSION: 0.0004481 NORMALIZED: 0.02486

WHERE:

BIR@LPLCO	NUMBER OF LIVE BIRTHS - LP&L SERVICE AREA
BIR@US	NUMBER OF LIVE BIRTHS BY PLACE OF RESIDENCE - TOTAL US
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: BIR@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1965	34.909	34.880	*
1966	34.622	33.731	-----*
1967	33.588	32.948	---*
1968	33.211	32.973	-*
1969	34.011	33.730	-*
1970	33.404	35.211	*+++++++
1971	32.978	34.072	*++++
1972	30.701	31.192	*++
1973	30.121	30.130	*
1974	30.294	30.309	*
1975	31.231	30.641	--*
1976	32.097	31.155	----*

```
THIS EQUATION, EBIR@US, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EBIR@US: EQUATION
1>BIR@US=N*BIR@US\1/N\1
```

```
THIS EQUATION, ECORPTX, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

ECORPTX: EQUATION
1>CORPTX= CORPTX\1/RTCGSL\1*RTCGSL
```

SOUTH REGION . . : ALL ITEMS. . . . . .
. . . . .

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(CPISOUTHNS/CPIUF&B)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.00418498	0.0006815	6.141	CONSTANT
1)	0.790650	0.02140	36.95	LOG(CPIU/CPIUF&B)

R-SQUARED: 0.9545
R-BAR SQUARED: 0.9538
F-STATISTIC(1,65): 1365
DURBIN-WATSON STATISTIC: 0.3620
SUM OF SQUARED RESIDUALS: 0.001794
STANDARD ERROR OF THE REGRESSION: 0.005254 NORMALIZED: 1.230

WHERE:

CPISOUTHNS	SOUTH REGION . . : ALL ITEMS. . . . .
CPIU	ALL URBAN CONSUMER PRICE INDEX - ALL ITEMS
CPIUF&B	ALL URBAN CONSUMER PRICE INDEX - FOOD AND BEVERAGES

PLOT OF FITTED VERSUS ACTUAL RESULTS: CPISOUTHNS

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	0.894	0.898	*
1961:3	0.897	0.901	*
1961:4	0.899	0.901	*
1962:1	0.902	0.906	*
1962:2	0.905	0.909	*
1962:3	0.908	0.911	*
1962:4	0.910	0.914	*
1963:1	0.913	0.918	*
1963:2	0.915	0.918	*
1963:3	0.920	0.924	*
1963:4	0.923	0.926	*
1964:1	0.927	0.930	*
1964:2	0.928	0.932	*
1964:3	0.930	0.934	*
1964:4	0.934	0.939	*
1965:1	0.937	0.940	*
1965:2	0.943	0.949	*
1965:3	0.946	0.953	*
1965:4	0.951	0.958	*
1966:1	0.960	0.970	*
1966:2	0.969	0.979	*
1966:3	0.977	0.986	*
1966:4	0.987	0.994	*
1967:1	0.989	0.995	*
1967:2	0.999	0.999	*
1967:3	1.007	1.010	*
1967:4	1.016	1.019	*
1968:1	1.028	1.029	*
1968:2	1.041	1.039	*
1968:3	1.053	1.052	*
1968:4	1.067	1.066	*
1969:1	1.086	1.077	*
1969:2	1.102	1.094	*
1969:3	1.116	1.110	*
1969:4	1.133	1.128	*
1970:1	1.147	1.146	*
1970:2	1.164	1.161	*
1970:3	1.174	1.172	*
1970:4	1.190	1.186	*
1971:1	1.195	1.195	*
1971:2	1.215	1.209	*
1971:3	1.218	1.220	*
1971:4	1.229	1.228	*
1972:1	1.235	1.239	*
1972:2	1.246	1.249	*
1972:3	1.256	1.260	*
1972:4	1.266	1.273	*
1973:1	1.293	1.300	*
1973:2	1.321	1.334	*+
1973:3	1.358	1.368	*
1973:4	1.388	1.404	*+
1974:1	1.435	1.448	*+
1974:2	1.477	1.486	*
1974:3	1.536	1.526	*
1974:4	1.575	1.574	*
1975:1	1.601	1.602	*
1975:2	1.633	1.626	*
1975:3	1.664	1.659	*
1975:4	1.687	1.685	*
1976:1	1.697	1.701	*
1976:2	1.726	1.720	*
1976:3	1.751	1.739	-*
1976:4	1.766	1.756	*
1977:1	1.806	1.793	-*
1977:2	1.844	1.834	*
1977:3	1.873	1.855	-*
1977:4	1.892	1.875	-*

NUMBER OF DEATHS - LP&L SERVICE AREA

ORDINARY LEAST SQUARES

ANNUAL(1965 TO 1976) 12 OBSERVATIONS
DEPENDENT VARIABLE: ((DEA@LPLCO/1000)/(NR@LPLCO))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.826827	0.003685	224.4	(DEA@US/1000/N)
2)	0.000507931	0.0001188	4.274	DV76

R-BAR SQUARED: 0.4554 (RELATIVE TO Y=0, RBSQ: 0.9998)
F-STATISTIC(2,10): 2.753E+04
DURBIN-WATSON STATISTIC: 1.1920
SUM OF SQUARED RESIDUALS: 1.305E-07
STANDARD ERROR OF THE REGRESSION: 0.0001142 NORMALIZED: 0.01476

WHERE:

DEA@LPLCO	NUMBER OF DEATHS - LP&L SERVICE AREA
DEA@US	NUMBER OF DEATHS BY PLACE OF RESIDENCE - TOTAL US
DV76	QUALITATIVE VARIABLE: NON-QUANTIFIABLE CHANGE IN 1976
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: DEA@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1965	12.866	13.025	*+
1966	13.292	13.386	*+
1967	13.145	13.307	*+
1968	13.997	13.961	*
1969	14.010	13.870	-*
1970	13.786	13.965	*+
1971	13.737	14.115	*++
1972	14.500	14.457	*
1973	14.821	14.603	--*
1974	14.459	14.265	-*
1975	14.548	14.235	--*
1976	15.452	15.462	*

```
THIS EQUATION, EDEA@US, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EDEA@US: EQUATION
1>DEA@US=N*DEA@US\1/N\1
```

EMPLOYMENT, CONSTRUCTION,FINANCE,INSURANCE AND REAL ESTATE
- L.P.&L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG((ECFIRLA/NR@LPLCO)/((.25/.5*EFIR+.75/.5*EC)/N)
)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	-0.946167	0.03032	-31.20	LOG((.25/.5*EFIR\1+.75/ .5*EC\1)/N\1/(ECFIRLA\1/ NR@LPLCO\1))
2)	0.0659114	0.04210	1.566	DV721
3)	0.0549288	0.03078	1.784	LOG(EMLA/NR@LPLCO/(EM/N))
4)	0.0260008	0.01173	2.217	RECLNM72ON

R-BAR SQUARED: 0.9732 (RELATIVE TO Y=0, RBSQ: 1.0000)
F-STATISTIC(4,63): 1.859E+06
DURBIN-WATSON STATISTIC: 1.6264
SUM OF SQUARED RESIDUALS: 0.1002
STANDARD ERROR OF THE REGRESSION: 0.03988 NORMALIZED: 0.003002

WHERE:

DV721	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
EC	TOTAL EMPLOYMENT - CONTRACT CONSTRUCTION
ECFIRLA	EMPLOYMENT, CONSTRUCTION,FINANCE, INSURANCE AND REAL ESTATE - L.P.&L. SERVICE AREA, SEASONALLY ADJUSTED
EFIR	TOTAL EMPLOYMENT - FINANCE, INSURANCE AND REAL ESTATE
EM	TOTAL EMPLOYMENT - ALL MANUFACTURING
EMLA	EMPLOYMENT, TOTAL MANUFACTURING - L.P.&L. SERVICE AREA, SEASONALLY ADJUSTED
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
RECLNM72ON	QUALITATIVE VARIABLE: IMPACT OF THE 1972 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS BY THE LA. DIV. OF EMPLOY. SECURITY

PLOT OF FITTED VERSUS ACTUAL RESULTS: ECFIRLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	18,523	19,367	*+
1961:3	18,290	18,916	*+
1961:4	18,589	18,698	*
1962:1	18,796	18,689	*
1962:2	18,907	19,560	*+
1962:3	20,262	19,384	-*
1962:4	20,341	20,472	*
1963:1	20,692	20,337	*
1963:2	21,834	21,450	*
1963:3	21,320	22,314	*+
1963:4	22,514	21,540	-*
1964:1	23,665	22,738	-*
1964:2	25,633	24,366	-*
1964:3	27,198	26,012	-*
1964:4	26,248	27,588	*+
1965:1	28,408	26,537	--*
1965:2	28,689	28,659	*
1965:3	31,138	28,958	--*
1965:4	33,704	31,613	--*
1966:1	33,103	33,794	*+
1966:2	35,938	33,008	---*
1966:3	38,318	35,562	---*
1966:4	38,071	37,135	-*
1967:1	38,961	37,367	-*
1967:2	36,499	38,270	*++
1967:3	34,585	36,472	*++
1967:4	35,393	34,442	-*
1968:1	34,810	35,103	*
1968:2	35,441	35,199	*
1968:3	34,003	35,607	*+
1968:4	33,014	34,475	*+
1969:1	32,473	33,568	*+
1969:2	31,086	32,956	*++
1969:3	31,752	31,433	*
1969:4	31,109	32,166	*+
1970:1	29,058	31,317	*++
1970:2	30,358	29,195	-*
1970:3	30,970	30,546	*
1970:4	31,788	31,474	*
1971:1	32,091	32,080	*
1971:2	32,018	33,176	*+
1971:3	31,147	32,715	*+
1971:4	32,721	32,136	-*
1972:1	36,849	36,766	*
1972:2	39,904	38,526	-*
1972:3	41,818	41,322	*
1972:4	41,881	42,921	*+
1973:1	43,628	43,837	*
1973:2	43,508	45,459	*++
1973:3	45,641	45,327	*
1973:4	48,400	46,813	-*
1974:1	48,424	49,883	*+
1974:2	48,695	49,009	*
1974:3	50,452	48,815	--*
1974:4	50,466	50,540	*
1975:1	52,711	49,574	---*
1975:2	56,075	51,823	----*
1975:3	57,683	57,266	*
1975:4	60,878	59,405	-*
1976:1	59,351	62,176	*+++
1976:2	60,223	60,607	*
1976:3	61,247	60,945	*
1976:4	62,042	62,452	*
1977:1	65,210	63,805	-*
1977:2	66,529	68,778	*++
1977:3	64,809	68,111	*+++
1977:4	65,595	66,506	*+

```
THIS EQUATION, EEEALA, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EEEALA: EQUATION
1>EEALA=E20LA+E2223LA+E242526LA+E27LA+E2830NSLA+E29LA+&&
2>       E32LA+E33LA+E34NSLA+E353637LA+E3839LA+&&
3>       ECFIRLA+EMILA+ERLA+ESVLA+ETLA
```

EMPLOYMENT, MINING - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1962:1 TO 1977:4) 64 OBSERVATIONS
DEPENDENT VARIABLE: LOG(EMILA/EMILA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	2.06178	0.5597	3.683	CONSTANT
1)	0.202550	0.05529	3.664	LOG(JQINDMI/EMILA\1)
2)	-0.0618811	0.01930	-3.206	DV732
3)	-0.106291	0.01923	-5.528	DV761
4)	0.0657069	0.01968	3.339	DV763
5)	-0.000922533	0.0002954	-3.123	TIME
6)	0.0320283	0.009851	3.251	OSHA74

R-BAR SQUARED: 0.5511
F-STATISTIC(6,57): 13.89
DURBIN-WATSON STATISTIC: 1.5602
SUM OF SQUARED RESIDUALS: 0.01966
STANDARD ERROR OF THE REGRESSION: 0.01857 NORMALIZED: 4.947

WHERE:

DV732	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV761	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1976
DV763	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE THIRD QUARTER OF 1976
EMILA	EMPLOYMENT, MINING - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQINDMI	INDUSTRIAL PRODUCTION INDEX - MINING
OSHA74	QUALITATIVE VARIABLE: LOSS OF PRODUCTIVITY IN MINING DUE TO OSHA REQUIREMENTS INITIATED IN 1974
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER

PLOT OF FITTED VERSUS ACTUAL RESULTS: EMILA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1962:1	16,274	16,549	
1962:2	15,946	16,314	
1962:3	15,958	16,064	
1962:4	16,011	16,021	
1963:1	15,789	16,121	
1963:2	15,885	15,997	
1963:3	16,040	16,108	
1963:4	16,071	16,214	
1964:1	16,401	16,283	
1964:2	16,607	16,550	
1964:3	16,886	16,720	
1964:4	17,226	16,981	
1965:1	17,672	17,251	
1965:2	17,849	17,619	
1965:3	17,596	17,768	
1965:4	18,115	17,641	
1966:1	18,299	18,095	
1966:2	18,561	18,230	
1966:3	18,417	18,489	
1966:4	18,174	18,393	
1967:1	18,163	18,190	
1967:2	18,025	18,107	
1967:3	18,077	18,084	
1967:4	18,007	18,053	
1968:1	18,105	18,078	
1968:2	18,668	18,213	
1968:3	18,235	18,687	
1968:4	18,573	18,276	
1969:1	18,909	18,591	
1969:2	19,448	18,909	
1969:3	19,686	19,332	
1969:4	19,933	19,592	
1970:1	19,541	19,776	
1970:2	18,653	19,436	
1970:3	18,287	18,749	
1970:4	18,187	18,558	
1971:1	18,191	18,357	
1971:2	18,300	18,338	
1971:3	18,408	18,315	
1971:4	17,999	18,246	
1972:1	18,223	18,123	
1972:2	18,793	18,324	
1972:3	18,815	18,799	
1972:4	18,413	18,790	
1973:1	18,839	18,447	
1973:2	17,622	17,627	
1973:3	17,264	17,836	
1973:4	17,622	17,573	
1974:1	18,346	18,419	
1974:2	19,147	19,004	
1974:3	19,831	19,595	
1974:4	20,255	20,052	
1975:1	20,431	20,410	
1975:2	20,452	20,488	
1975:3	19,924	20,437	
1975:4	19,466	20,079	
1976:1	17,699	17,703	
1976:2	17,845	18,237	
1976:3	19,595	19,600	
1976:4	19,338	19,810	
1977:1	20,829	19,618	
1977:2	21,227	20,936	
1977:3	21,120	21,135	
1977:4	21,031	21,014	

```
THIS EQUATION, EEMLA, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EEMLA: EQUATION
1>EMLA=E20LA+E2223LA+E242526LA+E27LA+E2830NSLA+E29LA+&&
2>      E32LA+E33LA+E34NSLA+E353637LA+E3839LA
```

```
THIS EQUATION, EENMLA, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EENMLA: EQUATION
1>ENMLA=ECFIRLA+ERLA+ESVLA+ETLA+EMILA
```

EMPLOYMENT, TRANSPORTATION, COMM & PUBLIC UTILITIES - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG((ERLA/NR@LPLCO)/(ERLA\1/NR@LPLCO\1))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.357735	0.1949	1.835	CONSTANT
1)	0.704967	0.2735	2.577	LOG(ER/N/(ERLA\1/NR@LPLCO\1))
2)	-0.677991	0.2744	-2.471	LOG(ER\1/N\1/(ERLA\1/NR@LPLCO\1))
3)	0.0793854	0.01521	5.220	DV652
4)	0.0696633	0.01507	4.622	DV671
5)	0.0377231	0.01528	2.469	DV731
6)	-0.0666963	0.01533	-4.351	DV771
7)	0.0215911	0.006678	3.233	RECLNM72ON

R-BAR SQUARED: 0.5886
F-STATISTIC(7,59): 14.49
DURBIN-WATSON STATISTIC: 2.0387
SUM OF SQUARED RESIDUALS: 0.01288
STANDARD ERROR OF THE REGRESSION: 0.01478 NORMALIZED: 1.337

WHERE:

DV652	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE SECOND QUARTER OF 1965
DV671	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1967
DV731	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV771	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1977
ER	TOTAL EMPLOYMENT - TRANSPORTATION AND PUBLIC UTILITIES
ERLA	EMPLOYMENT, TRANSPORTATION, COMM & PUBLIC UTILITIES - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
RECLNM72ON	QUALITATIVE VARIABLE: IMPACT OF THE 1972 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS BY THE LA. DIV. OF EMPLOY. SECURITY

PLOT OF FITTED VERSUS ACTUAL RESULTS: ERLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	12,665	12,320	-*
1961:3	12,791	12,846	*
1961:4	12,827	12,952	*
1962:1	12,901	12,992	*
1962:2	12,884	13,068	*
1962:3	13,086	12,998	*
1962:4	13,235	13,280	*
1963:1	13,246	13,319	*
1963:2	13,251	13,483	*
1963:3	13,279	13,452	*
1963:4	13,518	13,448	*
1964:1	13,577	13,750	*
1964:2	13,663	13,820	*
1964:3	14,304	13,932	-*
1964:4	14,727	14,537	*
1965:1	14,866	14,897	*
1965:2	16,418	16,422	*
1965:3	16,571	16,648	*
1965:4	16,683	16,801	*
1966:1	17,201	16,897	-*
1966:2	17,371	17,426	*
1966:3	17,697	17,526	*
1966:4	17,846	17,991	*
1967:1	19,354	19,359	*
1967:2	19,458	19,433	*
1967:3	19,232	19,583	*+
1967:4	19,587	19,351	-*
1968:1	19,640	19,740	*
1968:2	19,859	19,691	*
1968:3	20,111	20,089	*
1968:4	20,436	20,282	*
1969:1	20,234	20,546	*+
1969:2	20,907	20,510	-*
1969:3	21,421	21,075	-*
1969:4	21,751	21,536	*
1970:1	21,763	21,917	*
1970:2	21,651	21,796	*
1970:3	21,863	21,855	*
1970:4	21,936	21,774	*
1971:1	21,826	22,024	*
1971:2	21,809	21,902	*
1971:3	22,127	21,782	-*
1971:4	21,499	22,080	*+
1972:1	22,460	22,215	-*
1972:2	23,056	23,122	*
1972:3	23,857	23,658	*
1972:4	24,453	24,597	*
1973:1	26,065	26,071	*
1973:2	26,570	26,739	*
1973:3	26,870	27,209	*+
1973:4	26,704	27,484	*++
1974:1	27,688	27,365	-*
1974:2	28,460	28,198	-*
1974:3	29,173	28,942	*
1974:4	29,732	29,655	*
1975:1	30,138	29,771	-*
1975:2	30,167	30,420	*+
1975:3	29,264	30,593	*+++
1975:4	30,044	29,870	*
1976:1	29,786	30,705	*++
1976:2	30,413	30,384	*
1976:3	32,080	31,033	---*
1976:4	33,067	32,712	-*
1977:1	31,572	31,579	*
1977:2	33,176	32,294	--*
1977:3	33,696	33,769	*
1977:4	34,333	34,478	*

EMPLOYMENT, SERVICES - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1964:1 TO 1977:4) 56 OBSERVATIONS
DEPENDENT VARIABLE: LOG((ESVLA/NR@LPLCO)/(ESVLA\1/NR@LPLCO\1))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.828769	0.2270	3.650	CONSTANT
1)	0.0665998	0.01857	3.586	LOG(ESV\1/N\1/(ESVLA\1/NR@LPLCO\1))
2)	0.173052	0.01895	9.133	DV721
3)	0.109078	0.01623	6.721	DV751
4)	0.0524000	0.01240	4.226	RECLNM72ON

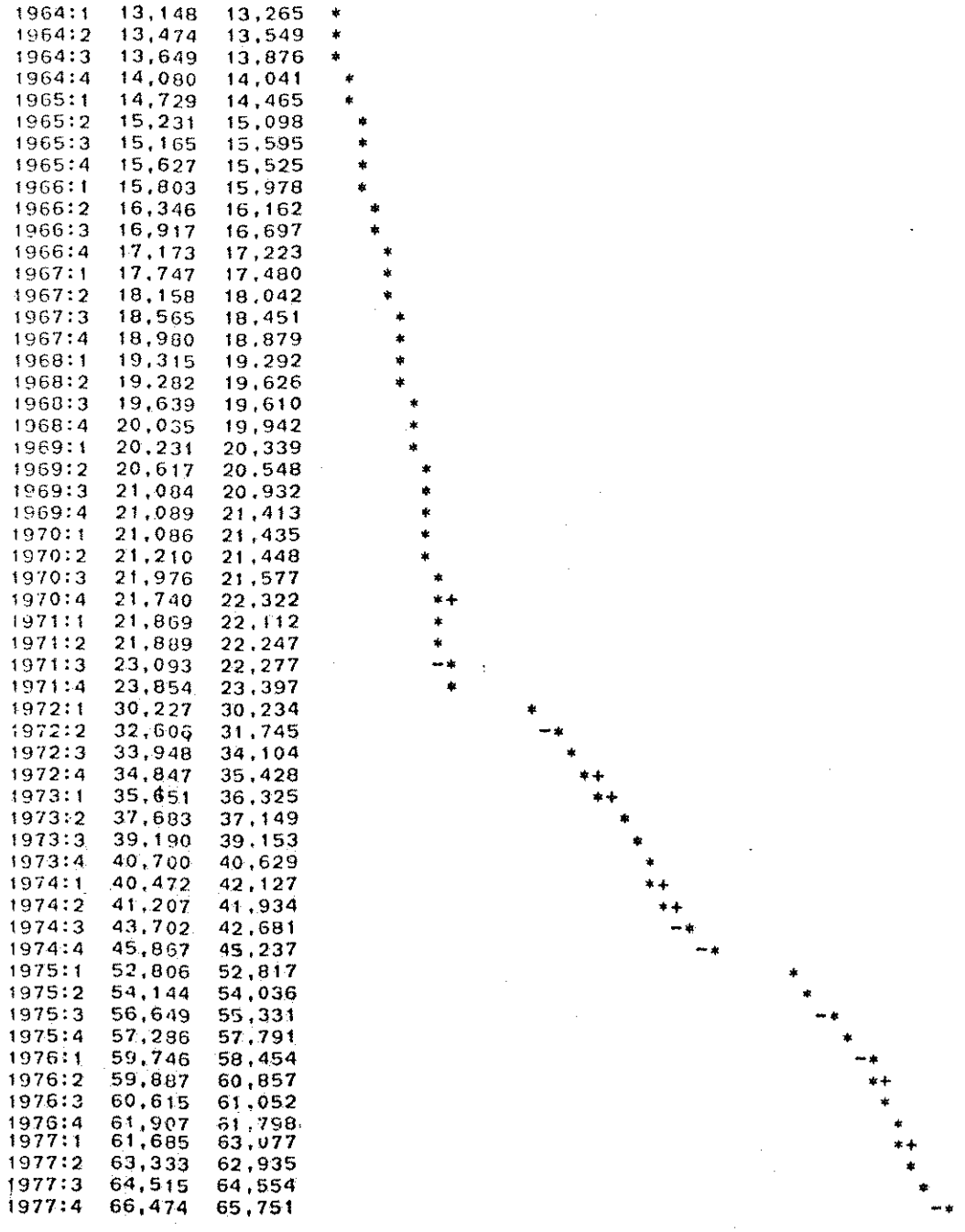
R-BAR SQUARED: 0.8162
F-STATISTIC(4,51): 62.07
DURBIN-WATSON STATISTIC: 2.0115
SUM OF SQUARED RESIDUALS: 0.01284
STANDARD ERROR OF THE REGRESSION: 0.01587 NORMALIZED: 0.6323

WHERE:

DV721	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
DV751	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
ESV	TOTAL EMPLOYMENT - SERVICES
ESVLA	EMPLOYMENT, SERVICES - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
RECLNM72ON	QUALITATIVE VARIABLE: IMPACT OF THE 1972 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS BY THE LA. DIV. OF EMPLOY. SECURITY

PLOT OF FITTED VERSUS ACTUAL RESULTS: ESVLA

DATE	ACTUAL	FITTED
1964:1	13,148	13,265
1964:2	13,474	13,549
1964:3	13,649	13,876
1964:4	14,080	14,041
1965:1	14,729	14,465
1965:2	15,231	15,098
1965:3	15,165	15,595
1965:4	15,627	15,525
1966:1	15,803	15,978
1966:2	16,346	16,162
1966:3	16,917	16,697
1966:4	17,173	17,223
1967:1	17,747	17,480
1967:2	18,158	18,042
1967:3	18,565	18,451
1967:4	18,980	18,879
1968:1	19,315	19,292
1968:2	19,282	19,626
1968:3	19,639	19,610
1968:4	20,035	19,942
1969:1	20,231	20,339
1969:2	20,617	20,548
1969:3	21,084	20,932
1969:4	21,089	21,413
1970:1	21,086	21,435
1970:2	21,210	21,448
1970:3	21,976	21,577
1970:4	21,740	22,322
1971:1	21,869	22,112
1971:2	21,889	22,247
1971:3	23,093	22,277
1971:4	23,854	23,397
1972:1	30,227	30,234
1972:2	32,606	31,745
1972:3	33,948	34,104
1972:4	34,847	35,428
1973:1	35,651	36,325
1973:2	37,683	37,149
1973:3	39,190	39,153
1973:4	40,700	40,629
1974:1	40,472	42,127
1974:2	41,207	41,934
1974:3	43,702	42,681
1974:4	45,867	45,237
1975:1	52,806	52,817
1975:2	54,144	54,036
1975:3	56,649	55,331
1975:4	57,286	57,791
1976:1	59,746	58,454
1976:2	59,887	60,857
1976:3	60,615	61,052
1976:4	61,907	61,798
1977:1	61,685	63,077
1977:2	63,333	62,935
1977:3	64,515	64,554
1977:4	66,474	65,751



EMPLOYMENT, WHOLESALE & RETAIL TRADE - L.P.& L. SERVICE AREA,
SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1962:2 TO 1977:4) 63 OBSERVATIONS
DEPENDENT VARIABLE: LOG((ETLA/NR@LPLCO)/(ET/N))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	13.6344	0.03519	387.5	CONSTANT
1)				PDL(LRELYP,2,8,BOTH)
\0	0.110924	0.006900	16.08	
\1	0.194118	0.01208	16.08	
\2	0.249580	0.01553	16.08	
\3	0.277311	0.01725	16.08	
\4	0.277311	0.01725	16.08	
\5	0.249580	0.01553	16.08	
\6	0.194118	0.01208	16.08	
\7	0.110924	0.006900	16.08	
SUM	1.66387	0.1035	16.08	
AVG	3.50000	0.0	NC	
2)	0.225997	0.008205	27.54	RECLNM72ON

R-BAR SQUARED: 0.9690
F-STATISTIC(2,60): 968.6
DURBIN-WATSON STATISTIC: 0.7838
SUM OF SQUARED RESIDUALS: 0.04516
STANDARD ERROR OF THE REGRESSION: 0.02743 NORMALIZED: 0.002081

WHERE:

ET	TOTAL EMPLOYMENT - WHOLESALE AND RETAIL TRADE
ETLA	EMPLOYMENT, WHOLESALE & RETAIL TRADE L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
LRELYP	NATURAL LOG OF THE RATIO OF PER CAPITA PERSONAL INCOME IN LP&L'S SERVICE AREA TO THAT OF THE U.S.
N	TOTAL POPULATION INCLUDING ARMED FORCES OVERSEAS
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
RECLNM72ON	QUALITATIVE VARIABLE: IMPACT OF THE 1972 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS BY THE LA. DIV. OF EMPLOY. SECURITY

PLOT OF FITTED VERSUS ACTUAL RESULTS: ETLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1962:2	39,698	42,066	*+
1962:3	40,481	42,340	*+
1962:4	41,046	42,486	*+
1963:1	41,834	42,671	*
1963:2	42,624	42,912	*
1963:3	43,002	43,211	*
1963:4	43,779	43,916	*
1964:1	44,435	44,913	*
1964:2	45,105	45,838	*
1964:3	46,411	46,854	*
1964:4	47,054	47,720	*
1965:1	48,247	48,672	*
1965:2	49,610	49,414	*
1965:3	50,035	49,913	*
1965:4	51,715	50,399	-*
1966:1	52,879	51,165	-*
1966:2	53,810	52,129	-*
1966:3	55,254	53,190	-*
1966:4	56,309	54,095	-*
1967:1	57,111	55,377	-*
1967:2	57,496	56,867	*
1967:3	57,820	58,410	*
1967:4	58,974	60,221	*+
1968:1	59,694	61,807	*+
1968:2	61,216	63,449	*+
1968:3	62,049	64,716	*+
1968:4	62,541	65,603	*++
1969:1	64,086	65,891	*+
1969:2	64,862	66,180	*+
1969:3	66,120	66,220	*
1969:4	66,703	66,213	*
1970:1	64,914	66,125	*+
1970:2	65,791	65,916	*
1970:3	66,565	65,644	*
1970:4	67,842	66,179	-*
1971:1	68,337	66,823	-*
1971:2	69,463	67,172	-*
1971:3	70,388	67,510	--*
1971:4	72,472	67,677	---*
1972:1	78,366	85,547	*++++
1972:2	82,260	85,956	*++
1972:3	84,646	86,357	*+
1972:4	86,923	87,114	*
1973:1	89,919	88,622	-*
1973:2	90,722	89,873	*
1973:3	92,821	90,805	-*
1973:4	93,549	91,867	-*
1974:1	93,621	92,489	-*
1974:2	94,100	93,705	*
1974:3	95,883	94,957	-*
1974:4	96,472	95,747	*
1975:1	97,126	96,095	-*
1975:2	98,450	97,394	-*
1975:3	100,007	99,650	*
1975:4	102,916	101,771	-*
1976:1	104,022	104,633	*
1976:2	106,049	107,240	*+
1976:3	107,865	109,249	*+
1976:4	108,114	110,459	*+
1977:1	112,385	112,543	*
1977:2	115,311	114,419	*
1977:3	116,296	116,186	*
1977:4	120,404	117,649	--*

EMPLOYMENT, FOOD - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E20LA/E20LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	6.39514	1.055	6.061	CONSTANT
1)	0.631454	0.1034	6.106	LOG(JQIND20\1/E20LA\1)
2)	-0.00500155	0.0008207	-6.094	TIME
3)	-0.0479126	0.02011	-2.382	DV631
4)	-0.0294064	0.01959	-1.501	DV671
5)	-0.0310139	0.01483	-2.092	DV673&731
6)	9.70102E-05	3.037E-05	3.194	L1DNCDONOLA
7)	-0.228321	0.1051	-2.172	LOG(AHEM@LA/WPI02)
8)	0.162740	0.1042	1.562	LOG(AHEM@LA\1/WPI02\1)
9)	-0.0301006	0.01367	-2.201	LOG(CORPTX/RTCGSL)

R-BAR SQUARED: 0.5085
F-STATISTIC(9,57): 8.586
DURBIN-WATSON STATISTIC: 2.1256
SUM OF SQUARED RESIDUALS: 0.02124
STANDARD ERROR OF THE REGRESSION: 0.01930 NORMALIZED: 374.3

WHERE:

AHEM@LA	HOURLY EARNINGS OF PROD WORKERS, MANUFACTURING - LOUISIANA
CORPTX	CORPORATE INCOME TAX RATE - STATE OF LOUISIANA
DV631	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV671	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1967
DV673&731	QUALITATIVE VARIABLE: APPARENT DATA ERRORS IN 67:3 AND 73:1
E20LA	EMPLOYMENT, FOOD - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND20	INDUSTRIAL PRODUCTION INDEX - FOODS
L1DNCDONOLA	LAG ONE DIFFERENCE FROM NORMAL COOLING DEGREE DAYS - NEW ORLEANS
RTCGSL	RATE OF STATE AND LOCAL GOVERNMENT TAX OF CORPORATE PROFITS
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER
WPI02	WHOLESALE PRICE INDEX - PROCESSED FOODS AND FEEDS

