

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
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MISSION

Municipal Light and Power's mission is to provide present and future customers with their requirements for electrical energy. This will be accomplished in a safe, economical and reliable manner.

GOALS

The goals of Municipal Light and Power (ML&P) are to:

1. Plan and prepare for future energy needs and requirements.
2. Operate and maintain the existing system providing optimum economic efficiency.
3. Establish fair and equitable rates for all consumers providing adequate revenue for effective performance.
4. Deliver reliable services to meet reasonable expectations of ML&P customers.
5. Develop and implement policies, procedures and standards that provide for sound financial management and revenue.
6. Provide for the safety of the public, employees and the protection of the system.
7. Insure compliance with environmental regulations.
8. Promote and encourage a shift from non-renewable to renewable and sustainable resources.
9. Train, educate and promote employee development and participation to ensure efficient and safe operation of the system.
10. Encourage community involvement and promote public awareness.
11. Promote energy resource conservation.
12. Plan with regard for aesthetics.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

#### FACTORS DRIVING THE UTILITY

1. Population growth in Anchorage area.
2. Commercial and institutional development within ML&P's service area.
3. Increasing residential density.
4. Federal/State regulatory requirements.
5. Road improvement projects.
6. Undergrounding projects.
7. Street lighting requirements.
8. Reliability enhancements.
9. ML&P's and Chugach Electric Association's (CEA's) boundary settlement.
10. High level of general construction activity.
11. Requirements For 24 hour per day response.

#### PLANNING ASSUMPTIONS

The following assumptions have been used in developing ML&P's 1985-1990 long range plans, they have been developed from the best data available at this time.

1. Anchorage - Fairbanks Intertie will be completed and provide the means for power sales and interchange.
2. Susitna Hydro Project will be underway.
3. ML&P/CEA customer transfer will be completed.
4. Undergrounding based on Municipal Ordinance requirements.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
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### Planning Assumptions (Cont.)

5. Natural gas available to meet all generation requirements except that during extreme cold spells and emergencies natural gas curtailment will occur.
6. Commercial development will continue in the Central Business District and Mid-Town.
7. Inflation, no real increase or decrease in cost of wages or services.
8. Develop contingency plans for Susitna not being constructed which will include an evaluation of cost factors.

### OBJECTIVES AND PROGRAMS

The following are the objectives, programs and projects to be accomplished over the next six (6) years (1985-1990) to satisfy ML&P's objectives.

#### Administration

1. Implement a dedicated continuous line and generation dispatch center.
  - ° Analyze area requirements and existing system capabilities.
  - ° Implement internal functions and negotiate areawide functions as appropriate.
2. Continue the Prevention of Significant Deterioration (PSD) study in preparation for application for Federal EPA pre-construction permits to provide additional generation capacity.
  - ° Computerize data information.
  - ° Model dispersion effects using appropriate screening computer model.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Objectives and Programs (Cont.)

3. Develop and implement an electronic security system for all ML&P facilities.
  - ° Evaluate 1984 security design plan.
  - ° Update plan for changes and accuracy.
  - ° Construct - install.
  - ° Train employees on operations of system.
4. Coordinate the removal of all known, unprotected polychlorinated biphenyl (PCB) articles on the system.
  - ° Evaluate current screening system for validity.
  - ° Implement refinements.
5. Design and implement an internal quality control program which periodically and systematically monitors the use of the hazardous chemicals.
  - ° Evaluate requirement for initiation of additional programs.
  - ° Expand sampling program.
  - ° Initiate enhanced quality control programs.
6. Continue to expand safety program including the development and implementation of ML&P's own safety manual.
  - ° Evaluate current safety program and practices.
  - ° Develop ML&P's own safety manual.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Engineering

1. Use ten-year plan for ML&P's generation, transmission and distribution requirements.
  - ° Implement plan.
  - ° Adjust plan annually.
2. Improve and standardize construction estimate procedures.
  - ° Develop procedures manual and forms.
  - ° Implement information review and construction feedback system.
  - ° Evaluate and update program as required.
3. Plan for removal of redundant facilities after ML&P/CEA transfer.
4. Continued improvement of the standard construction specifications.
  - ° Prioritize areas to be addressed.
  - ° Research industrial standards.
  - ° Maintain and update system as required.
  - ° Establish vendor information channel.
5. Enhance distribution load management system capabilities.
  - ° Redefine load management objectives.
  - ° Enhance portions of original program.
  - ° Implement revised system.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Engineering (Cont.)

