

ARKANSAS POWER & LIGHT COMPANY
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July 30, 1979

WILLIAM CAVANAUGH III

Vice President
Generation & Construction

1-079-12

2-079-13

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Arkansas Nuclear One-Units 1 and 2
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6
Management and Technical Resources
(File: 1510.1)

Gentlemen:

In response to your letter of June 29, 1979, concerning our management and technical resources the following information is provided.

Arkansas Power and Light Company has over 50 years experience in the design, construction, and operation of electric generating plants. Personnel in the Engineering Departments of the Company have supervised and made final decisions on the design and construction of all AP&L generating plants. In the past it has been AP&L's policy in the design and construction of new generating stations to retain independent engineering firms to do design and manage the construction of the projects, while AP&L engineers supervise and maintain quality assurance. While this policy still holds true, much of the work which was once done by the Architect Engineers (AE) is now being performed by "in-house" AP&L engineers.

Arkansas Power & Light now operates 5 steam electric generating plants containing a total of 13 units with a net capability of 2,200,000 kilowatts, two hydroelectric stations with a capability of 69,000 kilowatts, diesel generating units with a total capability of 6,000 kilowatts and five gas turbine units with a capacity of 91,000 kilowatts. In addition to these AP&L owns and operates Arkansas Nuclear One-Units 1 and 2 with kilowatt outputs of 836,000 and 912,000, respectively. Later this year when ANO-2 goes commercial it will bring the AP&L total net electrical generating capacity to 4,950,000 kilowatts.

The Generation and Construction Department of Arkansas Power & Light Company has direct line responsibility for all fossil, nuclear, and hydro electric power production operations. Centralized control over all these operations is maintained by the Generation and Construction Department General Office in Little Rock, Arkansas, directed by the Vice President of Generation and Construction, five directors, and a staff experienced in all phases of station operation and maintenance. Attachment 1 shows this organization.

The senior level management positions are shown in the AP&L corporate organizational chart, Attachment 2. These positions could be called upon in an accident situation to handle: engineering management; logistics support; coordination of activities with local, state and federal agencies; communication network; and overall accident response coordination. These positions have the capability, authority, and responsibility to allocate, on a company-wide basis, the company's resources in their respective areas as needed. A brief summary of positions functions, responsibilities, and authority as well as the incumbent's background is given in Attachment 3.

In the event of an accident, the technical manpower resources that would be available to cope with unique events would principally come from the employees in the Generation and Construction Department and from the plant staff itself. The division and/or divisions within the Generation and Construction Department that now provide(s) or could provide engineering, professional-technical support for ANO in the following areas: A) Nuclear power plant operations, B) Nuclear, Mechanical, Structural, Electrical, Thermal-hydraulic, metallurgical, and materials, instrumentation and controls, and system engineering, C) Plant chemistry and radiochemistry, D) Health Physics, E) Nuclear Fuel, F) Maintenance Engineering, are denoted in Attachment 1 by the appropriate letter corresponding to the categories as described above. In addition, an (F), (P), or (N) will follow the letter indicating whether the technical support is on the basis of full-time, part-time or not assigned at all, respectively.

A brief description of the personnel function, responsibility, and education/experience background of each division within the Generation and Construction Department is given in Attachment 4, "Technical Resources Off-site". Along with the above information Attachment 4 provides information on other professional-technical personnel within AP&L that would assist in an accident situation and a description of Middle South Services capability (A subsidiary of AP&L's holding company, Middle South Utilities).

Perhaps AP&L's greatest asset, should an unlikely accident occur, would be its highly trained plant staff. The organizational structure of the plant staff is shown in Attachment 5. Background information for the Managers and Professional-Technical staff at ANO is given in Attachment 6. Also in Attachment 6 is a summary of the availability of highly trained technicians at ANO.

In addition to the professional staff employed by AP&L and Middle South Services, Arkansas Power and Light, as an owner, has entered into agreement with several firms, such that, upon request by AP&L, these firms will provide consulting, engineering and technical services to support the operations of ANO. Contracts are in place with the following firms

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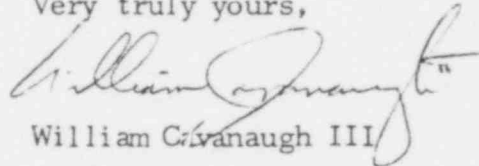
Mr. Harold R. Denton

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July 30, 1979

that allow AP&L to request services on an "as needed" basis: Bechtel Power Corporation; Babcock and Wilcox; Benham, Blair and Affiliate; Combustion Engineering; EDS Nuclear, Inc.; Generation Physics Corp.; NUS Corp.; NUTECH; Allied Nuclear; Institute for Resource Management; Nuclear Support Services; Health Physics Systems; and Stone and Webster Engineering Corp. We can request assistance from any of these firms by a phone call referencing the applicable contract, outlining the type of service needed, and the time for performance. We then followup with written confirmation signed by either ANO's Plant Manager, the Manager of Nuclear Operations, the Director of Generation Operations, the Director of Generation Engineering, the Director of Technical and Environmental Services, or the Vice President of Generation and Construction. None of these contracts specify a termination date. If a notice of contract termination is given by either party, the outside party still has the obligation for completing any assignment authorized prior to notice of termination. In addition to the companies already signed to these contracts, AP&L is presently negotiating similar contracts with NES Corp., EBASCO, and Newport News Industrial.

Very truly yours,

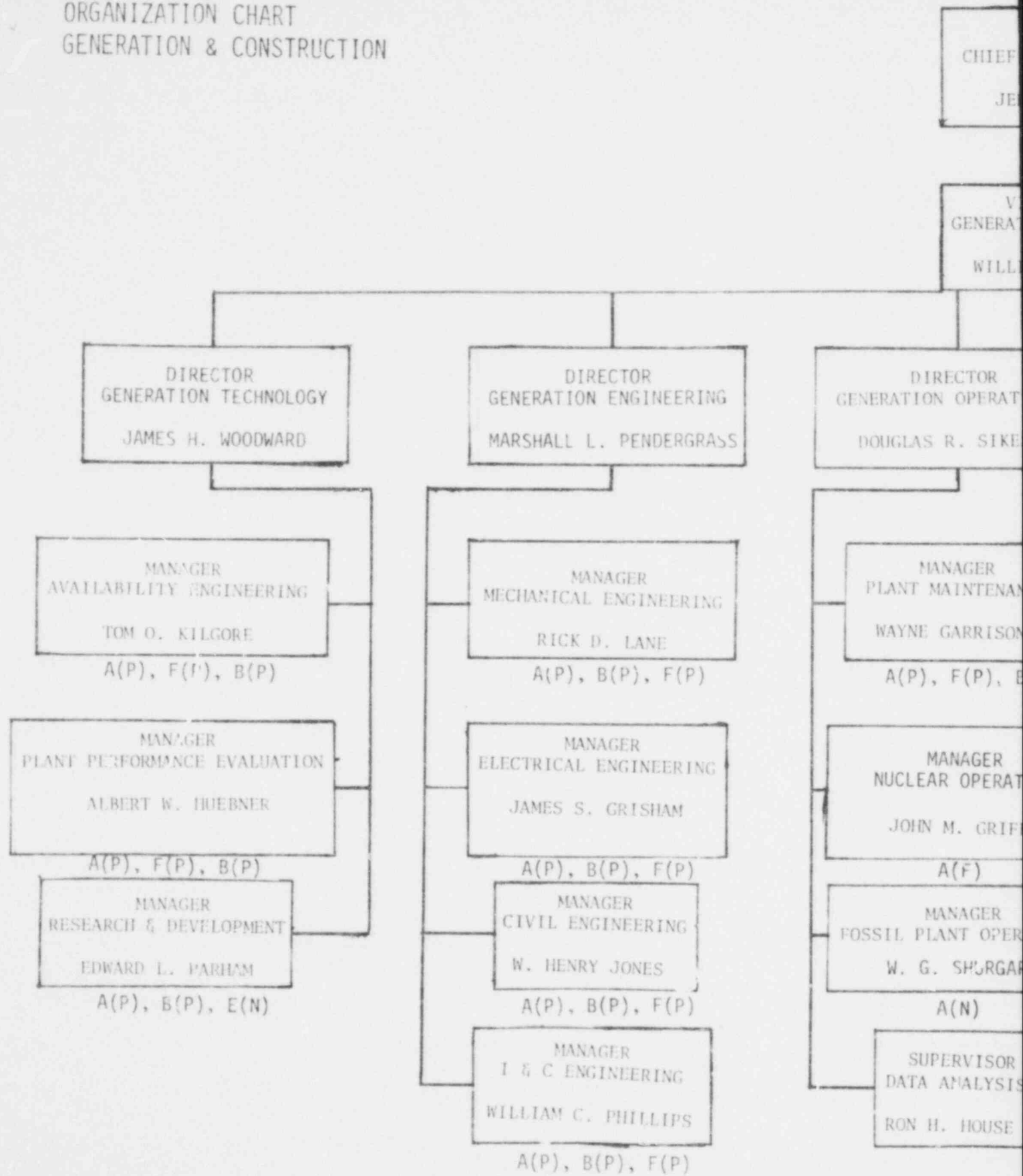


William Cavanaugh III

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ORGANIZATION CHART GENERATION & CONSTRUCTION



PRESIDENT
EXECUTIVE OFFICE
HARRY L. MAULDEN

VICE PRESIDENT
CONSTRUCTION & CONSTRUCTION
JAM CAVANAUGH III

POOR ORIGINAL

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S

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(P)

IONS
IN

ATIONS

DIRECTOR
TECHNICAL AND ENVIRONMENTAL SERVICES
DONALD A. RUETER

DIRECTOR
ADMINISTRATIVE SERVICES & PROJECT SUPPORT
VAN H. BROWNING

MANAGER
LICENSING
DAVID C. TRIMBLE
A(P) B(P)

MANAGER
QUALITY ASSURANCE
LARRY W. HUMPHREY
A(P) B(P)

MANAGER
TECHNICAL ANALYSIS
DALE L. SWINDLE JR.
A(r), C(P), D(P), B(P)

MANAGER
NUCLEAR FUELS
B. L. DOW
A(F), B(P), E(F)

MANAGER
NUCLEAR PLANT
JAMES P. O'HANLON
A(F)