PLOT OF FITTED VERSUS ACTUAL RESULTS: E20LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	11,140	11,220	
1961:3	10,685	10,970	
1961:4	10,982	11,019	
1962:1	10,874	11,304	
1962:2	11,273	11,063	
1962:3	11,006	11,401	
1962:4	11,407	11,243	
1963:1	10,643	10,645	
1963:2	11,258	11,259	
1963:3	11,598	11,299	
1963:4	11,248	11,335	
1964:1	11,244	11,143	
1964:2	11,094	11,327	
1964:3	11,331	11,321	
1964:4	10,999	11,238	
1965:1	11,459	11,213	
1965:2	11,314	11,484	
1965:3	11,383	11,070	
1965:4	11,628	11,238	
1966:1	11,400	11,424	
1966:2	11,259	11,287	
1966:3	11,310	11,284	
1966:4	11,348	11,296	
1967:1	11,032	11,034	
1967:2	11,536	11,418	
1967:3	11,244	11,207	
1967:4	11,471	11,211	
1968:1	11,640	11,502	
1968:2	11,593	11,396	
1968:3	11,437	11,497	
1968:4	11,301	11,346	
1969:1	11,178	11,453	
1969:2	11,258	11,328	
1969:3	11,520	11,414	
1969:4	11,893	11,614	
1970:1	11,273	11,670	
1970:2	11,588	11,516	
1970:3	11,410	11,543	
1970:4	11,419	11,432	
1971:1	11,394	11,517	
1971:2	11,507	11,459	
1971:3	11,576	11,526	
1971:4	11,390	11,671	
1972:1	11,688	11,630	
1972:2	11,719	11,610	
1972:3	12,033	11,663	
1972:4	12,345	11,962	
1973:1	11,649	11,691	
1973:2	11,763	11,715	
1973:3	12,069	12,055	
1973:4	12,067	12,102	
1974:1	12,363	12,139	
1974:2	12,105	12,124	
1974:3	11,910	11,972	
1974:4	11,539	11,873	
1975:1	11,660	11,492	
1975:2	11,242	11,190	
1975:3	11,237	11,210	
1975:4	11,469	11,369	
1976:1	11,597	11,390	
1976:2	11,625	11,557	
1976:3	11,077	11,519	
1976:4	11,071	11,335	
1977:1	10,886	11,184	
1977:2	11,523	11,377	
1977:3	11,167	11,535	
1977:4	11,571	11,370	

EMPLOYMENT, TEXTILES & APPAREL - L.P.& L. SERVICE AREA,
SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1970:1 TO 1977:4) 32 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E2223LA/E2223LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.388010	0.2041	1.901	CONSTANT
1)	0.599345	0.2082	2.879	LOG((.3*JQIND22\1+.7* JQIND23\1)/E2223LA\1)
2)	-0.556831	0.2063	-2.699	LOG((.3*JQIND22\2+.7* JQIND23\2)/E2223LA\1)
3)	0.210350	0.04115	5.112	ADD23CO722
4)	-0.107713	0.04064	-2.651	ADD23LAG723
5)	-0.113893	0.04448	-2.561	RECL23@751

R-BAR SQUARED: 0.6615
F-STATISTIC(5,26): 13.11
DURBIN-WATSON STATISTIC: 2.2601
SUM OF SQUARED RESIDUALS: 0.04137
STANDARD ERROR OF THE REGRESSION: 0.03989 NORMALIZED: 1.033

WHERE:

ADD23CO722	QUALITATIVE VARIABLE: TWO NEW FIRMS IN SIC 23 IN THE SECOND QUARTER OF 1972
ADD23LAG723	QUALITATIVE VARIABLE: SEE ADD23CO722
E2223LA	EMPLOYMENT, TEXTILES & APPAREL - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND22	INDUSTRIAL PRODUCTION INDEX - TEXTILE MILL PRODUCTS
JQIND23	INDUSTRIAL PRODUCTION INDEX - APPAREL PRODUCTS
RECL23@751	QUALITATIVE VARIABLE: RECLASSIFICATION OF EMPLOYEES OUT OF SIC 23 IN THE FIRST QUARTER OF 1975

PLOT OF FITTED VERSUS ACTUAL RESULTS: E2223LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1970:1	2,530	2,374	-*
1970:2	2,598	2,649	*
1970:3	2,791	2,734	*
1970:4	2,811	2,930	*+
1971:1	2,878	2,957	*+
1971:2	3,204	3,050	-*
1971:3	3,211	3,408	*++
1971:4	3,309	3,412	*+
1972:1	3,368	3,538	*+
1972:2	4,374	4,379	*
1972:3	4,118	4,123	*
1972:4	4,281	4,325	*
1973:1	4,776	4,545	--*
1973:2	4,970	5,014	*
1973:3	5,043	5,250	*++
1973:4	5,591	5,221	---*
1974:1	5,638	5,706	*+
1974:2	5,776	5,843	*+
1974:3	5,875	5,895	*
1974:4	5,844	5,964	*+
1975:1	5,127	5,132	*
1975:2	4,999	4,940	*
1975:3	5,503	5,377	-*
1975:4	5,831	5,934	*+
1976:1	6,301	6,233	-*
1976:2	6,470	6,514	*
1976:3	6,805	6,723	-*
1976:4	6,415	6,829	*+++
1977:1	7,050	6,655	---*
1977:2	7,735	7,195	-----*
1977:3	7,701	7,882	*++
1977:4	7,703	7,928	*++

EMPLOYMENT, LUMBER,FURNITURE & PAPER - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E242526LA/E242526LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	2.31071	0.4494	5.142	CONSTANT
1)	0.441892	0.05411	8.166	LOG((.46*JQIND24\1+.03* JQIND25\1+.51*JQIND26\1) /E242526LA\1)
2)	-0.230565	0.06454	-3.572	LOG((.46*JQIND24\2+.03* JQIND25\2+.51*JQIND26\2) /E242526LA\1)
3)	-0.00241816	0.0005432	-4.451	TIME
4)	-0.0452719	0.01806	-2.507	LOG(PEINDLA\1/WPI0543NS\ 1)
5)	-0.0316337	0.01193	-2.653	CROWN26STRIKE614
6)	0.0288864	0.01181	2.446	CELOTEX26STRIKE623
7)	0.0405876	0.01182	3.434	CELOTEX26LAG624
8)	-0.0281217	0.01171	-2.402	LOSS24C0702
9)	-0.0164118	0.01186	-1.384	LOSS24C0734

R-BAR SQUARED: 0.6342
F-STATISTIC(9,57): 13.72
DURBIN-WATSON STATISTIC: 1.8960
SUM OF SQUARED RESIDUALS: 0.007505
STANDARD ERROR OF THE REGRESSION: 0.01147 NORMALIZED: 9.345

WHERE:

CELOTEX26LAG624	QUALITATIVE VARIABLE: SEE CELOTEX26STRIKE623
CELOTEX26STRIKE623	QUALITATIVE VARIABLE: STRIKE AT CELOTEX IN THE THIRD QUARTER OF 1962
CROWN26STRIKE614	QUALITATIVE VARIABLE: STRIKE AT CROWN ZELLERBACH FROM SEPT. 1961 TO APRIL 1962
E242526LA	EMPLOYMENT, LUMBER,FURNITURE & PAPER - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND24	INDUSTRIAL PRODUCTION INDEX - LUMBER AND PRODUCTS
JQIND25	INDUSTRIAL PRODUCTION INDEX - FURNITURE AND FIXTURES
JQIND26	INDUSTRIAL PRODUCTION INDEX - PAPER AND PRODUCTS
LOS624C0702	QUALITATIVE VARIABLE: LOSS OF A FIRM IN SIC 24 IN THE SECOND QUARTER OF 1970
LOSS24C0734	QUALITATIVE VARIABLE: LOSS OF A FIRM IN SIC 24 IN THE FOURTH QUARTER OF 1973
PEINDLA	LP&L INDUSTRIAL TOTAL TYPICAL PRICE FOR SIC 28
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER
WPI0543NS	INDUSTRIAL POWER, 500 KW DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: E242526LA

DATE	ACTUAL	FITTED
1961:2	24,406	24,006
1961:3	23,657	24,187
1961:4	22,737	22,737
1962:1	22,485	22,829
1962:2	23,125	22,464
1962:3	23,745	23,745
1962:4	24,478	24,478
1963:1	23,782	24,019
1963:2	23,391	23,529
1963:3	23,631	23,266
1963:4	23,862	23,485
1964:1	24,076	23,766
1964:2	23,886	23,861
1964:3	23,437	23,822
1964:4	23,498	23,557
1965:1	23,580	23,438
1965:2	23,494	23,630
1965:3	23,660	23,544
1965:4	23,853	23,965
1966:1	24,539	24,134
1966:2	24,826	24,693
1966:3	25,211	24,799
1966:4	25,148	24,910
1967:1	24,533	24,733
1967:2	23,914	24,365
1967:3	23,592	23,782
1967:4	23,553	23,514
1968:1	23,205	23,617
1968:2	23,114	23,289
1968:3	23,274	23,410
1968:4	23,364	23,481
1969:1	23,546	23,613
1969:2	23,650	23,803
1969:3	23,305	23,733
1969:4	23,328	23,410
1970:1	23,464	23,477
1970:2	22,722	22,722
1970:3	22,885	22,668
1970:4	22,949	22,832
1971:1	22,972	22,796
1971:2	22,997	23,146
1971:3	22,944	23,194
1971:4	23,026	23,174
1972:1	23,317	23,270
1972:2	23,702	23,503
1972:3	23,846	23,805
1972:4	24,095	23,978
1973:1	24,536	24,245
1973:2	24,543	24,538
1973:3	24,739	24,551
1973:4	24,202	24,202
1974:1	23,740	24,199
1974:2	24,002	23,604
1974:3	23,619	23,906
1974:4	23,229	23,175
1975:1	21,691	21,961
1975:2	20,698	20,583
1975:3	20,565	20,610
1975:4	21,268	21,164
1976:1	21,790	21,693
1976:2	22,230	22,264
1976:3	22,217	22,410
1976:4	22,060	22,351
1977:1	22,359	22,178
1977:2	22,676	22,453
1977:3	23,000	22,557
1977:4	22,648	22,735

EMPLOYMENT, PRINTING & PUBLISHING - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E27LA/JQIND27)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.461106	0.1737	2.655	CONSTANT
1)	-0.936033	0.02442	-38.33	LOG(JQIND27\1/E27LA\1)
2)	0.0762364	0.02518	3.027	DV754
3)	-0.0508615	0.02519	-2.019	DV702
4)	-0.0465627	0.01369	-3.402	LOG(CORPTX/RTCGSL)

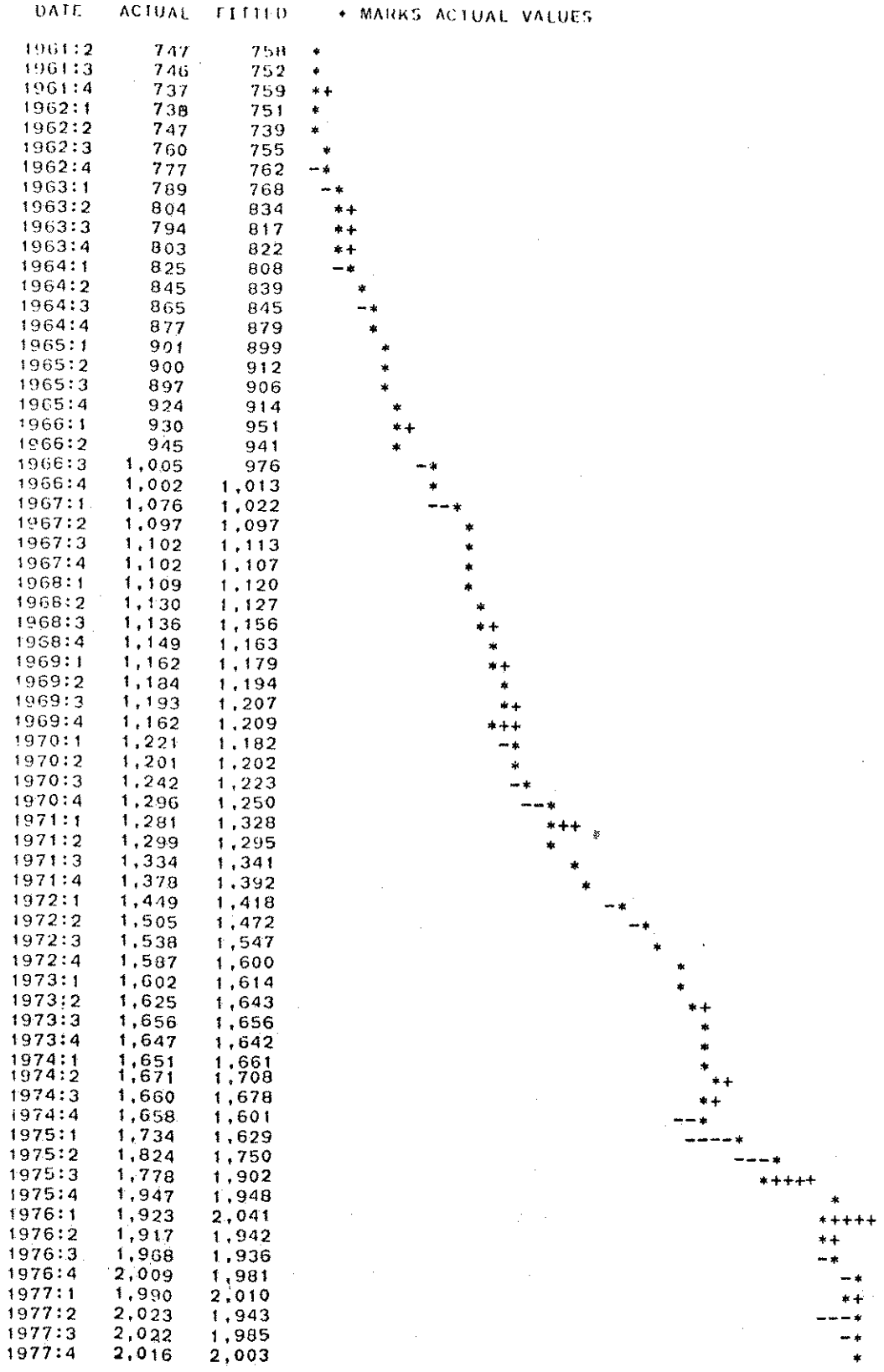
R-BAR SQUARED: 0.9797
F-STATISTIC(4,62): 797.5
DURBIN-WATSON STATISTIC: 1.8179
SUM OF SQUARED RESIDUALS: 0.03717
STANDARD ERROR OF THE REGRESSION: 0.02448 NORMALIZED: 0.003449

WHERE:

CORPTX	CORPORATE INCOME TAX RATE - STATE OF LOUISIANA
DV702	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE SECOND QUARTER OF 1970
DV754	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FOURTH QUARTER OF 1975
E27LA	EMPLOYMENT, PRINTING & PUBLISHING - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND27	INDUSTRIAL PRODUCTION INDEX - PRINTING AND PUBLISHING
RTCGSL	RATE OF STATE AND LOCAL GOVERNMENT TAX OF CORPORATE PROFITS

PLOT OF FITTED VERSUS ACTUAL RESULTS: E27LA

DATE	ACTUAL	FITTED
1961:2	747	758
1961:3	746	752
1961:4	737	759
1962:1	738	751
1962:2	747	739
1962:3	760	755
1962:4	777	762
1963:1	789	768
1963:2	804	834
1963:3	794	817
1963:4	803	822
1964:1	825	808
1964:2	845	839
1964:3	865	845
1964:4	877	879
1965:1	901	899
1965:2	900	912
1965:3	897	906
1965:4	924	914
1966:1	930	951
1966:2	945	941
1966:3	1,005	976
1966:4	1,002	1,013
1967:1	1,076	1,022
1967:2	1,097	1,097
1967:3	1,102	1,113
1967:4	1,102	1,107
1968:1	1,109	1,120
1968:2	1,130	1,127
1968:3	1,136	1,156
1968:4	1,149	1,163
1969:1	1,162	1,179
1969:2	1,184	1,194
1969:3	1,193	1,207
1969:4	1,162	1,209
1970:1	1,221	1,182
1970:2	1,201	1,202
1970:3	1,242	1,223
1970:4	1,296	1,250
1971:1	1,281	1,328
1971:2	1,299	1,295
1971:3	1,334	1,341
1971:4	1,378	1,392
1972:1	1,449	1,418
1972:2	1,505	1,472
1972:3	1,538	1,547
1972:4	1,587	1,600
1973:1	1,602	1,614
1973:2	1,625	1,643
1973:3	1,656	1,656
1973:4	1,647	1,642
1974:1	1,651	1,661
1974:2	1,671	1,708
1974:3	1,660	1,678
1974:4	1,658	1,601
1975:1	1,734	1,629
1975:2	1,824	1,750
1975:3	1,778	1,902
1975:4	1,947	1,948
1976:1	1,923	2,041
1976:2	1,917	1,942
1976:3	1,968	1,936
1976:4	2,009	1,981
1977:1	1,990	2,010
1977:2	2,023	1,943
1977:3	2,022	1,985
1977:4	2,016	2,003



EMPLOYMENT, CHEMICALS & RUBBER - L.P.& L. SERVICE AREA

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E2830NSLA/E2830NSLA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.56937	0.4363	3.597	CONSTANT
1)	0.168278	0.04708	3.575	LOG((.96*JQIND28\1+.04* JQIND30\1)/E2830NSLA\1)
2)	-0.125761	0.02382	-5.279	STRIKE28DOW752
3)	0.109394	0.02412	4.536	STRIKE28LAG754
4)	-0.103379	0.02251	-4.592	STRIKE28AMC624
5)	0.0725075	0.02299	3.154	STRIKE28LAG632
6)	0.0972753	0.02244	4.336	ADD28DV643
7)	-0.0958878	0.03413	-2.809	LOG(PEINDLA\1/WPI0543NS\ 1)
8)	-0.000997190	0.0004140	-2.409	TIME

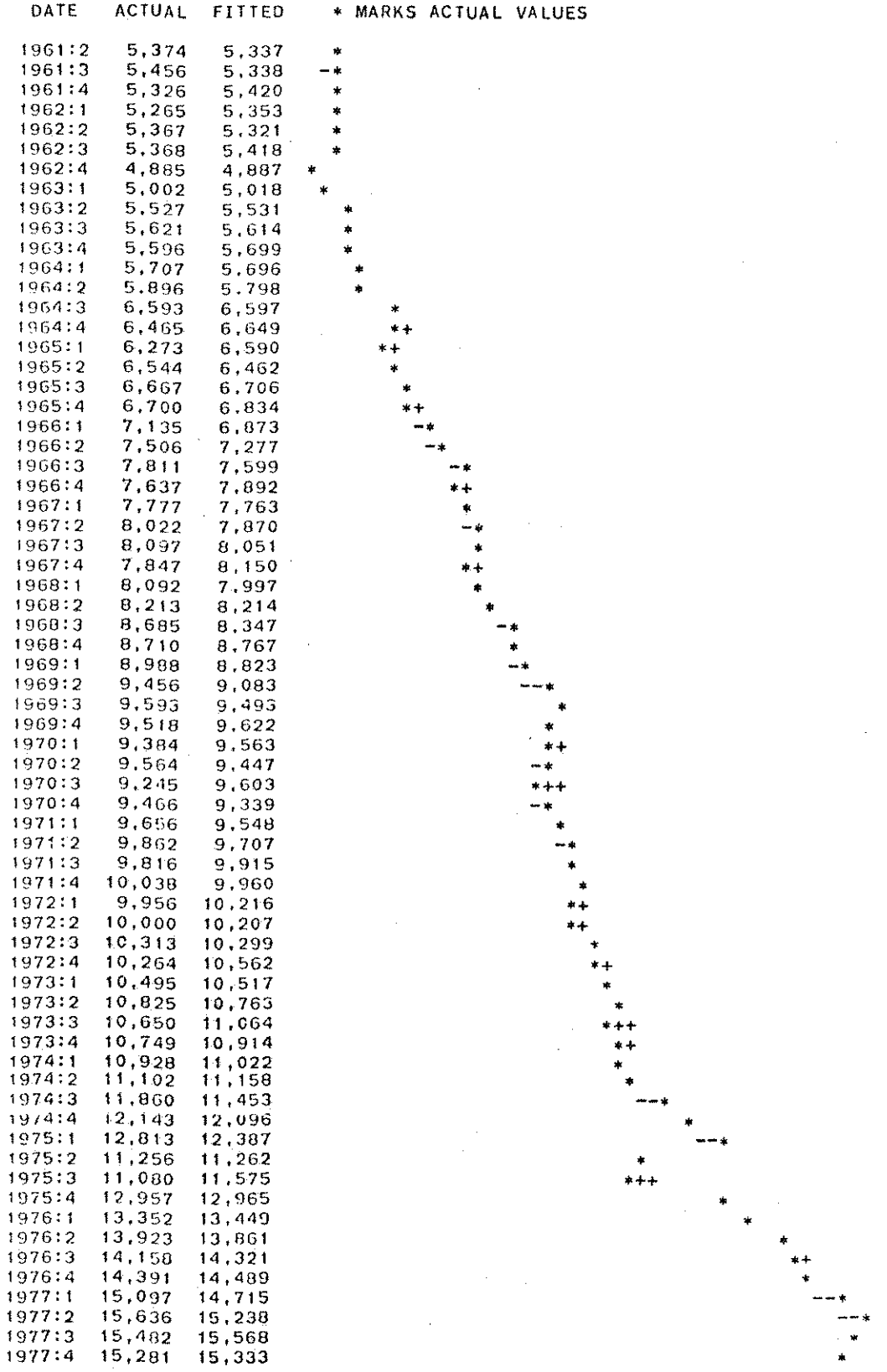
R-BAR SQUARED: 0.6968
F-STATISTIC(8,58): 19.96
DURBIN-WATSON STATISTIC: 1.8929
SUM OF SQUARED RESIDUALS: 0.02797
STANDARD ERROR OF THE REGRESSION: 0.02196 NORMALIZED: 1.420

WHERE:

ADD28DV643	QUALITATIVE VARIABLE: DUPONT ADDED TO THEIR PLANT IN THE THIRD QUARTER OF 1964
E2830NSLA	EMPLOYMENT, CHEMICALS & RUBBER - L.P.& L. SERVICE AREA
JQIND28	INDUSTRIAL PRODUCTION INDEX - CHEMICALS AND PRODUCTS
JQIND30	INDUSTRIAL PRODUCTION INDEX - RUBBER AND PLASTICS PRODUCTS
PEINDLA	LP&L INDUSTRIAL TOTAL TYPICAL PRICE FOR SIC 28
STRIKE28AMC624	QUALITATIVE VARIABLE: STRIKE IN SIC 28 IN THE FOURTH QUARTER OF 1962
STRIKE28DOW752	QUALITATIVE VARIABLE: STRIKE AT DOW CHEMICAL PLANT IN SIC 28 IN THE SECOND QUARTER OF 1975
STRIKE28LAG632	QUALITATIVE VARIABLE: SEE STRIKE28AMC624
STRIKE28LAG754	QUALITATIVE VARIABLE: SEE STRIKE28DOW752
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER
WPI0543NS	INDUSTRIAL POWER, 500 KW DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: E2830NSLA

DATE	ACTUAL	FITTED
1961:2	5,374	5,337
1961:3	5,456	5,338
1961:4	5,326	5,420
1962:1	5,265	5,353
1962:2	5,367	5,321
1962:3	5,368	5,418
1962:4	4,885	4,887
1963:1	5,002	5,018
1963:2	5,527	5,531
1963:3	5,621	5,614
1963:4	5,596	5,699
1964:1	5,707	5,696
1964:2	5,896	5,798
1964:3	6,593	6,597
1964:4	6,465	6,649
1965:1	6,273	6,590
1965:2	6,544	6,462
1965:3	6,667	6,706
1965:4	6,700	6,834
1966:1	7,135	6,873
1966:2	7,506	7,277
1966:3	7,811	7,599
1966:4	7,637	7,892
1967:1	7,777	7,763
1967:2	8,022	7,870
1967:3	8,097	8,051
1967:4	7,847	8,150
1968:1	8,092	7,997
1968:2	8,213	8,214
1968:3	8,685	8,347
1968:4	8,710	8,767
1969:1	8,988	8,823
1969:2	9,456	9,083
1969:3	9,593	9,493
1969:4	9,518	9,622
1970:1	9,384	9,563
1970:2	9,564	9,447
1970:3	9,245	9,603
1970:4	9,466	9,339
1971:1	9,656	9,548
1971:2	9,862	9,707
1971:3	9,816	9,915
1971:4	10,038	9,960
1972:1	9,956	10,216
1972:2	10,000	10,207
1972:3	10,313	10,299
1972:4	10,264	10,562
1973:1	10,495	10,517
1973:2	10,825	10,763
1973:3	10,650	11,064
1973:4	10,749	10,914
1974:1	10,928	11,022
1974:2	11,102	11,158
1974:3	11,860	11,453
1974:4	12,143	12,096
1975:1	12,813	12,387
1975:2	11,256	11,262
1975:3	11,080	11,575
1975:4	12,957	12,965
1976:1	13,352	13,449
1976:2	13,923	13,861
1976:3	14,158	14,321
1976:4	14,391	14,489
1977:1	15,097	14,715
1977:2	15,636	15,238
1977:3	15,482	15,568
1977:4	15,281	15,333



EMPLOYMENT, PETROLEUM & COAL - L.P.& L. SERVICE AREA,
SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E29LA/JQIND29)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.779582	0.3071	2.538	CONSTANT
1)	-0.898891	0.03986	-22.55	LOG(JQIND29\1/E29LA\1)
2)	0.0940513	0.03347	2.810	DV631
3)	-0.0925061	0.03251	-2.846	DV731
4)	0.0893485	0.03232	2.765	DV732
5)	-0.267427	0.03238	-8.259	STRIKE29SHL624
6)	-0.0604866	0.03287	-1.840	DV751
7)	-0.0905991	0.03245	-2.792	DV752

R-BAR SQUARED: 0.8963
F-STATISTIC(7,59): 82.50
DURBIN-WATSON STATISTIC: 2.0222
SUM OF SQUARED RESIDUALS: 0.06061
STANDARD ERROR OF THE REGRESSION: 0.03205 NORMALIZED: 0.004161

WHERE:

DV631	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV731	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV732	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 29'S EMPLOYMENTS
DV751	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
DV752	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
E29LA	EMPLOYMENT, PETROLEUM & COAL - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND29	INDUSTRIAL PRODUCTION INDEX - PETROLEUM PRODUCTS
STRIKE29SHL624	QUALITATIVE VARIABLE: STRIKE AT SHELL OIL REFINERY IN SIC 29 IN THE FOURTH QUARTER OF 1962

PLOT OF FITTED VERSUS ACTUAL RESULTS: E29LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	2,219	2,278	
1961:3	2,283	2,190	
1961:4	2,258	2,289	
1962:1	2,205	2,274	
1962:2	2,099	2,143	
1962:3	1,960	2,096	
1962:4	1,519	1,522	
1963:1	1,749	1,753	
1963:2	1,780	1,784	
1963:3	1,834	1,805	
1963:4	1,841	1,854	
1964:1	1,856	1,886	
1964:2	1,823	1,891	
1964:3	1,847	1,844	
1964:4	1,853	1,874	
1965:1	1,831	1,889	
1965:2	1,808	1,834	
1965:3	1,849	1,877	
1965:4	1,901	1,898	
1966:1	1,908	1,970	
1966:2	1,935	1,925	
1966:3	1,975	1,971	
1966:4	1,964	2,003	
1967:1	2,099	2,014	
1967:2	2,142	2,147	
1967:3	2,160	2,176	
1967:4	2,194	2,204	
1968:1	2,294	2,239	
1968:2	2,390	2,330	
1968:3	2,386	2,406	
1968:4	2,423	2,396	
1969:1	2,356	2,403	
1969:2	2,304	2,425	
1969:3	2,559	2,352	
1969:4	2,533	2,584	
1970:1	2,479	2,571	
1970:2	2,534	2,475	
1970:3	2,541	2,564	
1970:4	2,536	2,574	
1971:1	2,616	2,597	
1971:2	2,617	2,600	
1971:3	2,692	2,625	
1971:4	2,770	2,707	
1972:1	2,886	2,818	
1972:2	2,916	2,890	
1972:3	3,015	2,957	
1972:4	3,023	3,031	
1973:1	2,782	2,788	
1973:2	3,119	3,126	
1973:3	3,023	3,077	
1973:4	3,080	2,996	
1974:1	3,163	2,875	
1974:2	3,247	3,307	
1974:3	3,244	3,195	
1974:4	3,219	3,152	
1975:1	2,916	2,922	
1975:2	2,616	2,621	
1975:3	2,567	2,797	
1975:4	2,534	2,544	
1976:1	2,653	2,654	
1976:2	2,681	2,762	
1976:3	2,563	2,722	
1976:4	2,652	2,629	
1977:1	2,724	2,846	
1977:2	2,912	2,758	
1977:3	3,026	2,918	
1977:4	3,049	3,037	

EMPLOYMENT, STONE, CLAY & GLASS - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1964:1 TO 1977:4) 56 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E32LA/E32LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	4.55918	0.9944	4.585	CONSTANT
1)	0.242281	0.04249	5.702	LOG(JQIND32/E32LA\1)
2)	0.0785775	0.02128	3.692	DV753
3)	-0.0421049	0.01942	-2.168	LOG(CORPTX/RTCGSL)
4)	0.461580	0.1357	3.402	LOG(YP@LPLCO/YP)
5)	-0.00324969	0.0007143	-4.549	TIME
6)	-0.0696978	0.02152	-3.239	DV763

R-BAR SQUARED: 0.5384
F-STATISTIC(6,49): 11.69
DURBIN-WATSON STATISTIC: 1.9408
SUM OF SQUARED RESIDUALS: 0.02103
STANDARD ERROR OF THE REGRESSION: 0.02072 NORMALIZED: 2.885