6. Negotiations on power sales and interchange agreements with other utilities.
  - ° Negotiate power sales interchange agreement with Alaska G & T.
  - ° Negotiate multi-lateral utilities agreement for operation of Anchorage/Fairbanks Intertie.
  - ° Renegotiate power purchase agreement with Alaska Power Administration Eklutna.
  - ° Negotiate with Anchorage Water and Wastewater Utility for providing replacement of Eklutna Power.
7. Utility locate program.
  - ° Promote one stop utility locate service.
  - ° Develop customer information programs.
  - ° Support utility wide program.
8. Design transmission and distribution facilities to provide services to new and existing customers.
  - ° Complete construction on phase III of the 115 KV Transmission Line.
  - ° Improve transmission ties and switching.
  - ° Complete construction of 34.5 KV intertie with Elmendorf AFB.
  - ° Improve interties with CEA.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Engineering (Cont.)

- ° Interties to Fairbanks and Kenai Peninsula.
- ° Reconstruct a portion of Eklutna 115 KV transmission line.
- ° Reconductor appropriate lines connecting substations and generating stations.
- ° Construct parallel 230 KV transmission circuit intertie.
- ° Construct 12.47 KV distribution interties.
- ° Acquire substation sites for 17, 18, 19 and Elmendorf AFB.
- ° Construct substations 17, 18, 19 and Elmendorf AFB.
- ° Construct street lighting to meet community needs.
- ° Continue improvements and capabilities on SCADA System.
- ° Improve power supply.
- ° Scheduled undergrounding of targeted areas.
- ° Conversion from 4.16KV to 34.5KV.

Generation

1. Continue the performance of an active maintenance program to obtain the best reliability and efficiency with the existing equipment.
2. When economically feasible, upgrade existing equipment in order to obtain improved reliability, availability and efficiency.
3. Operate existing equipment in such a manner as to optimize the system reliability/economy trade off.



Public Utilities	Unit No 8000	Utility Municipal Light and Power	Unit No 8500	Division	Unit No.
------------------	-----------------	---	-----------------	----------	----------

Generation (Cont.)

4. Secure reliable fuel supplies.
5. Develop a construction program to provide continued reliable service to new and existing customers.
  - ° Obtain additional generation for the 1988 and 1990 winter peaks.
  - ° Supplemental fire #7 boiler to reduce reserve requirements.
  - ° Provide additional emergency fuel oil supply at Plants I and II.
  - ° Provide safety improvements to protect vulnerable equipment at Plant II.
  - ° New control system for Units #2, #3, and #5.
  - ° Provide additional anti-icing/deicing system.
  - ° Provide steam driven boiler feed pumps.
  - ° Continue compressed natural gas vehicle demonstration project.
  - ° Continue to improve power plant security.
  - ° Install reverse osmosis water treatment.
  - ° Investigate dry cooling tower.
  - ° Continue investigation of alternative types of generation.
  - ° Continue construction of additional storage.
  - ° Provide additional maintenance facility.
  - ° Obtain land for future production expansion.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Generation (Cont.)

- ° Investigate steam driven circulating water pump.
- ° Provide communications and SCADA control of production facilities.
- ° Investigate feasibility of continued synchronous condensers.
- ° Relocate unit transformers #5 and #6.
- ° Conduct seismic evaluation of facilities.

Operations

1. Improve reliability and reduce service interruptions through an on-going inspection and preventive maintenance program.
  - ° Continue replacement of hot line clamps.
  - ° Annual inspection and maintenance of CBD vault-duct system.
  - ° Annual tree trimming.
  - ° Continue maintenance of SCADA System.
  - ° Annual inspection and maintenance of distribution system.
  - ° Preventative maintenance of substations and 15 KV switch yards.
  - ° Implement midnight loopwagon.
  - ° Preventative maintenance on vehicle and equipment.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

### Operations (Cont.)

2. Provide improved street lighting through reconstruction and responding to community needs.
  - ° Continue upgrading projects.
  - ° Provide crew dedicated to lighting.
  - ° New standardized street lighting systems.
3. Provide for the safety of ML&P personnel and the public through training programs, intensified inspection efforts and community awareness.
  - ° Identify and eliminate potential safety hazards.
  - ° Increase safety training effort.