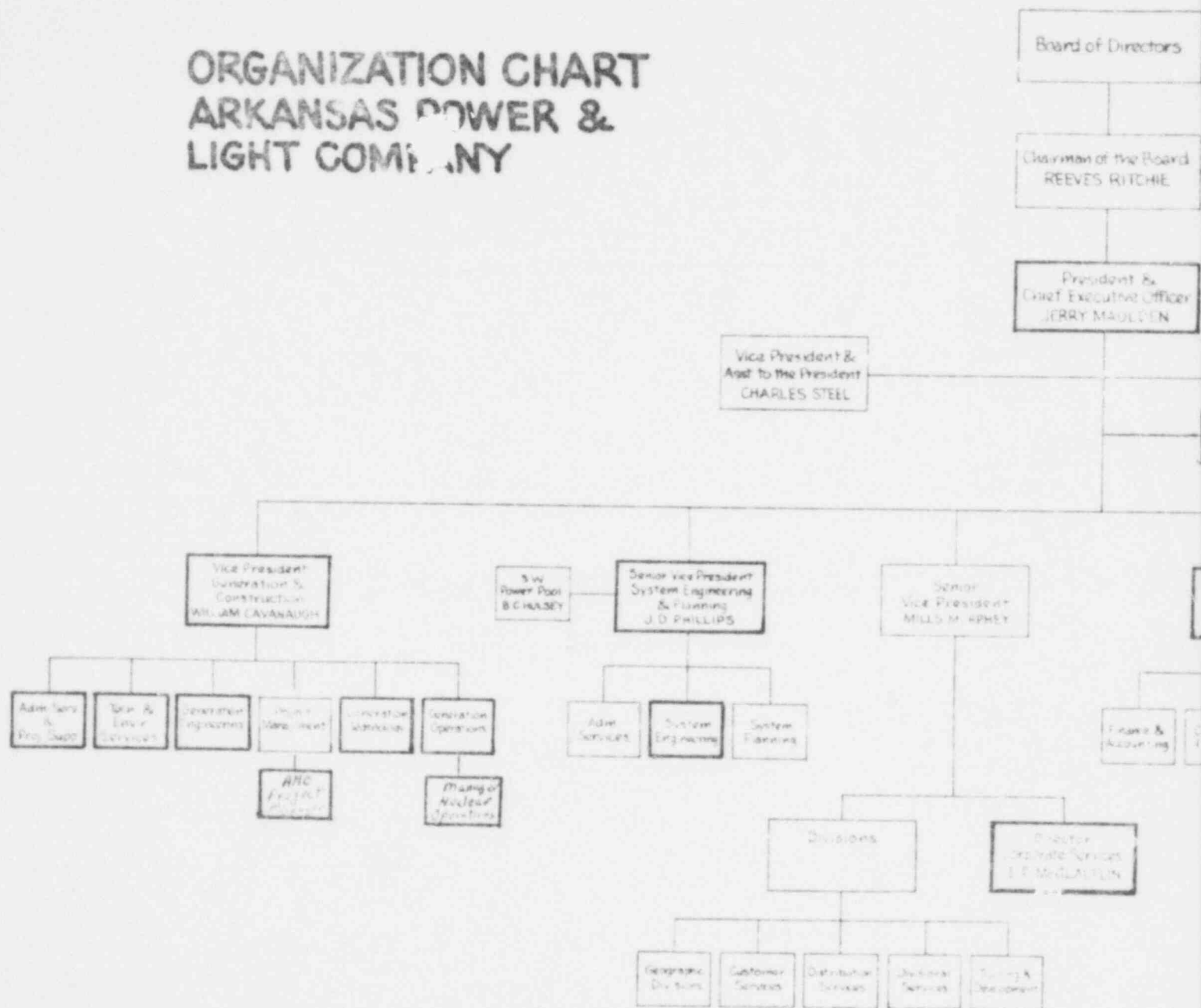
MANAGER
PLANNING AND SCHEDULING
VINCE WILLETT

MANAGER
GENERAL SERVICES
FLOYD H. YEAGER

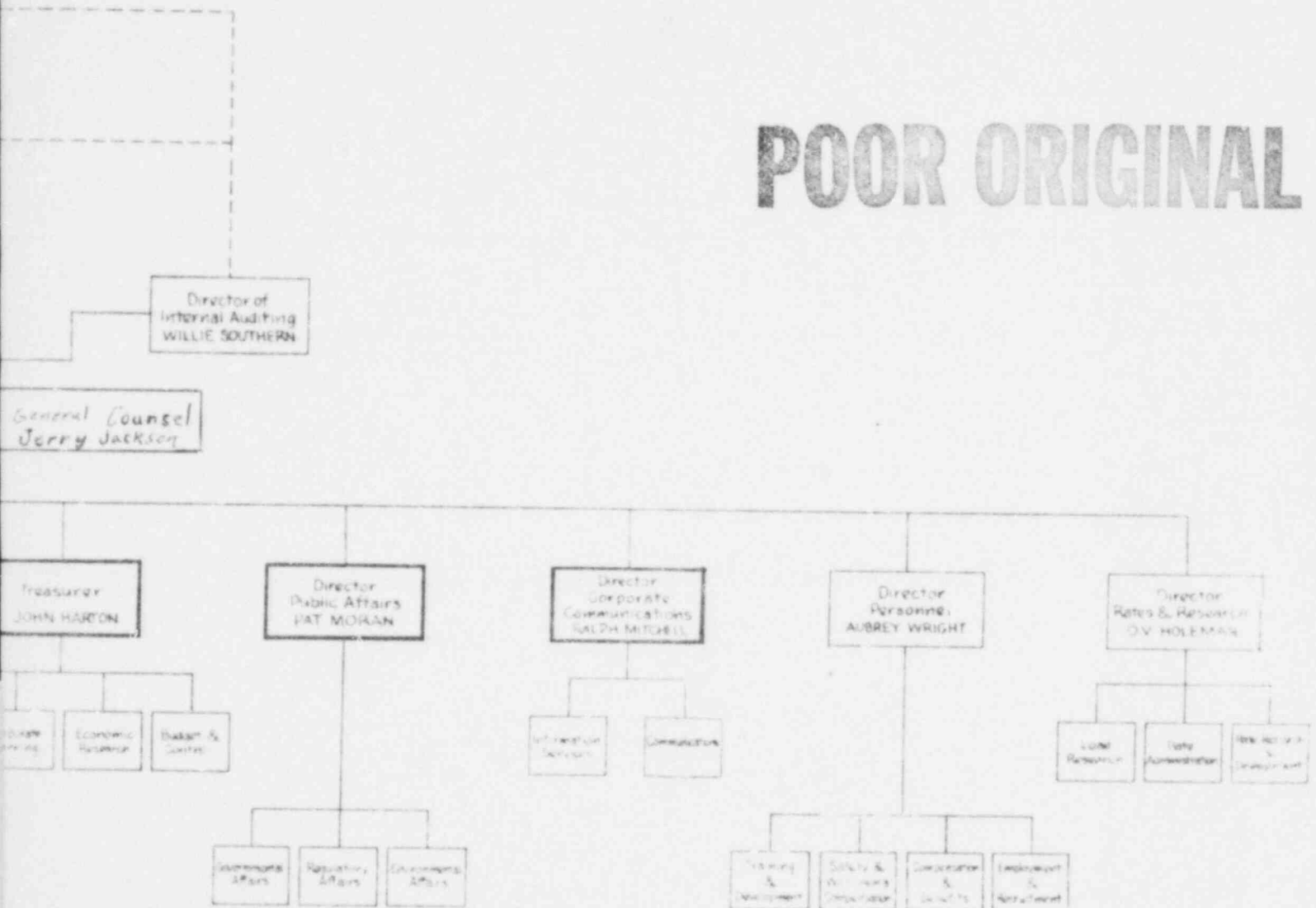
MANAGER
TRAINING
W. GERALD SHURGAR III

MANAGER
CONTRACTS ADMINISTRATION
TOM E. OLIVER

ORGANIZATION CHART ARKANSAS POWER & LIGHT COMPANY



POOR ORIGINAL



ATTACHMENT 3

MANAGEMENT RESOURCES (OFF-SITE)

POSITION: President and Chief Executive Officer
NAME: Jerry L. Maulden
Position Summary Chief Executive Officer,
responsible for all Company decisions

Background

Mr. Jerry L. Maulden, President, and Chief Executive Officer since April 1979, has been continuously employed by Middle South Utilities, Inc. or Arkansas Power and Light Company since 1965. First serving as Assistant to the Company Treasurer in Pine Bluff, Mr. Maulden was promoted to Supervisor of Taxes and Cost Accounting in 1966, was named Special Assistant Controller in 1968, and Controller and Assistant Secretary in 1969. Serving as Special Assistant to the President in 1971-72, Mr. Maulden was elected Treasurer and Secretary and Chief Financial Officer in 1973 before his election as Vice President of Financial Services in 1975.

Mr. Maulden moved to New Orleans in April 1978, where he was elected Vice President, Treasurer and Assistant Secretary of Middle South Utilities, Inc. He held those same posts with Middle South Services, Inc., while also serving as Treasurer and Assistant Secretary of Middle South Energy, Inc., and System Fuels, Inc. Mr. Maulden was elected President of Middle South Services, Inc., in February 1979.

Jerry Maulden was awarded a BS degree in accounting by Little Rock University in 1963. Before joining AP&L in 1965, Mr. Maulden became a Certified Public Accountant and was affiliated with the Missouri-Pacific Railroad; Dyke Associates; James Madigan and Co., CPA; and Dillard's Department Stores.

POSITION: Vice President Generation & Construction
NAME: William Cavanaugh, III

Position Summary

Manages the Generation and Construction Department of AP&L. Provides direction to all activities of all department organizations, all power plants, management control over design and construction projects, new generation technology and methods to increase power plant reliability and efficiency.

Background

Mr. William Cavanaugh, III, Vice President, Generation & Construction, was employed by Arkansas Power & Light Company in April 1969, and initially worked on the design, construction, licensing and initial operation of Arkansas Nuclear One. In January 1970, Mr. Cavanaugh was named Assistant Plant Superintendent of Arkansas Nuclear One and in December 1971, he was promoted to Production Project Manager for Arkansas Nuclear One. In March 1974 he was promoted to Manager of Nuclear Services and as such was responsible for the coordination and direction of activities associated with the engineering, design, construction, licensing and operation of AP&L nuclear power plants (presently includes Arkansas Nuclear One). In June 1976 he was promoted to Assistant Director of Power Production. He assumed the position of Executive Director, Generation and Construction in August 1977, and was promoted to Vice President in January 1979. He graduated from Tulane University with a Bachelor of Science degree in Mechanical Engineering in 1961. He served in the U. S. Navy from 1961 to 1969 and during this time he completed one year of nuclear power training at the U. S. Naval Nuclear Power School, Mare Island, California, and the AIW (Westinghouse) prototype at Arco, Idaho. This training included detailed coverage of nuclear theory and engineering and operation of pressurized water reactors and their platforms. He served in various engineering duty assignments aboard nuclear powered submarines and was a qualified chief engineer on an S5W Naval pressurized water reactor plant. Mr. Cavanaugh is a registered professional engineer in the State of Louisiana. He is a member of the American Nuclear Society, the American Society of Mechanical Engineers, the American Society for Testing and Materials, and the EPRI Nuclear Power Divisional Committee.