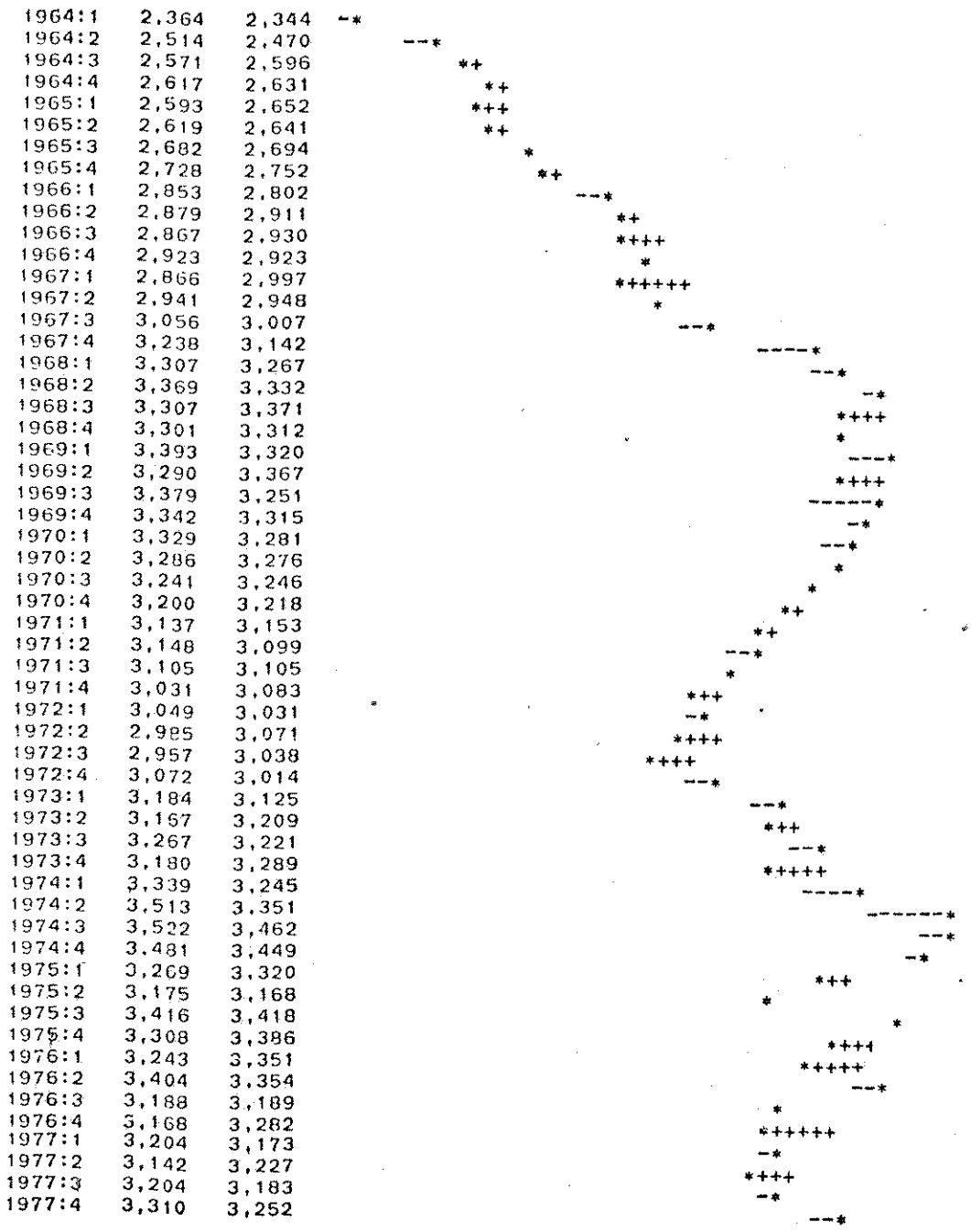
WHERE:

CORPTX	CORPORATE INCOME TAX RATE - STATE OF LOUISIANA
DV753	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 32'S EMPLOYMENTS
DV763	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE THIRD QUARTER OF 1976
E32LA	EMPLOYMENT, STONE, CLAY & GLASS - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND32	INDUSTRIAL PRODUCTION INDEX - CLAY, GLASS AND STONE PRODUCTS
RTCGSL	RATE OF STATE AND LOCAL GOVERNMENT TAX OF CORPORATE PROFITS
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER
YP	PERSONAL INCOME
YP@LPLCO	PERSONAL INCOME - LOUISIANA POWER & LIGHT SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: E32LA

DATE	ACTUAL	FITTED
1964:1	2,364	2,344
1964:2	2,514	2,470
1964:3	2,571	2,596
1964:4	2,617	2,631
1965:1	2,593	2,652
1965:2	2,619	2,641
1965:3	2,682	2,694
1965:4	2,728	2,752
1966:1	2,853	2,802
1966:2	2,879	2,911
1966:3	2,867	2,930
1966:4	2,923	2,923
1967:1	2,866	2,997
1967:2	2,941	2,948
1967:3	3,056	3,007
1967:4	3,238	3,142
1968:1	3,307	3,267
1968:2	3,369	3,332
1968:3	3,307	3,371
1968:4	3,301	3,312
1969:1	3,393	3,320
1969:2	3,290	3,367
1969:3	3,379	3,251
1969:4	3,342	3,315
1970:1	3,329	3,281
1970:2	3,286	3,276
1970:3	3,241	3,246
1970:4	3,200	3,218
1971:1	3,137	3,153
1971:2	3,148	3,099
1971:3	3,105	3,105
1971:4	3,031	3,083
1972:1	3,049	3,031
1972:2	2,985	3,071
1972:3	2,957	3,038
1972:4	3,072	3,014
1973:1	3,184	3,125
1973:2	3,167	3,209
1973:3	3,267	3,221
1973:4	3,180	3,289
1974:1	3,339	3,245
1974:2	3,513	3,351
1974:3	3,522	3,462
1974:4	3,481	3,449
1975:1	3,269	3,320
1975:2	3,175	3,168
1975:3	3,416	3,418
1975:4	3,308	3,386
1976:1	3,243	3,351
1976:2	3,404	3,354
1976:3	3,188	3,189
1976:4	3,168	3,282
1977:1	3,204	3,173
1977:2	3,142	3,227
1977:3	3,204	3,183
1977:4	3,310	3,252

* MARKS ACTUAL VALUES



EMPLOYMENT, PRIMARY METALS - L.P.& L. SERVICE AREA,
SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1972:3 TO 1977:4) 22 OBSERVATIONS
DEPENDENT VARIABLE: E33LA

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	405.042	262.7	1.542	CONSTANT
1)	-426.580	99.64	-4.281	EXPN33CO741
2)	-384.068	107.3	-3.579	DV752
3)	0.895741	0.06898	12.99	(E33LA\1)
4)	457.675	200.8	2.279	LOG(JQIND333VR)
5)	0.0	0.0	NC	DV721

R-BAR SQUARED: 0.9018
F-STATISTIC(5,16): 39.58
DURBIN-WATSON STATISTIC: 1.7984
SUM OF SQUARED RESIDUALS: 1.258E+05
STANDARD ERROR OF THE REGRESSION: 88.67 NORMALIZED: 0.02275

WHERE:

DV721	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
DV752	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
EXPN33CO741	QUALITATIVE VARIABLE: MAJOR EXPANSION OF BELDEN WIRE PLANT IN SIC 33 IN THE FIRST QUARTER OF 1974
E33LA	EMPLOYMENT, PRIMARY METALS - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND333VR	INDUSTRIAL PRODUCTION INDEX - NONFERROUS METALS

PLOT OF FITTED VERSUS ACTUAL RESULTS: E33LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1972:3	3,244	3,373	*+++++
1972:4	3,494	3,426	--*
1973:1	3,640	3,661	*+
1973:2	3,864	3,793	--*
1973:3	4,171	4,006	------*
1973:4	4,342	4,290	--*
1974:1	4,006	4,006	*
1974:2	4,009	4,127	*+++++
1974:3	4,058	4,108	*++
1974:4	3,929	4,115	*+++++++
1975:1	4,002	3,898	---*
1975:2	3,567	3,567	*
1975:3	3,591	3,621	*+
1975:4	3,601	3,624	*+
1976:1	3,725	3,677	--*
1976:2	3,854	3,809	--*
1976:3	3,916	3,949	*+
1976:4	3,989	3,979	*
1977:1	4,092	4,067	-*
1977:2	4,177	4,177	*
1977:3	4,203	4,217	*
1977:4	4,284	4,266	-*

EMPLOYMENT, FABRICATED METALS - L.P.& L. SERVICE AREA

ORDINARY LEAST SQUARES

QUARTERLY(1961:4 TO 1977:4) 65 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E34NSLA/E34NSLA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.81631	0.3601	5.044	CONSTANT
1)	0.236599	0.04737	4.994	LOG(JQIND34/E34NSLA\1)
2)	0.130835	0.03508	3.729	ADD34CO713
3)	0.263047	0.03570	7.369	DV751
4)	-0.265307	0.03618	-7.332	DV753
5)	-0.252603	0.05180	-4.877	LOG(PEINDLA\1/WPI0543NS\1)
6)	-0.0639145	0.03545	-1.803	DV651
7)	0.172170	0.03963	4.345	DV761
8)	-0.0216468	0.008935	-2.423	SEASONQ1+SEASONQ4

R-BAR SQUARED: 0.7579
F-STATISTIC(8,56): 26.05
DURBIN-WATSON STATISTIC: 1.9939
SUM OF SQUARED RESIDUALS: 0.06667
STANDARD ERROR OF THE REGRESSION: 0.03451 NORMALIZED: 1.873

WHERE:

ADD34CO713	QUALITATIVE VARIABLE: TWO NEW FIRMS IN SIC 34 IN THE THIRD QUARTER OF 1971
DV651	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1965
DV751	THIS QUALITATIVE VARIABLE CORRECTS APPARENT DATA ERRORS
DV753	THIS QUALITATIVE VARIABLE CAPTURES PECULIAR BEHAVIOR IN SIC 32'S EMPLOYMENTS
DV761	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE FIRST QUARTER OF 1976
E34NSLA	EMPLOYMENT, FABRICATED METALS - L.P.& L. SERVICE AREA
JQIND34	INDUSTRIAL PRODUCTION INDEX - FABRICATED METAL PRODUCTS
PEINDLA	LP&L INDUSTRIAL TOTAL TYPICAL PRICE FOR SIC 28
SEASONQ1	SEASONAL DUMMY FOR FIRST QUARTER (=1.0 THEREIN, 0.0 ELSEWHERE)
SEASONQ4	SEASONAL DUMMY FOR FOURTH QUARTER (=1.0 THEREIN, 0.0 ELSEWHERE)
WPI0543NS	INDUSTRIAL POWER, 500 KW DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: E34NSLA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:4	2,067	2,004	-*
1962:1	2,002	2,004	*
1962:2	1,988	2,016	*
1962:3	2,020	2,000	*
1962:4	1,996	1,975	*
1963:1	1,997	1,962	*
1963:2	2,087	2,019	-*
1963:3	2,131	2,100	*
1963:4	2,048	2,088	*
1964:1	2,005	2,034	*
1964:2	2,055	2,049	*
1964:3	2,241	2,094	-*
1964:4	2,286	2,253	*
1965:1	2,195	2,199	*
1965:2	2,405	2,330	-*
1965:3	2,442	2,496	*
1965:4	2,458	2,489	*
1966:1	2,505	2,523	*
1966:2	2,559	2,619	*+
1966:3	2,699	2,664	*
1966:4	2,553	2,738	*++
1967:1	2,514	2,634	*+
1967:2	2,731	2,661	-*
1967:3	2,719	2,828	*+
1967:4	2,840	2,771	-*
1968:1	2,866	2,890	*
1968:2	2,950	2,981	*
1968:3	2,946	3,067	*+
1968:4	3,068	2,998	-*
1969:1	3,161	3,097	-*
1969:2	3,072	3,242	*+
1969:3	3,190	3,178	*
1969:4	3,031	3,200	*+
1970:1	2,907	3,064	*+
1970:2	3,095	3,104	*
1970:3	3,156	3,175	*
1970:4	3,191	3,137	*
1971:1	3,141	3,214	*+
1971:2	3,364	3,264	-*
1971:3	3,921	3,929	*
1971:4	3,688	3,845	*+
1972:1	3,546	3,703	*+
1972:2	3,596	3,688	*+
1972:3	3,857	3,761	-*
1972:4	3,803	3,896	*+
1973:1	3,866	3,841	*
1973:2	4,125	4,019	-*
1973:3	4,275	4,247	*
1973:4	4,025	4,287	*++
1974:1	4,440	4,083	---*
1974:2	4,586	4,478	-*
1974:3	4,601	4,728	*+
1974:4	4,328	4,541	*++
1975:1	5,706	5,718	*
1975:2	5,473	5,659	*++
1975:3	4,332	4,340	*
1975:4	4,888	4,731	-*
1976:1	6,293	6,305	*
1976:2	6,421	6,622	*++
1976:3	6,613	6,718	*+
1976:4	7,226	6,685	-----*
1977:1	7,372	7,146	--*
1977:2	7,014	7,311	*+++
1977:3	6,923	6,853	-*
1977:4	6,879	6,560	--*

EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1962:1 TO 1977:4) 64 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E353637LA/E353637LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.636861	0.1281	4.971	CONSTANT
1)	-0.0741482	0.02338	-3.171	LOSS37C0631
2)	0.0578857	0.02353	2.460	ADD37C0641
3)	-0.0798879	0.02320	-3.444	LOSS37C0664
4)	-0.0409156	0.02331	-1.755	REC37JEFF721
5)	0.0640788	0.02339	2.739	REC37TWO751
6)	0.0650843	0.01355	4.803	LOG((.15*JQIND35+.15*JQIND36+.70*JQIND37)/E353637LA\1)

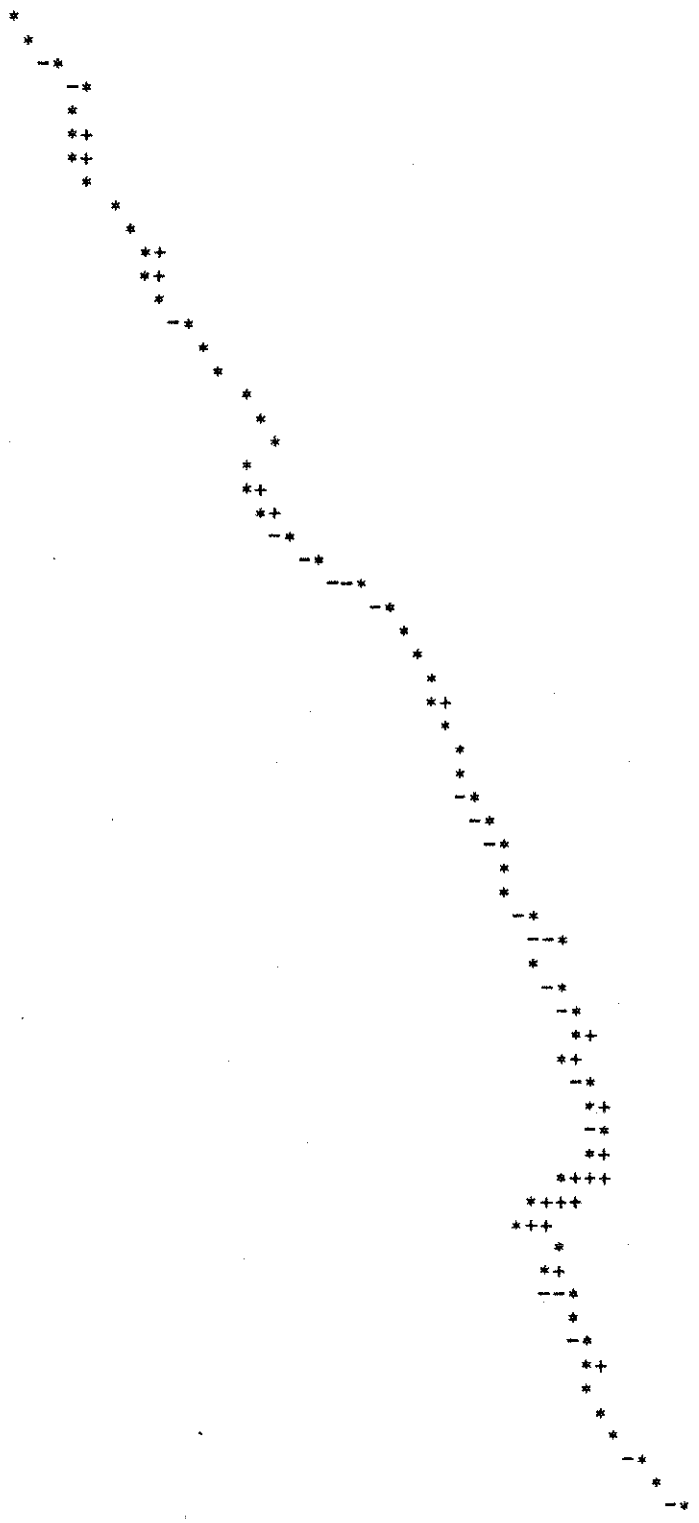
R-BAR SQUARED: 0.4632
F-STATISTIC(6,57): 10.06
DURBIN-WATSON STATISTIC: 1.1022
SUM OF SQUARED RESIDUALS: 0.02986
STANDARD ERROR OF THE REGRESSION: 0.02289 NORMALIZED: 1.104

WHERE:

ADD37C0641	QUALITATIVE VARIABLE: NEW FIRM (TERREBONNE PARISH) IN SIC 37 IN THE FIRST QUARTER OF 1964
E353637LA	EMPLOYMENT, MACHINERY & TRANSPORT. EQPT. - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND35	INDUSTRIAL PRODUCTION INDEX - NONELECTRICAL MACHINERY
JQIND36	INDUSTRIAL PRODUCTION INDEX - ELECTRICAL MACHINERY
JQIND37	INDUSTRIAL PRODUCTION INDEX - TRANSPORTATION EQUIPMENT
LOSS37C0631	QUALITATIVE VARIABLE: LOSS OF A FIRM IN SIC 37 IN THE FIRST QUARTER OF 1963
LOSS37C0664	QUALITATIVE VARIABLE: LOSS OF A FIRM IN SIC 37 IN THE FOURTH QUARTER OF 1966
REC37JEFF721	QUALITATIVE VARIABLE: RECLASSIFICATION OF A FIRM (JEFFERSON PARISH) OUT OF SIC 37 IN THE FIRST QUARTER OF 1972
REC37TWO751	QUALITATIVE VARIABLE: RECLASSIFICATION OF TWO FIRMS (TERREBONNE PARISH) INTO SIC 37 IN THE FIRST QUARTER OF 1975

PLOT OF FITTED VERSUS ACTUAL RESULTS: E353637LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1962:1	5,567	5,628	
1962:2	5,942	5,853	
1962:3	6,493	6,232	
1962:4	7,024	6,777	
1963:1	6,786	6,784	
1963:2	6,838	7,076	
1963:3	6,806	7,141	
1963:4	6,972	7,116	
1964:1	7,717	7,714	
1964:2	8,137	8,016	
1964:3	8,253	8,428	
1964:4	8,311	8,526	
1965:1	8,632	8,650	
1965:2	9,198	8,985	
1965:3	9,648	9,553	
1965:4	10,015	10,009	
1966:1	10,399	10,388	
1966:2	10,769	10,767	
1966:3	11,125	11,121	
1966:4	10,613	10,610	
1967:1	10,603	10,964	
1967:2	10,730	10,962	
1967:3	11,366	11,076	
1967:4	12,106	11,714	
1968:1	13,033	12,465	
1968:2	13,691	13,368	
1968:3	13,854	14,000	
1968:4	14,262	14,165	
1969:1	14,703	14,551	
1969:2	14,678	14,957	
1969:3	14,855	14,956	
1969:4	15,104	15,098	
1970:1	15,151	15,251	
1970:2	15,507	15,282	
1970:3	15,745	15,586	
1970:4	16,089	15,715	
1971:1	16,239	16,169	
1971:2	16,203	16,308	
1971:3	16,659	16,296	
1971:4	17,250	16,755	
1972:1	16,654	16,649	
1972:2	17,258	16,822	
1972:3	17,779	17,410	
1972:4	17,535	17,971	
1973:1	17,468	17,781	
1973:2	17,910	17,728	
1973:3	17,865	18,153	
1973:4	18,303	18,117	
1974:1	17,995	18,451	
1974:2	17,380	18,185	
1974:3	16,801	17,635	
1974:4	16,362	17,016	
1975:1	17,501	17,497	
1975:2	17,085	17,529	
1975:3	17,691	17,224	
1975:4	17,700	17,811	
1976:1	18,111	17,858	
1976:2	18,012	18,281	
1976:3	18,113	18,187	
1976:4	18,301	18,291	
1977:1	18,567	18,503	
1977:2	19,233	18,805	
1977:3	19,541	19,469	
1977:4	20,164	19,753	



EMPLOYMENT, INSTRUMENTS & MISC. - L.P.& L. SERVICE AREA,
SEASONALLY ADJUSTED

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: LOG(E3839LA/E3839LA\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	1.54566	0.3386	4.565	CONSTANT
1)	0.224322	0.05023	4.466	LOG((.25*JQIND38+.75*JQIND39)/E3839LA\1)
2)	-0.320094	0.1048	-3.055	LOG(PEINDLA/WPI0543NS)
3)	-0.00283439	0.001190	-2.382	TIME
4)	0.343288	0.07328	4.684	DV662
5)	-0.373170	0.04824	-7.736	DV3839DATA701TO3
6)	0.358730	0.08534	4.204	DV3839DATA704

R-BAR SQUARED: 0.6812
F-STATISTIC(6,60): 24.51
DURBIN-WATSON STATISTIC: 1.7870
SUM OF SQUARED RESIDUALS: 0.3142
STANDARD ERROR OF THE REGRESSION: 0.07237 NORMALIZED: 3.272

WHERE:

DV3839DATA701TO3	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN EMPLOYMENTS IN SIC'S 38 & 39 IN 1970
DV3839DATA704	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN EMPLOYMENTS IN SIC'S 38 & 39 IN 1970
DV662	QUALITATIVE VARIABLE: APPARENT DATA ERROR IN THE SECOND QUARTER OF 1966
E3839LA	EMPLOYMENT, INSTRUMENTS & MISC. - L.P.& L. SERVICE AREA, SEASONALLY ADJUSTED
JQIND38	INDUSTRIAL PRODUCTION INDEX - INSTRUMENTS
JQIND39	INDUSTRIAL PRODUCTION INDEX - MISCELLANEOUS MANUFACTURES
PEINDLA	LP&L INDUSTRIAL TOTAL TYPICAL PRICE FOR SIC 28
TIME	TIME TREND, 1947:1 = 1.0, WITH AN INCREMENT OF 1.0 PER QUARTER
WPI0543NS	INDUSTRIAL POWER, 500 KW DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: E3839LA

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	335	303	
1961:3	374	355	
1961:4	364	389	
1962:1	390	381	
1962:2	367	403	
1962:3	386	381	
1962:4	346	397	
1963:1	367	368	
1963:2	360	384	
1963:3	364	378	
1963:4	429	382	
1964:1	464	432	
1964:2	478	460	
1964:3	480	487	
1964:4	520	497	
1965:1	524	529	
1965:2	587	533	
1965:3	580	584	
1965:4	593	580	
1966:1	552	592	
1966:2	781	784	
1966:3	693	731	
1966:4	684	669	
1967:1	694	662	
1967:2	612	667	
1967:3	631	607	
1967:4	684	624	
1968:1	696	664	
1968:2	688	674	
1968:3	701	669	
1968:4	621	681	
1969:1	563	622	
1969:2	520	577	
1969:3	573	542	
1969:4	530	585	
1970:1	356	378	
1970:2	287	277	
1970:3	237	234	
1970:4	419	421	
1971:1	456	457	
1971:2	488	488	
1971:3	438	524	
1971:4	451	484	
1972:1	502	499	
1972:2	535	545	
1972:3	573	570	
1972:4	585	597	
1973:1	581	612	
1973:2	587	612	
1973:3	666	617	
1973:4	685	681	
1974:1	748	686	
1974:2	881	764	
1974:3	792	862	
1974:4	699	825	
1975:1	830	747	
1975:2	813	875	
1975:3	894	882	
1975:4	980	976	
1976:1	1,105	1,054	
1976:2	1,174	1,149	
1976:3	1,145	1,193	
1976:4	1,093	1,165	
1977:1	1,079	1,100	
1977:2	1,046	1,040	
1977:3	1,083	995	
1977:4	1,201	1,094	

```
THIS EQUATION, ELRELYP, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

ELRELYP: EQUATION
1>LRELYP=LOG((YP@LPLCO/NR@LPLCO)/(YP/N))
```

NET IN-MIGRATION - LP&L SERVICE AREA

ORDINARY LEAST SQUARES

ANNUAL(1965 TO 1976) 12 OBSERVATIONS
DEPENDENT VARIABLE: MIG@LPLCO

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.0303055	0.006388	4.744	CONSTANT
1)	0.104581	0.04782	2.187	(AHEM@LA/CPISOUTHNS-AHEM/ CPIU)
2)	0.149563	0.07884	1.897	(AHEM@LA\1/CPISOUTHNS\1- AHEM\1/CPIU\1)

R-BAR SQUARED: 0.5192
F-STATISTIC(2,9): 6.939
DURBIN-WATSON STATISTIC: 2.6120
SUM OF SQUARED RESIDUALS: 0.0002965
STANDARD ERROR OF THE REGRESSION: 0.005740 NORMALIZED: 0.5984

WHERE:

AHEM	HOURLY EARNINGS OF PRODUCTION WORKERS - ALL MANUFACTURING
AHEM@LA	HOURLY EARNINGS OF PROD WORKERS, MANUFACTURING - LOUISIANA
CPISOUTHNS	SOUTH REGION . . : ALL ITEMS. . . . .
CPIU	ALL URBAN CONSUMER PRICE INDEX - ALL ITEMS
MIG@LPLCO	NET IN-MIGRATION - LP&L SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: MIG@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1965	0.021025	0.016814	---*
1966	0.012270	0.012315	*
1967	-0.000943	0.008705	*+++++++++
1968	0.009086	0.003183	-----*
1969	-0.000801	0.001363	*++
1970	0.007882	0.003396	----*
1971	0.013359	0.009119	---*
1972	0.006299	0.006645	*
1973	0.004500	0.005995	++
1974	0.000585	0.009370	*++++++++
1975	0.019397	0.014265	----*
1976	0.022455	0.023944	++

```
THIS EQUATION, EMINWAGE, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EMINWAGE: EQUATION
1>MINWAGE=<0.339820>+<0.361116>*AHEM
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THIS EQUATION, ENR@LPLCO, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

ENR@LPLCO: EQUATION
1>NR@LPLCO=NR@LPLCO\1+(BIR@LPLCO)-(DEA@LPLCO)+MIG@LPLCO
```

```
THIS EQUATION, ENR21&@LPLCO, DOES NOT HAVE A REGRESSION BECAUSE IT IS
    AN IDENTITY.

ENR21&@LPLCO: EQUATION
1>NR21&@LPLCO=NR2164@LPLCO+NR65&@LPLCO
```

RESIDENT POPULATION AGED 21-64 - LP&L SERVICE AREA

ORDINARY LEAST SQUARES

ANNUAL(1965 TO 1976) 12 OBSERVATIONS
DEPENDENT VARIABLE: NR2164@LPLCO-((1-.00388245*4)*(.99846**4)*
NR2164@LPLCO\1)

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.0115778	0.0007459	15.52	(.999746**4)*4*(NR@LPLCO\ 1-NR21&@LPLCO\1)
2)	0.364215	0.1807	2.015	MIG@LPLCO
3)	-0.0361915	0.005189	-6.975	CENSUS70

R-BAR SQUARED: 0.8356 (RELATIVE TO Y=0, RBSQ: 0.9830)
F-STATISTIC(3,9): 231.7
DURBIN-WATSON STATISTIC: 2.1438
SUM OF SQUARED RESIDUALS: 0.0002223
STANDARD ERROR OF THE REGRESSION: 0.004970 NORMALIZED: 0.1372

WHERE:

CENSUS70	QUALITATIVE VARIABLE: BENCHMARK FOR 1970 CENSUS OF POPULATION
MIG@LPLCO	NET IN-MIGRATION - LP&L SERVICE AREA
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
NR21&@LPLCO	RESIDENT POPULATION AGED 21&OVER - LP&L SERVICE AREA
NR2164@LPLCO	RESIDENT POPULATION AGED 21-64 - LP&L SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: NR2164@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1965	0.796	0.797	*
1966	0.814	0.816	*
1967	0.823	0.830	*+
1968	0.851	0.843	-*
1969	0.872	0.867	*
1970	0.855	0.855	*
1971	0.883	0.877	-*
1972	0.899	0.902	*
1973	0.920	0.918	*
1974	0.937	0.938	*
1975	0.964	0.962	*
1976	0.984	0.991	*+

RESIDENT POPULATION AGED 65&OVER - LP&L SERVICE AREA

ORDINARY LEAST SQUARES

ANNUAL(1965 TO 1976) 12 OBSERVATIONS
DEPENDENT VARIABLE: NR65&@LPLCO-(.983522**4)*NR65&@LPLCO\1

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.00388245	0.0001015	38.25	(.99846**4)*4* NR2164@LPLCO\1
2)	0.111310	0.02812	3.958	MIG@LPLCO

R-BAR SQUARED: 0.8142 (RELATIVE TO Y=0, RBSQ: 0.9972)
F-STATISTIC(2,10): 2141
DURBIN-WATSON STATISTIC: 1.4334
SUM OF SQUARED RESIDUALS: 5.879E-06
STANDARD ERROR OF THE REGRESSION: 0.0007668 NORMALIZED: 0.05324

WHERE:

MIG@LPLCO	NET IN-MIGRATION - LP&L SERVICE AREA
NR2164@LPLCO	RESIDENT POPULATION AGED 21-64 - LP&L SERVICE AREA
NR65&@LPLCO	RESIDENT POPULATION AGED 65&OVER - LP&L SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: NR65&@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1965	0.130	0.130	*
1966	0.134	0.134	*
1967	0.138	0.137	*
1968	0.143	0.142	*
1969	0.145	0.146	*
1970	0.151	0.150	*
1971	0.157	0.156	*
1972	0.161	0.161	*
1973	0.165	0.166	*
1974	0.170	0.169	*
1975	0.175	0.176	*
1976	0.182	0.182	*

```
THIS EQUATION, EPEINDLA, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EPEINDLA: EQUATION
1>PEINDLA=PEINDLA\1*(WPI0543NS/WPI0543NS\1)
```

INDUSTRIAL POWER, 500 KW DEMAND

ORDINARY LEAST SQUARES

QUARTERLY(1961:2 TO 1977:4) 67 OBSERVATIONS
DEPENDENT VARIABLE: WPI0543NS/WPI0543NS\1

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.477445	0.05462	8.742	CONSTANT
1)	0.527853	0.05362	9.844	WPI05/WPI05\1

R-SQUARED: 0.5985
R-BAR SQUARED: 0.5924
F-STATISTIC(1,65): 96.91
DURBIN-WATSON STATISTIC: 1.2722
SUM OF SQUARED RESIDUALS: 0.01578
STANDARD ERROR OF THE REGRESSION: 0.01558 NORMALIZED: 0.01535

WHERE:

WPI05	WHOLESALE PRICE INDEX - FUELS AND RELATED PRODUCTS AND POWER
WPI0543NS	INDUSTRIAL POWER, 500 KW DEMAND

PLOT OF FITTED VERSUS ACTUAL RESULTS: WPI0543NS

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1961:2	1.007	1.007	*
1961:3	1.007	1.013	*
1961:4	1.008	1.014	*
1962:1	1.018	1.017	*
1962:2	1.021	1.030	*
1962:3	1.019	1.030	*
1962:4	1.019	1.031	*
1963:1	1.017	1.025	*
1963:2	1.014	1.030	*
1963:3	1.009	1.016	*
1963:4	1.004	1.012	*
1964:1	0.996	1.012	*
1964:2	1.003	0.995	*
1964:3	1.004	1.009	*
1964:4	1.008	1.020	*
1965:1	1.004	1.021	*
1965:2	1.002	1.015	*
1965:3	1.002	1.014	*
1965:4	1.002	1.016	*
1966:1	0.998	1.013	*
1966:2	0.997	1.010	*
1966:3	0.998	1.012	*
1966:4	0.999	1.010	*
1967:1	1.000	1.013	*
1967:2	0.999	1.009	*
1967:3	1.000	1.012	*
1967:4	1.002	1.003	*
1968:1	1.005	1.008	*
1968:2	1.006	1.015	*
1968:3	1.010	1.016	*
1968:4	1.013	1.018	*
1969:1	1.013	1.026	*
1969:2	1.015	1.028	*
1969:3	1.025	1.026	*
1969:4	1.034	1.041	*
1970:1	1.036	1.045	*
1970:2	1.046	1.053	*
1970:3	1.074	1.067	*
1970:4	1.105	1.111	*
1971:1	1.138	1.128	*
1971:2	1.160	1.146	*
1971:3	1.190	1.180	*
1971:4	1.205	1.207	*
1972:1	1.221	1.210	*
1972:2	1.236	1.237	*
1972:3	1.245	1.259	*
1972:4	1.255	1.273	*
1973:1	1.287	1.282	*
1973:2	1.312	1.328	*
1973:3	1.326	1.348	*+
1973:4	1.377	1.395	*
1974:1	1.479	1.540	*++
1974:2	1.666	1.612	-*
1974:3	1.818	1.765	-*
1974:4	1.931	1.866	--*
1975:1	2.030	1.961	--*
1975:2	2.091	2.075	*
1975:3	2.106	2.159	*+
1975:4	2.161	2.167	*
1976:1	2.182	2.170	*
1976:2	2.246	2.204	-*
1976:3	2.315	2.307	*
1976:4	2.325	2.403	*++
1977:1	2.415	2.375	-*
1977:2	2.565	2.494	--*
1977:3	2.659	2.613	-*
1977:4	2.639	2.713	*++