### Financial Services

1. Expand Power Diversion Detection Program.
  - ° Develop educational program.
  - ° Promote community awareness.
  - ° Develop and implement computer assisted power diversion detection program.
2. Expand Community Awareness Program/energy sources and conservation.
  - ° Refine and concentrate advertising in effective areas.
  - ° Participate in community sponsored programs/projects.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
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Financial Services (Cont.)

3. Initiate a customer account set-up program.
  - ° Establish facilities at 1200 East 1st Avenue to accept walk-in and telephone customers.
4. Complete a comprehensive review of ML&P's tariff.
  - ° Identify areas of concern and rewrite/update.
  - ° Present to ML&P Electric Commission and Municipal Assembly.
  - ° File with Alaska Public Utilities Commission.
5. Continue work in the area of general rate studies and cost of service.
6. File "Electric Conservation Plan" with the Department of Energy (DOE) required by Section 808 of the Powerplant and Industrial Fuel Use Act of 1978 (FUA).
  - ° Annually update.
7. Apply current end use data from load survey program to each class of customer to update class characteristics.
  - ° Select samples.
  - ° Gather data.
  - ° Analyze.
8. Review Residential Conservation Program mandated by Public Utility Regulatory Policy Act to anticipate ML&P requirements in 1985 or 1986.
  - ° Develop programs to satisfy requirements.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

### Financial Services (Cont.)

9. Improve the recording and reporting of project and management tracking system for improved management of design, construction, scheduling and project costs.
  - ° Conduct preliminary studies.
  - ° Coordinate with other ML&P divisions.
  - ° Design system.
  - ° Implement a computerized construction management program.
  - ° Improve recording and reporting on retirement work orders.
  - ° Budget System.
10. Reorganize the warehouse yard and construct a covered storage facility.
  - ° Provide improved drainage.
  - ° Construct covered storage facility.

### Systems and Communications

1. Enhance computer system security to ensure continuous data integrity.
  - ° Upgrade computer facilities.
  - ° Install uninterruptable power source.
  - ° Extend manned operational hours.
  - ° Increase systems recovery capabilities.

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
------------------	------------------	---	------------------	----------	----------

Systems and Communications (Cont.)

2. Provide enhancements to operational automated systems.
3. Plan, develop/obtain, implement and provide hardware for automated systems and support project management activities.
  - ° Upgrade computer hardware.
  - ° Develop payroll processing system.
  - ° Develop a CPR cost of service module.
  - ° Enhance an outage reporting system.
  - ° Develop automated file index.
  - ° Develop predictive generation maintenance scheduling system.
  - ° Update long-range data processing plan.

Public Utilities	Unit No.	Utility	Unit No.	Division	Unit No.
	8000	Municipal Light and Power	8500		

	<u>Resource Impacts</u>					
	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<u>Growth Factors</u>						
Meters	28,430	29,130	30,600	30,600	31,310	32,160
KWH Sales (MWH)	883,700	989,400	1,024,700	1,052,300	1,077,100	1,100,700
Bond Sales (000)	21,600	21,200	32,100	40,800	16,200	19,300
Grants Anticipated (000)	1,300	1,300	1,300	750	750	800
<u>Personnel Increases</u>						
Dispatch	4	0	0	0	0	0
Consumer Services	2	1	0	0	0	1
ML&P/CEA Boundary Settlement	5	0	0	0	0	0
Normal Growth	<u>4</u>	<u>3</u>	<u>3</u>	<u>5</u>	<u>2</u>	<u>2</u>
Total Increase	15	4	3	5	2	3
Total Manpower	201	205	208	213	215	218
Revenue	57,743,840	72,228,300	74,936,220	81,282,000	93,104,000	99,714,300
Expense	56,415,110	65,989,700	74,665,700	80,819,600	90,547,900	95,337,300
Net Income						
Regulatory	1,328,730	6,238,600	270,520	462,400	2,556,100	4,377,000
Possible Rate Increase		15%		10%	5%	5%