POSITION: Senior Vice President System Engineering
and Planning

NAME: J. D. Phillips

Position Summary

Responsible for ensuring that AP&L has facilities to produce, transmit, and distribute sufficient power and energy to supply requirements of all its customers in an economical manner consistent with reliability, coordinating with other entities of the Middle South Utilities System and other adjoining utilities.

Background

Mr. J. D. Phillips is Senior Vice President System Engineering and Planning of Arkansas Power & Light Company. He graduated from Mississippi State University in 1941 with a degree of Bachelor of Science in Electrical Engineering. Mr. Phillips is a registered professional engineer in both Mississippi and Arkansas. He is a member of the National Society of Professional Engineers, the Arkansas Society of Professional Engineers and the Institute of Electrical and Electronic Engineers.

Mr. Phillips was elected Vice President in 1967. In 1972 he was elected to the Board of Directors. In 1973 he was made Senior Vice President and in 1977 he was placed in charge of the System Engineering and Planning Division.

POSITION: Treasurer

NAME: John J. Harton

Position Summary

Responsible for the coordination of Financial Services, Financial Accounting, Corporate Planning, Budget and Control, and Corporate Economics.

Background

Mr. John J. Harton, received his Bachelor of Science degree in Electrical Engineering in 1964 and a Master of Science degree in Electrical Engineering in 1965; both from the University of Arkansas at Fayetteville. He began his AP&L career in 1965 as a System Analyst. From April 1969 to May 1971 he served as Executive Assistant to the President. In 1971 he was promoted to Manager of the Organization and Method Section. In 1974 he became Director of the Corporate Planning Department and in May 1979 he was promoted to his present position of Treasurer. Mr. Harton is a member of the Institute of Electrical and Electronics Engineers, Arkansas State Society of Professional Engineers, Southeast Arkansas Chapter.

POSITION: Director Public Affairs

NAME: Pat Moran

Position Summary

Responsible for and ensures that governmental and environmental interaction with AP&L is harmonious and compatible with the accomplishment of the overall company objectives as well as the long-range goals of AP&L.

Background

Mr. Pat Moran, received a BSBA degree in Industrial Relations in 1958 and a Juris Doctor in 1961, from the University of Arkansas at Fayetteville. From 1961 to 1971 Mr. Moran practiced law in private law practice in Batesville and Little Rock. From 1971 to 1975 he served as Chairman of the Arkansas Public Service Commission. In 1976 he joined U. S. Senator Dale Bumpers as an Administrative Assistant and served with him until 1978 when he joined AP&L, as Coordinator of Legislative and Regulatory Affairs. He was promoted in 12/78 to Director of Governmental Affairs and then in May 1979, he was promoted to his present position of Director of Public Affairs.

POSITION: Director of Corporate Communication

NAME: Ralph C. Mitchell, III

Position Summary

Responsible for AP&L's overall communications with employees and various external public communications. Reports to the President of AP&L.

Background

Mr. Ralph C. Mitchell, III, received a BA degree in Business Administration from Tulane University in 1957. Mr. Mitchell has served 10 years in general management and administration with AP&L and has served 6 years at the Executive level of management.

POSITION: Director, Administrative Services &
Project Support

NAME: Van H. Browning

Position Summary

To assist the Generation and Construction Department at the General Office and at the Field Construction Site in all administrative facets of its power plant responsibilities by providing a set of administrative and project support services.

Background

Mr. Van H. Browning, received his Bachelor of Science degree in Electrical Engineering in 1965 from Louisiana Polytechnical Institute. He began his AP&L career in June of 1961 as a student cadet in Hot Springs. After serving in various capacities (i.e., Distribution Engineer, Executive Assistant, and Manager of Distribution Engineering), he was promoted to his present position in March 1978.

POSITION: Director, Technical and Environmental
Services

NAME: Donald A. Rueter

Position Summary

To oversee activities that assist the Generation and Construction Department in planning, design, construction and operation of power plants by providing a set of specialized technical and environmental support services in: Plant Licensing; Nuclear Fuel Management; Quality Assurance and Control; Chemical, Environmental and Metallurgical Analysis.

Background

Mr. Donald A. Rueter, Director, Technical & Environmental Services since September 1977, is a 1971 graduate of the University of Missouri at Rolla with a Bachelor of Science degree in Nuclear Engineering. Mr. Rueter joined the Arkansas Power & Light Company in June 1971, and initially was involved in performing design review and licensing work on Arkansas Nuclear One. In May 1974 he was promoted from Production Engineer to Licensing Supervisor, and July 1976 to Manager of Licensing before being promoted to his present position in September 1977. He is a registered Professional Engineer in the State of Arkansas and is a member of the American Nuclear Society. Mr. Rueter has been extensively involved in the utility review of Standard Technical Specifications and is a member of the industry working group ANS 58.4, which is developing guidance on technical specifications for nuclear power stations.

POSITION: Director, Generation Engineering

NAME: Marshall L. Pendergrass

Position Summary

Responsible for the administration and direction of Engineering activities in support of nuclear and fossil power plant design, construction and operation. Generation Engineering provides technical services to Generation Operations in the areas of design, design changes, specifications, and as-built drawings for operational nuclear and fossil power plants. Director has authority to specify designs, purchase equipment and utilize outside engineering services to meet the overall responsibilities for the department.

Background

Mr. Marshall L. Pendergrass, Director, Generation Engineering, is a 1969 graduate of the University of Arkansas with a Bachelor of Science degree in Electrical Engineering and a 1971 graduate of the University of New Mexico with a Master of Science degree in Nuclear Engineering. Mr. Pendergrass received eight months training on the Annular Core Pulse Reactor, a TRIGA type pulse reactor, at Sandia Laboratories while working on a research fellowship. Mr. Pendergrass also conducted neutron physics and criticality experiments on the University of New Mexico test reactor (AGN-201) and the Sandia Test Pulse Reactor (Spur). He began work at Arkansas Power & Light Company in June 1971, performing fuel management and design review work on Arkansas Nuclear One. In May 1974 he was promoted from Production Engineer to Fuel Management Supervisor and in July 1976 to Manager, Nuclear Fuel and promoted to his present position in September 1977. He is a registered Professional Engineer in the State of Arkansas and a member of the American Nuclear Society, the Institute of Nuclear Materials Management, and the American Society for Testing Materials.

POSITION: Director, Generation Technology
NAME: James H. Woodward

Position Summary

Provides guidance to ensure that Arkansas Power and Light Company remains abreast of the "State-of-the-Art" in power generation technology and incorporates technological innovations where economically and operationally feasible in the planning, design, construction and operation of power plants by the Department's involvement in, plant performance evaluation, availability engineering, and research and development programs.

Background

Mr. James H. Woodward, has been with the Company since 1946, having held various operating jobs within the Company's generating stations before being promoted to Assistant Manager of the Production Department in 1965. Mr. Woodward was responsible for Operation and Maintenance of the present facilities of the Company until his promotion to Director of Power Production in August 1971. Mr. Woodward is a member of the American Society of Mechanical Engineers. He has actively participated in the evaluation studies for Arkansas Nuclear One and has been engaged in the planning for this Unit. In preparing himself for this work he has visited and studied a number of nuclear generating plants, including Indian Point, Dresden I, Shippingport, Pathfinder, and most recently Connecticut Yankee. Through studies, reports, and meetings Mr. Woodward has kept himself advised on all nuclear projects in which the Company has been participating. He assumed his present position in August 1977.

POSITION: Director, Generation Operation
NAME: Douglas R. Sikes

Position Summary

Provides guidance, coordination, communication, and supervision to all power plants through operations, maintenance, staffing, and training. Provides contact support to management, public, regulatory agencies, power companies, and media.

Background

Mr. Douglas R. Sikes, Director, Operations, since September 1977, is a 1969 graduate of the University of Arkansas with a Bachelor of Science degree in Mechanical Engineering. He has been with Arkansas Power & Light Company since February 1969, and was assigned to a fossil power plant for six months to receive training in operation, maintenance, and supervision. Mr. Sikes returned to the General Office in October 1969 to evaluate bid proposals on 750 MWe capacity fossil steam generating equipment for the Middle South System. In the spring of 1970, he was promoted to Production Engineer, General Office, and was responsible for all Arkansas Power & Light Company power plant performance testing direction

of Assistant Engineers and Engineering Technicians, review of operation and maintenance procedures, various research projects, economic evaluations, training of Results and Assistant Engineers, and procurement of various licenses and permits necessary for operation of existing power plants. Mr. Sikes worked closely with the installation and startup of five peaking gas turbines, and attended a one week training school in gas turbine maintenance and instrumentation. He has been responsible for coordination and supervision of several construction projects, including fuel loading facilities, large oil tanks, and fuel conversions at existing power plants. Mr. Sikes has successfully completed the basic nuclear theory courses, the 880/881 Nuclear Instrumentation Course and the 820 Electrical Analog Control Course. He has attended the B&W PWR Technology Course. He has received six weeks total observation training at Ginna Station (refueling and operations) and at Oconee Station (initial fueling) in late 1972 and early 1973. Mr. Sikes directly supervised twenty instrument technicians during the preoperational testing, hot functional testing, and power escalation testing of Arkansas Nuclear One-Unit 1. During the same period, he served as Station Test Coordinator for nineteen test procedures. He was promoted to Instrument and Control Supervisor at Arkansas Nuclear One in April of 1975 with responsibility for all instrumentation and instrument personnel associated with both Units 1 and 2. In June 1975 he was promoted to Production Project Supervisor, and in July 1976 to Manager, Nuclear Projects. He has served as a member of the Quality Assurance Committee and is a member of the American Society of Mechanical Engineers, the American Nuclear Society, and serves on the Executive Committee of the Steam Generator Owners Group.

POSITION: Manager, Nuclear Operations

NAME: John M. Griffin

Position Summary

The Manager, Nuclear Operations has responsibility for overall management activities related to the effective operation and maintenance of AP&L nuclear generating facilities. This includes providing general direction to (nuclear) plant manager(s), development of strategic planning, personnel staffing, integrated training programs and proper administration of the General Salary Program. He is the focal point of coordination between AP&L and Middle South in all matters related to nuclear generation. Of critical importance, this position will provide the depth required to assume full authority and effective management of the nuclear plant(s) should such crisis arise.