PERSONAL INCOME - LOUISIANA POWER & LIGHT SERVICE AREA

RIDGE REGRESSION FOR K= 1.2500

QUARTERLY(1964:2 TO 1977:4) 55 OBSERVATIONS
DEPENDENT VARIABLE: ((YP@LPLCO/NR@LPLCO)/(AHEM@LA))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
	0.367380	0.03642	10.09	CONSTANT
1)	5.05676E-06	9.085E-07	5.566	EMLA/NR@LPLCO
2)	2.35418E-06	1.916E-07	12.29	(ENMLA/NR@LPLCO+.201* RECLYP72ON*ENMLA/ NR@LPLCO+.111* RECLYP75ON*ENMLA/ NR@LPLCO)

R-BAR SQUARED: 0.7938
F-STATISTIC(2,52): 105.0
DURBIN-WATSON STATISTIC: 0.1769
SUM OF SQUARED RESIDUALS: 0.04322
STANDARD ERROR OF THE REGRESSION: 0.02883 NORMALIZED: 0.03306

WHERE:

AHEM@LA	HOURLY EARNINGS OF PROD WORKERS, MANUFACTURING - LOUISIANA
EMLA	EMPLOYMENT, TOTAL MANUFACTURING - L.P.&L. SERVICE AREA, SEASONALLY ADJUSTED
ENMLA	ENMLA=ECLA+EFIRLA+ERLA+ESVLA +ETLA+EMILA
NR@LPLCO	TOTAL RESIDENT POPULATION - LOUISIANA POWER & LIGHT SERVICE AREA
RECLYP72ON	QUALITATIVE VARIABLE: IMPACT ON PERSONAL INCOME OF THE 1972 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS
RECLYP75ON	QUALITATIVE VARIABLE: IMPACT ON PERSONAL INCOME OF THE 1975 RECLASSIFICATIONS IN NON-MANUFACTURING EMPLOYMENTS
YP@LPLCO	PERSONAL INCOME - LOUISIANA POWER & LIGHT SERVICE AREA