Public Utilities	Unit No. 8000	Utility Municipal Light and Power	Unit No. 8500	Division	Unit No.
MUNICIPALITY OF ANCHORAGE FINANCIAL DATA					
LINE ITEM DESCRIPTION	1983 ACTUAL	1984 PRO-FORMA	1985 PROPOSED	1985 ADOPTED	
<u>STATEMENT OF REVENUE AND EXPENSE</u>					
<u>OPERATING REVENUE</u>					
4400 Residential Sales	7,360,598	10,322,700	12,745,000	12,745,000	
4420 Commercial and Industrial	25,809,442	33,182,750	38,974,300	38,974,300	
4440 Public Highway Street Lighting	1,203,242	1,358,950	1,500,400	1,500,400	
4470 Sales for Resale	206,128	407,230	1,987,000	1,987,000	
4510 Misc. Service Revenues	116,117	120,400	120,500	120,500	
4540 Rent From Electric Property	29,573	35,000	35,000	35,000	
4560 Miscellaneous Revenue	-0-	-0-	1,000	1,000	
Total Operating Revenue	34,725,100	45,427,030	55,363,200	55,363,200	
<u>OPERATING EXPENSE</u>					
Production Expense	14,625,187	18,475,760	22,010,830	22,010,830	
Transmission Expense	121,086	166,300	287,300	287,300	
Distribution Expense	4,338,535	5,330,350	6,642,400	6,642,400	
Customer Account Expense	1,616,815	2,038,210	2,309,700	2,309,700	
Customer Service and Information	135,847	219,320	234,300	234,300	
Administrative & General Expense	1,662,244	2,076,970	2,246,400	2,246,400	
9403 Depreciation	5,091,516	5,542,490	6,033,400	6,033,400	
9404 Depreciation-Contributed Plant	155,376	178,110	180,000	180,000	
9408 Municipal Utility Service Assessment	501,735	678,600	746,580	746,580	
* Total Operating Expense	28,248,341	34,706,110	40,690,910	40,690,910	
Operating Income	6,476,759	10,720,920	14,672,290	14,672,290	



## MUNICIPALITY OF ANCHORAGE

PAGE

Public Utilities	Unit No.	Utility	Unit No.	Division	Unit No.
	8000	Municipal Light and Power	8500		
MUNICIPALITY OF ANCHORAGE FINANCIAL DATA					
LINE ITEM DESCRIPTION	1983 ACTUAL	1984 PRO-FORMA	1985 PROPOSED	1985 ADOPTED	
<u>NON-OPERATING REVENUE</u>					
4150 Revenue from Contract Work	-0-	-0-	-0-	-0-	
4190 Interest	57,431	82,240	82,240	82,240	
4191 Interest Operating Reserve	0	270,000	326,100	326,100	
4192 Interest - Bond Redemption Cash	1,011,866	1,171,600	1,386,600	1,386,600	
4193 Interest From General Cash Pool	239,519	219,860	220,700	220,700	
4194 Interest - Debt Service Fund	120,125	274,740	275,000	275,000	
4210 Misc. Non-Operating Revenue	69,626	87,770	90,000	90,000	
Total Non-Operating Revenue	1,498,567	2,106,210	2,380,640	2,380,640	
<u>NON-OPERATING EXPENSE</u>					
4160 Cost and Expense of Contract Work	-0-	-0-	-0-	-0-	
9427 Interest on Bonded Debt	7,518,746	11,316,660	14,858,200	14,858,200	
9428 Amortization of Bond Sale Costs	149,832	346,000	346,000	346,000	
9431 Other Interest Expense	309,191	1,165,800	700,000	700,000	
Total Non-Operating Expense	7,977,769	12,828,460	15,904,200	15,904,200	
Non-Operating Income (Loss)	(6,479,202)	(10,722,250)	(13,523,560)	(13,523,560)	
Net Income	(2,443)	(1,330)	1,148,730	1,148,730	
Net Income (Regulatory)	152,933	176,780	1,328,730	1,328,730	
Add: Interest Income Restricted for Bond Construction	621,243	925,900	720,000	720,000	
Less: Depreciation on Contributed Plant	155,376	178,110	180,000	180,000	
Net Income for Government Financial Reporting	618,800	924,570	1,868,730	1,826,730	