Background

Mr. John M. Griffin, Manager, Nuclear Operations, is a 1967 graduate of the U. S. Naval Academy with a Bachelor of Science in Mechanical Engineering. He began work with Arkansas Power and Light Company in December, 1978. Mr. Griffin served with the U. S. Navy from 1967 to 1973. During this time he completed one year of nuclear power training at the U. S. Naval Nuclear Power School, Bainbridge, Maryland and the S3G prototype at Saratoga Springs, New York. He served in various engineering

duty assignments aboard nuclear powered submarines and was qualified chief engineer on an S5W naval pressurized water reactor plant. He worked for Carolina Power and Light Company from 1973 to 1976 at Brunswick Nuclear Power Plant. During the period he held various positions including Startup Supervisor and Engineering Supervisor. From 1976 to 1978 Mr. Griffin was with the Power Authority of the State of New York. He held this positions of Assistant Manager Nuclear Operations and Manager, Nuclear Operations (Acting). In these capacities he provided overall guidance, direction and support for the operation of the James A. Fitzpatrick Nuclear Power Plant and the Indian Point 3 Nuclear Power Plant.

POSITION: Former ANO-2 Project Manager

NAME: Neel A. Moore

Position Summary

Managed the nuclear power plant construction job; has design responsibility and construction supervision of contractor and company personnel.

Background

Mr. Neel A. Moore, Former Project Manager for Arkansas Nuclear 2, is a 1964 graduate of Mississippi State University and holds a Bachelor of Science degree in Civil Engineering. He is a registered professional engineer (structural) in Arkansas and a member of the National Society of Professional Engineers, and Arkansas Society of Professional Engineers, the American Society of Civil Engineers, and the Quality Assurance Committee of the Southeastern Electric Exchange. Mr. Moore began work for Arkansas Power & Light Company in February 1964 as a Cadet Engineer in the Transmission and Construction section of the Engineering Department. In October 1977, Mr. Moore was promoted from Manager of Quality Assurance to the position of Project Manager ANO-2 he remained at this position until ANO-2's completion, after which in 1979 he was transferred to Independence Steam Electric Station (fossil) Project Manager.

POSITION: Director, System Engineering

NAME: R. W. Toler

Position Summary

Responsible for design of, engineering, procurement of materials, construction, operation and maintenance of all AP&L facilities between plant generators and distribution feeders in an economical manner consistent with reliability.

Background

Mr. R. W. Toler, graduated from the University of Arkansas in 1947 with a Bachelor of Science degree in Electrical Engineering. He is a registered

professional engineer in Arkansas, and a member of the National society of Professional Engineers, the Arkansas Society of Professional Engineers and the Institute of Electrical and Electronics Engineers. Mr. Toler began work for Arkansas Power & Light Company in February of 1947 as an Electrical Engineer, and has been employed by the Company since that date as Electrical Engineer, Manager of Research and Design, Assistant Chief Engineer, and since May 7, 1975 as Director of System Engineering. Mr. Toler has been active in the evaluation studies for Arkansas Nuclear One and is primarily responsible for the electrical design and layout work for Arkansas Power & Light Company.

POSITION: Director, Corporate Services

NAME: E. P. McGlaufflin

Position Summary

Responsible for recommending basic company policy regarding Insurance Claims, Transportation, Purchasing & Stores, Computer Services, Industrial Engineering, and Property & Facilities. After approval by Senior Vice President, Divisions, the Director of Corporate Services is responsible for implementing these policies to ensure effective rendering of these services to the company.

Background

Mr. E.P. McGaulflin graduated from Bowdoin College in 1947 with an AB degree. He later attended Columbia Graduate School of Business where in 1955 he graduated with a MS in Economics and Production Management. Mr. McGlaufflin served 5 years in the USAF from 1949 to 1954. In 1954 he went to work for Ebasco Services Consulting where he was engaged in consulting services for public utilities. In 1959 he joined AP&L as Manager for Organization and Methods. In 1963 he was promoted to his present position.

ATTACHMENT 4
TECHNICAL RESOURCES OFF-SITE

A brief summary of the function and responsibility of each division within the Generation and Construction Department, that now provides or could provide engineering and/or Professional-Technical support for ANO, is given below.

GENERATION TECHNOLOGY

AVAILABILITY ENGINEERING:

Develop a comprehensive reliability improvement program that will include data gathering, analyzing, and making recommendations for correcting deficiencies that cause outages.

PLANT PERFORMANCE EVALUATION:

Develop a testing and evaluation program that will enable writing operating and maintenance procedures aimed at maximizing efficiency and reliability. Develop trend analysis that will easily spot deficiencies. Perform operational audits to ensure that procedures are being followed.

RESEARCH AND DEVELOPMENT

Develop and coordinate Generation and Construction research activity. Analyze all potential activities to determine those that have profit potential for AP&L. Act as liaison between Generation and Construction Department and outside research activity.

GENERATION ENGINEERING

MECHANICAL ENGINEERING:

Develop and provide technical expertise in all mechanical engineering matters pertaining to power plant design, construction, startup and operations. Develop mechanical engineering methods and coordinate the mechanical engineering services to support all operating power plants and future power plant studies.

ELECTRICAL ENGINEERING:

Develop design criteria and engineering methods to provide the electrical design work for operating plant modifications. Provide electrical design standards to Project Management to support new power plants under construction. In general, provide the necessary technical expertise in all electrical matters pertaining to power plant design, construction, startup and operations.

CIVIL ENGINEERING:

Responsible for AP&L's Civil Engineering for new power plant site development, design and construction and for Civil Engineering support required by modifications to existing power plants.

INSTRUMENTATION AND CONTROL (I&C) ENGINEERING

To develop I&C engineering methods, to support all operating power plants and future power plant studies by providing direct technical expertise, and to support project management teams by providing personnel to satisfy their I&C engineering requirements.

GENERATION OPERATIONS

PLANT MAINTENANCE:

Organizes and oversees the planning, scheduling and follow-up reporting of maintenance related activities at all Company generating facilities in a manner that will ensure minimum generating unit downtime and maximum maintenance crew productivity.

NUCLEAR OPERATIONS:

Responsible for the overall management activities related to the effective operation and maintenance of AP&L nuclear generating units.

FOSSIL PLANT OPERATIONS:

Responsible in all areas of management of all fossil fuel power plants. Requires that all plants produce reliable, dependable, efficient and economical power.

TECHNICAL AND ENVIRONMENTAL SERVICES

LICENSING:

Coordinator between AP&L and Federal and State Regulatory bodies to obtain permits-licenses for operation-construction of power plants. Requires coordination of safety analysis of nuclear plants.

QUALITY ASSURANCE:

Assures all Company and government regulations are met. Has responsibilities assuring that the Company receives a safe, reliable and quality product from power plant construction, and has responsibilities assuring that nuclear power plant operation is in accordance with federal QA requirements.

TECHNICAL ANALYSIS:

Provides management and necessary scientific data, programs and activities to the power plants in a supportive role from the Technical and Environmental Services Department.

NUCLEAR FUELS:

Has responsibilities in design, procurement, fabrication and delivery of nuclear fuel for power plant use. Administers nuclear fuel program, assures a supply of fuel and the safe, efficient design-operation of the reactor core.

A summary of the technical resources available in each of these divisions is presented in the following tables.

Technical Staff (Offsite)

Generation Technology

Availability Engineering

Plant Performance Evaluation

Research & Development

1.	Total number (Managers, Engineers, and Professional Personnel)	1-Manager 2-Engineering Researcher 1-Operations Researcher 1-Engineering Tech	1-manager 3-Engineers 1-Engineering Tech	1-Manager 3-Engineers
2.	By education background, e.g.	2-BS Mechanical Engr. 1-BS Chemical Engr. 1-BS Math 1-AS Engr. 1-MS Industrial Engr. 1-MS Operations Research	3-BS Mechanical Engr 1-BS Nuclear Engr. 1-BS Math 1-MS Mechanical Engr.	1-BS Chemistry 1-BS Chemical Engr. 1-BS Nuclear Engr. 1-MS Mechanical Engr.
3.	Technical Experience (in man-years)			
a.	Engineer			
	(1) Nuclear Power Field	4.0	4.5	9.0
	(2) Engineering Management	2.0	1.3	13.0
	(3) Total Utility Experience	10.0	16.0	8.0
b.	Field	F N	F N	F N
	(1) Reliability Engr.	- 4.0	- -	- -
	(2) Mechanical Engr.	2.5 0.5	0.75 10.0	- -
	(3) Nuclear Navy	10.0 -	- -	- -
	(4) Operations Research	- 3.0	- -	- -
	(5) Project Engr.	- 1.0	- -	- -
	(6) Engr. Management	0.5 0.5	- -	1.0 12.0
	(7) Engr. Tech.	1.0 1.0	- -	- -
	(8) Quality Assurance	- -	3.5 0.5	- -
	(9) Computer Tech.	- -	0.25 2.0	- -
	(10) Power System Design	- -	- -	1.0 3.0
	(11) Nuclear Physics & Fuels	- -	- -	5.0 -
	(12) Unconventional Power Sources	- -	- -	- 1.0

* (F) Denotes full time nuclear experience, (N) non-nuclear experience

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Technical Staff (Offsite)
Generation Engineering

	Electrical Engineering	Mechanical Engineering	Civil Engineering	I&C Engineering
1. Total number (Managers, Engineers, and Professional Personnel)	1-Manager 7-Engineers	1-Manager 15-Engineers	1-Manager 5-Engineers	1-Manager 5-Engineers
2. By Education Background, e.g.	7-BS Electrical Engr. 1-MS Electrical Engr.	10-BS Mechanical Engr. 2-BS Nuclear Engr. 1-BS General Engr. 2-MS Mechanical Engr. 1-MS Nuclear Engr.	6-BS Civil Engr. 1-BS Sanitary Engr. 1-MS Civil Engr.	4-BS Electrical Eng. 1-BS Physics 1-BS Mechanical Eng. 1-MS Industrial Eng.
3. Technical Experience (in man-years)				
a. Engineering				
(1) Nuclear Power Field	16.5	54.5	9.9	14.5
(2) Engineering Management	10.0	1.0	6.5	1.5
(3) Total Utility Experience	27.0	52.75	23.3	20.75
b. Field	F N	F N	F N	F N
(1) Electrical Engr. (General)	7.5 19.0	- -	- -	- -
(2) Waste Water Treatment	- 5.0	- -	- -	- -
(3) Communications Engr.	- 2.0	- -	- -	- -
(4) General Office Mechanical Support Engr.	- -	31.5 8.75	- -	- -
(5) Nuclear Navy Exp.	- -	11.5 -	- -	- -
(6) Fossil Plant Operation Engr.	- -	- 8.5	- -	- 6.0
(7) Nuclear Licensing	- -	4.0 -	- -	- -
(8) System Stress Analysis	- -	7.5 6.5	- -	- -
(9) Construction Engr.	- -	- -	- 10.5	- -
(10) Sanitary Engr.	- -	- -	- 2.0	- -
(11) Mining Engr.	- -	- -	- 1.0	- -
(12) Structural Engr.	- -	- -	8.0 15.5	- -
(13) Reactor Engr.	- -	- -	- -	3.0 -
(14) I&C Engr.	- -	- -	- -	3.75 .5
(15) I&C Tech	- -	- -	- -	9.0 -