PLOT OF FITTED VERSUS ACTUAL RESULTS: YP@LPLCO

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1964:2	2.883804	3.122978	*+
1964:3	2.942036	3.199504	*+
1964:4	2.995420	3.214757	*+
1965:1	3.044411	3.282030	*+
1965:2	3.122524	3.322909	*+
1965:3	3.249100	3.455591	*+
1965:4	3.340652	3.536513	*+
1966:1	3.449382	3.602650	*+
1966:2	3.563787	3.724571	*+
1966:3	3.713200	3.810229	*
1966:4	3.815933	3.841162	*
1967:1	3.982846	3.872467	-*
1967:2	4.059411	3.896177	-*
1967:3	4.110200	3.933812	-*
1967:4	4.282997	4.047477	-*
1968:1	4.384257	4.158838	-*
1968:2	4.449880	4.270150	-*
1968:3	4.521300	4.348476	-*
1968:4	4.580550	4.514900	*
1969:1	4.629560	4.529798	*
1969:2	4.756641	4.638126	-*
1969:3	4.822600	4.734869	*
1969:4	4.900554	4.842594	*
1970:1	4.976750	4.890538	*
1970:2	5.160598	4.960365	-*
1970:3	5.225100	5.092822	-*
1970:4	5.323673	5.184490	-*
1971:1	5.350807	5.302894	*
1971:2	5.407756	5.410983	*
1971:3	5.464258	5.493192	*
1971:4	5.591351	5.585558	*
1972:1	5.742801	5.637669	*
1972:2	5.963577	5.864845	*
1972:3	6.114084	6.057902	*
1972:4	6.292293	6.218318	*
1973:1	6.511841	6.384658	-*
1973:2	6.633678	6.639431	*
1973:3	6.967101	6.905109	*
1973:4	7.100805	7.109150	*
1974:1	7.321010	7.299367	*
1974:2	7.535243	7.586464	*
1974:3	7.734112	7.867779	*+
1974:4	8.162932	8.135831	*
1975:1	8.202634	8.059939	-*
1975:2	8.461610	8.182024	-*
1975:3	8.691110	8.491820	-*
1975:4	8.999642	8.925379	*
1976:1	9.440248	9.304975	-*
1976:2	9.803764	9.610507	-*
1976:3	9.699259	9.946770	*+
1976:4	10.059166	10.313776	*+
1977:1	10.501418	10.659407	*+
1977:2	10.800515	11.096783	*+
1977:3	11.095100	11.336361	*+
1977:4	11.543126	11.672194	*+

```
THIS EQUATION, EYP@LPLCO@P, DOES NOT HAVE A REGRESSION BECAUSE IT IS AN
    IDENTITY.

EYP@LPLCO@P: EQUATION
1>YP@LPLCO@P=YP@LPLCO/NR@LPLCO
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APPLIANCE SATURATION MODEL INDEX

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HISTORICAL ANNUAL VALUES OF FORECASTED SATURATIONS

	1960	1961	1962	1963	1964	1965	1966	1967	1968
FREEZERS	0.427	0.444	0.471	0.484	0.489	0.494	0.500	0.507	0.514
AIR CONDITIONERS, CENTRAL	0.156	0.162	0.173	0.190	0.212	0.237	0.263	0.293	0.324
AIR CONDITIONERS, TOTAL	0.513	0.567	0.644	0.678	0.697	0.718	0.742	0.767	0.792
RANGES	0.172	0.199	0.246	0.264	0.266	0.269	0.274	0.282	0.289
WATER HEATERS	0.049	0.055	0.067	0.075	0.081	0.088	0.098	0.111	0.125
WASHERS	0.806	0.805	0.801	0.798	0.797	0.795	0.797	0.799	0.801
DRYERS	0.146	0.164	0.196	0.213	0.222	0.232	0.249	0.272	0.296
DISHWASHERS	0.119	0.139	0.175	0.197	0.210	0.221	0.239	0.261	0.277
HEATING	0.004	0.005	0.006	0.008	0.010	0.012	0.015	0.018	0.022

	1969	1970	1971	1972	1973	1974	1975	1976	1977
FREEZERS	0.519	0.522	0.524	0.525	0.530	0.539	0.547	0.558	0.570
AIR CONDITIONERS, CENTRAL	0.343	0.353	0.357	0.362	0.376	0.398	0.418	0.454	0.501
AIR CONDITIONERS, TOTAL	0.804	0.804	0.797	0.794	0.801	0.809	0.810	0.823	0.845
RANGES	0.297	0.301	0.300	0.303	0.311	0.320	0.325	0.328	0.335
WATER HEATERS	0.133	0.136	0.137	0.139	0.143	0.151	0.158	0.181	0.217
WASHERS	0.808	0.818	0.826	0.836	0.846	0.856	0.863	0.869	0.874
DRYERS	0.311	0.317	0.315	0.317	0.327	0.343	0.355	0.388	0.438
DISHWASHERS	0.286	0.292	0.296	0.307	0.317	0.329	0.340	0.370	0.413
HEATING	0.025	0.029	0.034	0.045	0.059	0.072	0.080	0.088	0.096

LOUISIANA POWER AND LIGHT COMPANY

APPLIANCE SATURATIONS MODEL

ANNUAL VALUES OF FORECASTED SATURATIONS

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
FREEZERS	0.581	0.586	0.590	0.594	0.599	0.603	0.608	0.613	0.617	0.622	0.626	0.630	0.633
AIR CONDITIONERS, CENTRAL	0.534	0.549	0.562	0.574	0.586	0.600	0.614	0.627	0.640	0.652	0.664	0.673	0.682
AIR CONDITIONERS, TOTAL	0.865	0.878	0.888	0.897	0.906	0.916	0.924	0.931	0.938	0.944	0.949	0.953	0.956
RANGES	0.348	0.360	0.372	0.383	0.395	0.408	0.421	0.434	0.447	0.460	0.472	0.482	0.492
WATER HEATERS	0.240	0.247	0.254	0.260	0.267	0.274	0.282	0.289	0.297	0.305	0.312	0.318	0.324
WASHERS	0.882	0.886	0.890	0.893	0.896	0.900	0.903	0.906	0.909	0.912	0.914	0.917	0.919
DRYERS	0.474	0.492	0.508	0.523	0.539	0.556	0.573	0.590	0.607	0.623	0.637	0.649	0.660
DISHWASHERS	0.458	0.477	0.489	0.502	0.514	0.526	0.538	0.551	0.563	0.575	0.586	0.598	0.609
HEATING	0.110	0.123	0.134	0.146	0.158	0.171	0.184	0.197	0.211	0.226	0.240	0.255	0.270

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
FREEZERS	0.636	0.639	0.642	0.645	0.648	0.651	0.654	0.657	0.660	0.663	0.666	0.669	0.672
AIR CONDITIONERS, CENTRAL	0.691	0.699	0.707	0.715	0.723	0.730	0.737	0.744	0.750	0.757	0.764	0.771	0.778
AIR CONDITIONERS, TOTAL	0.960	0.962	0.965	0.967	0.970	0.972	0.974	0.975	0.977	0.979	0.980	0.982	0.983
RANGES	0.501	0.510	0.519	0.529	0.538	0.547	0.555	0.563	0.572	0.580	0.589	0.598	0.608
WATER HEATERS	0.330	0.336	0.341	0.347	0.353	0.359	0.364	0.370	0.375	0.381	0.387	0.394	0.400
WASHERS	0.921	0.923	0.925	0.927	0.929	0.931	0.932	0.934	0.935	0.937	0.939	0.940	0.942
DRYERS	0.671	0.681	0.691	0.701	0.711	0.721	0.729	0.738	0.746	0.755	0.763	0.772	0.780
DISHWASHERS	0.619	0.630	0.640	0.650	0.659	0.669	0.678	0.687	0.695	0.703	0.711	0.719	0.727
HEATING	0.285	0.300	0.314	0.327	0.341	0.354	0.368	0.381	0.392	0.404	0.414	0.424	0.434

SATURATION RATE FOR FREEZERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT2/(1-SAT2))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	-1.89013	0.5424	-3.485	NOP
2)	-0.825249	0.3762	-2.194	MPL+MS+ARK
3)	-1.08447	0.3562	-3.045	AKMO+AR+LA
4)	0.598004	0.4951	1.208	LOG(RW)
5)	-0.421551	0.3925	-1.074	LPL
6)	0.420220	0.2300	1.827	MPL77
7)	-0.898581	0.4417	-2.034	LOG(RPAPL)

R-BAR SQUARED: 0.8728 (RELATIVE TO Y=0. RBSQ: 0.9144)
DURBIN-WATSON STATISTIC: 2.0419
STANDARD ERROR OF THE REGRESSION: 0.2069 NORMALIZED: 0.4927

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MPL77	QUALITATIVE VARIABLE TO ELIMINATE MP&L 1977 SURVEY DATA POINT
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
RPAPL	REAL PRICE OF APPLIANCES
RW	REAL WEALTH PER CAPITA
SAT2	SATURATION RATE FOR FREEZERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT2

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.373	0.415	
1902	0.480	0.454	
1903	0.481	0.519	
1904	0.630	0.534	
1905	0.215	0.248	
1906	0.384	0.379	
1907	0.325	0.364	
1908	0.473	0.430	
1909	0.333	0.347	
1910	0.446	0.424	
1911	0.495	0.441	
1912	0.428	0.406	
1913	0.482	0.422	
1914	0.497	0.463	
1915	0.515	0.523	
1916	0.549	0.609	
1917	0.575	0.628	
1918	0.241	0.269	
1919	0.399	0.393	
1920	0.393	0.429	
1921	0.616	0.618	
1922	0.249	0.286	
1923	0.461	0.428	
1924	0.186	0.161	
1925	0.221	0.184	
1926	0.195	0.245	
1927	0.288	0.314	

SATURATION RATE FOR CENTRAL AIR CONDITIONERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT3C/(1-SAT3C))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	1.71599	0.9088	1.888	LOG(RW)
2)	-1.90026	0.7630	-2.491	LOG(RPAPL)
3)	-0.672130	0.2139	-3.143	AR
4)	-1.97461	0.3073	-6.425	NOP
5)	-1.32756	0.2643	-5.023	AKMO70AK
6)	-0.555367	0.3108	-1.787	AKMO70MO
7)	-16.6360	2.079	-8.003	LA60
8)	-17.9912	2.112	-8.520	LA70
9)	-1.83947	0.2592	-7.098	MPL70
10)	-17.3075	2.068	-8.370	MS70
11)	-1.02725	0.2877	-3.571	NOP70
12)	-15.7787	2.056	-7.673	MS60
13)	2.49533	0.4288	5.819	LOG(CDD)
14)	-15.4814	2.036	-7.605	AKMO+AR+ARK+LPL+MPL+NOP
15)	-1.13517	0.2897	-3.919	LPL60

R-BAR SQUARED: 0.9544 (RELATIVE TO Y=0, RBSQ: 0.9875)
DURBIN-WATSON STATISTIC: 2.1912
STANDARD ERROR OF THE REGRESSION: 0.2459 NORMALIZED: 0.1304

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AKMO70AK	QUALITATIVE VARIABLE TO ELIMINATE ARKANSAS/ARKMO 1970 CENSUS POINT
AKMO70MO	QUALITATIVE VARIABLE TO ELIMINATE MISSOURI/ARKMO 1970 CENSUS POINT
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
CDD	AVERAGE ANNUAL COOLING DEGREE DAYS
LA60	QUALITATIVE VARIABLE TO ELIMINATE 1960 LOUISIANA CENSUS DATA
LA70	QUALITATIVE VARIABLE TO ELIMINATE 1970 LOUISIANA CENSUS DATA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
LPL60	QUALITATIVE VARIABLE TO ELIMINATE LP&L 1960 SURVEY DATA POINT
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MPL70	QUALITATIVE VARIABLE TO ELIMINATE MP&L 1970 CENSUS POINT
MS60	QUALITATIVE VARIABLE TO ELIMINATE 1960 MISSISSIPPI CENSUS DATA
MS70	QUALITATIVE VARIABLE TO ELIMINATE 1970 MISSISSIPPI CENSUS DATA
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP70	QUALITATIVE VARIABLE TO ELIMINATE 1970 NEW ORLEANS CENSUS DATA
RPAPL	REAL PRICE OF APPLIANCES
RW	REAL WEALTH PER CAPITA
SAT3C	SATURATION RATE FOR CENTRAL AIR CONDITIONERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT3C

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.136	0.161	
1902	0.234	0.218	
1903	0.316	0.342	
1904	0.393	0.370	
1905	0.021	0.027	
1906	0.149	0.113	
1907	0.050	0.049	
1908	0.304	0.267	
1909	0.050	0.049	
1910	0.163	0.163	
1911	0.268	0.235	
1912	0.045	0.044	
1913	0.178	0.142	
1914	0.248	0.198	
1915	0.333	0.307	
1916	0.423	0.494	
1917	0.519	0.541	
1918	0.050	0.049	
1919	0.050	0.049	
1920	0.050	0.049	
1921	0.403	0.413	
1922	0.050	0.049	
1923	0.050	0.049	
1924	0.030	0.040	
1925	0.070	0.056	
1926	0.050	0.049	
1927	0.269	0.242	

SATURATION RATE FOR TOTAL AIR CONDITIONERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT3T/(1-SAT3T))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	3.38094	0.2895	11.68	LOG(RW)
2)	-0.444529	0.1934	-2.298	ARK
3)	-6.66854	3.068	-2.174	LPL
4)	0.467640	0.2203	2.123	MS
5)	-8.40072	3.100	-2.710	NOP
6)	-3.39964	0.2869	-11.85	ARK71
7)	-3.35943	0.2808	-11.97	AKMO70AK
8)	-2.72690	0.3027	-9.009	AKMO70MO
9)	-3.61799	0.3104	-11.65	MPL70
10)	-3.65503	0.2882	-12.68	NOP70
11)	0.966378	0.5832	1.657	LOG(CDD)
12)	-6.96350	2.852	-2.442	MPL+AKMO+ARK
13)	-7.97449	2.982	-2.674	AR+LA+MS

R-BAR SQUARED: 0.9758 (RELATIVE TO Y=0, RBSQ: 0.9754)
DURBIN-WATSON STATISTIC: 1.3405
STANDARD ERROR OF THE REGRESSION: 0.2476 NORMALIZED: 1.159

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AKMO70AK	QUALITATIVE VARIABLE TO ELIMINATE ARKANSAS/ARKMO 1970 CENSUS POINT
AKMO70MO	QUALITATIVE VARIABLE TO ELIMINATE MISSOURI/ARKMO 1970 CENSUS POINT
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
ARK71	QUALITATIVE VARIABLE TO ELIMINATE AP&L 1971 SURVEY DATA POINT
CDD	AVERAGE ANNUAL COOLING DEGREE DAYS
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MPL70	QUALITATIVE VARIABLE TO ELIMINATE MP&L 1970 CENSUS POINT
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP70	QUALITATIVE VARIABLE TO ELIMINATE 1970 NEW ORLEANS CENSUS DATA
RW	REAL WEALTH PER CAPITA
SAT3T	SATURATION RATE FOR TOTAL AIR CONDITIONERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT3T

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.501	0.535	
1902	0.050	0.050	*
1903	0.751	0.738	
1904	0.750	0.742	
1905	0.140	0.145	
1906	0.466	0.450	
1907	0.050	0.050	*
1908	0.733	0.708	
1909	0.050	0.050	*
1910	0.620	0.629	
1911	0.657	0.676	
1912	0.517	0.554	
1913	0.671	0.576	
1914	0.728	0.667	
1915	0.798	0.794	
1916	0.809	0.864	
1917	0.854	0.882	
1918	0.288	0.302	
1919	0.611	0.606	
1920	0.050	0.050	*
1921	0.767	0.774	
1922	0.191	0.183	
1923	0.512	0.527	
1924	0.328	0.420	
1925	0.476	0.480	
1926	0.050	0.050	*
1927	0.842	0.784	

SATURATION RATE FOR ELECTRIC RANGES

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT4/(1-SAT4))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	1.63627	0.2251	7.269	LOG(RW)
2)	-2.60857	0.2084	-12.51	AR
3)	-3.35740	0.2320	-14.47	LA
4)	-4.42077	0.2637	-16.77	NOP
5)	-1.93016	0.2242	-8.609	AKMO70AK
6)	-1.72928	0.2281	-7.581	AKMO70MO
7)	-2.43423	0.2492	-9.769	MPL70
8)	-0.420239	0.2495	-1.684	NOP70
9)	-1.78989	0.1956	-9.150	MPL+MS
10)	-2.25763	0.1989	-11.35	AKMO+ARK+LPL
11)	-0.396509	0.2262	-1.753	LPL75

R-BAR SQUARED: 0.9490 (RELATIVE TO Y=0, RBSQ: 0.9855)
DURBIN-WATSON STATISTIC: 2.2568
STANDARD ERROR OF THE REGRESSION: 0.2147 NORMALIZED: 0.1415

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AKMO70AK	QUALITATIVE VARIABLE TO ELIMINATE ARKANSAS/ARKMO 1970 CENSUS POINT
AKMO70MO	QUALITATIVE VARIABLE TO ELIMINATE MISSOURI/ARKMO 1970 CENSUS POINT
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
LPL75	QUALITATIVE VARIABLE TO ELIMINATE LP&L 1975 SURVEY DATA POINT
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MPL70	QUALITATIVE VARIABLE TO ELIMINATE MP&L 1970 CENSUS POINT
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP70	QUALITATIVE VARIABLE TO ELIMINATE 1970 NEW ORLEANS CENSUS DATA
RW	REAL WEALTH PER CAPITA
SAT4	SATURATION RATE FOR ELECTRIC RANGES

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT4

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.220	0.279	
1902	0.303	0.312	
1903	0.329	0.374	
1904	0.402	0.376	
1905	0.134	0.124	
1906	0.219	0.233	
1907	0.050	0.050	
1908	0.357	0.312	
1909	0.050	0.050	
1910	0.250	0.298	
1911	0.361	0.307	
1912	0.173	0.196	
1913	0.265	0.203	
1914	0.271	0.235	
1915	0.291	0.296	
1916	0.264	0.264	
1917	0.338	0.366	
1918	0.075	0.084	
1919	0.161	0.145	
1920	0.050	0.050	
1921	0.464	0.438	
1922	0.206	0.214	
1923	0.360	0.372	
1924	0.034	0.046	
1925	0.065	0.052	
1926	0.050	0.050	
1927	0.102	0.095	

SATURATION RATE FOR ELECTRIC WATER HEATERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT5/(1-SAT5))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	1.14838	0.8033	1.430	LOG(RW)
2)	-3.83283	0.7206	-5.319	LA
3)	-5.34225	0.8562	-6.240	NOP
4)	-0.934936	0.2306	-4.054	AKMO70AK
5)	-1.42502	0.2456	-5.803	AKMO75AK
6)	-0.793955	0.2666	-2.978	AKMO70MO
7)	-1.37767	0.2584	-5.332	AKMO75MO
8)	-1.87284	0.2535	-7.387	MPL70
9)	1.88604	0.2753	6.850	NOP60
10)	0.951283	0.2624	3.625	NOP70
11)	-3.28768	0.6284	-5.232	AR+ARK
12)	-2.08518	0.5262	-3.963	MPL+MS
13)	-2.99758	0.6054	-4.951	AKMO+LPL
14)	-1.54518	0.7189	-2.149	LOG(RPAPL)

R-BAR SQUARED: 0.9446 (RELATIVE TO Y=0, RBSQ: 0.9933)
DURBIN-WATSON STATISTIC: 1.7448
STANDARD ERROR OF THE REGRESSION: 0.2122 NORMALIZED: 0.08721

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AKMO70AK	QUALITATIVE VARIABLE TO ELIMINATE ARKANSAS/ARKMO 1970 CENSUS POINT
AKMO70MO	QUALITATIVE VARIABLE TO ELIMINATE MISSOURI/ARKMO 1970 CENSUS POINT
AKMO75AK	QUALITATIVE VARIABLE TO ELIMINATE ARKANSAS/ARKMO 1975 SURVEY POINT
AKMO75MO	QUALITATIVE VARIABLE TO ELIMINATE MISSOURI/ARKMO 1975 SURVEY POINT
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MPL70	QUALITATIVE VARIABLE TO ELIMINATE MP&L 1970 CENSUS POINT
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP60	QUALITATIVE VARIABLE TO ELIMINATE 1960 NEW ORLEANS CENSUS DATA
NOP70	QUALITATIVE VARIABLE TO ELIMINATE 1970 NEW ORLEANS CENSUS DATA
RPAPL	REAL PRICE OF APPLIANCES
RW	REAL WEALTH PER CAPITA
SAT5	SATURATION RATE FOR ELECTRIC WATER HEATERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT5

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.064	0.085	
1902	0.112	0.109	
1903	0.146	0.164	
1904	0.219	0.178	
1905	0.044	0.036	
1906	0.101	0.101	
1907	0.050	0.050	
1908	0.050	0.050	
1909	0.050	0.050	
1910	0.050	0.050	
1911	0.164	0.189	
1912	0.049	0.053	
1913	0.072	0.059	
1914	0.091	0.078	
1915	0.130	0.116	
1916	0.160	0.195	
1917	0.232	0.219	
1918	0.024	0.026	
1919	0.076	0.068	
1920	0.050	0.050	
1921	0.383	0.383	
1922	0.099	0.098	
1923	0.256	0.251	
1924	0.050	0.050	
1925	0.008	0.010	
1926	0.050	0.050	
1927	0.047	0.036	

SATURATION RATE FOR CLOTHES WASHERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT6/(1-SAT6))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	0.628371	0.2211	2.842	LA
2)	0.922498	0.1747	5.280	LPL
3)	-4.30918	0.2180	-19.77	ARK75
4)	0.674753	0.2319	2.910	LPL62
5)	0.848294	0.1703	4.980	NOP60+NOP64
6)	0.555376	0.2309	2.405	LOG(RW)
7)	0.711681	0.3451	2.062	LOG(CUT)
8)	0.202488	0.1961	1.032	MPL+MS+NOP
9)	0.512631	0.1677	3.057	ARK+AKMO+AR

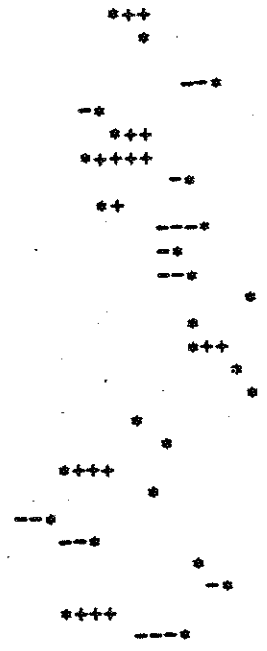
R-BAR SQUARED: 0.9496 (RELATIVE TO Y=0, RBSQ: 0.9781)
DURBIN-WATSON STATISTIC: 2.1061
STANDARD ERROR OF THE REGRESSION: 0.2017 NORMALIZED: 0.1939

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
ARK75	QUALITATIVE VARIABLE TO ELIMINATE AP&L 1975 SURVEY DATA POINT
CUT	HOUSEHOLD INDEX OF NUMBER OF HOUSEHOLDS WITHIN EACH GEOGRAPHICAL AREA
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
LPL62	QUALITATIVE VARIABLE TO ELIMINATE LP&L 1962 SURVEY DATA POINT
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP60	QUALITATIVE VARIABLE TO ELIMINATE 1960 NEW ORLEANS CENSUS DATA
NOP64	QUALITATIVE VARIABLE TO ELIMINATE NOPSI 1964 SURVEY DATA POINT
RW	REAL WEALTH PER CAPITA
SAT6	SATURATION RATE FOR CLOTHES WASHERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT6

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.717	0.746	
1902	0.756	0.765	
1903	0.050	0.050	*
1904	0.832	0.800	
1905	0.695	0.675	
1906	0.711	0.739	
1907	0.671	0.741	
1908	0.795	0.773	
1909	0.693	0.716	
1910	0.815	0.753	
1911	0.778	0.768	
1912	0.808	0.769	
1913	0.875	0.873	
1914	0.795	0.803	
1915	0.801	0.831	
1916	0.866	0.863	
1917	0.876	0.872	
1918	0.728	0.721	
1919	0.771	0.775	
1920	0.635	0.684	
1921	0.742	0.741	
1922	0.618	0.590	
1923	0.682	0.654	
1924	0.811	0.820	
1925	0.840	0.829	
1926	0.646	0.708	
1927	0.786	0.733	



SATURATION RATE FOR CLOTHES DRYERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT8/(1-SAT8))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	2.10252	0.8775	2.396	LOG(RW)
2)	-3.51505	0.7991	-4.399	LA
3)	-4.39028	0.9557	-4.594	NOP
4)	1.18498	0.3796	3.121	NOP70
5)	-2.49038	0.6274	-3.969	MPL+LPL+AKMO
6)	-3.09006	0.6746	-4.581	AR+ARK+MS
7)	-1.22602	0.7683	-1.596	LOG(RPAPL)
8)	-0.619838	0.3797	-1.632	AR60

R-BAR SQUARED: 0.8927 (RELATIVE TO Y=0, RBSQ: 0.9554)
DURBIN-WATSON STATISTIC: 1.8832
STANDARD ERROR OF THE REGRESSION: 0.3266 NORMALIZED: 0.2729

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
AR60	QUALITATIVE VARIABLE TO ELIMINATE 1960 ARKANSAS CENSUS DATA
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
NOP70	QUALITATIVE VARIABLE TO ELIMINATE 1970 NEW ORLEANS CENSUS DATA
RPAPL	REAL PRICE OF APPLIANCES
RW	REAL WEALTH PER CAPITA
SAT8	SATURATION RATE FOR CLOTHES DRYERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT8

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.167	0.198	
1902	0.227	0.256	
1903	0.386	0.380	
1904	0.534	0.400	
1905	0.038	0.038	
1906	0.239	0.237	
1907	0.305	0.311	
1908	0.500	0.440	
1909	0.269	0.259	
1910	0.391	0.419	
1911	0.541	0.451	
1912	0.147	0.146	
1913	0.210	0.162	
1914	0.238	0.219	
1915	0.303	0.333	
1916	0.357	0.492	
1917	0.458	0.536	
1918	0.058	0.067	
1919	0.224	0.200	
1920	0.243	0.322	
1921	0.569	0.482	
1922	0.037	0.056	
1923	0.236	0.204	
1924	0.062	0.049	
1925	0.082	0.066	
1926	0.337	0.339	
1927	0.158	0.237	

SATURATION RATE FOR DISHWASHERS

ORDINARY LEAST SQUARES

ANNUAL(1901 TO 1927) 27 OBSERVATIONS
DEPENDENT VARIABLE: LOG(SAT9/(1-SAT9))

	COEFFICIENT	STD. ERROR	T-STAT	INDEPENDENT VARIABLE
1)	-1.61161	0.6016	-2.679	LOG(RPAPL)
2)	2.00445	0.6900	2.905	LOG(CUT)
3)	-2.45258	0.1922	-12.76	AKMO
4)	-1.93327	0.3978	-4.860	ARK75
5)	-0.244223	0.4345	-0.5621	AR60
6)	-0.743015	0.4020	-1.848	LA60
7)	-0.244223	0.4345	-0.5621	MS60
8)	-1.71539	0.1674	-10.25	LA+LPL+NOP
9)	-2.21418	0.1761	-12.57	AR+ARK+MPL+MS

R-BAR SQUARED: 0.8078 (RELATIVE TO Y=0, RBSQ: 0.9621)
DURBIN-WATSON STATISTIC: 1.9342
STANDARD ERROR OF THE REGRESSION: 0.3668 NORMALIZED: 0.2164

WHERE:

AKMO	INTERCEPT VARIABLE FOR SATURATION DATA FROM ARKMO SERVICE AREA SURVEYS
AR	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR ARKANSAS
ARK	INTERCEPT VARIABLE FOR SATURATION DATA FROM AP&L SURVEYS
ARK75	QUALITATIVE VARIABLE TO ELIMINATE AP&L 1975 SURVEY DATA POINT
AR60	QUALITATIVE VARIABLE TO ELIMINATE 1960 ARKANSAS CENSUS DATA
CUT	HOUSEHOLD INDEX OF NUMBER OF HOUSEHOLDS WITHIN EACH GEOGRAPHICAL AREA
LA	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR LOUISIANA
LA60	QUALITATIVE VARIABLE TO ELIMINATE 1960 LOUISIANA CENSUS DATA
LPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM LP&L SURVEYS
MPL	INTERCEPT VARIABLE FOR SATURATION DATA FROM MP&L SURVEYS
MS	INTERCEPT VARIABLE FOR SATURATION DATA FROM CENSUS FOR MISSISSIPPI
MS60	QUALITATIVE VARIABLE TO ELIMINATE 1960 MISSISSIPPI CENSUS DATA
NOP	INTERCEPT VARIABLE FOR SATURATION DATA FROM NOPSI SURVEYS
RPAPL	REAL PRICE OF APPLIANCES
SAT9	SATURATION RATE FOR DISHWASHERS

PLOT OF FITTED VERSUS ACTUAL RESULTS: SAT9

DATE	ACTUAL	FITTED	* MARKS ACTUAL VALUES
1901	0.092	0.134	
1902	0.170	0.177	
1903	0.050	0.050	
1904	0.408	0.303	
1905	0.050	0.050	
1906	0.130	0.125	
1907	0.087	0.121	
1908	0.286	0.204	
1909	0.067	0.104	
1910	0.185	0.167	
1911	0.262	0.209	
1912	0.122	0.099	
1913	0.192	0.121	
1914	0.225	0.169	
1915	0.284	0.245	
1916	0.344	0.450	
1917	0.427	0.512	
1918	0.050	0.050	
1919	0.170	0.202	
1920	0.103	0.154	
1921	0.415	0.326	
1922	0.050	0.050	
1923	0.119	0.113	
1924	0.083	0.099	
1925	0.135	0.128	
1926	0.153	0.188	
1927	0.299	0.282	

MIDDLE SOUTH LOAD FORECASTING SYSTEM

Louisiana Power & Light Company

TRENDLONG0779 FORECAST

LOUISIANA POWER & LIGHT COMPANY

Peak Demand Forecast MW

	Model	Kaiser	Hooker & GP		Total
1980	3969	90	-60	-30	3969
1981	4200	200	-60	-30	4310
1982	4386	200	-60	-30	4496
1983	4565	200	-60	-30	4675
1984	4829	200	-60	-30	4939
1985	5094	200	-60	-30	5204
1986	5386	200	-60	-30	5496
1987	5702	200	-60	-30	5812
1988	6038	200	-60	-30	6148
1989	6345	200	-60	-30	6455
1990	6674	200	-60	-30	6784

TRENDLONG0779

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	1978	1979	1980	1981	1982	1983	1984
I. RESIDENTIAL,TOTAL	5,861,890	6,376,335	6,505,280	6,690,902	6,951,487	7,266,794	7,628,054
%CH FROM YEAR AGO	9.9	8.8	2.0	2.9	3.9	4.5	5.0
A. CUSTOMERS,TOTAL AVERAGE ANNUAL	416,830	433,041	442,914	452,652	462,502	472,550	482,954
B. CUSTOMERS,ALL-ELECTRIC	45,996	53,356	59,056	64,996	71,321	78,093	85,423
C. MWH PER CUSTOMER	14.490	14.724	14.688	14.781	15.030	15.377	15.793
%CH FROM YEAR AGO	5.9	1.6	-0.2	0.6	1.7	2.3	2.7
II. WHOLESALE,TOTAL	1,541,824	1,528,247	839,150	136,257	140,805	146,027	151,782
%CH FROM YEAR AGO	13.2	-0.9	-45.1	-83.8	3.3	3.7	3.9
A. MUNICIPALS	125,299	129,875	132,689	136,257	140,805	146,027	151,782
B. CO-OPS	1,208,099	1,301,172	661,846	0	0	0	0
C. MINDEN	208,426	97,200	44,615	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	393,647	426,282	439,391	465,212	479,619	499,086	521,012
%CH FROM YEAR AGO	NA	8.3	3.1	5.9	3.1	4.1	4.4
IV. INDUSTRIAL,TOTAL	9,688,695	11,350,805	12,440,706	~~14,323,781~~ 14,377,219	14,802,616	15,195,805	16,134,561
%CH FROM YEAR AGO	NA	17.2	9.6	~~15.1~~ 15.6	~~3.3~~ 3.0	2.7	6.2
A. MANUFACTURING	8,740,085	9,958,438	10,635,964	11,783,896	11,976,878	12,377,996	13,186,940
%CH FROM YEAR AGO	7.4	13.9	6.8	10.8	1.6	3.3	6.5
B. KAISER ALUMINUM	201,774	247,941	489,684	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	6.2	22.9	97.5	132.6	0.0	0.0	0.0
C. NON-MANUFACTURING	746,837	825,557	930,249	~~991,959~~ 1044,797	1,336,973	1,396,172	1,464,115
%CH FROM YEAR AGO	NA	10.5	12.7	~~6.6~~ 12.3	~~34.9~~ 28.0	4.4	4.9
D. NATURAL GAS EFFECT	0	318,869	384,809	409,726	349,964	282,837	344,707
V. COMMERCIAL	2,624,408	2,901,032	2,986,610	~~3,182,807~~ 3,129,369	3,278,709	3,423,883	3,590,503
%CH FROM YEAR AGO	NA	10.5	2.9	~~6.6~~ 4.8	~~3.0~~ 4.8	4.4	4.9
TOTAL MWH SALES	20,110,464	22,582,702	23,213,697	24,801,688	25,653,236	26,531,596	28,025,912
%CH FROM YEAR AGO	NA	12.3	2.8	6.8	3.4	3.4	5.6

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

Am. No. 2, (10/80)

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	1985	1986	1987	1988	1989	1990
I. RESIDENTIAL,TOTAL	7,980,568	8,387,428	8,900,587	9,409,972	9,903,853	10,425,635
%CH FROM YEAR AGO	4.6	5.1	6.1	5.7	5.2	5.3
A. CUSTOMERS,TOTAL AVG. ANNUAL.	493,830	505,046	516,536	528,252	540,137	552,152
B. CUSTOMERS,ALL-ELECTRIC	93,386	101,941	111,055	120,706	130,859	141,484
C. MWH PER CUSTOMER	16.160	16.606	17.230	17.812	18.335	18.881
%CH FROM YEAR AGO	2.3	2.8	3.8	3.4	2.9	3.0
II. WHOLESALE,TOTAL	156,696	161,826	168,176	174,354	180,232	186,331
%CH FROM YEAR AGO	3.2	3.3	3.9	3.7	3.4	3.4
A. MUNICIPALS	156,696	161,826	168,176	174,354	180,232	186,331
B. CO-OPS	0	0	0	0	0	0
C. MINDEN	0	0	0	0	0	0
III. GOV'T & MUN.(INCL. STREETLIGHTS)	541,653	563,065	586,714	609,943	633,137	657,322
%CH FROM YEAR AGO	4.0	4.0	4.2	4.0	3.8	3.8
IV. INDUSTRIAL,TOTAL	17,246,139	18,378,612	19,436,467	20,700,888	21,779,152	22,925,372
%CH FROM YEAR AGO	6.9	6.6	5.8	6.5	5.2	5.3
A. MANUFACTURING	14,060,608	14,936,839	15,805,689	16,662,225	17,508,862	18,397,741
%CH FROM YEAR AGO	6.6	6.2	5.8	5.4	5.1	5.1
B. KAISER ALUMINUM	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800	1,138,800
%CH FROM YEAR AGO	0.0	0.0	0.0	0.0	0.0	0.0
C. NON-MANUFACTURING	1,527,473	1,593,323	1,666,763	1,738,506	1,809,921	1,884,631
%CH FROM YEAR AGO	4.3	4.3	4.6	4.3	4.1	4.1
D. NATURAL GAS EFFECT	519,258	709,649	825,215	1,161,357	1,321,569	1,504,199
V. COMMERCIAL	3,745,879	3,907,365	4,087,464	4,263,401	4,438,535	4,621,749
%CH FROM YEAR AGO	4.3	4.3	4.6	4.3	4.1	4.1
TOTAL MWH SALES	29,670,935	31,398,295	33,179,408	35,158,559	36,934,909	38,816,408
%CH FROM YEAR AGO	5.9	5.8	5.7	6.0	5.1	5.1

NOTE: THIS SCENARIO ASSUMES THAT NATURAL GAS CURTAILMENTS CAUSE MANUFACTURING FIRMS EXCEPT THOSE IN SIC'S 33 AND 34 TO SUBSTITUTE ELECTRICITY FOR NATURAL GAS.

Am. No. 2, (10/80)

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MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1979												TOTAL FOR 1979
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
RESIDENTIAL, TOTAL	405932	396726	355933	345876	406851	615957	758826	827136	840629	652282	404737	365448	6376335
CUST'S, RESID. TOTAL	428242	429005	429835	430618	431447	432482	433667	434703	435495	436240	437032	437726	433041
CUST'S, ALL-ELEC.	50731	51207	51682	52153	52627	53113	53607	54092	54562	55029	55499	55963	53356