MUNICIPAL LIGHT AND POWER  
1985 CAPITAL IMPROVEMENT BUDGET FINANCIAL SUMMARY

Project Title	Total Project Cost 1985	Bond	Operational	Grant
Steam Production	3,150	3,150		
Other Production	6,015	3,830	2,185	
Transmission	1,901	1,901		
Distribution	14,696	12,071	1,325	1,300
General Plant	2,436	668	1,768	
TOTAL	28,198	21,620	5,278	1,300

\$ in thousands

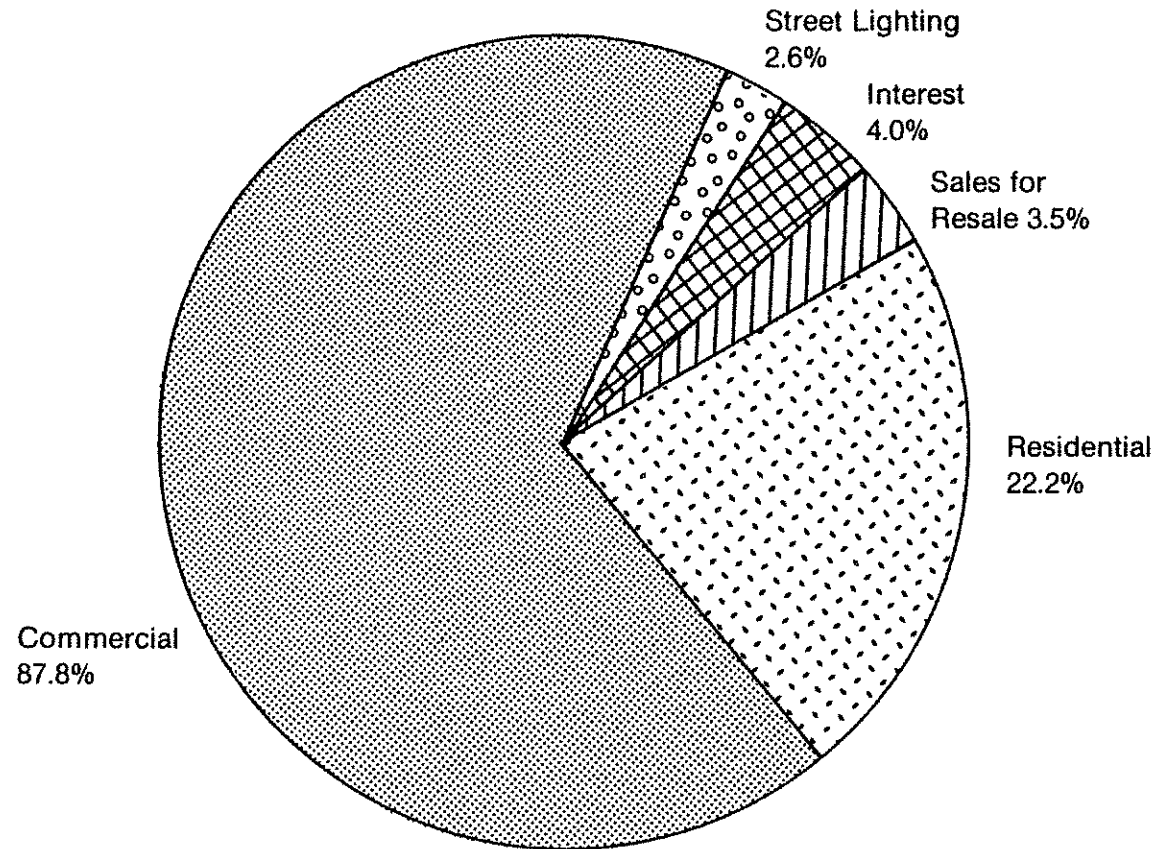
MUNICIPAL LIGHT AND POWER

1985-1990 CAPITAL IMPROVEMENT PROJECT FINANCIAL SUMMARY

Project Title	Total Project Cost						Bond	Operational	Grant	Total
	1985	1986	1987	1988	1989	1990				
Steam Production	3,150	1,550	15,670	16,660			37,030			37,030