*(F) Denotes full time nuclear experience, (N) non-nuclear experience

Technical Staff (Offsite)

Generation Operations

	Plant Maintenance		Nuclear Operations		Fossil Plant Operations	
1. Total Number (Managers, Engineers, and Professional Personnel)	1-Manager 3-Maintenance Coordinators		1-Manager 1-Engineer		1-Manager 1-Engineer	
2. By Education background, e.g.	1-BS Mechanical Engr.		1-BS Mechanical Engr. 1-BS Nuclear Engr.		1-BS Mechanical Engr.	
3. Technical Experience (in man years)						
a. Engineering						
(1) Nuclear Power Field	9.0		15.0		-	
(2) Engineering Management	4.0		4.0		33.0	
(3) Total Utility Experience	69.0		11.0		40.0	
b. Field	F	N	F	N	F	N
(1) Navy Engineering	-	9.0	-	-	-	-
(2) Plant Operation & Maint.	7.0	59.0	0.5	-	-	-
(3) Engr. Management	2.0	2.0	-	-	2.0	-
(4) Manager Power Plant	-	-	-	-	31.0	-
(5) Mechanical Engr.	-	-	-	-	-	2.0
(6) Nuclear Navy	-	-	1.0	-	-	-
(7) Nuclear Engr. General	-	-	8.0	-	-	-
(8) Licensing	-	-	5.0	-	-	-

* (F) Denotes full time nuclear experience, (N) non-nuclear experience

Technical Staff (Offsite)
Technical and Environmental Services

	Licensing		Quality Assurance		Technical Analysis		Nuclear Fuels	
1. Total Number (Managers, Engineers, and Professional Personnel)	1-Manager		1-Manager		1-Manager		1-Manager	
	6-Engineers		2-QA Engr.-Engineering		10-Chemists		4-Engineers	
	1-Engineering Tech.		2-QA Engr. Addition		4-Biologists			
			1-Construction Inspector		1-Engineer			
			1-QA Supervisor					
2. By Education Background, e.g.	6-BS Nuclear Engr.		1-BS General Engr.		10-BS Chemistry		3-BS Nuclear Engr.	
	1-BS General		1-BS Civil Engr.		3-BS Biology		1-BS Electrical Engr.	
			1-BS Electronic Tech.		1-BA Biology		1-MS Nuclear Engr.	
			1-BS Industrial Engr.		1-BS Materials Engr.		1-Dr. Nuclear Engr.	
			1-BS Civil Tech		1- Metallurgical Engr.		1-PhD Nuclear Engr.	
					4- MS Chemistry			
					1-PhD Chemistry			
3. Technical Experience (in man-years)								
a. Engineering								
(1) Nuclear Power Field	13.0		38.0		-		13.0	
(2) Engineering Management	0.25		4.50		5.0		2.0	
(3) Total Utility Experience	14.0		35.0		43.0		13.0	
b. Field	F	N	F	N	F	N	F	N
(1) Nuclear Navy	6.0	-	-	-	-	-	-	-
(2) Licensing	9.0	1.0	-	-	-	-	-	-
(3) Operator Training	3.0	-	-	-	-	-	-	-
(4) Quality Assurance/Control	-	-	23.0	0.5	-	-	-	-
(5) Design Engr.	-	-	-	3.0	-	-	-	10.0
(6) Electronics	-	-	-	7.0	-	-	-	-
(7) Civil Inspection	-	-	3.5	3.5	-	-	-	-
(8) Instrumentation Testing	-	-	7.5	0.5	-	-	-	-
(9) Manufacturing/Constr.	-	-	-	-	-	-	-	-
(10) Radiochemistry	-	-	-	-	29.0	9.0	-	-
(11) Analytical Chemistry	-	-	-	-	17.0	18.0	-	-
(12) Environ. Monitoring	-	-	-	-	31.0	5.0	-	-
(13) Metallurgy	-	-	-	-	2.0	5.0	-	-
(14) Radiation Detection Instrumentation	-	-	-	-	26.0	8.0	-	-
(15) Aquatic Biology	-	-	-	-	6.0	4.0	-	-
(16) Terrestrial Biology	-	-	-	-	-	2.0	-	-
(17) Fuel Management	-	-	-	-	-	-	11.0	-
(18) Start-up Engr.	-	-	-	-	-	-	2.0	-
(19) Engr. Management	-	-	-	-	-	-	1.0	11.0
(20) Electrical Engr.	-	-	-	-	-	-	-	1.0
(21) Distribution Engr.	-	-	-	-	-	-	-	3.0
(22) Industrial Engr.	-	-	-	14.7	-	-	-	-

*(F) Denotes full time nuclear experience, (N) Denotes non-nuclear experience

In addition to the General Office and ANO Engineering Staff, AP&L has 23 electrical and 8 Civil Engineers at the Pine Bluff Distribution Center. AP&L also has 6 Mechanical and 2 Electrical Engineers stationed at its Fossil Station for their technical support. All of these Engineers would be available to ANO should they be needed in an accident situation.

In the event of an accident, numerous non-technical sections would be activated which could assist in the recovery. A brief description of some of the more important of these is given in the following.

ADMINISTRATIVE SERVICES AND PROJECT SUPPORT

CONTRACTS ADMINISTRATION:

The Contracts Administration Section has three (3) permanent employees who are routinely familiar with negotiating contracts for outside services and administering these contracts. I feel that in the event of a major emergency, two (2) of these employees on a full-time basis and one (1) on a half-time basis can be assigned the responsibility of assisting in obtaining, negotiating and administering the numerous contracts for outside services that will be required. One of these individuals has a law degree and the other full-time assignee has had extensive experience in contracts administration. If required, two of these employees can be assigned to the plant for the duration of the emergency.

TRAINING:

- 1) General Office Staff - There are currently five (5) employees in the G.O. Training Section who could be made available to ANO during an emergency. These individuals will become more familiar with ANO training activities during the coming months and should be able to assist in general training activities.
- 2) Skill Center Staff - There are 18 training coordinators located at the White Bluff Skills Center. Even though these training coordinators are not trained in nuclear plant operation, they are trained in electrical, I&C and maintenance activities that go on at most any power plant. The required number of training coordinators could be made available to ANO to assist in specific equipment training programs, interface with outside service contractors, or any other non-nuclear activities at the plant. One of these employees has a nuclear waste control operator's license.

PLANNING AND SCHEDULING:

By the end of 1979, we expect to have a minimum of three (3) planning and scheduling coordinators who could be assigned to ANO. These coordinators would be extremely familiar with the use of planning and scheduling techniques (specifically Project/2 which will be utilized at ANO) and could be added to the ANO staff to supplement planning and scheduling requirements for the duration of an emergency.

GENERAL SERVICES:

- 1) Cost and Budget - We would have available three personnel who are extremely familiar with the Company's accounting and budget procedures who could be assigned to assist ANO during this period. The background of these individuals is either CPA's or accounting graduates and have routinely worked with the ANO cost and budget areas of responsibility. Assistance could be provided in accounting for outside services, processing payment and auditing vouchers, if required.
- 2) Document Control - We would have available up to four (4) personnel who could assist in the clerical and document management area. Two of these four would be familiar with Zytron Records Management System which is in use at ANO and could therefore provide immediate assistance in this area. The other two positions would primarily be clerical support.

CORPORATE SERVICES

PURCHASING AND STORES:

The General Office Purchasing and Stores Section is prepared to support the Nuclear Plant Personnel in the Procurement Function in case of a major emergency at the plant. Mr. Mike Roberts, Supervisor of Purchasing, will be in charge of this task force that will function around the clock, if necessary, to provide the proper support. This task force will do the necessary buying, expediting, arrangements for transportation, and arranging support from Vendors, Consultants and Service Agencies.

This task force will consist of: The Chairman, two Nuclear Buyers, two Buyers, and the Manager of Purchasing and Stores.

COMMUNICATIONS

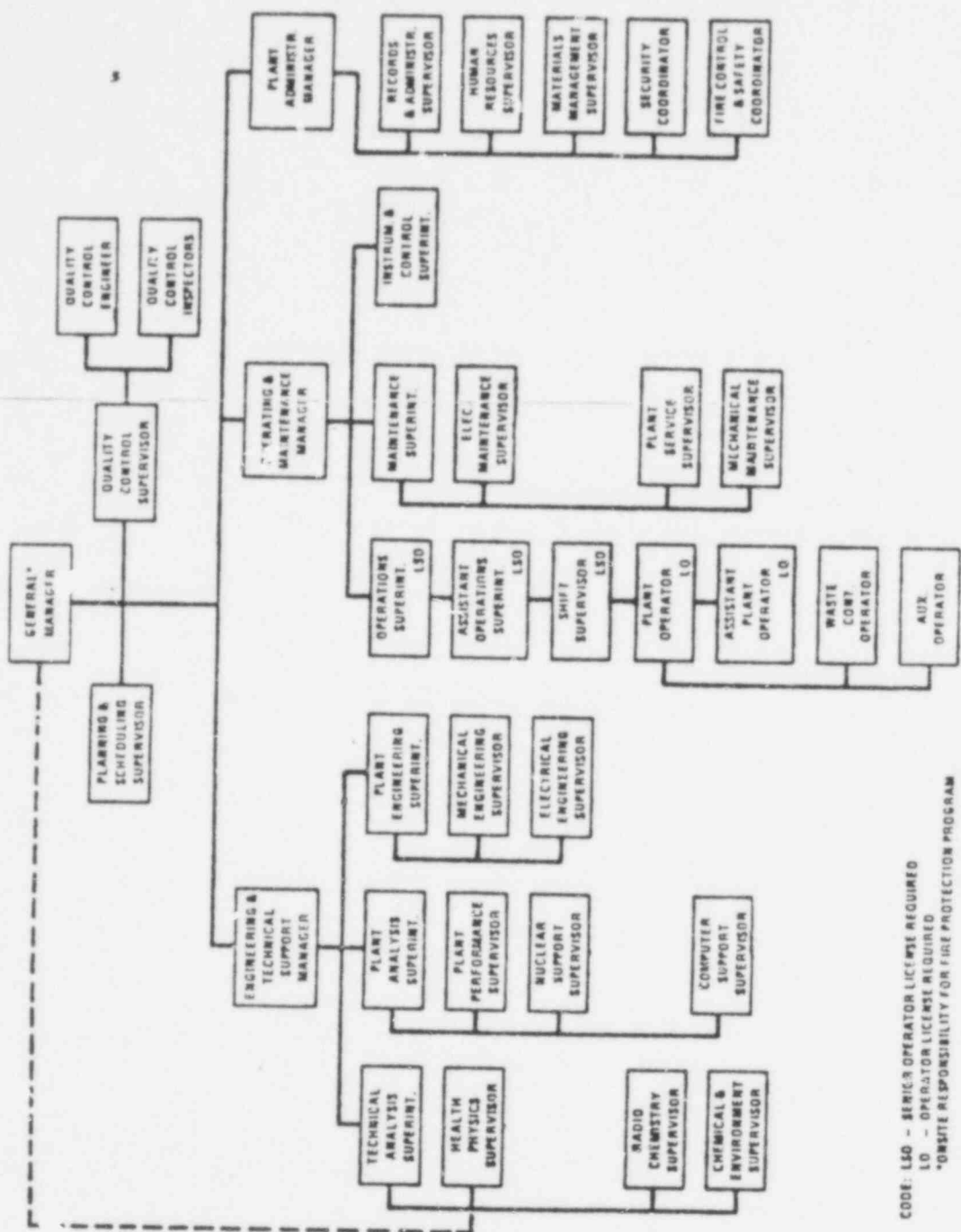
The Communication Department in the near future will have outlined plans which will include, in the event of an accident, assigning staff responsibilities, physical arrangements for handling an unusual number of media representatives, early preparation of background information including plan features, and characteristics.