MWH/CUST	0.950	0.926	0.828	0.805	0.944	1.426	1.751	1.905	1.930	1.499	0.929	0.831	14.724
WHOLESALE, TOTAL	117656	115897	101554	99605	106169	143459	161679	175615	164771	117822	111615	112406	1528247
MUNICIPALS	8521	8760	7901	8157	9687	12880	14674	15765	15194	10643	9175	8519	129875
CO-OPS	101910	98911	86428	83803	88837	122934	137122	149967	139695	99532	94794	96240	1301172
MINDEN	7225	7225	7225	7645	7645	7645	9883	9883	9883	7646	7646	7646	97200
GOVT&MUN(INCL STRTLITES)	32309	32352	31339	32296	33681	37324	38958	40026	40694	37966	35832	33506	426282
INDUSTRIAL, TOTAL	944738	878053	842332	946602	936155	982733	955402	960169	997396	962626	960575	964025	11350805
MANUFACTURING	844696	775377	739668	842316	826071	861193	828536	850291	865505	836881	839638	848267	9958438
KAISER ALUMINUM	22860	22860	22860	19929	19929	19929	19929	19929	19929	19929	19929	19929	247941
NON-MANUFACTURING	61205	61380	58910	61005	64345	73342	77185	79689	81194	74540	69223	63537	825557
NAT GAS EFFECT	15978	18436	20894	23352	25810	28268	29751	30260	30768	31276	31785	32292	318869
COMMERCIAL	215075	215692	207012	214374	226111	257727	271231	280031	285320	261936	243253	223270	2901032
TOTAL MWH SALES	1715711	1638720	1538169	1638752	1708966	2037200	2186096	2302978	2328810	2032632	1756013	1698654	22582702

MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1980												TOTAL FOR 1980
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
RESIDENTIAL, TOTAL	417962	408494	366537	352354	414392	627143	771890	841336	855053	664793	412671	372655	6505280
CUST'S, RESID. TOTAL	438358	439051	439830	440564	441343	442344	443494	444495	445269	445994	446768	447455	442914
CUST'S, ALL-ELEC.	56422	56886	57359	57828	58301	58794	59295	59787	60273	60755	61240	61727	59056
MWH/CUST	0.956	0.931	0.833	0.801	0.940	1.420	1.742	1.895	1.920	1.494	0.926	0.829	14.688
WHOLESALE, TOTAL	131564	129747	114951	111982	118684	156768	14961	16073	15490	10865	9367	8698	839150
MUNICIPALS	8759	9006	8123	8324	9884	13140	14961	16073	15490	10865	9367	8698	132689
CO-OPS	115579	113516	99603	96012	101154	135981	0	0	0	0	0	0	661846
MINDEN	7225	7225	7225	7646	7646	7646	0	0	0	0	0	0	44615
GOVT&MUN(INCL STRTLITES)	33627	33671	32618	33361	34788	38541	40180	41281	41968	38681	36517	34158	439391
INDUSTRIAL, TOTAL	1011992	961169	921041	1037844	1025529	1072732	1048884	1074253	1093320	1066077	1063293	1064572	12440706
MANUFACTURING	892374	818111	780333	894907	878356	914938	886503	908872	926065	907394	910344	917768	10635964
KAISER ALUMINUM	19929	42705	42705	42705	42705	42705	42705	42705	42705	42705	42705	42705	489684
NON-MANUFACTURING	69741	69941	67127	68892	72663	82821	87088	89913	91611	82864	76955	70634	930249
NAT GAS EFFECT	29948	30412	30876	31340	31804	32268	32588	32764	32939	23114	33290	33465	384809
COMMERCIAL	223907	224549	215514	221180	233287	265902	279600	288670	294121	266040	247067	226773	2986610
TOTAL MWH SALES	1819244	1757823	1650846	1756910	1826880	2161314	2155755	2261860	2300205	2046684	1769127	1707050	23213697

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MIDDLE SOUTH LOAD FORECASTING SYSTEM
MWH CONSUMPTION FORECAST
LOUISIANA POWER & LIGHT COMPANY

NATURAL GAS CURTAILMENTS SCENARIO

	MONTHLY FORECASTS FOR 1981												TOTAL FOR 1981
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
RESIDENTIAL, TOTAL	427102	417421	374518	361544	425251	643724	795111	866672	880807	687196	426470	385087	6690902
CUST'S, RESID. TOTAL	448083	448771	449551	450287	451067	452073	453229	454236	455017	455751	456532	457230	458652
CUST'S, ALL-ELEC.	62210	62697	63197	63694	64194	64716	65247	65769	66285	66798	67315	67834	64996
MWH/CUST	0.955	0.931	0.833	0.805	0.944	1.426	1.756	1.910	1.936	1.512	0.937	0.838	14.781
WHOLESALE, TOTAL	8959	9211	8307	8536	10137	13477	15379	16522	15924	11194	9650	8961	136257
MUNICIPALS	8959	9211	8307	8536	10137	13477	15379	16522	15924	11194	9650	8961	136257
CO-OPS	0	0	0	0	0	0	0	0	0	0	0	0	0
MINDEN	0	0	0	0	0	0	0	0	0	0	0	0	0
COMMUNITY (INCL STRTLITES)	35491	35537	34439	35314	36807	40736	42524	43678	44398	41114	38831	36343	465212
INDUSTRIAL, TOTAL	1191805 ~~1197287~~	1113435 ~~1189994~~	1069481 ~~1066781~~	1207656 ~~1203654~~	1191059 ~~1186985~~	1245453 ~~1248962~~	1196372 ~~1191535~~	1222507 ~~1217229~~	1242431 ~~1237067~~	1236236 ~~1231398~~	1231092 ~~1226828~~	1229692 ~~1225529~~	14377219 ~~14323264~~
MANUFACTURING	991034	912234	871377	1006932	986058	1029307	975314	998471	1016953	993558	997254	1005404	11783896
KAISER ALUMINUM	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	94900	1138800
NON-MANUFACTURING	71799 ~~67601~~	72050 ~~66009~~	68776 ~~65876~~	71219 ~~67217~~	75318 ~~71164~~	86286 ~~81775~~	91321 ~~86454~~	94726 ~~89448~~	96513 ~~91209~~	114220 ~~107982~~	105806 ~~101234~~	96683 ~~92615~~	1094797 ~~1041359~~
NAT GAS EFFECT	34072	34250	34428	34605	34783	34960	34836	34410	33984	33558	33132	32706	409726
COMMERCIAL	233764 ~~237762~~	234370 ~~239131~~	225315 ~~229815~~	231886 ~~235688~~	244404 ~~248556~~	278208 ~~282691~~	292909 ~~297746~~	301984 ~~307062~~	307619 ~~312961~~	277766 ~~282484~~	260050 ~~264622~~	239084 ~~243240~~	3129367 ~~3181968~~
TOTAL MWH SALES	1897381	1810254	1712312	1845194	1907927	2221888	2342606	2451682	2491499	2255565	1966153	1899228	24801688

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
EFSATLA	15,635.775	15,957.392	16,160.106	16,301.754	16,456.032	16,687.149	16,962.012	17,264.144	17,575.073	17,874.869
%CH	4.2	2.1	1.3	0.9	0.9	1.4	1.6	1.8	1.8	1.7
USBLA	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US1LA	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000	1,540.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
US2LA	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000	1,485.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT2LA	0.581	0.586	0.590	0.594	0.599	0.603	0.608	0.613	0.617	0.622
%CH	1.9	0.9	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.7
SAT3RMLA	0.330	0.329	0.328	0.327	0.326	0.323	0.320	0.315	0.310	0.304
%CH	-4.1	-0.4	-0.4	-0.3	-0.3	-0.7	-1.1	-1.5	-1.8	-1.9
SAT3CLA	0.534	0.549	0.562	0.574	0.586	0.600	0.614	0.627	0.640	0.652
%CH	6.8	2.7	2.3	2.1	2.2	2.4	2.2	2.2	2.1	1.9
US4LA	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000	1,200.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT4LA	0.348	0.360	0.372	0.383	0.395	0.408	0.421	0.434	0.447	0.460
%CH	3.9	3.7	3.1	3.0	3.1	3.4	3.2	3.1	3.1	2.9
US5LA	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000	5,275.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT5LA	0.240	0.247	0.254	0.260	0.267	0.274	0.282	0.289	0.297	0.305
%CH	10.5	3.0	2.6	2.5	2.6	2.9	2.7	2.7	2.7	2.6
US6LA	120.000	120.000	120.000	120.000	120.000	120.000	120.000	120.000	120.000	120.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT6LA	0.882	0.886	0.890	0.893	0.896	0.900	0.903	0.906	0.909	0.912
%CH	0.9	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
US8LA	900.000	900.000	900.000	900.000	900.000	900.000	900.000	900.000	900.000	900.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT8LA	0.474	0.492	0.508	0.523	0.539	0.556	0.573	0.590	0.607	0.623
%CH	8.4	3.8	3.2	2.9	3.0	3.3	3.0	2.9	2.8	2.6
US9LA	363.000	363.000	363.000	363.000	363.000	363.000	363.000	363.000	363.000	363.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAT9LA	0.458	0.477	0.489	0.502	0.514	0.526	0.538	0.551	0.563	0.575
%CH	10.8	4.2	2.6	2.5	2.5	2.4	2.3	2.3	2.2	2.1
USHTLA	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000	6,147.000
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1988	1989	1990
EFSATLA	18,153.752	18,414.925	18,660.906
%CH	1.6	1.4	1.3
USBLA	1,200.000	1,200.000	1,200.000
%CH	0.0	0.0	0.0
US1LA	1,540.000	1,540.000	1,540.000
%CH	0.0	0.0	0.0
US2LA	1,485.000	1,485.000	1,485.000
%CH	0.0	0.0	0.0
SAT2LA	0.626	0.630	0.633
%CH	0.6	0.6	0.5
SAT3RMLA	0.298	0.292	0.286
%CH	-2.0	-1.9	-1.9
SAT3CLA	0.664	0.673	0.682
%CH	1.7	1.5	1.3
US4LA	1,200.000	1,200.000	1,200.000
%CH	0.0	0.0	0.0
SAT4LA	0.472	0.482	0.492
%CH	2.5	2.2	2.0
US5LA	5,275.000	5,275.000	5,275.000
%CH	0.0	0.0	0.0
SAT5LA	0.312	0.318	0.324
%CH	2.3	2.0	1.9
US6LA	120.000	120.000	120.000
%CH	0.0	0.0	0.0
SAT6LA	0.914	0.917	0.919
%CH	0.3	0.3	0.2
US8LA	900.000	900.000	900.000
%CH	0.0	0.0	0.0
SAT8LA	0.637	0.649	0.660
%CH	2.3	2.0	1.7
US9LA	363.000	363.000	363.000
%CH	0.0	0.0	0.0
SAT9LA	0.586	0.598	0.609
%CH	2.0	1.9	1.8
USHTLA	6,147.000	6,147.000	6,147.000
%CH	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
SATHTLA	0.110	0.123	0.134	0.146	0.158	0.171	0.184	0.197	0.211	0.226
%CH	14.4	11.9	8.9	8.6	8.3	8.0	7.7	7.4	7.1	6.8

	1988	1989	1990
SATHTLA	0.240	0.255	0.270
%CH	6.5	6.1	5.8

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SATHTLA	0.110	0.123	0.133	0.144	0.154	0.165	0.177	0.189	0.202	0.215	0.228	0.242	0.256
%CH	14.4	11.7	8.2	7.7	7.4	7.2	7.0	6.9	6.7	6.5	6.3	6.0	5.8
CUERTLA	45,996	53,351	59,031	64,935	71,211	77,924	85,188	93,079	101,559	110,599	120,175	130,255	140,811
%CH	22.3	16.0	10.6	10.0	9.7	9.4	9.3	9.3	9.1	8.9	8.7	8.4	8.1
CURTLA	416,830	433,051	442,952	452,718	462,582	472,629	483,027	493,863	505,039	516,479	528,137	539,959	551,906
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2
NR21&@LPLCO	1.208193	1.229453	1.251086	1.271653	1.291956	1.312135	1.332498	1.353135	1.374191	1.395819	1.418252	1.441623
%CH	1.7	1.8	1.8	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
THI771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ2	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.086	3.086	3.153	3.236	3.333	3.457	3.585	3.702	3.814	3.920	4.020
%CH	4.5	0.3	0.0	2.2	2.6	3.0	3.7	3.7	3.3	3.0	2.8	2.6

	1990
CURTLA	552,152
%CH	2.2
NR21&@LPLCO	1.465941
%CH	1.7
CAM694RES	0.000
%CH	NC
HOU704RES	0.000
%CH	NC
LAK764RES	0.000
%CH	NC
TH1771RES	0.000
%CH	NC
NW722RES	0.000
%CH	NC
SEASONQ1	0.250
%CH	0.0
SEASONQ2	0.250
%CH	0.0
RYP@POLD	0.000
%CH	NC
RYP@PNEW	4.115
%CH	2.4

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CUERTLA	45,996	53,356	59,056	64,996	71,321	78,093	85,423	93,386	101,941	111,055	120,706	130,859	141,484
%CH	22.3	16.0	10.7	10.1	9.7	9.5	9.4	9.3	9.2	8.9	8.7	8.4	8.1
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137	552,152
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.086	3.086	3.153	3.236	3.333	3.457	3.585	3.702	3.814	3.920	4.020	4.115
%CH	4.5	0.3	0.0	2.2	2.6	3.0	3.7	3.7	3.3	3.0	2.8	2.6	2.4
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

AKMO = 0

AR = 0

ARK = 0

LA = 0

LPL = 1

MPL = 0

MPL77 = 0

MS = 0

NOP = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT2LA	0.581	0.585	0.588	0.590	0.591	0.595	0.599	0.604	0.609	0.613	0.618	0.622	0.625
%CH	1.9	0.8	0.5	0.3	0.3	0.6	0.7	0.8	0.8	0.8	0.7	0.6	0.6
BENCH2	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214	-0.214
%CH	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6
RPAPL	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699
%CH	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AKMO = 0

AKMO70AK = 0

AKMO70MO = 0

AR = 0

ARK = 0

LA60 = 0

LA70 = 0

LPL = 1

LPL60 = 0

MPL = 0

MPL70 = 0

MS60 = 0

MS70 = 0

NOP = 0

NOP70 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT3CLA	0.534	0.548	0.556	0.560	0.565	0.575	0.587	0.601	0.615	0.629	0.641	0.652	0.662
%CH	6.8	2.5	1.5	0.8	0.9	1.7	2.1	2.3	2.4	2.2	1.9	1.7	1.5
BENCH3C	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145	-0.145
%CH	19.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6
RPAPL	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699
%CH	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT3RMLA	0.330	0.329	0.328	0.327	0.326	0.323	0.320	0.315	0.310	0.304	0.298	0.292	0.286
%CH	-4.1	-0.4	-0.4	-0.3	-0.3	-0.7	-1.1	-1.5	-1.8	-1.9	-2.0	-1.9	-1.9
SAT3TLA	0.865	0.878	0.888	0.897	0.906	0.916	0.924	0.931	0.938	0.944	0.949	0.953	0.956
%CH	2.3	1.5	1.2	1.0	1.0	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.4
SAT3CLA	0.534	0.548	0.556	0.560	0.565	0.575	0.587	0.601	0.615	0.629	0.641	0.652	0.662
%CH	6.8	2.5	1.5	0.8	0.9	1.7	2.1	2.3	2.4	2.2	1.9	1.7	1.5

AKMO = 0

AKMO70AK = 0

AKMO70MO = 0

AR = 0

ARK = 0

ARK71 = 0

LA = 0

LPL = 1

MPL = 0

MPL70 = 0

MS = 0

NOP = 0

NOP70 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT3TLA	0.865	0.877	0.883	0.887	0.891	0.898	0.907	0.916	0.925	0.932	0.938	0.944	0.948
%CH	2.3	1.4	0.8	0.4	0.4	0.8	1.0	1.0	0.9	0.8	0.7	0.6	0.5
BENCH3T	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225	-0.225
%CH	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6

AKMO = 0

AKMO70AK = 0

AKMO70MO = 0

AR = 0

ARK = 0

LA = 0

LPL = 1

LPL75 = 0

MPL = 0

MPL70 = 0

MS = 0

NOP = 0

NOP70 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT4LA	0.348	0.359	0.367	0.371	0.375	0.384	0.395	0.408	0.422	0.436	0.448	0.459	0.470
%CH	3.9	3.4	2.0	1.1	1.2	2.3	2.9	3.3	3.4	3.2	2.9	2.6	2.3
BENCH4	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123	-0.123
%CH	-3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6

AKMO = 0

AKMO70AK = 0

AKMO70MO = 0

AKMO75AK = 0

AKMO75MO = 0

AR = 0

ARK = 0

LA = 0

LPL = 1

MPL = 0

MPL70 = 0

MS = 0

NOP = 0

NOP60 = 0

NOP70 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT5LA	0.240	0.247	0.251	0.253	0.255	0.260	0.267	0.274	0.282	0.290	0.298	0.305	0.311
%CH	10.5	2.8	1.6	0.9	1.0	2.0	2.5	2.8	2.9	2.8	2.5	2.3	2.1
BENCH5	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062	0.062
%CH	1,884.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6
RPAPL	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699
%CH	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AKMO = 0

AR = 0

ARK = 0

ARK75 = 0

LA = 0

LPL = 1

LPL62 = 0

MPL = 0

MS = 0

NOP = 0

NOP60 = 0

NOP64 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SATGLA	0.882	0.886	0.889	0.891	0.893	0.896	0.899	0.902	0.905	0.908	0.911	0.913	0.915
%CH	0.9	0.5	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
BENCH6	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
%CH	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137	552,152
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2

AKMO = 0

AR = 0

ARK = 0

AR60 = 0

LA = 0

LPL = 1

MPL = 0

MS = 0

NOP = 0

NOP70 = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SATBLA	0.474	0.491	0.501	0.506	0.513	0.525	0.540	0.557	0.575	0.592	0.608	0.622	0.635
%CH	8.4	3.5	2.0	1.1	1.2	2.3	2.9	3.2	3.2	3.0	2.6	2.3	2.1
BENCHB	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301	-0.301
%CH	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RW@LPLCO@P	2.917	3.010	3.067	3.099	3.136	3.208	3.303	3.414	3.535	3.656	3.770	3.879	3.981
%CH	3.9	3.2	1.9	1.0	1.2	2.3	2.9	3.4	3.6	3.4	3.1	2.9	2.6
RPAPL	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699
%CH	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AKMO = 0

AR = 0

ARK = 0

ARK75 = 0

AR60 = 0

LA = 0

LA60 = 0

LPL = 1

MPL = 0

MS = 0

MS60 = 0

NOP = 0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SAT9LA	0.458	0.477	0.488	0.499	0.510	0.521	0.531	0.543	0.554	0.565	0.576	0.587	0.597
%CH	10.8	4.2	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.8
BENCH9	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349	-0.349
%CH	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RPAPL	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699	0.699
%CH	-1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137	552,152
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
DHEAT/DCUSTS	0.312	0.454	0.577	0.610	0.642	0.674	0.704	0.733	0.763	0.793	0.824	0.854	0.884
CUERTLA-CUERTLA\1	8,393	7,360	5,700	5,941	6,325	6,772	7,330	7,962	8,555	9,115	9,651	10,153	10,624
CURTLA-CURTLA\1	26,890	16,212	9,873	9,738	9,849	10,048	10,414	10,866	11,216	11,490	11,716	11,885	12,015

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MHMTLEMSALA	125,299	129,875	132,689	136,257	140,805	146,027	151,782	156,696	161,826	168,176
%CH	4.6	3.7	2.2	2.7	3.3	3.7	3.9	3.2	3.3	3.9
MHRTSALA	5,861,890	6,376,335	6,505,280	6,690,902	6,951,487	7,266,794	7,628,054	7,980,568	8,387,428	8,900,587
%CH	9.9	8.8	2.0	2.9	3.9	4.5	5.0	4.6	5.1	6.1
&MHMTLEMSALA	-741	-1,402	-1,141	-880	-620	-359	-98	0	0	0
%CH	NA	-89.3	18.6	22.9	29.6	42.1	72.7	100.0	NC	NC

	1988	1989	1990
MHMTLEMSALA	174,354	180,232	186,331
%CH	3.7	3.4	3.4
MHRTSALA	9,409,972	9,903,853	10,425,635
%CH	5.7	5.2	5.3
&MHMTLEMSALA	0	0	0
%CH	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MHNMSALA	3,677,186	4,064,778	4,267,195	4,547,517	4,998,032	5,219,334	5,473,328	5,710,181	5,956,349	6,230,890	6,499,087
%CH	13.9	10.5	5.0	6.6	9.9	4.4	4.9	4.3	4.3	4.6	4.3
ENMLA	1.151	1.231	1.271	1.322	1.374	1.427	1.490	1.552	1.609	1.666	1.722
%CH	NA	7.0	3.2	4.0	3.9	3.9	4.4	4.2	3.7	3.5	3.4
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
COMPUTNM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMPNM	1.311	1.309	1.361	1.397	1.415	1.428	1.450	1.499	1.507	1.474	1.454
%CH	NA	-0.1	4.0	2.6	1.3	0.9	1.5	3.4	0.5	-2.1	-1.4
MNMLA	2.61	2.88	3.26	3.63	3.98	4.31	4.69	5.19	5.58	5.83	6.14
%CH	8.1	10.2	13.1	11.5	9.6	8.3	8.8	10.8	7.5	4.4	5.3
CPISOUTHNS	1.992	2.200	2.394	2.601	2.813	3.018	3.233	3.465	3.705	3.954	4.221
%CH	7.5	10.5	8.8	8.7	8.2	7.3	7.1	7.2	6.9	6.7	6.7
EMPLOY722NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMPLOY734NM	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MHNMSALA	75,970	96,640	117,109	143,500	209,092	214,192	219,850	225,981	232,033	237,708	243,100
%CH	NA	27.2	21.2	22.5	45.7	2.4	2.6	2.8	2.7	2.4	2.3

	1989	1990
MHNMSALA	6,766,060	7,045,349
%CH	4.1	4.1
ENMLA	1.778	1.835
%CH	3.3	3.2
L1DNCDDNOLA	0.000	0.000
%CH	NC	NC
COMPUTNM	1.000	1.000
%CH	0.0	0.0
RWMPNM	1.439	1.413
%CH	-1.0	-1.8
MNMLA	6.48	6.79
%CH	5.6	4.7
CPISOUTHNS	4.504	4.803
%CH	6.7	6.6
EMPLOY722NM	1.000	1.000
%CH	0.0	0.0
EMPLOY734NM	1.000	1.000
%CH	0.0	0.0
&MHNMSALA	248,289	253,447
%CH	2.1	2.1

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
MHSLTLA	87,705	88,093	91,614	94,590	97,270	99,807	102,302	104,824	107,404	110,051	112,763	115,533	118,353
%CH	9.5	0.4	4.0	3.2	2.8	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.4
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137	552,152
%CH	6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2
BETSYSL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG714SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACCTNG721SL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MHSLTLA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MHWCSALA	1,208,099	1,301,172	661,846	0	0	0	0	0	0	0	0
%CH	10.5	7.7	-49.1	-100.0	NC	NC	NC	NC	NC	NC	NC
MHRTSALA	5,861,890	6,376,335	6,505,280	6,690,902	6,951,487	7,266,794	7,628,054	7,980,568	8,387,428	8,900,587	9,409,972
%CH	9.9	8.8	2.0	2.9	3.9	4.5	5.0	4.6	5.1	6.1	5.7
MHNMSALA	3,677,186	4,064,778	4,267,195	4,547,517	4,998,032	5,219,334	5,473,328	5,710,181	5,956,349	6,230,890	6,499,087
%CH	13.9	10.5	5.0	6.6	9.9	4.4	4.9	4.3	4.3	4.6	4.3
&MHWCSALA	2,828	0	0	0	0	0	0	0	0	0	0
%CH	NA	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1989	1990
MHWCSALA	0	0
%CH	NC	NC
MHRTSALA	9,903,853	10,425,635
%CH	5.2	5.3
MHNMSALA	6,766,060	7,045,349
%CH	4.1	4.1
&MHWCSALA	0	0
%CH	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MH1329SALA	2,157,417	2,150,749	2,634,509	2,705,818	2,740,707	2,784,161	2,841,397	2,966,327	3,041,820	3,127,169	3,217,045
%CH	11.3	-0.3	22.5	2.7	1.3	1.6	2.1	4.4	2.5	2.8	2.9
JQIND29	1.441	1.456	1.469	1.509	1.525	1.542	1.581	1.618	1.643	1.667	1.689
%CH	NA	1.0	0.9	2.7	1.0	1.1	2.5	2.3	1.6	1.5	1.4
E29	0.209	0.213	0.211	0.209	0.208	0.207	0.208	0.211	0.214	0.216	0.218
%CH	NA	2.0	-0.9	-0.8	-0.5	-0.5	0.5	1.3	1.2	1.0	0.8
E29LA	3,138.496	3,180.838	3,234.049	3,337.659	3,382.249	3,427.923	3,518.737	3,603.787	3,661.914	3,716.434	3,767.661
%CH	NA	1.3	1.7	3.2	1.3	1.4	2.6	2.4	1.6	1.5	1.4
RECLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RWMP1329	0.305	0.258	0.235	0.214	0.201	0.191	0.182	0.176	0.170	0.161	0.153
%CH	NA	-15.5	-9.0	-8.6	-6.3	-5.0	-4.6	-3.6	-3.2	-5.3	-5.2
WMPT1329LA	0.983	1.001	1.116	1.220	1.315	1.406	1.510	1.650	1.755	1.822	1.906
%CH	NA	1.8	11.5	9.3	7.8	6.9	7.4	9.3	6.4	3.8	4.6
WPI05	3.225	3.896	4.761	5.697	6.544	7.365	8.288	9.391	10.324	11.322	12.497
%CH	NA	20.8	22.2	19.6	14.9	12.5	12.5	13.3	9.9	9.7	10.4
UNCLASS29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHELL29	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIKES29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1329SALA	8,555	0	90,000	57,500	40,000	25,000	0	0	0	0	0
%CH	NA	-100.0	NC	-36.1	-30.4	-37.5	-100.0	NC	NC	NC	NC

	1989	1990
MH1329SALA	3,306,654	3,412,300
%CH	2.8	3.2
JQIND29	1.710	1.731
%CH	1.2	1.2
E29	0.219	0.219
%CH	0.5	0.2
E29LA	3,814.637	3,862.493
%CH	1.2	1.3
RECLASS29	1.000	1.000
%CH	0.0	0.0
RWMP1329	0.146	0.139
%CH	-4.4	-5.0
WMPT1329LA	1.999	2.082
%CH	4.9	4.2
WPI05	13.705	15.021
%CH	9.7	9.6
UNCLASS29	1.000	1.000
%CH	0.0	0.0
SHELL29	1.000	1.000
%CH	0.0	0.0
STRIKES29	0.000	0.000
%CH	NC	NC
&MH1329SALA	0	0
%CH	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH1432SALA	159,311	128,834	131,063	142,774	152,006	163,847	179,965	195,174	211,771	225,935
%CH	10.9	-19.1	1.7	8.9	6.5	7.8	9.8	8.5	8.5	6.7
JQIND32	1.591	1.632	1.593	1.726	1.739	1.801	1.963	2.065	2.080	2.080
%CH	NA	2.6	-2.4	8.3	0.8	3.5	9.0	5.2	0.7	0.0
E32	0.697	0.706	0.690	0.711	0.713	0.712	0.737	0.759	0.757	0.738
%CH	NA	1.4	-2.3	3.0	0.3	-0.1	3.5	2.9	-0.3	-2.4
E32LA	3,388.176	3,449.474	3,302.033	3,324.625	3,371.001	3,399.148	3,535.055	3,683.990	3,743.741	3,737.682
%CH	NA	1.8	-4.3	0.7	1.4	0.8	4.0	4.2	1.6	-0.2
RELPNG1432	0.012	0.010	0.009	0.008	0.007	0.007	0.006	0.005	0.005	0.004
%CH	NA	-23.3	-7.6	-11.0	-10.1	-6.7	-6.3	-14.0	-10.6	-5.8
TYPT1432LA	1.672	1.706	1.903	2.079	2.241	2.396	2.573	2.812	2.991	3.106
%CH	NA	2.0	11.5	9.3	7.8	6.9	7.4	9.3	6.4	3.8
TYPTNGITLA	165.99	179.11	216.55	266.04	318.73	364.91	418.57	533.85	632.59	697.15
%CH	-5.7	7.9	20.9	22.9	19.8	14.5	14.7	27.5	18.5	10.2
INTERSTATE14	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
JMANS32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LAUREN32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DOW32	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
&MH1432SALA	2,245	-4,252	-4,391	-4,530	-4,670	-4,809	-4,948	-5,000	-5,000	-5,000
%CH	NA	NM	-3.3	-3.2	-3.1	-3.0	-2.9	-1.1	0.0	0.0

	1988	1989	1990
MH1432SALA	238,533	252,649	268,034
%CH	5.6	5.9	6.1
JQIND32	2.097	2.117	2.144
%CH	0.8	0.9	1.3
E32	0.716	0.692	0.669
%CH	-3.0	-3.4	-3.4
E32LA	3,732.355	3,737.574	3,748.640
%CH	-0.1	0.1	0.3
RELPNG1432	0.004	0.004	0.004
%CH	-5.9	-5.3	-5.5
TYPT1432LA	3.249	3.407	3.549
%CH	4.6	4.9	4.2
TYPTNGITLA	774.89	858.08	945.37
%CH	11.2	10.7	10.2
INTERSTATE14	1.000	1.000	1.000
%CH	0.0	0.0	0.0
JMANS32	1.000	1.000	1.000
%CH	0.0	0.0	0.0
STEMP32	1.000	1.000	1.000
%CH	0.0	0.0	0.0
LAUREN32	1.000	1.000	1.000
%CH	0.0	0.0	0.0
DOW32	1.000	1.000	1.000
%CH	0.0	0.0	0.0
RECESSION32	0.000	0.000	0.000
%CH	NC	NC	NC
&MH1432SALA	-5,000	-5,000	-5,000
%CH	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH20SALA	217,474	213,381	215,450	220,320	224,282	229,015	234,579	239,119	242,963	246,981
%CH	7.5	-1.9	1.0	2.3	1.8	2.1	2.4	1.9	1.6	1.7
JQIND20	1.428	1.466	1.496	1.548	1.593	1.648	1.709	1.761	1.808	1.857
%CH	NA	2.7	2.0	3.5	2.9	3.4	3.7	3.0	2.7	2.7
E20	1.695	1.702	1.678	1.676	1.668	1.661	1.662	1.657	1.645	1.632
%CH	NA	0.4	-1.4	-0.2	-0.5	-0.4	0.0	-0.3	-0.7	-0.8
E20LA	11,425.351	11,476.099	11,280.616	11,292.772	11,256.094	11,228.030	11,272.072	11,267.123	11,192.069	11,111.779
%CH	NA	0.4	-1.7	0.1	-0.3	-0.2	0.4	0.0	-0.7	-0.7
SUGAR20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BAG20	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH20SALA	1,771	0	0	0	0	0	0	0	0	0
%CH	NA	-100.0	NC	NC	NC	NC	NC	NC	NC	NC

	1988	1989	1990
MH20SALA	251,234	255,532	259,370
%CH	1.7	1.7	1.5
JQIND20	1.908	1.960	2.007
%CH	2.8	2.7	2.4
E20	1.619	1.607	1.591
%CH	-0.8	-0.8	-1.0
E20LA	11,041.569	10,972.230	10,879.650
%CH	-0.6	-0.6	-0.8
SUGAR20	1.000	1.000	1.000
%CH	0.0	0.0	0.0
UNOIL20	1.000	1.000	1.000
%CH	0.0	0.0	0.0
UNCLASS20	1.000	1.000	1.000
%CH	0.0	0.0	0.0
BAG20	1.000	1.000	1.000
%CH	0.0	0.0	0.0
&MH20SALA	0	0	0
%CH	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH2223SALA	23,345	24,703	26,364	30,028	32,981	35,791	39,185	42,141	44,625	47,331
%CH	18.9	5.8	6.7	13.9	9.8	8.5	9.5	7.5	5.9	6.1
JQIND22	1.399	1.389	1.350	1.500	1.573	1.639	1.778	1.880	1.931	1.981
%CH	NA	-0.7	-2.8	11.1	4.9	4.2	8.5	5.8	2.7	2.6
JQIND23	1.263	1.294	1.290	1.381	1.444	1.497	1.571	1.628	1.669	1.709
%CH	NA	2.5	-0.3	7.1	4.5	3.6	4.9	3.7	2.5	2.4
E22	0.911	0.894	0.852	0.870	0.886	0.895	0.924	0.950	0.958	0.960
%CH	NA	-1.8	-4.7	2.1	1.8	1.0	3.2	2.8	0.9	0.2
E23	1.315	1.290	1.257	1.303	1.336	1.351	1.374	1.390	1.391	1.386
%CH	NA	-1.9	-2.6	3.7	2.6	1.1	1.7	1.2	0.1	-0.3
E2223LA	8,089.485	8,785.689	9,046.266	9,900.532	10,686.238	11,328.050	12,134.705	12,913.875	13,533.130	14,106.173
%CH	NA	8.6	3.0	9.4	7.9	6.0	7.1	6.4	4.8	4.2
RELPOI2223	0.400	0.321	0.280	0.254	0.229	0.215	0.209	0.207	0.201	0.191
%CH	NA	-19.8	-13.0	-9.2	-9.8	-6.1	-2.9	-0.8	-2.9	-5.0
TYPT2223LA	2.008	2.050	2.287	2.498	2.692	2.879	3.092	3.379	3.594	3.731
%CH	NA	2.1	11.5	9.3	7.8	6.9	7.4	9.3	6.4	3.8
WP1057A	5.013	6.417	8.191	9.856	11.773	13.390	14.811	16.307	17.867	19.535
%CH	NA	28.0	27.6	20.3	19.4	13.7	10.6	10.1	9.6	9.3
UNCLASS2223	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH2223SALA	385	0	0	0	0	0	0	0	0	0
%CH	NA	-100.0	NC	NC	NC	NC	NC	NC	NC	NC

	1988	1989	1990
MH2223SALA	50,199	53,032	55,932
%CH	6.1	5.6	5.5
JQIND22	2.034	2.081	2.130
%CH	2.6	2.3	2.3
JQIND23	1.745	1.779	1.813
%CH	2.1	1.9	1.9
E22	0.960	0.957	0.954
%CH	0.0	-0.3	-0.4
E23	1.379	1.368	1.355
%CH	-0.6	-0.8	-0.9
E2223LA	14,659.231	15,171.839	15,659.245
%CH	3.9	3.5	3.2