Other Production	6,015	6,763	8,188	5,851	7,044	7,542	32,209	9,194		41,403
Transmission	1,901	3,175	641	8,157	1,775	295	15,944			15,944
Distribution	14,696	13,611	11,602	14,166	11,754	15,484	64,921	10,142	6,200	81,263
General Plant	2,436	1,482	1,278	1,829	1,335	1,348	1,094	8,614		9,708
TOTAL	28,198	26,581	37,379	46,663	21,908	24,669	151,198	27,950	6,200	185,348

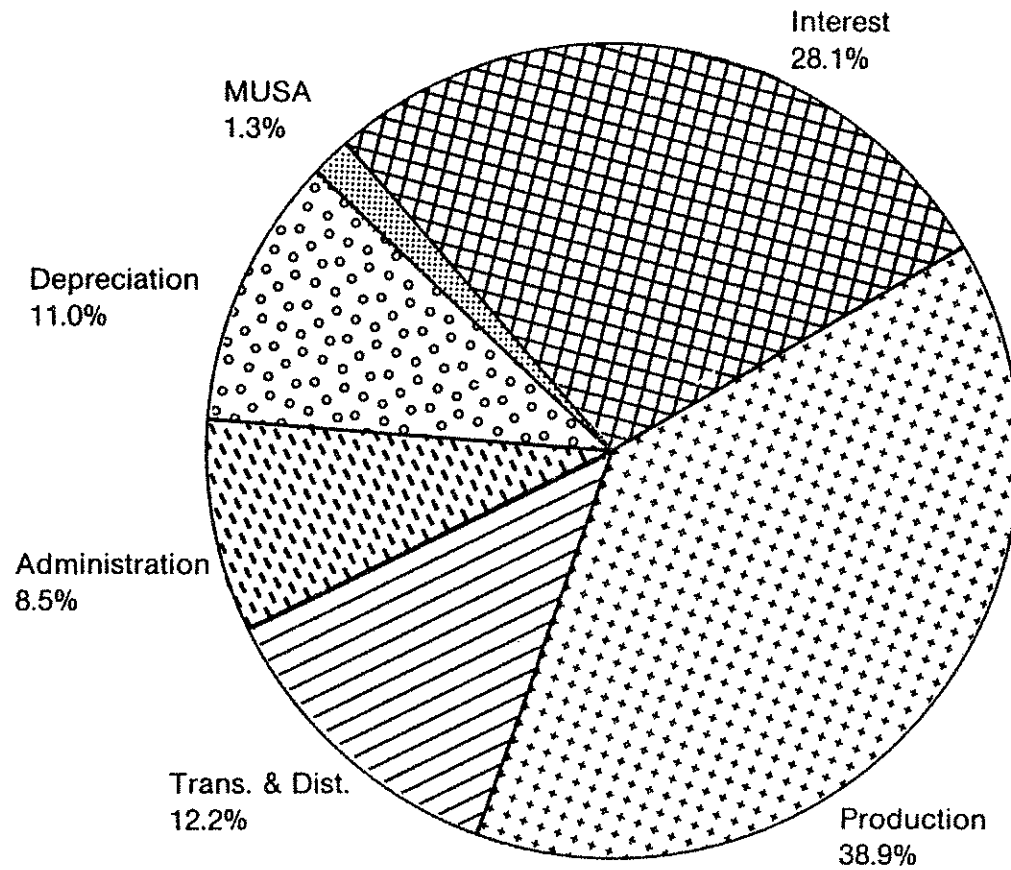
\$ in thousands

**MUNICIPAL LIGHT AND POWER  
SOURCE OF OPERATING FUNDS**



Other Revenues of \$246,500. (.42%) Not Shown

**MUNICIPAL LIGHT AND POWER  
USE OF OPERATING FUNDS**



**MUNICIPAL LIGHT AND POWER  
CAPITAL IMPROVEMENT BUDGET  
1985 - 1990**