MIDDLE SOUTH SERVICES

Arkansas Power & Light Company is a subsidiary of Middle South Utilities, Inc. Another subsidiary of Middle South Utilities, Inc., is Middle South Services, Inc. This latter corporation has been created by Middle South Utilities, Inc., to provide consulting services and assistance to its four operating subsidiaries in various technical fields. The employees and consultants of Middle South Services, Inc., are available to Arkansas Power & Light Company to the extent they may be needed. AP&L has utilized the services of the Middle South Services, Inc., staff in planning

for Arkansas Nuclear One-Unit 1 and in the construction and operation of Unit 2. In the area of nuclear analysis Middle South Services has the capability of performing physics calculations, thermal hydraulic analysis, transient analysis, and soon will have the capability to analyze natural circulation using the same model which was used to analyze the TMI-2 core. A summary of Middle South Services technical experience is given below.

1. Total number of engineers: 16
2. Education backgrounds:
 - 5-BS Electrical Engr.
 - 6-BS Nuclear Engr.
 - 1-BS General Engr.
 - 2BS Mechanical Engr.
 - 2-BS Physics
 - 1-MS Engineering Science
 - 5-MS Nuclear Engr.
 - 3-PhD Nuclear Engr.
3. Experience in the Nuclear Field: 190 (man years)



CODE: LSO - SENIOR OPERATOR LICENSE REQUIRED
 LO - OPERATOR LICENSE REQUIRED
 *ON-SITE RESPONSIBILITY FOR FIRE PROTECTION PROGRAM

POOR ORIGINAL

533 200

ATTACHMENT 6
TECHNICAL RESOURCES PLANT STAFF

533 201

Management Position

POSITION: General Manager
NAME: James P. O'Hanlon

Position Summary

The General Manager reports to the Manager of Nuclear Operations and has direct responsibility for operations of the station in a safe, reliable and efficient manner. He is responsible for the protection of the station staff and general public from radiation exposure and other consequences of any incident at the plant. He is responsible for operating the plant within the technical specifications and complying with the provisions of the facility operating license. He is responsible for the overall direction and administration of the training program in order to maintain a qualified staff of technical and operations personnel in accordance with the training section of ANSI NL8.1-1971. The General Manager is a member of the Safety Review Committee.

Background

Mr. O'Hanlon holds a BS Degree from the U. S. Naval Academy. He attended the U.S. Navy Power School and qualified as Engineering Officer of the Watch at the DIG Prototype. He has successfully completed extensive oral and written exams by Naval Reactors and qualified as a Naval Nuclear Engineering Officer.

Mr. O'Hanlon has a total of six years experience in the Naval Power Program. He served as Engineer Officer on a nuclear powered polaris submarine for 1 and 1/2 years and was responsible for all phases of operations, maintenance, and testing of the nuclear reactor and all associated propulsion, electrical, reactor controls and auxiliary systems.

He was also responsible for the training and performance of personnel assigned to the engineering department. He was assigned to Three Mile Island Nuclear Generating Station staff as Nuclear Engineer - Unit 1 in September, 1973 and served in that capacity until July 1, 1975 at which time he was appointed Engineer - Senior 1 - Nuclear. He served as the onsite Nuclear Safety Review Group Board Chairman and Refueling Outage Coordinator. In December, 1976 he received a Senior Reactor Operator's License on Three Mile Island, Unit 1.

On January 1, 1977, he was promoted to Unit Superintendent - Technical Support of Unit 1. On May 15, 1977, he was promoted to Superintendent of Unit 1 and served in that capacity until December 1978, at which time he joined AP&L as General Manager of ANO.

POSITION: Manager, Operations and Maintenance
NAME: Bobby A. Terwilliger

Position Summary

The Operations and Maintenance Manager has the overall responsibility for operation and maintenance at ANO. He directly supervises the Operations, Maintenance and Instrumentation and Controls Superintendents.

Background

Mr. Terwilliger has 19 years of service in the U. S. Navy where he achieved the rank of Master Chief Machinist Mate. He entered the U. S. Naval Nuclear Power School, Mare Island, California in 1960.

After attending the U.S. Naval Nuclear Power School, he qualified as Shift Supervisor on A1W Large Surface Ship reactor. As a Shift Supervisor and Crew Chief, he supervised the training of plant operators in this reactor for 2 and 1/2 years. In 1963, Mr. Terwilliger reported to the USS Enterprise where he qualified as a propulsion plant shift supervisor. During his four years on the USS Enterprise, he played a supervisory role in reactor coolant pump replacements, steam generator repair, and reactor criticalities. Mr. Terwilliger spent two of his years aboard the Enterprise as Supervisor for the Reactor/Engineering Department Quality Control Group and the Nuclear Weld Shop. During 1967 to 1969, Mr. Terwilliger served equally responsible positions aboard the USS Bainbridge. Since joining Arkansas Power and Light Company in January 1970, he has performed in Quality Assurance work at the plant site for a period of one year, and as Shift Operating Supervisor for Arkansas Nuclear One until his promotion to Supervisor of Operations on December 9, 1971. He was appointed to his present position during the reorganization at the end of 1978. Mr. Terwilliger presently has Senior Operator License for Unit 1. He is a member of the American Nuclear Society.

POSITION: Manager, Engineering and Technical Support
NAME: Gordon Harvey Miller

Position Summary

The Engineering and Technical Support Manager has the overall responsibility for Engineering, Radiological Control, Chemistry Control and Environmental Monitoring at ANO. He directly supervises the Technical Analysis Superintendent, and Plant Engineering Superintendent.

Background

Mr. Miller is a 1960 graduate of the University of Arkansas with a Bachelor of Science degree in Mechanical Engineering. He has also done graduate level work in Nuclear Engineering at the University of Arkansas Graduate Institute of Technology in Little Rock.

Mr. Miller has been with Arkansas Power & Light Company since 1962 and has much experience as Results Engineer in generation plants. In 1967, Mr. Miller was assigned to the General Office Production Department performing designing review work on Arkansas Nuclear One. During 1968 and 1969, Mr. Miller left the Production Department Offices for ten months to assist in the preoperational testing program at the SEFOR project. Following the SEFOR assignment, he continued performing design review in the GO Production Department on ANO until his promotion to Assistant Superintendent on December 9, 1971. He also acted in the capacity of Plant Manager for several months prior to the reorganization at the end of 1978, at which time he became the Engineering and Technical Support Manager. Mr. Miller presently has a Senior Operator License for Unit 1, is a member of the American Society of Mechanical Engineers and the American Nuclear Society, and is a registered professional engineer in the State of Arkansas.

POSITION: Mr. Foster, Plant Administrative

NAME: Finley B. Foster

Position Summary

The Plant Administrative Manager has overall responsibility for records management, administrative services, security, human resources development, training, materials management and safety and fire prevention. He directly supervises the Office Services Supervisor, the Security Coordinator, Human Resources Supervisor, Materials Management Supervisor, and the Safety and Fire Prevention Coordinator.

Mr. Foster graduated from the U. S. Naval Academy with a Bachelor of Science Degree in Systems Engineering in 1971. He served in the U. S. Navy from 1971 to 1976 and during this time completed one year of nuclear power training at the U.S. Naval Nuclear Power School, Mare Island, California, and the SIW (Westinghouse) prototype at Idaho Falls, Idaho. This training included detailed coverage of nuclear theory, engineering and operation of pressurized water reactors and their platforms.

Mr. Foster served in various engineering duty assignments aboard nuclear powered submarines and was a qualified chief engineer on a SSW naval pressurized water reactor plant. He is a member of the American Nuclear Society. He was employed by Arkansas Power and Light Company in August 1976, and initially was assigned as a Production Engineer at Arkansas Nuclear One where he worked on design, operation, maintenance and quality control of Arkansas Nuclear One. In November 1977, Mr. Foster was promoted to Mechanical Maintenance Supervisor at Arkansas Nuclear One. His duties included supervision of the mechanical group and resolution of mechanical problems at ANO. He assumed his present position in December 1979.

Plant Staff Position

POSITION: Superintendent, Technical Analysis
NAME: Tom H. Cogburn

Background

Mr. Cogburn is a 1970 graduate of the University of Arkansas with a Bachelor of Science degree in Mechanical Engineering and a 1971 graduate of the University of New Mexico with a Master of Science degree in Nuclear Engineering. Mr. Cogburn has received training on Sandia Laboratories' Annular Core Pulsed Reactor while working on a research project there. From January through June, 1973, Mr. Cogburn attended nuclear engineer training at Babcock & Wilcock Company in Lynchburg, Virginia, and observation training at the Oconee I reactor during fuel loading and physics testing. At Lynchburg, he attended training sessions on PWR design and operation, reviewed and worked with physics calculations, simulated physics tests on the B&W PWR Simulator, received instructions on and operated the Lynchburg Pool Reactor and received fuel cycle analysis and reactor maneuvering training.