RELPOI2223	0.183	0.176	0.168
%CH	-4.3	-3.9	-4.6
TYPT2223LA	3.903	4.094	4.264
%CH	4.6	4.9	4.2
WPI0574	21.342	23.305	25.440
%CH	9.2	9.2	9.2
UNCLASS2223	1.000	1.000	1.000
%CH	0.0	0.0	0.0
&MH2223SALA	0	0	0
%CH	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986
MH242526SALA	1,044,781	997,647	995,298	1,081,504	1,141,544	1,224,511	1,345,288	1,443,943	1,543,844
%CH	7.0	-4.5	-0.2	8.7	5.6	7.3	9.9	7.3	6.9
JQIND24	1.389	1.366	1.345	1.479	1.497	1.585	1.739	1.820	1.830
%CH	NA	-1.7	-1.5	10.0	1.2	5.9	9.7	4.6	0.6
JQIND25	1.547	1.588	1.543	1.628	1.654	1.723	1.865	1.972	2.043
%CH	NA	2.6	-2.8	5.5	1.6	4.2	8.2	5.7	3.6
JQIND26	1.444	1.464	1.459	1.564	1.605	1.673	1.792	1.869	1.925
%CH	NA	1.4	-0.3	7.2	2.6	4.3	7.1	4.4	3.0
E24	0.751	0.747	0.714	0.763	0.780	0.792	0.833	0.859	0.854
%CH	NA	-0.5	-4.4	6.9	2.1	1.5	5.2	3.1	-0.5
E25	0.486	0.480	0.466	0.485	0.492	0.500	0.524	0.542	0.552
%CH	NA	-1.4	-2.9	4.2	1.4	1.7	4.7	3.5	1.7
E26	0.702	0.716	0.709	0.714	0.711	0.709	0.722	0.732	0.734
%CH	NA	1.9	-1.0	0.6	-0.5	-0.3	1.8	1.4	0.3
E242526LA	22,845.416	22,919.241	21,911.099	22,228.917	22,426.575	22,459.466	23,145.269	23,771.607	23,858.389
%CH	NA	0.3	-4.4	1.5	0.9	0.1	3.1	2.7	0.4
RELPNG242526	0.011	0.008	0.008	0.007	0.006	0.006	0.005	0.005	0.004
%CH	NA	-23.3	-7.6	-11.0	-10.1	-6.7	-6.3	-14.0	-10.6
TYPT242526LA	1.465	1.494	1.667	1.821	1.963	2.098	2.254	2.463	2.620
%CH	NA	2.0	11.5	9.3	7.8	6.9	7.4	9.3	6.4
TYPTNGITLA	165.99	179.11	216.55	266.04	318.73	364.91	418.57	533.85	632.59
%CH	-5.7	7.9	20.9	22.9	19.8	14.5	14.7	27.5	18.5
RELPWA242526	0.231	0.219	0.226	0.227	0.225	0.221	0.218	0.220	0.215
%CH	NA	-4.8	3.2	0.4	-1.2	-1.6	-1.1	0.5	-2.2
AHEM@LA	6.353	6.809	7.361	8.015	8.739	9.500	10.318	11.218	12.201
%CH	NA	7.2	8.1	8.9	9.0	8.7	8.6	8.7	8.8
UNCLASS24	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC
&MH242526SALA	8,768	1,552	1,263	974	686	397	108	0	0
%CH	NA	-82.3	-18.6	-22.9	-29.6	-42.1	-72.7	-100.0	NC

	1987	1988	1989	1990
MH242526SALA	1,637,224	1,714,063	1,789,838	1,867,645
%CH	6.0	4.7	4.4	4.3
JQIND24	1.828	1.837	1.848	1.864
%CH	-0.1	0.5	0.6	0.8
JQIND25	2.115	2.191	2.267	2.346
%CH	3.5	3.6	3.5	3.5
JQIND26	1.994	2.067	2.139	2.212
%CH	3.6	3.6	3.5	3.4
E24	0.840	0.829	0.820	0.812
%CH	-1.6	-1.3	-1.1	-0.9
E25	0.559	0.567	0.574	0.582
%CH	1.4	1.4	1.3	1.2
E26	0.737	0.741	0.745	0.749
%CH	0.4	0.6	0.5	0.5
E242526LA	23,702.710	23,537.977	23,374.257	23,219.911
%CH	-0.7	-0.7	-0.7	-0.7
RELPNG242526	0.004	0.004	0.003	0.003
%CH	-5.8	-5.9	-5.3	-5.5
TYPT242526LA	2.720	2.845	2.984	3.108
%CH	3.8	4.6	4.9	4.2
TYPTNGITLA	697.15	774.89	858.08	945.37
%CH	10.2	11.2	10.7	10.2
RELPWA242526	0.205	0.198	0.191	0.184
%CH	-4.5	-3.7	-3.3	-3.8
AHEM@LA	13.261	14.399	15.612	16.901
%CH	8.7	8.6	8.4	8.3
UNCLASS24	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
DV711242526	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
DV712242526	0.000	0.000	0.000	0.000
%CH	NC	NC	NC	NC
&MH242526SALA	0	0	0	0
%CH	NC	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH273839SALA	33,094	34,803	35,157	35,729	35,770	36,184	37,155	38,025	38,733	39,464
%CH	10.3	5.2	1.0	1.6	0.1	1.2	2.7	2.3	1.9	1.9
JQIND39	1.532	1.544	1.598	1.780	1.847	1.941	2.108	2.235	2.329	2.434
%CH	NA	0.8	3.5	11.4	3.7	5.1	8.6	6.0	4.2	4.5
E39	0.454	0.448	0.438	0.465	0.486	0.495	0.507	0.514	0.514	0.512
%CH	NA	-1.3	-2.3	6.3	4.4	1.8	2.6	1.4	-0.1	-0.4
E3839LA	1,209.149	1,285.738	1,252.349	1,254.130	1,266.754	1,270.754	1,300.217	1,332.993	1,350.700	1,361.549
%CH	NA	6.3	-2.6	0.1	1.0	0.3	2.3	2.5	1.3	0.8
UNCLASS273839	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH273839SALA	787	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
%CH	NA	27.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1988	1989	1990
MH273839SALA	40,199	40,939	41,684
%CH	1.9	1.8	1.8
JQIND39	2.540	2.649	2.760
%CH	4.4	4.3	4.2
E39	0.508	0.505	0.501
%CH	-0.6	-0.7	-0.8
E3839LA	1,370.489	1,378.064	1,384.973
%CH	0.7	0.6	0.5
UNCLASS273839	1.000	1.000	1.000
%CH	0.0	0.0	0.0
&MH273839SALA	1,000	1,000	1,000
%CH	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MH2830SALA	4,633,977	5,914,744	5,955,140	6,487,510	6,545,783	6,754,319	7,296,578	7,875,383	8,508,244	9,124,008	9,735,371
%CH	5.9	27.6	0.7	8.9	0.9	3.2	8.0	7.9	8.0	7.2	6.7
JQIND28	1.907	1.989	1.977	2.159	2.259	2.377	2.610	2.812	2.943	3.078	3.212
%CH	NA	4.3	-0.6	9.3	4.6	5.2	9.8	7.7	4.7	4.6	4.4
E28	1.088	1.101	1.087	1.109	1.125	1.133	1.156	1.182	1.197	1.205	1.211
%CH	NA	1.2	-1.2	2.0	1.5	0.7	2.0	2.3	1.2	0.7	0.4
E2830NSLA	15,574	16,061	16,085	16,288	16,828	17,226	17,883	18,855	19,706	20,348	20,891
%CH	1.3	3.1	0.2	1.3	3.3	2.4	3.8	5.4	4.5	3.3	2.7
UNCARA28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
STRIKE28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
CHEM28	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH2830SALA	-550	240,000	240,000	265,000	190,000	140,000	90,000	40,000	40,000	40,000	40,000
%CH	NA	NM	0.0	10.4	-28.3	-26.3	-35.7	-55.6	0.0	0.0	0.0

	1989	1990
MH2830SALA	10,334,954	10,954,997
%CH	6.2	6.0
JQIND28	3.343	3.479
%CH	4.1	4.1
E28	1.213	1.214
%CH	0.2	0.1
E2830NSLA	21,356	21,770
%CH	2.2	1.9
UNCARA28	1.000	1.000
%CH	0.0	0.0
STRIKE28	0.000	0.000
%CH	NC	NC
CHEM28	1.000	1.000
%CH	0.0	0.0
&MH2830SALA	40,000	40,000
%CH	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
MH3334XKASALA	240,690	264,164	403,755	823,074	836,551	856,331	886,824	910,093	928,215	951,366
%CH	-6.0	9.8	52.8	103.9	1.6	2.4	3.6	2.6	2.0	2.5
JQIND33	1.193	1.171	1.104	1.216	1.212	1.244	1.369	1.440	1.472	1.518
%CH	NA	-1.9	-5.7	10.2	-0.3	2.6	10.1	5.2	2.2	3.1
E33	1.206	1.227	1.170	1.194	1.191	1.187	1.224	1.253	1.260	1.265
%CH	NA	1.8	-4.6	2.0	-0.2	-0.3	3.1	2.4	0.6	0.3
E33LA	4,438.942	4,691.718	4,740.972	4,872.317	5,019.792	5,121.835	5,312.552	5,551.117	5,750.471	5,923.211
%CH	NA	5.7	1.0	2.8	3.0	2.0	3.7	4.5	3.6	3.0
JQIND34	1.427	1.483	1.429	1.478	1.470	1.528	1.661	1.753	1.806	1.856
%CH	NA	4.0	-3.7	3.5	-0.5	4.0	8.7	5.6	3.0	2.8
E34	1.653	1.696	1.638	1.631	1.596	1.596	1.666	1.731	1.757	1.765
%CH	NA	2.6	-3.4	-0.4	-2.2	0.1	4.3	3.9	1.5	0.4
E34NSLA	7,251	7,609	7,533	7,587	7,605	7,681	8,061	8,519	8,842	9,085
%CH	2.9	4.9	-1.0	0.7	0.2	1.0	4.9	5.7	3.8	2.7
RELPOI3334XKA	0.291	0.233	0.203	0.184	0.166	0.156	0.152	0.150	0.146	0.139
%CH	NA	-19.8	-13.0	-9.2	-9.8	-6.1	-2.9	-0.8	-2.9	-5.0
[illegible]3334XKALA	1.459	1.488	1.660	1.814	1.954	2.090	2.245	2.453	2.609	2.709
%CH	NA	2.0	11.5	9.3	7.8	6.9	7.4	9.3	6.4	3.8
WPI0574	5.013	6.417	8.191	9.856	11.773	13.390	14.811	16.307	17.867	19.535
%CH	NA	28.0	27.6	20.3	19.4	13.7	10.6	10.1	9.6	9.3
DIBAN33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
UNCLASS34	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH3334XKASALA	4,811	5,609	37,065	133,522	132,478	131,435	130,391	130,000	130,000	130,000
%CH	NA	16.6	560.9	260.2	-0.8	-0.8	-0.8	-0.3	0.0	0.0

	1988	1989	1990
MH3334XKASALA	978,425	1,005,378	1,033,666
%CH	2.8	2.8	2.8
JQIND33	1.568	1.616	1.665
%CH	3.3	3.1	3.1
E33	1.272	1.278	1.282
%CH	0.6	0.5	0.4
E33LA	6,089.892	6,250.371	6,406.605
%CH	2.8	2.6	2.5
JQIND34	1.908	1.959	2.012
%CH	2.8	2.7	2.7
E34	1.766	1.762	1.755
%CH	0.0	-0.2	-0.4
E34NSLA	9,306	9,520	9,732
%CH	2.4	2.3	2.2
RELPOI3334XKA	0.133	0.128	0.122
%CH	-4.3	-3.9	-4.6
TYPT3334XKALA	2.834	2.972	3.096
%CH	4.6	4.9	4.2
WPI0574	21.342	23.305	25.440
%CH	9.2	9.2	9.2
DIBAN33	0.000	0.000	0.000
%CH	NC	NC	NC
UNCLASS34	1.000	1.000	1.000
%CH	0.0	0.0	0.0
&MH3334XKASALA	130,000	130,000	130,000
%CH	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986
MH353637SALA	229,996	229,412	239,229	257,138	267,254	293,837	325,969	350,404	376,625
%CH	16.7	-0.3	4.3	7.5	3.9	9.9	10.9	7.5	7.5
JQIND37	1.305	1.308	1.272	1.351	1.345	1.425	1.569	1.649	1.708
%CH	NA	0.2	-2.7	6.2	-0.5	5.9	10.1	5.2	3.5
E37	1.953	1.999	1.911	1.940	1.913	1.889	1.947	1.996	2.012
%CH	NA	2.4	-4.4	1.5	-1.4	-1.3	3.1	2.5	0.8
E353637LA	20,708.290	21,696.113	22,287.266	23,037.496	23,783.175	24,533.215	25,646.483	26,997.804	28,362.393
%CH	NA	4.8	2.7	3.4	3.2	3.2	4.5	5.3	5.1
BETSY37	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
%CH	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
&MH353637SALA	5,568	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
%CH	NA	-28.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1987	1988	1989	1990
MH353637SALA	406,210	437,156	469,883	504,113
%CH	7.9	7.6	7.5	7.3
JQIND37	1.778	1.845	1.909	1.969
%CH	4.1	3.8	3.5	3.1
E37	2.030	2.045	2.056	2.062
%CH	0.9	0.7	0.5	0.3
E353637LA	29,765.598	31,215.323	32,701.950	34,217.766
%CH	4.9	4.9	4.8	4.6
BETSY37	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
UNCLASS353637	1.000	1.000	1.000	1.000
%CH	0.0	0.0	0.0	0.0
&MH353637SALA	4,000	4,000	4,000	4,000
%CH	0.0	0.0	0.0	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137
%CH		6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2
NR21&@LPLCO	1.208193	1.229453	1.251086	1.271653	1.291956	1.312135	1.332498	1.353135	1.374191	1.395819	1.418252	1.441623
%CH		3.7	1.8	1.8	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6
CAM694RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
LAK764RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TH1771RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
NW722RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SEASONQ1	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SEASONQ3	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.250
%CH		NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.086	3.086	3.153	3.236	3.333	3.457	3.585	3.702	3.814	3.920	4.020
%CH		NA	0.3	0.0	2.2	2.6	3.0	3.7	3.7	3.3	3.0	2.8	2.6
BET654RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BUR664RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
&CURTLA	4,808	385	385	385	385	385	385	385	385	385	385	385
%CH		NA	-92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

	1990
CURTLA	552,152
%CH	2.2
NR21&@LPLCO	1.465941
%CH	1.7
CAM694RES	0.000
%CH	NC
HOU704RES	0.000
%CH	NC
LAK764RES	0.000
%CH	NC
THI771RES	0.000
%CH	NC
NW722RES	0.000
%CH	NC
SEASONQ1	0.250
%CH	0.0
SEASONQ3	0.250
%CH	0.0
RYP@POLD	0.000
%CH	NC
RYP@PNEW	4.115
%CH	2.4
BET654RES	0.000
%CH	NC
BUR664RES	0.000
%CH	NC
&CURTLA	385
%CH	0.0

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CUERTLA	45,996	53,356	59,056	64,996	71,321	78,093	85,423	93,386	101,941	111,055	120,706	130,859	141,484
%CH		22.3	16.0	10.7	10.1	9.7	9.5	9.4	9.3	9.2	8.9	8.7	8.4	8.1
CURTLA	416,830	433,041	442,914	452,652	462,502	472,550	482,964	493,830	505,046	516,536	528,252	540,137	552,152
%CH		6.9	3.9	2.3	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2
HOU704RES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
RYP@PNEW	3.078	3.086	3.086	3.153	3.236	3.333	3.457	3.585	3.702	3.814	3.920	4.020	4.115
%CH		NA	0.3	0.0	2.2	2.6	3.0	3.7	3.7	3.3	3.0	2.8	2.6	2.4
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
DV723TO744	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH		NA	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
ACUERTLA	428	0	0	0	0	0	0	0	0	0	0	0	0	0
%CH		NA	-100.0	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
M@CRTSALA	14.49	14.72	14.69	14.78	15.03	15.38	15.79	16.16	16.61	17.23
%CH	5.9	1.6	-0.2	0.6	1.7	2.3	2.7	2.3	2.8	3.8
EFSATLA	15,635.775	15,957.392	16,160.106	16,301.754	16,456.032	16,687.149	16,962.012	17,264.144	17,575.073	17,874.869
%CH	NA	2.1	1.3	0.9	0.9	1.4	1.6	1.8	1.8	1.7
RPE	1.058	1.075	1.125	1.148	1.156	1.163	1.177	1.212	1.214	1.186
%CH	NA	1.7	4.6	2.0	0.7	0.6	1.2	3.0	0.1	-2.4
MPRTLA	2.11	2.37	2.69	2.99	3.25	3.51	3.80	4.20	4.50	4.69
%CH	7.7	12.3	13.8	10.9	9.0	7.9	8.4	10.4	7.1	4.2
CPISOUTHNS	1.992	2.200	2.394	2.601	2.813	3.018	3.233	3.465	3.705	3.954
%CH	7.5	10.5	8.8	8.7	8.2	7.3	7.1	7.2	6.9	6.7
RYP@PNEW	3.078	3.086	3.086	3.153	3.236	3.333	3.457	3.585	3.702	3.814
%CH	NA	0.3	0.0	2.2	2.6	3.0	3.7	3.7	3.3	3.0
RYP@POLD	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
SAT3RMLA	0.330	0.329	0.328	0.327	0.326	0.323	0.320	0.315	0.310	0.304
%CH	NA	-0.4	-0.4	-0.3	-0.3	-0.7	-1.1	-1.5	-1.8	-1.9
SAT3CLA	0.534	0.548	0.556	0.560	0.565	0.575	0.587	0.601	0.615	0.629
%CH	6.8	2.5	1.5	0.8	0.9	1.7	2.1	2.3	2.4	2.2
L1DNCDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNCDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
SATHTLA	0.110	0.123	0.133	0.144	0.154	0.165	0.177	0.189	0.202	0.215
%CH	14.4	11.7	8.2	7.7	7.4	7.2	7.0	6.9	6.7	6.5
L1DNHDDNOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
L1DNHDDMOLA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NC	NC	NC	NC	NC	NC	NC	NC	NC
&M@CRTSALA	NA	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%CH	NA	NA	NC	NC	NC	NC	NC	NC	NC	NC

	1988	1989	1990
M@CRTSALA	17.81	18.33	18.88
%CH	3.4	2.9	3.0
EFSATLA	18,153.752	18,414.925	18,660.906
%CH	1.6	1.4	1.3
RPE	1.167	1.152	1.129
%CH	-1.6	-1.3	-2.0
MPRTLA	4.92	5.19	5.42
%CH	5.1	5.3	4.5
CPISOUTHNS	4.221	4.504	4.803
%CH	6.7	6.7	6.6
RYP@PNEW	3.920	4.020	4.115
%CH	2.8	2.6	2.4
RYP@POLD	0.000	0.000	0.000
%CH	NC	NC	NC
SAT3RMLA	0.298	0.292	0.286
%CH	-2.0	-1.9	-1.9
SAT3CLA	0.641	0.652	0.662
%CH	1.9	1.7	1.5
L1DNCDDNOLA	0.000	0.000	0.000
%CH	NC	NC	NC
L1DNCDDMOLA	0.000	0.000	0.000
%CH	NC	NC	NC
SATHTLA	0.228	0.242	0.256
%CH	6.3	6.0	5.8
L1DNHDDNOLA	0.000	0.000	0.000
%CH	NC	NC	NC
L1DNHDDMOLA	0.000	0.000	0.000
%CH	NC	NC	NC
&M@CRTSALA	0.000	0.000	0.000
%CH	NC	NC	NC

APPENDIX
2-6

CULTURAL RESOURCES EVALUATION
OF THE
WATERFORD 3 ELECTRIC GENERATING PLANT SITE
ST. CHARLES PARISH, LOUISIANA

GEORGE J. CASTILLE
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1980

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CULTURAL RESOURCES EVALUATION

OF THE

WATERFORD 3 ELECTRIC GENERATING PLANT

ST. CHARLES PARISH, LOUISIANA

Prepared By

George J. Castille III

Submitted To

EBASCO Services Incorporated

2 World Trade Center

New York, New York 10048

1980

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PREFACE AND ACKNOWLEDGEMENTS

Coastal Environments, Inc. (CEI), of Baton Rouge, Louisiana, has contracted with EBASCO Services, Incorporated, of New York, New York, (P.O. NY-403670) to conduct a cultural resources evaluation of the Waterford 3 Electric Generating Plant in St. Charles Parish, Louisiana. The approach used in this study employed a background literature and map search and a one-day field investigation of the plant site.

The author wishes to thank the following individuals for their contribution to this study: Dr. Joel Klein, of Envirosphere Company, who managed and coordinated this project, and Mr. Keith O'Neal of EBASCO Services, Inc., for his onsite help and coordination. Charles Pearson and Richard Weinstein assisted in the background records search and field work. Drafting was done by Curtis Latiolais. Editing was done by Susan Pendergraft. Typing was done by Sandy Hemphill.

INTRODUCTION

Coastal Environments, Inc., (CEI) was contracted by EBASCO Services, Inc., to perform a cultural resources evaluation of the Waterford 3 Electric Generating Plant in St. Charles Parish, Louisiana (Figure 1). The study was initiated in response to a Nuclear Regulatory Commission interrogatory to Louisiana Power & Light Company concerning the historic resources potential of the property. The level of effort and the study methodology involved in formulating a response were based upon the recommendation of the Louisiana State Historic Preservation Officer to the Nuclear Regulatory Commission. The study area was confined to the former Waterford Plantation (16 SC 41) property which included all of Section 25 and the eastern half of Section 26, Township 12S, Range 20E, Sections 51, 52, 53, and 54, Township 13S, Range 20E, and Section 37 and portions of Sections 12, 38, and 39, Township 13S, Range 19E. A previous archaeological investigation (Neuman 1977) had determined that no cultural resources were located within the area of the proposed 230 KV transmission line and the intake and discharge structures. The potential for prehistoric remains occurring on the property was concluded to be very small. The present study included a background records check and a one-day field investigation of the plant.

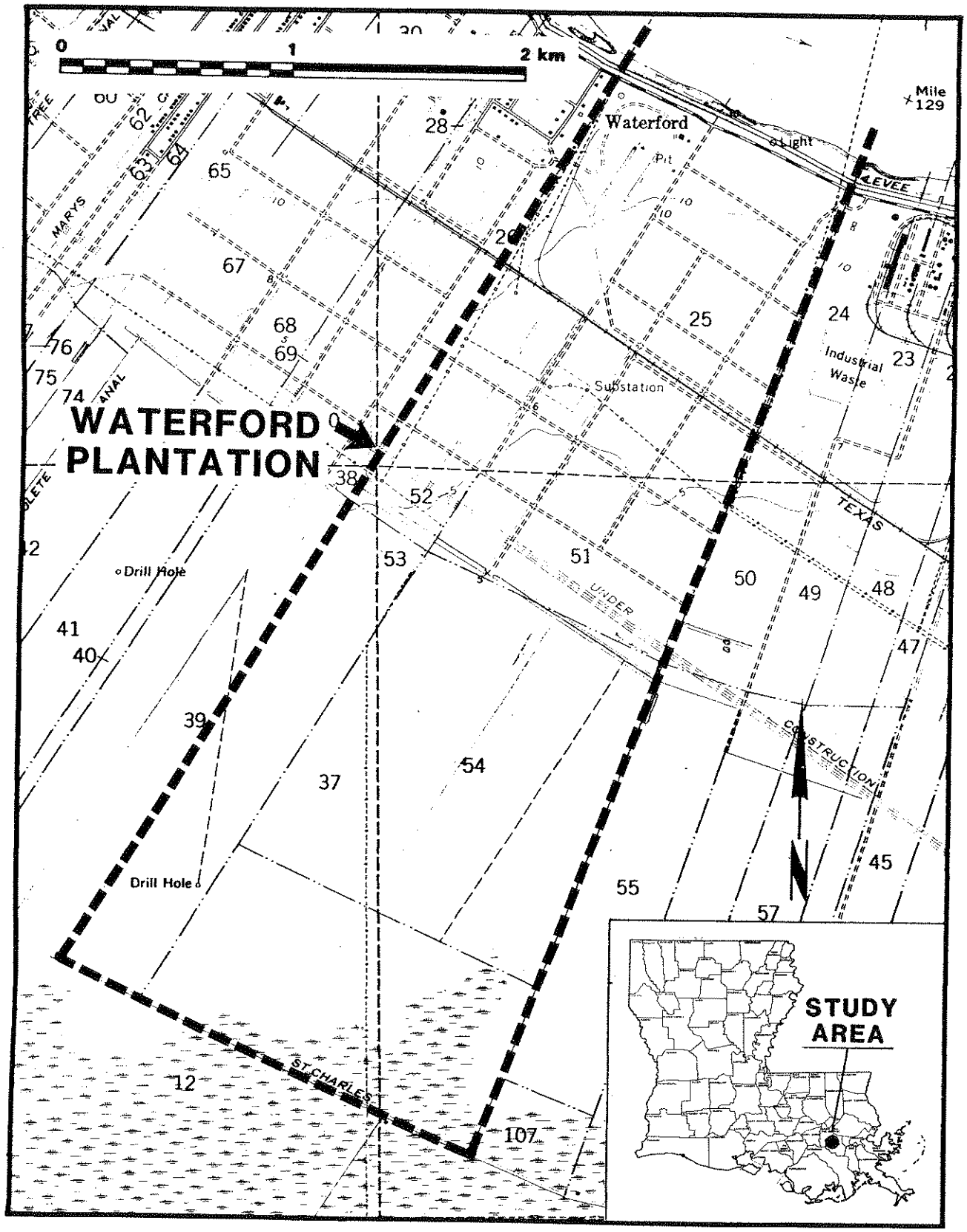

Figure 1. The study area on a 1972 topographic map (after USGS 1972).

Since the construction of Waterford 3 is virtually complete, some areas were necessarily eliminated from field inspection. To circumvent this problem, field inspection was designed to confirm potential archaeologial site locations as defined by historical research. Since the field inspection was primarily a means of confirming such suspected site locations, only limited subsurface testing was attempted.

GEOLOGICAL AND CULTURAL PROCESSES AFFECTING THE WATERFORD PLANTATION SITE

A major factor affecting settlement processes along the Mississippi River, as well as the archaeological potential of any area, is lateral bank migration. Channel migration processes include erosion along cutbanks and deposition at point bars. The erosion along cutbanks results in the destruction of structures in these areas or necessitates their periodic removal from the encroaching river. Cutbank erosion also destroys the artificial levees constructed adjacent to the river and new "setback" levees must be built behind the old ones. The processes of lateral river movement and levee setbacks can be documented for many areas along the Mississippi River from map sources. The study area is located on natural levee deposits along a relatively stable reach of the Mississippi River. Nevertheless, lateral migration has resulted in the loss of about 100 m of bankline over the last 200 years.

Within the deltaic plain, the areas of earliest European settlement were generally located along the river banks. For this reason, most of the early historic archaeological remains at Waterford were either destroyed by channel migration or buried by subsequent levee or river road construction. This erosional process and subsequent site destruction is generally true along cutbanks within the floodplain of the Mississippi River.

HISTORICAL SETTING

European Settlement

Settlement along the Mississippi River above New Orleans has been an ongoing process for over 250 years. Rich alluvial soils, a "road" which never fails, an abundance of raw materials with which to build homes, and an abundance of wildlife have rendered the river banks a prime area for settlement. Foremost among the areas chosen for settlement and development were the natural levees formed by overbank deposition of the river. Because of its elevation, the natural levee crest provided a relatively safe place for habitation within the floodplain. Since the coming of the first settlers, the natural levee crest along the Mississippi River has been considered one of the most desirable areas for settlement in the lower Mississippi Valley.

Waterford Plantation Land Succession

The initial date of settlement for the land comprising the present Waterford 3 site is believed to be around 1721. At that time, a group of German immigrants began settling along the banks of the Mississippi River several kilometers above New Orleans. The area of German settlement came to be known as the German Coast, later subdivided into St. Charles and St. John the Baptist parishes. These German settlers formed several small villages along the river. The study area is located in the vicinity of the second German village, which was settled by a group of immigrants led by a

man named Karl Frederic. Since Frederic was from Arensbourg, Germany, the French called him Charles Frederic d'Arensbourg. The family name soon became Darensbourg. Karl served for more than 40 years as commander and judge of the German Coast (Deiler 1974:39-42). Several large land grants were awarded to Karl Darensbourg and his family during the early eighteenth century. Either all or a large portion of the later Waterford Plantation was formed from land originally owned by the Darensbourg family. By the 1780s, Pierre-Frederic Darensbourg, the younger of Karl's two sons, was the landowner. Nothing is known about the first date of settlement or the location or physial layout of the earliest Darensbourg domicile.

In 1791, Charles Perret married Louise Darensbourg, daughter of Pierre Darensbourg and Elizabeth Deselle Duclos (Conrad 1974:215). In 1797, Pierre's widow sold a tract of land 10 "arpents deface" to Charles Perret. The main house, its immediate dependencies, and garden were excluded from the transfer and were reserved for Widow Darensbourg (Conrad 1974:285). Sometime during the late eighteenth or early nineteenth century, additional property was obtained immediately downstream from the former Darensbourg estate. This adjacent property was transferred to Charles Perret, Jr., sometime prior to 1828, and is apparently not included in the tract which became Waterford Plantation.

In 1804, the General Census of St. Charles Parish listed Charles Perret as a sawyer with a wife, four sons, and two daughters. Charles had two white engagés, one black engagé, 11 male slaves, six female slaves, one free male Negro, and one free female Negro (Conrad 1974:400). The property which later became Waterford Plantation included all of Section 25 and half

of Section 26, Township 12S, Range 20E. In 1804, Charles Perret, Sr. owned Section 25. In 1804, the adjacent Section 26 was owned by Pierre B. St. Martin and Madam Widow Ranson (Official Township Plat, Louisiana State Land Office). The Waterford Plantation, therefore, was formed through consolidation of lands owned by more than one individual.

For the years 1828-1917, some aspects of the history of Waterford Plantation can be traced through several sugar production publications (Table 1). By 1828, the earliest record of sugar production in Louisiana, Charles Perret's plantation produced 550 hogsheads of sugar. Mr. P. B. St. Martin, owner of the farm upstream from Perret, produced 210 hogsheads. The 1829 production for Perret and St. Martin was 250 and 130 hogsheads, respectively. Due to a gap in the existing sugar production records, the next known production is listed in 1844. By this time, the Perret and St. Martin landholdings had been consolidated into the property which later was called Waterford Plantation. By 1844, Charles Perret & Company was listed as the property owner or sugar producer. By 1845, the partnership of C. Perret, Sr., St. Martin, Delhonde, and Peroux is listed, and by 1849, the plantation was owned by W. B. Whitehead and Company. Although Killona Plantation is located outside the study area, Killona and Waterford plantations were consolidated under one owner in the late nineteenth century.

By 1852, Whitehead had become the sole proprietor of the plantation, and maintained control until 1877 when Richard Milliken became his partner. During the last nine years that Whitehead was in control, the plantation had a brick sugarhouse with steam kettles and an open strike pan for processing sugar. The sugarhouse construction and sugar apparatus are not

Table 1. Sugar production at Waterford Plantation 1828-1917.

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
Estate - Mrs. D. A. Milliken	Killona Waterford	DEV&C	B.Sh. & Sl. W.I. & Sl.	2,319,576	1916-17 1916-17
Estate - Mrs. D. A. Milliken	Killona Waterford	DEV&C	B.Sh. & Sl. W.I. & Sl.	1,627,312	1915-16 1915-16
Mrs. D. A. Milliken	Killona Waterford	STV&C	B.Sh. & Sl. B.Sh. & Sl.	1,750,000	1911-12 1911-12
Mrs. D. A. Milliken	Killona Waterford	STV&C	B.Sh. & Sl. B.Sh. & Sl.	3,200,000	1907-08 1907-08
Mrs. D. A. Milliken	Killona Waterford	STV&C	B.Sh. & Sl. B.Sh. & Sl.	2,200,000	1906-07 1906-07
Mrs. D. A. Milliken	Killona Waterford	STV&C	B.Sh. & Sl. B.Sh. & Sl.	1,609,970	1905-06 1905-06
Mrs. D. A. Milliken	Killona Waterford	STV&C	B.Sh. & Sl. B.Sh. & Sl.	2,760,000	1904-05 1904-05
Mrs. D. A. Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	1,621,056	1902-03 1902-03
Mrs. D. A. Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	2,840,000	1900-01 1900-01
Estate - Richard Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	2,200,000	1898-99 1898-99
Estate - Richard Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	2,170,000	1897-98 1897-98
Richard Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	2,343,172	1894-95 1894-95
Richard Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	2,172,854	1893-94 1893-94
Richard Milliken	Killona Waterford	STV&C STOP	B.Sh. & Sl. B.Sh. & Sl.	1,900,000	1892-93 1892-93
Richard Milliken	Waterford	STOP	B.Sh. & Sl.	836,560	1891-92
Richard Milliken	Waterford	STOP	B.Sh. & Sl.	1,200,000	1890-91
Richard Milliken	Waterford	STV&C	B. & Sh.	805*	1888-89
Richard Milliken	Waterford	STV&C	B. & Sh.	929	1887-88
Richard Milliken	Waterford	STV&C	B. & Sh.	380	1886-87
Richard Milliken	Waterford	STV&C	B. & Sh.	598	1885-86
Richard Milliken	Waterford	STV&C	B. & Sh.	402	1884-85
Richard Milliken	Waterford	STV&C	B. & Sh.	446	1883-84
Richard Milliken	Waterford	STV&C	B. & Sh.	890	1882-83
Richard Milliken	Waterford	SKOP	B. & Sh.	448	1881-82

Table 1 (continued).

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
Richard Milliken	Waterford	STOP	B. & Sh.	620	1880-81
Richard Milliken	Waterford	SKOP	B. & Sh.	705	1879-80
Milliken & Whitehead	Waterford	SKOP	B. & Sh.	746	1878-79
W. B. Whitehead	Waterford	SKOP	B. & Sh.	554	1877-78
W. B. Whitehead	Waterford	SKOP	B. & Sh.	678	1876-77
W. B. Whitehead	Waterford	SKOP	B. & Sh.	590	1875-76
W. B. Whitehead		SKOP	B. & Sh.	390	1873-74
W. B. Whitehead		SKOP	B. & Sh.	306	1872-73
W. B. Whitehead			B. & Sh.	340	1871-72