Mr. Cogburn was employed by the General Electric Company at the SEFOR reactor from August 1971 to August 1972. At SEFOR, he was involved in conducting tests and analyzing results of core physics experiments. During SEFOR's decommissioning, he had responsibility for defueling and fuel shipping. He joined Arkansas Power and Light Company in September 1972, as an Assistant Engineer at Arkansas Nuclear One. After completion of his training in Lynchburg, Virginia, he participated in the preparation and review of procedures for initial power testing for Unit 1 at Arkansas Nuclear One. In addition, he was directly involved in the conduct of the subsequent analysis of the startup tests. Mr. Cogburn is a member of the American Nuclear Society and has served as Vice Chairman of the Arkansas Section from 1973-1975.

POSITION: Supervisor, Nuclear Support
NAME: Patrick C. Rogers

Background

Mr. Rogers is a 1970 graduate from Mississippi State University with a Bachelor of Science degree in Nuclear Engineering. He received training in all aspects of operations, maintenance, including major overhaul and inspections of plant equipment, plant chemistry and supervision while at Lynch S.E.S. While in the position of Nuclear Engineer at Arkansas Nuclear One he received training in computer, fuel inspector and operator training which included simulator training.

Mr. Rogers began work with Arkansas Power and Light Company as an Assistant Engineer in February, 1970. As an Assistant Engineer, he worked in design review and participated in acceptance testing at Lake Catherine S.E.S. and Ritchie S.E.S., while assigned to the General Office. In January, 1971, he was transferred to Lynch S.E.S where he was promoted to Production Engineer in February 1972. In addition, he was assigned to equipment testing, engineering and construction activities. In October 1972, he was transferred to Arkansas Nuclear One as an Assistant to the Maintenance Supervisor. Duties in this position included directing of mechanical and electrical activities, assisting in parts and equipment procurement, equipment inspections and checkout and vendor coordination. In March, 1975, he was promoted to Reactor Engineer. Duties included fuel receipt, inspections and safeguards and accountability, monitoring of core performance and related instrumentation, NSS software, and physics testing. Additional duties were to provide technical assistance during fuel handling and normal operations and to maintain fuel and reactor related procedures. He was promoted to Nuclear Support Supervisor in February, 1979. Mr. Rogers is a member of the American Nuclear Society.

POSITION: Nuclear Engineer

NAME: Donald B. Lomax

Background

Mr. Lomax attended Mississippi State University from 1971 to 1975 graduating with a Bachelor of Science Degree in Nuclear Engineering. From 1975 to 1976 he did some graduate work in Nuclear Engineering at Mississippi State University.

Mr. Lomax was employed with Arkansas Power & Light Company, General Office, Little Rock in the Nuclear Fuel Section as an Assistant Engineer from December 1976 until April 1978. Mr. Lomax is presently a Nuclear Engineer assigned to ANO-2.

POSITION: Nuclear Engineer

NAME: Alan Cox

Background

Mr. Cox graduated from the University of Oklahoma in 1977 with a Bachelor of Science degree in Nuclear Engineering.

Mr. Cox came to work for Arkansas Power and Light Company, Arkansas Nuclear One in June 1977, as an Assistant Engineer. He was promoted to Production Engineer in June 1979, and his title was changed to Nuclear Engineer in July 1979.

POSITION: Supervisor, Computer Support

NAME: David W. Bullington

Background

Mr. Bullington attended the University of Arkansas for two years as an electrical engineering student.

Mr. Bullington joined General Electric Company in 1968, at the SEFOR, LMFR Test Reactor Project, where he was responsible for the process/testing computer. In 1972, Mr. Bullington was employed by Systems Engineering Laboratories (SEL), at NASA, Houston, where he was responsible for hardware/software maintenance on all SEL supplied equipment. In 1974, he joined Arkansas Power and Light, Arkansas Nuclear One as an Instrument Technician. In February, 1977 he was promoted to Reactor Technician, in the Fall of 1977 was promoted to Computer Engineer and in January 1979 his title was changed to Computer Support Supervisor.

POSITION: Computer Technician

NAME: Robert Charles Virden

Background

Mr. Virden attended the Broward Community College, Fort Lauderdale, Florida from 1967 to 1969. He graduated from the Florida Atlantic University, Boca Raton, Florida with a Bachelor of Science in Mathematics degree in 1971. He acquired additional credits in engineering and computer science from Florida Atlantic University from 1972-1973. Mr. Virden was a Computer Operator with Florida Power and Light, Coral Gables, Florida from September 1971 to September 1972. He was involved in the processing of daily inventory control data and biweekly payroll reports leading to the preparation of payroll checks. Mr. Virden was employed as a programmer at Systems Engineering Laboratories from August 1973 through October 1977 in the development of the Process Control Executive (PCX) system for use as a power plant monitoring system for Arkansas Power and Light and Southern California Edison with the following responsibilities: design and implementation of the operator console software, design and implementation of various plant application software, design and implementation of data link software to be used for communication between AP&L, Russellville, Arkansas and Middle South Services, New Orleans, Louisiana. He installed AP&L PCX system at Russellville and was involved with software test with Combustion Engineering. Mr. Virden was also involved with installing AP&L data link software at Russellville. He came to work for Arkansas Power and Light Company, Arkansas Nuclear One in February 1978, as a Computer Engineer.

POSITION: Computer Technician

NAME: Richard S. Wirges

Background

Mr. Wirges attended the Christian Brothers College, Memphis, Tennessee from 1969 to 1973 graduating with a Bachelor of Science in Physics.

Mr. Wirges came to work for Arkansas Power and Light Company at Moses in Forrest City as an Instrument Technician Helper in May 1973. He was transferred to Arkansas Nuclear One, Russellville in September, 1974. He became a Instrument Technician Journeyman in May 1977. In December 1977, he transferred to the Computer Group where he is now a Computer Engineer.

POSITION: Supervisor, Plant Performance

NAME: Chris N. Shively

Background

Mr. Shively is a 1971 graduate of Christian Brothers College with a Bachelor of Science degree in Electrical Engineering.

Mr. Shively has two years experience as an Engineer with the Space Support Division of Sperry Rand Corporation. In this position, he was responsible for developing, maintaining, and operating hybrid computer space vehicle simulation for NASA. Mr. Shively joined Arkansas Nuclear One on March 3, 1974 and was assigned as Procedure Administrator and Staff Engineer. In March 1975, he was promoted from Assistant Engineer to Performance Engineer and was promoted to Plant performance Supervisor in the reorganization at the end of 1978. He is a registered engineer in training in Tennessee and is a member of the Institute of Electrical Engineers and the American Nuclear Society.

POSITION: Superintendent, Technical Support

NAME: David D. Snellings, Jr.

Background

Mr. Snellings is a 1962 graduate of the Arkansas Polytechnic College, Russellville with a Bachelor of Science Degree in Physics, and a 1969 graduate of the University of Arkansas with a Master of Science degree in Radiation Science (Health Physics). Mr. Snellings has attended the ORAU Ten-weeks health physics course at Oak Ridge, Tennessee in addition to NRC, EPA and FDS short courses in various fields.

After serving three years as a Commissioned Officer in the U. S. Army Air Defence Command, Mr. Snellings joined the Arkansas Department of Health, Division of Radiological Health, in July 1965 as a Staff Health Physicist. In 1969, Mr. Snellings was promoted to Assistant Director of the Division of Radiological Health and in 1973 was promoted to the Division Director, a position he occupied until March 1979. As Director of the Division of Radiological Health, he was responsible for implementing a comprehensive radiological health program for the State of Arkansas which included (1) regulation of radiocative materials, radiation producing machine (x-ray) and particle accelerators; (2) statewide, source-oriented and fallout environmental radiation surveillance programs; (3) radiological emergency response planning; and (4) surveillance of sources of non-ionizing radiation. While an employee of the Department of Health, Mr. Snellings actively participated in the Conference Task Forces on "Bonding and Perpetual Care of Licensed Nuclear Facilities", and on "Emergency Planning for Peacetime Radiological Incidents for State and Governments". He was also Chairman of the Interorganizational Advisory Committee for Radiological Emergency Planning and Response during the period August 1977 - March 1979, and Chairman of the Southern Interstate Nuclear Board-sponsored Southern Emergency Response Council during 1978. Mr. Snelling is a member of the Health Physics Society and is a charter member of the Deep South Chapter of the Health Physics Society. He joined Arkansas Power and Light Company, Arkansas Nuclear One in March 1979.

POSITION: Supervisor, Health Physics
NAME: Raymond G. Carroll

Background

Mr. Carroll entered the U.S. Naval Nuclear Power School, New London, Connecticut in April, 1961 and qualified as Mechanical Reactor Operator and Engineering Laboratory Technician. Mr. Carroll also earned two years credit toward a Physics Degree at Auburn University while employee there. He is also qualified as a Civil Defense, Radiological Defense Officer and has attended U.S. Public Health Service Courses and meetings which include: "Accelerator Radiation Protection", Management of Radiation Accidents", Medical X-Ray Protection", and a Tritium Workshop.

Mr. Carroll served in the U.S. Navy where he achieved the rank of First Class Machinist Mate. He then served aboard nuclear submarines as Mechanical Reactor Operator and Engineering Laboratory Technician until January, 1966. The remaining one and a half years were spent aboard nuclear submarine tenders as a Radiological Shift Supervisor. During his employment with Auburn University as Chief Radiological Safety Technician from July 1967 through October 1971, he was appointed by the Radiological Safety Committee to use and handle all radioactive material and sources on campus. While in Alabama, Mr. Carroll agreed to serve as consultant for the Alabama State Department of Health to evaluate and recommend

subsequent corrective action in the event of an accident involving radioactive material occurring in his geographical area. Mr. Carroll was chapter member of the Alabama Chapter and is a Deep South Chapter member of the Health Physics Society. He has been certified as a Health Physicist by the American Board of Health Physics and as a Hazard Control Manager (Master Level) by the International Hazard Control Manager Certification Board. Mr. Carroll joined Arkansas Power and Light Company, Arkansas Nuclear One in November 1971.

POSITION: Supervisor, Assistant Health Physics

NAME: Gary L. Halverson

Background

Mr. Halverson attended Oklahoma State University, Stillwater, Oklahoma graduating with an Associate degree in Radiation and Nuclear Technology in December, 1975.

Mr. Halverson came to work for Arkansas Power and Light Company, Arkansas Nuclear One in June 1976 as an Apprentice Health Physics (1st Year). He was promoted to Assistant Health Physics Supervisor in November of 1977.