W. B. Whitehead		SKOP	B. & Sh.	401	1869-70
W. B. Whitehead		SKOP	B. & Sh.	305	1868-69
W. B. Whitehead				721	1861-62
W. B. Whitehead				340	1858-59
W. B. Whitehead				700	1857-58
W. B. Whitehead				170	1856-57
W. B. Whitehead				562	1854-55
W. B. Whitehead				447	1852-53
W. B. Whitehead & Co.				400	1851-52
W. B. Whitehead & Co.				220	1849-50
C. Perret Sr., St. Martin, Delhonde & Peroux				248	1845-46
Mrs. Charles Perret & P. Perret				436	1845-46
Charles Perret & Co.				305	1844

Table 1 (concluded).

Plantation owner/operator	Plantation	Sugar House Apparatus	Sugar House Construction	Sugar Production (pounds)	Year
P. B. St. Martin				130	1829
Charles Perret				250	1829
Charles Perret, Jr. (steam)				310	1829
P. B. St. Martin				210	1828
Charles Perret				550	1828
Charles Perret, Jr. (steam)				545	1828

*Production is listed in hogsheads from 1828 - 1889

ABBREVIATION KEY:

DEV&C . . . . . Double Effects, Vacuum-Strike Pan and Centrifugals
S & K . . . . . Steam and Kettles
SKOP . . . . . Steam, Kettles, Open-Strike Pan
STOP . . . . . Steam Train, Open-Strike Pan
STV&C . . . . . Steam Train, Vacuum-Strike Pan and Centrifugals
B. & Sl. . . . . Brick and Slate Roof Sugar House
B. & Sh. . . . . Brick and Shingle Roof Sugar House
W. I. & Sl. . . . . Wood, Iron and Slate Roof Sugar House
B.Sh. & Sl. . . . . Brick, Shingle and Slate Sugar House

Source: Bouchereau, Champomier and Degalos, various years

listed before 1868. In 1878, Richard Milliken became Whitehead's partner and by 1879, Milliken had become the sole owner of the plantation. Prior to Milliken's possession, the plantation had remained unnamed. After 1879, it was known as Waterford, and the name has continued until this day. The name Waterford perhaps came from Waterford, Ireland, possibly the origin of the Milliken family. In 1882, Milliken improved the production of his sugarhouse by adding a steam train, vacuum strike pan, and centrifugals. By 1888, the sugarhouse roof had been covered with slate, and by 1890, the vacuum strike pan apparatus had been replaced by an open strike pan. According to the sugar reports, Richard Milliken died between 1895 and 1897. The plantation was owned or operated by the Milliken estate until 1900, when Mrs. D. A. Milliken took control. In 1904, the sugarhouse apparatus was improved again. Mrs. Milliken died between 1912 and 1915, and the Milliken estate maintained control until 1917, the last date of the available sugar production records. Between 1890 and 1917, Richard Milliken and his family controlled both Waterford and Killona plantations. The Waterford Plantation mill ceased its grinding operation sometime between 1917 and 1953, the date of an aerial photograph on which the mill does not appear. Although the volume of sugar production on Waterford Plantation fluctuated throughout the nineteenth and early twentieth century, the average production rate increased steadily until 1917.

Although numerous sugar plantations were, and still are, located in the vicinity of Waterford Plantation, no archaeological investigations have been conducted at any historic site within 5 km of the study area. The nearest site recorded on the National Register of Historic Places site

is Homeplace Plantation, located 6 km southeast of Waterford. Archaeological excavations recently were conducted at a late nineteenth century site 6 km to the west in St. John the Baptist Parish. The excavation provided little archaeological data, and the identity of the source of the archaeological remains was not determined (Garrison et al. 1980).

FIELD INVESTIGATION

On July 31, 1980, a cultural resources survey team conducted a brief survey of the Waterford 3 property. The survey team was accompanied by Joel Klein of Envirosphere and Keith O'Neal of EBASCO Services, Inc. The main purpose of the field investigation was to attempt to locate possible cultural remains suspected within the study area. Prior to the initiation of the fieldwork, topographic maps, Mississippi River Commission maps, aerial photographs, and Louisiana Office of Public Works levee survey maps were consulted in an attempt to locate areas of potential cultural resources.

The field survey was guided by previously conducted historical background and map research. Mississippi River Commission Chart No. 74 (circa 1894) served as the major source of information for directing the field investigations (Figure 2). A modern 7.5' topographic quadrangle map (USGS 1972) was used as the base for the map comparisons. A Model 55 Map-O-Graph by Art-O-Graph, Inc., was used to superimpose the circa 1894 Mississippi River Commission map onto the topographic base. This revised base map was then compared with the Public Works maps, older topographic quadrangle maps, a 1953 aerial photograph, and a 1980 aerial photograph. Suspected historic site locations were then scaled off and transferred to a blowup of the 1980 aerial photograph provided by EBASCO. This 1980 photograph served as the field map for investigating suspected historic site locations. Since all existing landscape features are indicated on the photograph, it provided the best medium for directing the field investigation.

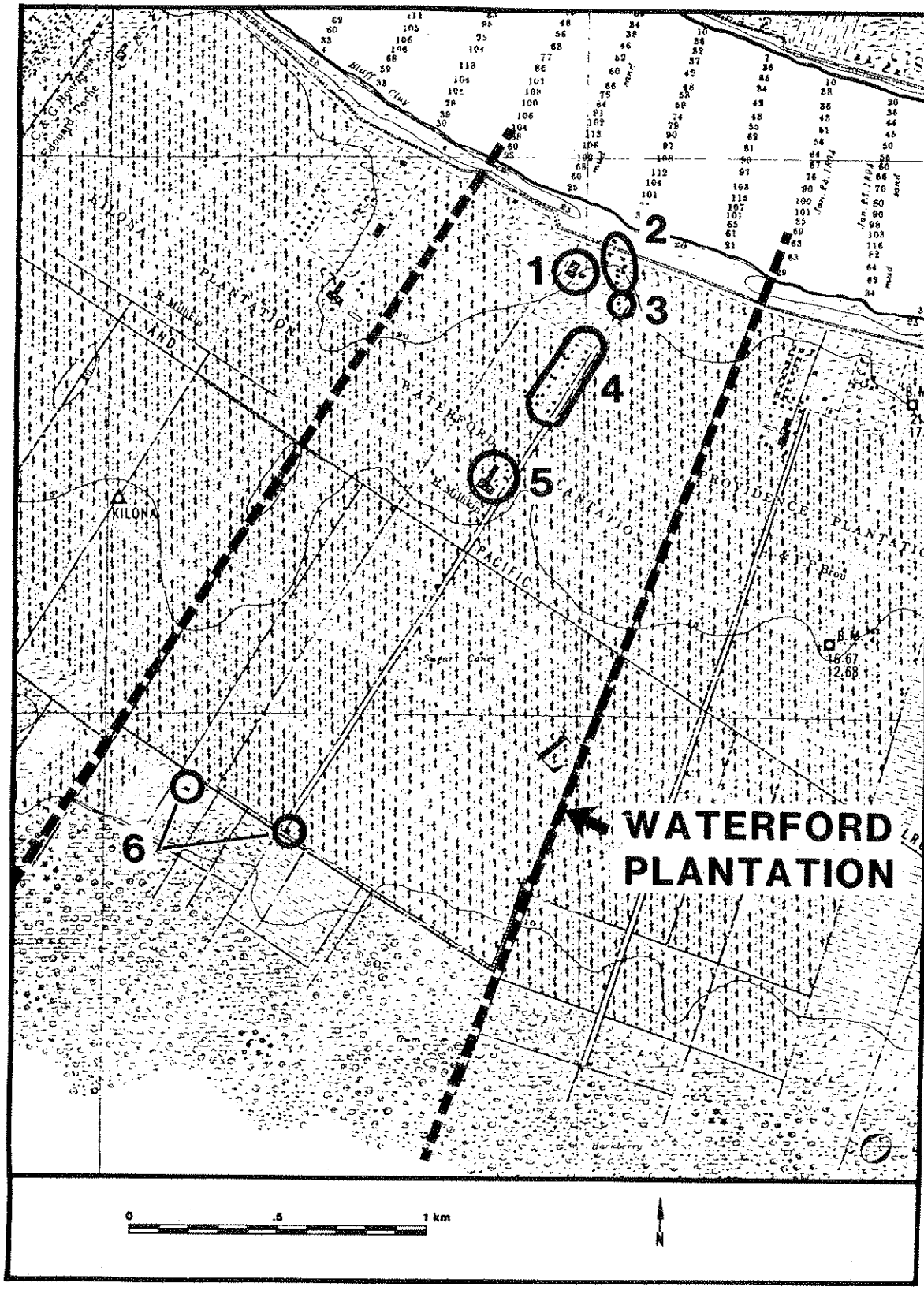

Figure 2. Mississippi River Commission map showing potential cultural resource areas within Waterford Plantation (after Mississippi River Commission 1894).

The portion of Waterford Plantation being considered in this study is confined to Section 25, on which the Waterford Plantation buildings were constructed. It is possible that historic structures may have been located within the eastern portion of Section 26, however, this area has been almost totally modified by the plant construction. Either individual buildings or building clusters were noted at six areas on Waterford Plantation in 1894 (Figure 2):

1) Area 1: possible bighouse, barn, or other large structure with adjoining smaller structure;
2) Area 2: cluster of nine unidentified structures located at the junction of the river road and the main axis road, on the west side of axis road;
3) Area 3: possible overseer house or store located at the junction of the river road and the axis road, on the east side of the axis road;
4) Area 4: double row of 14 quarter houses located along the west side of the axis road approximately 250 m to 500 m southwest of the present river road;
5) Area 5: sugarhouse with one support structure located 700 to 800 m southwest of the present river road; and
6) Area 6: two isolated structures of unknown function located at the edge of the backswamp.

The location and orientation of the major building complexes are consistent with the expected linear settlement pattern for plantations along the lower Mississippi River (Rehder 1971:84). A similar settlement pattern

has been observed in previous investigations of plantations in nearby St. James Parish (Castille 1979).

The date of the demolition of the plantation is unknown, but as recently as 1917, Waterford sugarhouse was still in operation (Table 1). All standing structures had been removed from the plantation by 1953 (Figure 3).

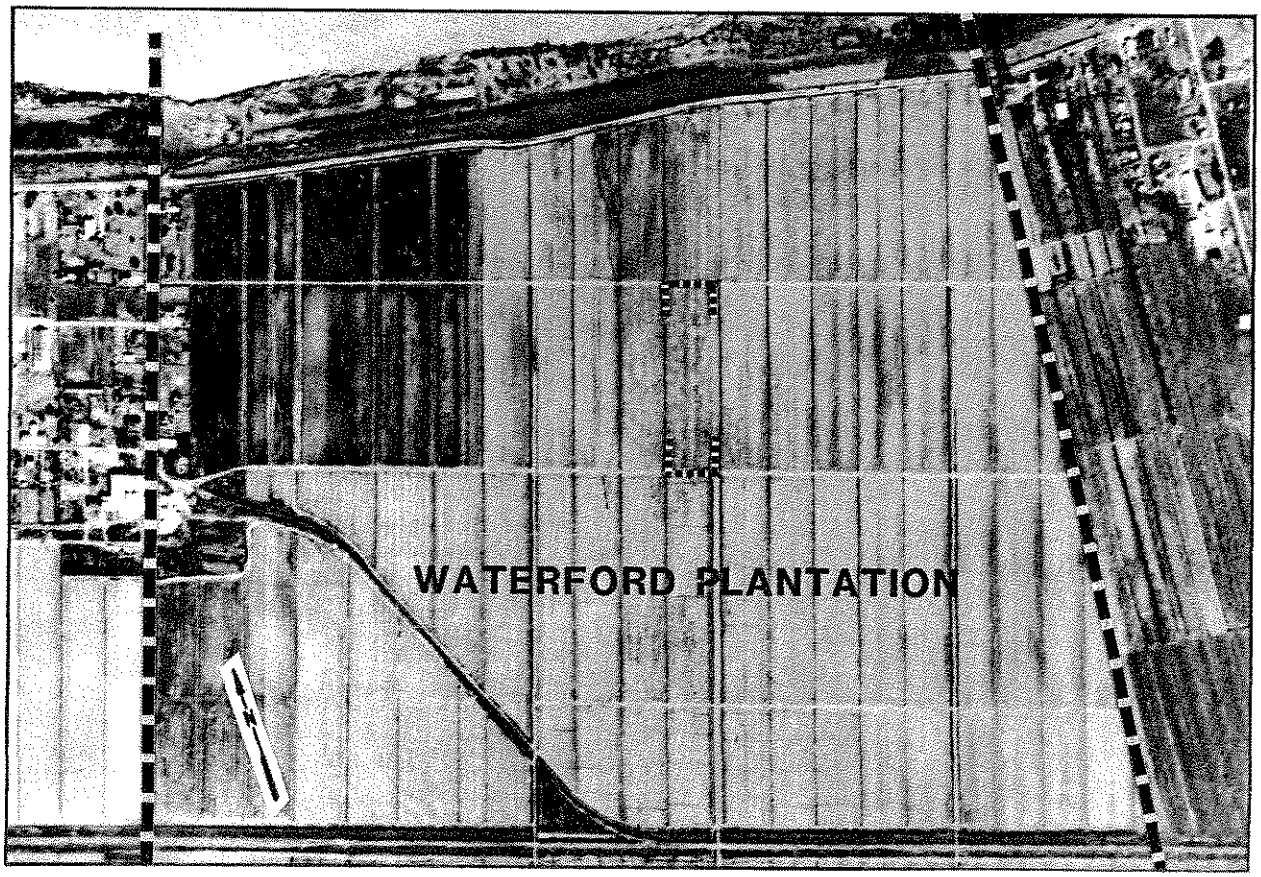

Figure 3. Northern half of Waterford Plantation on 1953 photo. Area 4 quarters are enclosed in brackets (after U.S. Soil Conservation Service 1953).

SURVEY RESULTS

During the field investigation, an attempt was made to locate cultural remains in all six areas. Cultural remains in Areas 1 and 2 (Figure 4) apparently have been totally destroyed by U.S. Army Corps of Engineers (USCE) levee setback construction, by USCE river bankline revetment construction, and by construction of the river road (Hwy. 18). The Waterford 3 Plant construction has also impacted some areas of potential cultural resources. Most, if not all, of the possible archaeological remains in Area 1 have been destroyed by the construction of the plant and Hwy. 18 (Figure 4). No archaeological testing was attempted in Area 1. Random bankline profiles were scraped along the ditch bordering Hwy. 18 in Area 2. Occasional brick fragments were observed, but the cultural debris was noted only in an obviously disturbed soil zone. No in situ deposits were found in Area 2.

A single test pit (Figure 5) was placed near the center of a former structure location in Area 3. The test was located 27 m southwest of the center of Hwy. 18, and 43.6 m southeast of the center of the asphalt road which serves as the downstream access road to Waterford 3. This test revealed probable in situ midden deposits to a depth of 26 cm. Recovered artifacts from the shovel test and surface collection included three pearlware sherds (circa 1780-1830) and several fragments of glass, iron, brick, and oyster shell (Table 2).

Fourteen suspected quarter house sites are located within Area 4. Survey methodology for this area involved the careful inspection of ditch

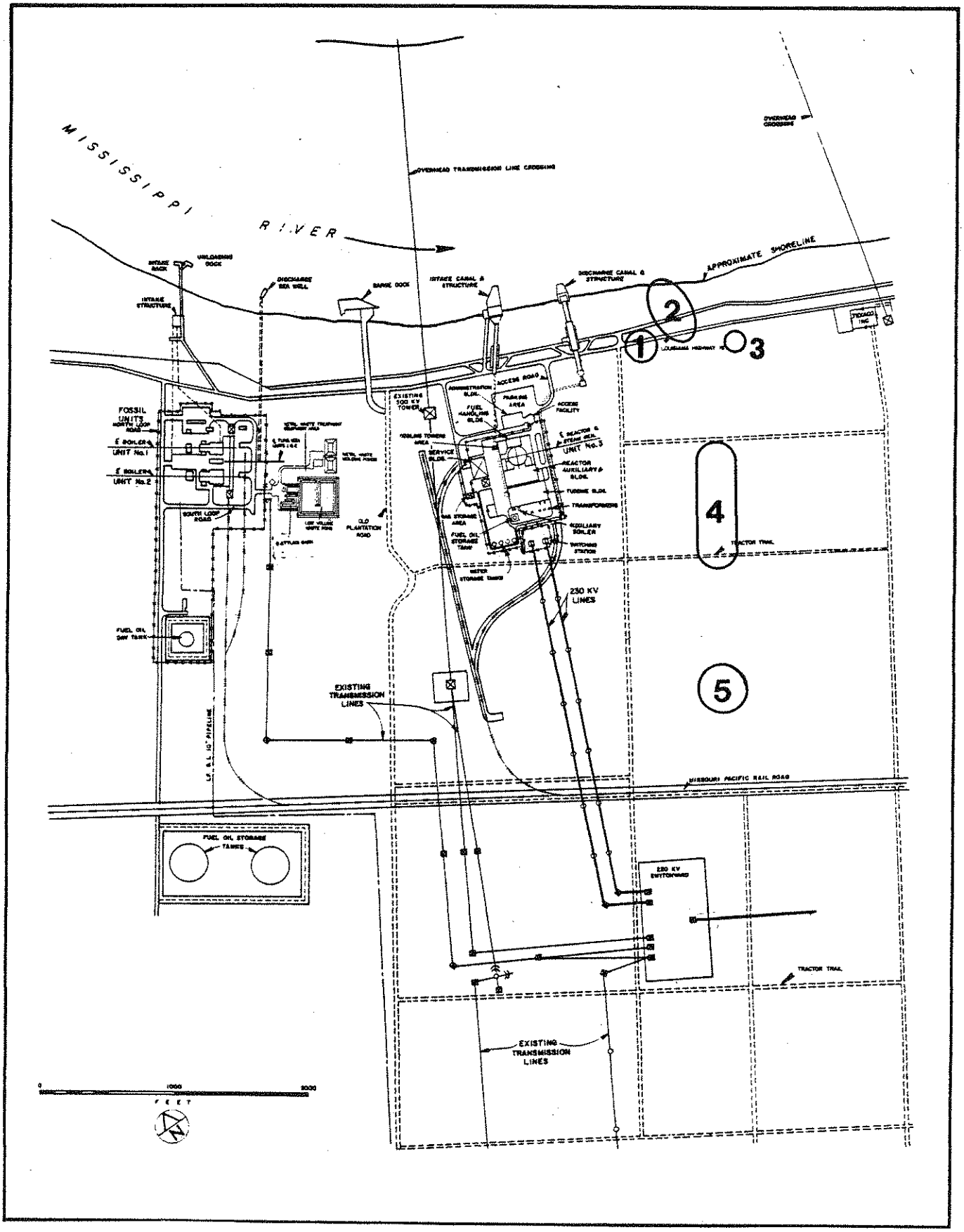

Figure 4. Areas of potential cultural resources within the present plant boundary. (Base map provided by EBASCO)

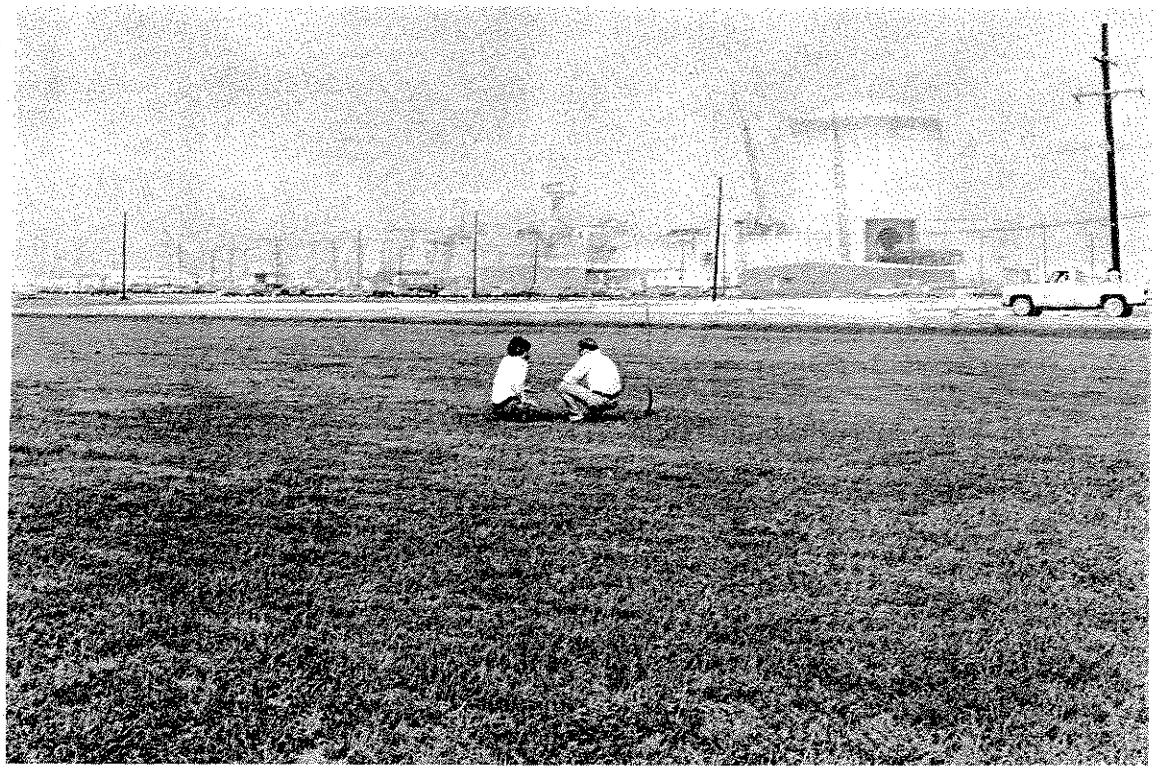

Figure 5. Location of test hole in Area 3. Note Waterford plant in background. Facing southwest (7/31/80).

Table 2. Artifact Analysis.

PROVENIENCE	DESCRIPTION	QUANTITY	
AREA 3			
Surface	Kitchen		
	Ceramic:		
	Blue-edged pearlware, var. embossed dot	1	
	Slipped stoneware, var. brown	1	
	Plain pearlware, var. unspecified	1	
	Glass:		
	Olive amber fragments	2	
		5	
	Miscellaneous		
	Iron spike	1	
		1	
	Area 3 Total		6
AREA 3			
Test Pit	Kitchen		
	Ceramic:		
	Plain pearlware, var. unspecified	1	
	Plain porcelain, var. unspecified	1	
		2	
	Fauna		
	Oyster shell	1	
		1	
	Structural Debris		
	Road gravel	2	
	Brick fragments	2	
		4	
	Test Pit Total		7
AREA 4			
Surface	Kitchen		
	Ceramic:		
	Plain porcelain, var. unspecified	1	
	Plain whiteware, var. unspecified	11	
	Embossed whiteware, var. unspecified	2	
	Plain pearlware, var. unspecified	2	
	Plain yellow ware, var. unspecified	1	
	Salt-glazed stoneware, var. gray	1	

Table 2. Artifact Analysis (continued).

PROVENIENCE	DESCRIPTION	QUANTITY	
AREA 4 Surface (Continued)	Glass:		
	Clear fragments	6	
	Purple bottle stopper	1	
	Olive amber fragments	2	
			27
	Fauna		
	Cut bone	1	
	Oyster shell	3	
		4	
	Architecture		
	Square cut nails	3	
		3	
	Structural Debris		
	Brick fragments	2	
	Ceramic sewer pipe fragment	1	
		3	
	Miscellaneous		
	Unidentified iron fragments	1	
		1	
	Area 4 Total		38
AREA 4 Profile 1	Kitchen		
	Ceramic:		
	Plain whiteware, var. unspecified	3	
	Blue-edged whiteware, var. shell plain	1	
	Glass:		
	Clear fragments	1	
		5	
	Structural Debris		
	Brick fragments	1	
	Gravel	1	
		2	
	Miscellaneous		
	Unidentified brass pipe	1	
	Iron spike	1	
		2	
	Profile 1 Total		9

Table 2. Artifact Analysis (concluded).

PROVENIENCE	DESCRIPTION		QUANTITY	
AREA 4				
Profile 2	Kitchen			
	Ceramic:			
	Plain whiteware, var. unspecified (1 is burnt)		2	
	Glass:			
	Olive amber fragment		1	
			3	
	Miscellaneous			
	Unidentified metal		1	
	Coal slag		1	
			2	
		Profile 2 Total		5
AREA 5				
Surface	Structural Debris			
	Brick fragments		5	
			5	
	Miscellaneous			
	Iron bolt with nut		1	
			1	
		Area 5 Total		6
		SITE TOTAL		71

banks within the quarters area and several profiles were exposed by shovel along the ditches (Figures 6 and 7). Soil stratigraphy was recorded in two of the profiles. Shovel profile 1 (Figure 8) revealed a 28 cm layer of topsoil and silty clay midden underlain by yellow-tan sterile silt. Shovel profile 2 revealed a similar stratigraphy, but the cultural zone was 45 cm deep in this area. The distribution of observed in situ midden deposits in Area 4 is indicated in Figure 6. Artifacts recovered from Area 4 are listed in Table 2. An occupation range of mid nineteenth century to early twentieth century is indicated by the artifacts. Part of Area 4 has been disturbed by recent construction of an access road to the Waterford 3 construction site. The remaining quarter house sites are now located in an open grassy area.

The field investigation also included a visit to the sugarhouse location (Area 5) as indicated on the Mississippi River Commission map. This area is now heavily overgrown with brush (Figure 9). Large furrows indicate that the area was placed under cultivation after the demolition of the old sugarhouse. A small test pit near the center of the site revealed structural debris that was probably associated with the sugarhouse (Table 2). No datable artifacts were found in either the test hole or on the surface. The ground surface was littered with brick and mortar fragments, and the sugarhouse appears to have been badly disturbed by the demolition of the structure and subsequent plowing activities.

The last location selected for field inspection was Area 6, where two historic structures appeared on the Mississippi River Commission map.

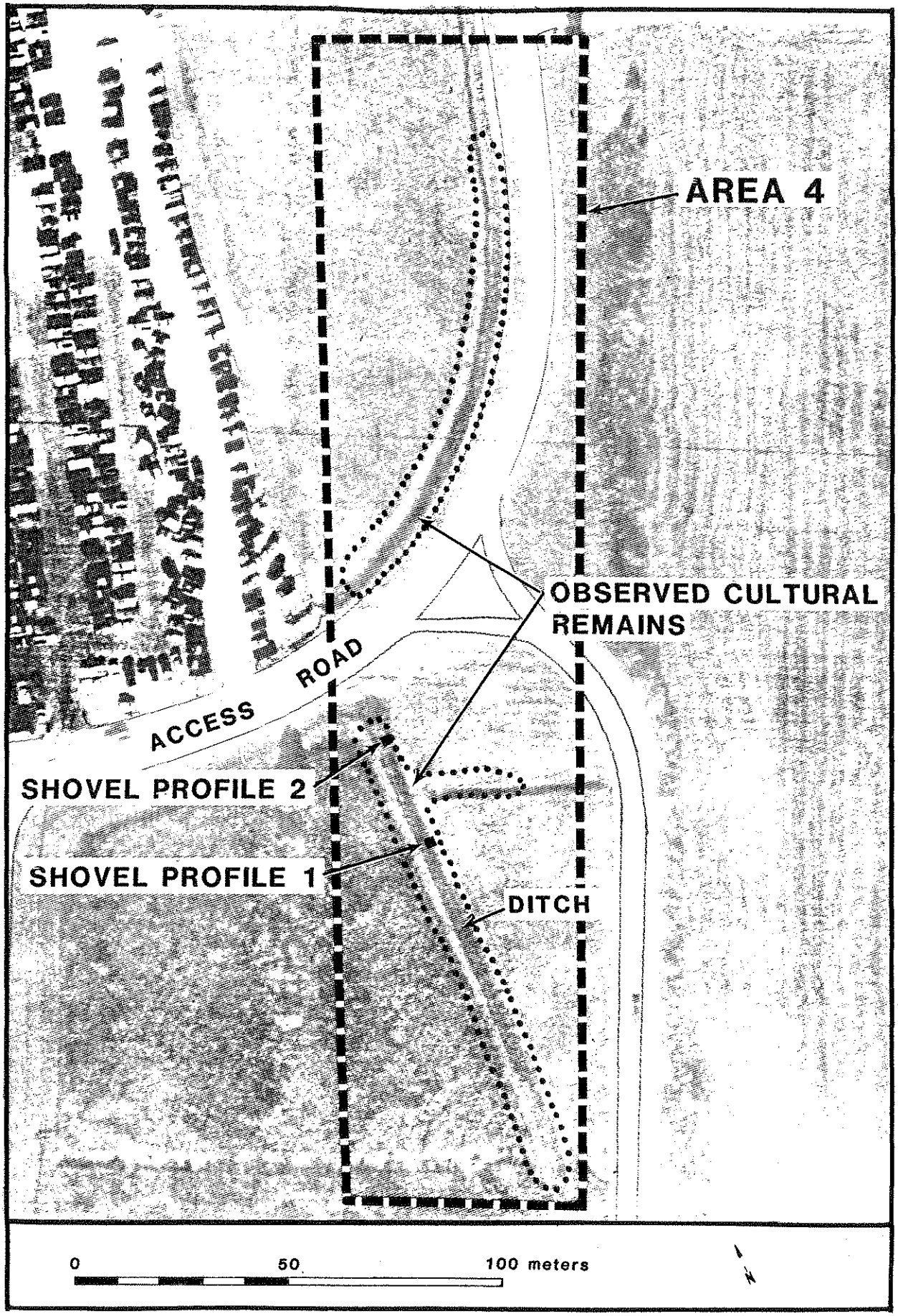

Figure 6. Observed cultural remains in Area 4.

Figure 7. Excavation of shovel profile 1 in Area 4. Facing south (7/31/80).

Figure 8. Midden exposure in shovel profile 1, Area 4 (7/31/80).

Figure 9. Vegetation in Area 5. Facing east (7/31/80).

Only one site location, a probable irrigation pump and gate structure (Figure 10), was accessible to the survey party. The second site was not visited because it was at the edge of the backswamp located across a water-filled canal about 10 m wide. The pump structure consists of two tiered-brick foundations, one on either side of a small drainage canal which empties into the larger canal bordering the backswamp. Four large, threaded bolts were mounted on top of the foundations along the eastern bank of the canal. It is presumed that a water pump was once located here. No visible remains of a sluice gate were observed.

Figure 10. Brick structure at canal mouth in Area 6. Facing northwest (7/31/80).

SUMMARY AND CONCLUSIONS

A study of available historical maps and documents has provided information useful for the interpretation of any potential or recently discovered cultural resources within or in the immediate vicinity of the Waterford 3 Electric Generating Plant. The area was settled as early as 1721, although no archaeological evidence of the suspected eighteenth century occupation was found during the brief field inspection. Through historic map comparisons and a brief field investigation, archaeologists from CEI have confirmed and identified six areas of potential historic archaeological remains. Total or near total site destruction is suspected in Areas 1 and 2, in situ historic midden deposits were encountered in Areas 3 and 4, a possible in situ deposit was encountered in Area 5, and an in situ brick foundation was recorded in Area 6. Artifacts recovered during the field investigation support an early nineteenth to early twentieth century date for the observed cultural remains.

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APPENDIX 6-3

SPECIFICATIONS FOR THE WATERFORD 3 MONTHLY AQUATIC MONITORING PROGRAM

I. SAMPLING FREQUENCY AND LOCATIONS

The sampling frequency is monthly with the exception of benthos and ichthyoplankton sampling as noted in Specifications II - C and D (below).

Sampling locations form three transects across the width of the river; approximate locations are shown in Figure 1. These locations will be precisely described and recorded in relation to fixed references including distances from river dolphins or piers and sightings on towers and stacks. The specifications which follow, indicate the stations which are to be sampled for each major aquatic ecology category. Table 1 presents a summary of the stations to be monitored for each aquatic ecology category.

II. SAMPLING METHODS AND MATERIALS

A. Algae (Periphyton)

1. Parameters:

   Relative abundance (%), taxonomy, density

2. Stations:

   X_o, Y_o, Z_o

3. Depth

   .5m below surface

4. Frequency

Monthly

5. Methods

Floating diatometers[1,2] will be placed on station and incubated for two (2) week periods. Upon retrieval, slides will be scraped completely and samples preserved in Lugol's solution.

Organisms will be settled or otherwise concentrated, and identified to species level, and counted using Utermohl's inverted microscope technique[3]. At least two settling chamber transects will be counted; additional transects as necessary until at least 100 cells of each dominant species (> 10%) are counted.

B. Zooplankton

1. Parameters

Density (#/m^3), taxonomy

2. Stations

X_o, Y_o, Z_o

3. Depths

Surface

4. Frequency

Monthly

5. Methods:

Metered No. 6 mesh (243 u) net with 0.5m mouth diameter at all stations. At Station Y_o, additional sampling with a No. 20 mesh (76 u) net with 0.5m mouth diameter. For each station, two (2) tows of 20 minutes duration (including No. 20 mesh net) will be made and composited into one sample for laboratory analysis. Samples will be preserved with 10 percent buffered formalin.

In the laboratory, samples will be split appropriately with a Folsom plankton splitter to ensure counts of at least 100 individuals per each of the dominant species ($\geq$ 10%). For the genus Diaptomus it will be sufficient to count 100 individuals of the genus because of uncertainty in identifications to the species level.

C. Benthic Invertebrates

1. Parameters:

Density (#/m^2), taxonomy, ash-free dry weight (g/m^2)

2. Stations:

X_o, Y_o, Z_o

3. Depth:

Depth to bottom will vary according to river height.

4. Frequency:

Seasonal for grab samples (i.e. April, July, September and January);

5. Methods:

a. Six (6) Smith-McIntyre grabs per station

i. Density

Take 3 of the 6 grabs per station; sieve with No. 30 mesh screen; preserve with 10 percent buffered formalin; sort and enumerate according to lowest practical taxon.

ii. Ash-Free Dry Weight:

Take 3 of the 6 grabs per station; sieve with No. 100 mesh screen; ship, sort by taxon and determine AFDW.

AFDW to be determined by drying at 60° C until constant weight is obtained; ashing in muffle furnace at 425° C; and weighing residual ash. (Remove calcareous shells from molluscs and crustacea as appropriate).

D. Ichthyoplankton

1. Parameters:

Density ($\#/m^3$), taxonomy, stages

2. Stations:

X_o, X_1, X_2, Y_o, Z_o, Y_1, and Z_o

3. Depths

Surface, - 5m, bottom

4. Frequency:

April through June - 1 per 2 weeks
July through September - 1 per month
Total of 10 sampling periods)

5. Methods:

Pump samples through a No. 0 mesh (540 u) net at all stations from all depths according to a pumping design similar to those described in Figure 2 or other suitable design. The volume of water which will be pumped and filtered should be in the range of 150 - 200 m^3. Three (3) samples will be collected from each depth at each station. In addition, at Station Y_o, two (2) 10 minute tows at surface and - 5m using No. 0 mesh (540 u) net with 1.0m mouth diameter.

Alternatively, sample by net tow at the same locations and frequencies as above.

Samples to be preserved in 10 percent buffered formalin, sorted and enumerated by taxon (at least genus level) and stage.

E. Fish

1. Parameters:

Catch/effort, size, abundance, taxonomy, pathology

2. Stations:

X_o, Y_o, Z_o

3. Depth:

Shoal water, near shore

4. Frequency:

Monthly

5. Methods:

Electrofishing to be performed with a boat-mounted pulsed DC shocker. The shocker should have an integral timer which records actual fishing time. Two (2) hours of effort per station. Fish to be identified, weighed, measured (TL), examined for external parasites and/or disease, and counted.

F. Impingement

1. Parameters:

Catch/effort, size-frequency, taxonomy, pathology

2. Station:

Waterford 1 and 2 intake

3. Depth:

N/A

4. Frequency:

Monthly, 24 hour

5. Methods:

Impingement monitoring will be performed by inserting a sampling box into the Waterford 1 and 2 return sluiceway. Sampling technique will in part be determined at the time of sampling by an experienced biologist, such that representative samples are taken systematically over a 24-hour period to facilitate extrapolation of sampling data to daily rates with minimum sampling bias. Two sets of impingement samples shall be taken at each sampling interval: (a) sampling during the initial rotation of screens (1 revolution) which may follow a period of down-time; and (b) sampling over at least 1 revolution of continuous operation following the initial rotation.

Complete information regarding intake pumping will be recorded at the time of sampling, including volume and rate of water flow; pump capacity; number of pumps operating; number of screens being washed and screen washing schedule. Subsampling of basket collections is acceptable if impingement rates are unmanageable, but careful reporting of impingement time, and subsampling percentages is imperative for later calculation of daily rates.

G. Water Characteristic Profiles

1. Parameters:

Current speed
Current direction
pH
Conductivity
Temperature
Dissolved oxygen

2. Stations:

X_o, X_1, X_2
Y_o, Y_1, Y_2
Z_o, Z_1, Z_2

3. Depth:

Three meter (3m) intervals to a maximum depth of 24m.

4. Frequency:

Monthly

5. Methods:

See Table 2. Also reference Standard Methods for the Examination of Water and Wastewater (APHA, 1976)

H. Water Chemistry Program

1. Parameters:

See Tables 3 and 4

2. Stations:

X_o, Y_o

3. Depth:

Surface

4. Frequency:

Monthly for Table 3 parameters.
Seasonal for Table 4 parameters.

5. Methods:

Whole water samples taken with a nonmetallic sampler.
Analysis as per Tables 3 and 4; also ref. APHA (1975)

III. PROJECT QUALITY CONTROL/QUALITY ASSURANCE

A. A QC/QA manual consisting of field and laboratory procedures, procedures for detecting and correcting variances, and procedures for assuring the validity of the data will be prepared and submitted at the end of the first quarter of the monitoring program.

B. The subcontractor will cooperate and participate in a program quality audit to be conducted by the contractor.

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TABLE 1

SAMPLING STATIONS, DEPTHS AND FREQUENCIES
FOR MONITORING PROGRAMS

Program	Stations	Depth	Replicates	Frequency	Total Samples
Water Characteristics Profile	all (9)	3m intervals		12/year	-
Water Chemistry	X_o, Y_o	Surface		12/year (Table 3)	24
Periphyton	X_o, Y_o, Z_o	Surface		12/year	36
Zooplankton	X_o, Y_o, Z_o	Surface	3, composited into 1	12/year	36
Benthic Invertebrates	X_o, Y_o, Z_o X_o, Z_o	Bottom Grabs Shrimp Traps	6 3	4/year 12/year	72 72
Ichthyo-plankton	X_o, X_1, X_2, Y_o, Z_o (pump) Y_o, (net)	Surface, 5m, Bottom Surface, 5m	3 2	10/year 10/year	450 40
Fish	X_o, Y_o, Z_o	Shoal water		12/year	-
Impingement	Waterford 1 and 2 Intake	-		12/year	-

Amendment No. 2, (10/80)

TABLE 2

METHODS, AND MINIMUM DETECTABLE LIMITS
FOR WATER CHARACTERISTIC PROFILES

Parameter	Detectable Level	Method
Current Speed	6 cm/sec	Current meter
Current Direction	N/A	Current meter
pH	0.02 units	pH meter
Conductivity	0.5 mmhos/cm	Conductivity meter
Temperature	0.2° C	Thermistor
Dissolved Oxygen	0.1 mg/l	Polarigraphic

TABLE 3

METHODS, AND MINIMUM DETECTABLE LIMITS FOR WATER CHARACTERISTICS

Parameter	Minimum Detectable Level	Method
Copper	1 ug/l	AA - furnace
Lead	1 ug/l	AA - furnace
Zinc	0.05 ug/l	AA - furnace
Cadmium	0.005 mg/l	AA - furnace
Mercury	0.02 ug/l	Cold vapor AA
Arsenic	1 ug/l	AA
Chromium (+6)	1 ug/l	AA - Chelation extraction
Magnesium	0.2 ug/l	AA
Ammonia - N	0.05 mg/l	Colorimetric/ titrimetric
Nitrate - N	0.1 mg/l	Brucine
Nitrite - N	0.01 mg/l	Spectrophotometric
Phosphorous - Total	0.01 mg/l	Colorimetric
Phosophorous - Ortho	0.01 mg/l	Colorimetric
Iron	1 ug/l	AA
Chloride	1 mg/l	Colorimetric
Sulfate	10 mg/l	Colorimetric
TDS	0.1 mg/l	Gravimetric
TSS	0.1 mg/l	Gravimetric
Turbidity	25 Jackson units	Candle turbidimeter
COD	4 mg/l	Titrimetric
Bacteria, Total	1 organism/100 ml	Membrane filter
Oil and Grease extraction	5 mg/l	Gravimetric
Chlorine, Residual (combined and free)	-	Amperometric

TABLE 3 (Cont'd)

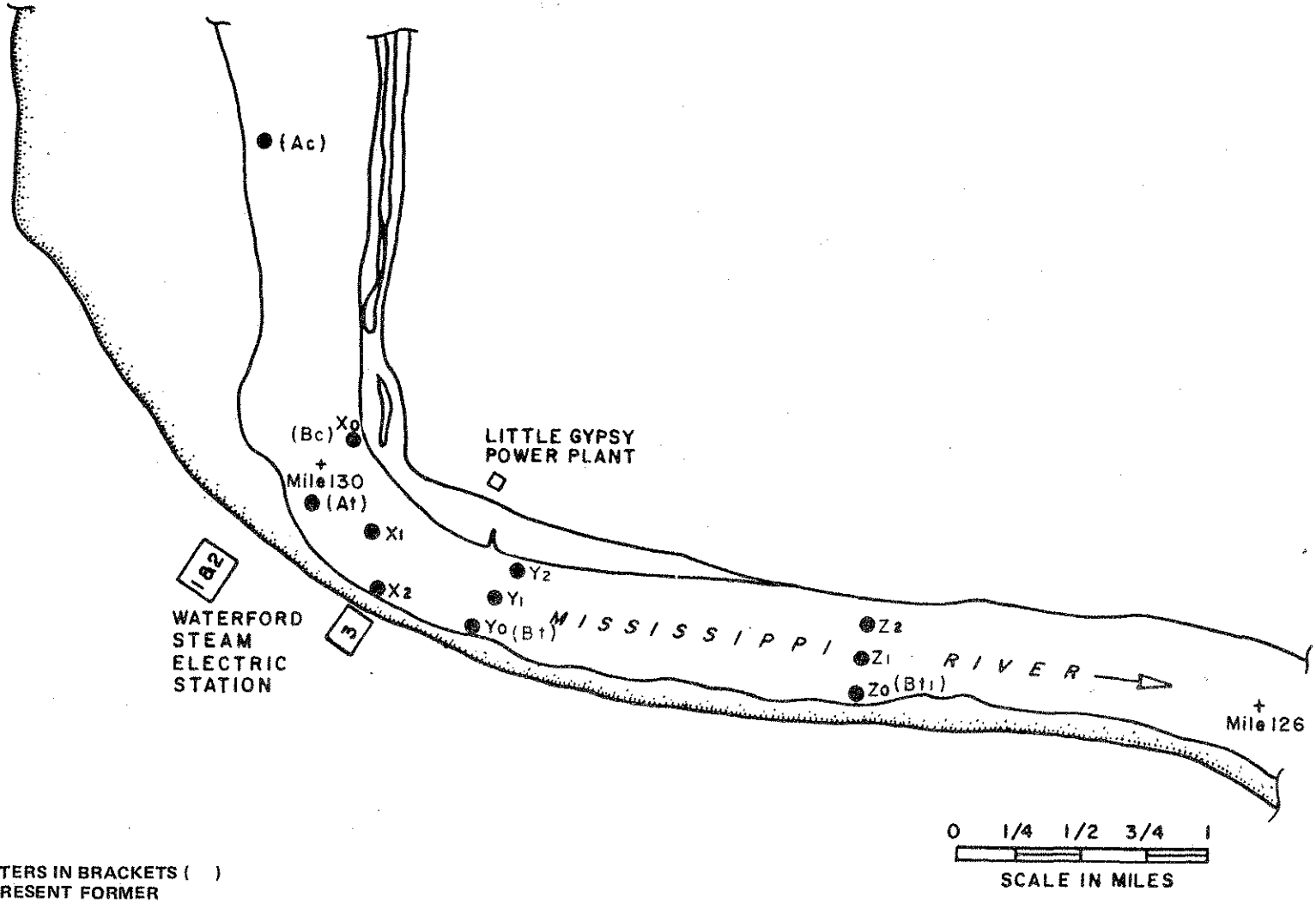
METHODS, AND MINIMUM DETECTABLE LIMITS FOR WATER CHARACTERISTICS

Parameter	Minimum Detectable Level	Method
Cyanide	0.01 mg/l	Pyridine-Pyrazaline
Alkalinity	0.1 mg/l	Potentiometric titration
Hardness	1 mg/l	BOTA titrimetric
Color	1 unit	Platinum-Cobalt
TOC	1 mg/l	Catalytic Combustion
Fecal Coliform Bacteria	1 organism/100 ml	Membrane Filter
Phenols	0.005 mg/l	Gas Liquid Chromatography

TABLE 4

METHODS, AND MINIMUM DETECTABLE LIMITS FOR WATER CHARACTERISTICS

Parameter	Minimum Detectable Level	Method
Lindane	.025 ppb	Gas-liquid chromatography with electron capture detector
Aldrin	.025 ppb	"
Heptachlor	.025 ppb	"
Heptachlor epoxide	.025 ppb	"
DDE	.025 ppb	"
DDD	.025 ppn	"
DDT	.025 ppb	"

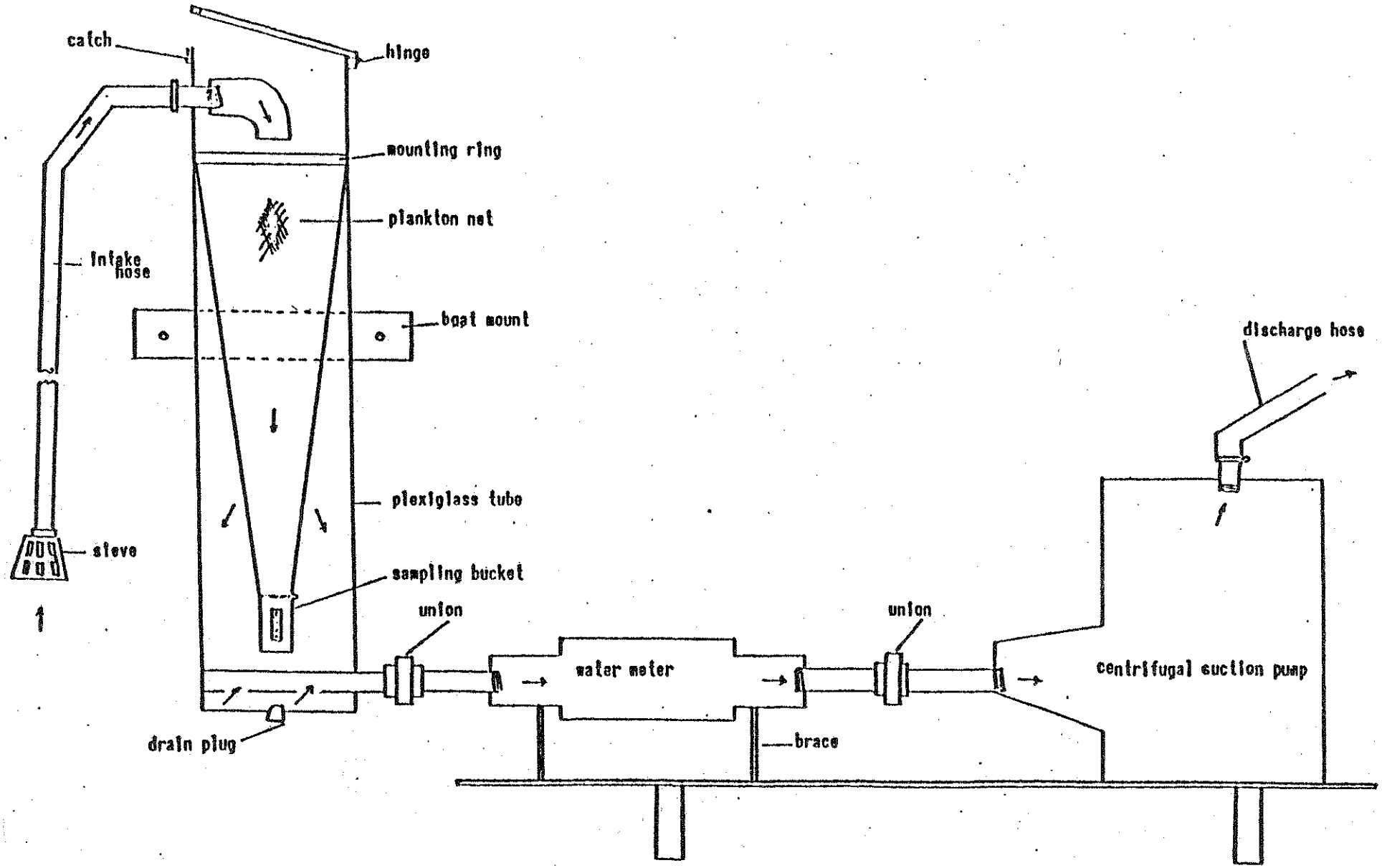


NOTE: LETTERS IN BRACKETS ( ) REPRESENT FORMER STATION DESIGNATIONS.

Amendment No. 2, (10/80)

LOUISIANA POWER & LIGHT CO. Waterford Steam Electric Station	SAMPLING STATIONS FOR THE MONTHLY (1980-1981) WATERFORD 3 AQUATIC MONITORING PROGRAM	Figure 1

FIGURE 2
Suggested Ichthyological Pumping System
From An Ecological Study of the Delaware River, Ichthyological Associates, 1974.



- Diagram of the plankton pump system used for collection of zooplankton