POSITION: Supervisor, Assistant Health Physics

NAME: Dale John Wagner

Background

Mr. Wagner attended Broward Junior College, Fort Lauderdale from 1965 to 1966. He took courses pertaining to Electronics.

Mr. Wagner served in the U.S. Navy from November 1968 until November 1974. His experience consists of 4 years at the DIG Prototype as a staff instructor and Leading ELT; and two years on the USS Daniel Boone as a Leading ELT. He came to work for Arkansas Power and Light, Arkansas Nuclear One in October 1977 as a Health Physicist (Over 1) and was promoted to Assistant Health Physics Supervisor in January of 1979.

POSITION: Supervisor, Radiochemistry

NAME: Gary Lynn Fiser

Background

Mr. Fiser is a 1972 graduate of Ouachita University, Arkadelphia, Arkansas with a Bachelor of Science Degree in Chemistry. He graduated from the University of Arkansas Graduate School with a Master of Science Degree in Natural Science. While working on his B.S. Degree and M.S. Degree, he took courses in Radiochemistry, Mathematics, Biology, and Atomic Energy.

Mr. Fiser worked with Dr. Joe Nix on his government grant to do chemical analysis on DeGray Reservoir at Arkadelphia from 1970 to 1972. In 1973, he was a teaching assistant at the University of Arkansas from January to May. Mr. Fiser came to work for Arkansas Power and Light Company, Arkansas Nuclear One in August 1973 as a Chemist and later transferred to Radiochemistry when Chemistry and Radiochemistry was divided into two departments. Mr. Fiser was a Senior Radiochemist when his promotion to Radiochemistry Supervisor became effective in June 1979.

POSITION: Supervisor, Chemical and Environmental
NAME: Thomas C. Baker

Background

Mr. Baker is a 1963 graduate of Ouachita Baptist University with a Bachelor of Science Degree in Chemistry. Mr. Baker has completed Environmental Protection Agency courses on Basic Radiological Health and Environmental Radiation Aspects of Nuclear Reactors. In addition, he has completed the B&W PWR Technology Course, the AEC ten week Health Physics course at Oak Ridge Associated Universities, the B&W Water Chemistry Course, and the B&W Radiochemistry for Supervisors Course.

Since joining Arkansas Power & Light Company in 1965, Mr. Baker has worked with the instrument and chemistry groups at Ritchie Steam Electric Station. Mr. Baker assisted in the construction, startup, and testing program of Ritchie Steam Electric Station - Unit 2, the Company's first supercritical unit (550 MWe). In January, 1971, he was assigned to the Arkansas Nuclear One Staff as Chemical and Radiation Protection Engineer. During the construction, startup, and testing of Arkansas Nuclear One - Unit 1, Mr. Baker was responsible for establishing the Chemistry and Radiochemistry Programs and the equipping of the associated laboratories until his promotion to Chemistry and Environmental Supervisor. He is a member of the Health Physics Society, the Deep South Chapter of the Health Physics Society, and the American Nuclear Society.

POSITION: Biologist
NAME: Charles R. Adams

Background

Mr. Adams graduated from Arkansas Polytechnic College in 1973 with a major in Fisheries and Wildlife Management with emphasis in the field of Biology. He also had several courses in Chemistry, one in Engineering Graphics and one in General Statistics.

Mr. Adams has experience in collecting water and running various tests and in collecting and preserving plants and animals for scientific study. He worked as a Laboratory Assistant in the Arkansas Tech Ichthyology Lab. His duties were to help students collect and identify various species of fish and to teach laboratory techniques and instrument use. He is familiar with laboratory techniques involved with bacteria. He was employed with the Game and Fish Commission for approximately nine months as a Game and Fish Technician. He worked with all types of fish culture procedures, pond management and field management of fish, various treatments for bacteria and parasites that affect fish, the use of most hand tools, the use of biological collecting and testing apparatus. Mr. Adams has been a biologist for Arkansas Nuclear One since May 1974 when he came to work for Arkansas Power and Light Company.

POSITION: Biologist

NAME: Dennis Calloway

Background

Mr. Calloway graduated from Arkansas Polytechnic College in 1975 with a major in Fish and Wildlife Management.

He assisted in the fisher surveys at Lake Dardanelle. He gained experience in collecting samples and identifying different species of fish and accumulating data. He has been a biologist for Arkansas Power and Light Company, Arkansas Nuclear One since September 1975.

POSITION: Superintendent, Plant Engineering

NAME: Early C. Ewing

Background

Mr. Ewing is a 1972 graduate of Mississippi State University with a Bachelor of Science Degree in Nuclear Engineering.

Mr. Ewing began work with Arkansas Power and Light Company in June 1972. He has been performing design review work on Arkansas Nuclear One with the exception of five months spent at the Cecil Lynch SES gaining experience in plant operation and maintenance. In December 1974, he was promoted from Production Engineer to Assistant Production Startup Supervisor. Mr. Ewing assumed the responsibilities of Production Projects Startup Supervisor in 1977, and was promoted to his current assignment in March, 1979. Mr. Ewing is a member of the American Nuclear Society.

POSITION: Supervisor, Mechanical Engineering

NAME: Charles A. Halbert

Position Summary

Background

Mr. Halbert is a 1959 graduate of Louisiana Polytechnic Institute with a Bachelor of Science Degree in Mechanical Engineering. He has also done graduate level work in Nuclear Engineering at the University of Arkansas Graduate Institute of Technology, completed a 144 hour course in basic nuclear theory taught by members of the Physics Department of Virginia Polytechnic Institute and received other specialized training in preparation for Unit One operation.

Mr. Halbert Joined Arkansas Power and Light Company in 1967 assigned as a Mechanical Engineer at Lake Catherine Steam Electric Station. He participated in the construction, startup and testing program of Lake Catherine Steam Electric Station - Unit 4 (550 MWe). He was transferred to Arkansas Nuclear One in August 1970, as Results Engineer and was promoted to Technical Support Engineer in February 1972. After arriving at Arkansas Nuclear One, Mr. Halbert received additional specialized training in instrumentation and control and radiochemistry. He was appointed Mechanical Engineer Supervisor during the reorganization at the end of 1978. He is a registered professional engineer in Arkansas and Texas and is a member of the American Society of Mechanical Engineers and the American Nuclear Society.

POSITION: Production Engineer

NAME: Leslie Howard

Background

Mr Howard is a 1974 graduate of the University of Arkansas, Fayetteville with a Bachelor of Science Degree in Mechanical Engineering. He also attended the University of Arkansas in Blytheville (at night) for 5 months beginning in July 1978 studying courses in Operations Management.

He worked for Agrico Chemical Company from June 1974 to February 1979 as a Mechanical Engineer. Mr. Howard came to work at Arkansas Power and Light Company, Arkansas Nuclear One, Russellville in May 1979. He is a member of the State Board of Engineers and is a registered Professional Engineer.

POSITION: Supervisor, Electrical Engineering

NAME: Rickey Lynn Turner

Background

Mr. Turner graduated from Memphis State University in 1974 with a Bachelor of Science in Electronics Engineering Technology.

Mr. Turner served in the U.S. Marine Corps as an electronic and mechanical calibration technician. He came to work for Arkansas Power and Light Company, Arkansas Nuclear One in September 1974 as an Engineering Technician. He was promoted to Assistant Instrument and Controls Supervisor in January 1978. This title was changed in December 1978. He was promoted to Electrical Engineering Supervisor in May 1979.

POSITION: Training Coordinator

NAME: Bruce L. Baker

Background

Mr. Baker is a 1962 graduate of the University of Arkansas with a Bachelor of Science Degree in Mechanical Engineering.

Mr. Baker worked as an Engineer for Dow Chemical Company and a Test Engineer for Aberdeen Proving Ground prior to his present employment with Arkansas Power and Light Company. He began working for Arkansas Power and Light Company, Arkansas Nuclear One in February 1974 as an Assistant Engineer. He was promoted to Assistant Maintenance Supervisor in March 1975. His title changed to Training Coordinator in December 1977.

POSITION: Training Coordinator

NAME: Dennis Barton

Background

Mr. Barton is a 1975 graduate of American Technological University, Killeen, Texas with a Bachelor Science Degree Instrumentation Technology and a Minor in Business.

Mr. Barton was a Service Representative (Instrument Technician) for Fisher Porter Company from 1975 to 1978. He came to work for Arkansas Power and Light Company, Arkansas Nuclear One as an Instrument Technician in July 1978. He was promoted to Training Coordinator in June 1979.

POSITION: Performance Engineer

NAME: Rex Pendergraft

Background

Mr. Pendergraft is a 1977 graduate of the University of Missouri with a Bachelor of Science Degree in Nuclear Engineering.

Mr. Pendergraft came to work for Arkansas Power & Light , Arkansas Nuclear One in June 1977, as an Assistant Engineer. He was promoted to Production Engineer in June 1979.

POSITION: Production Engineer

NAME: Bill Wilkinson

Background

Mr. Wilkerson is a 1976 graduate of the University of Arkansas with a Bachelor of Science Degree in Electrical Engineering.

Mr. Wilkerson came to work for Arkansas Power & Light Company, Arkansas Nuclear One as an Assistant Engineer in July 1978. He was promoted to Production Engineer in July 1979.

POSITION: Assistant Engineer

NAME: Perry Kearney

Background

Mr. Kearney is a 1978 graduate of Mississippi State University with a Bachelor of Science Degree in Nuclear Engineering.

Mr. Kearney came to work for Arkansas Power and Light Company, Arkansas Nuclear One in June 1978, as an Assistant Engineer.

POSITION: Assistant Maintenance Superintendent

NAME: Michael D. Stroud

Background

Mr. Stroud graduated from the University of Arkansas at Fayetteville in 1970 with a Bachelor of Science Degree in Electrical Engineering.

Mr. Stroud started with Arkansas Power and Light in 1974 at Forrest City as an Assistant Distribution Engineer. There he was later promoted to Distribution Engineer. In 1976 he was transferred to Arkansas Nuclear One as a Startup Engineer. In January 1978, he was promoted to Electrical Maintenance Supervisor and then in December 1978, he was promoted to Assistant Maintenance Superintendent.

POSITION: Supervisor, Computer Support

NAME: David W. Bullington

Background

Mr. Bullington completed 2 years towards his Electrical Engineering degree at the University of Arkansas.

Mr. Bullington worked for General Electric Corporation for 4 years on the 6-4 reactor project. He worked for 2 years with the System Engineering Laboratory as a Field Supervisor. In April 1974, he started with Arkansas Power and Light as an I&C Technician. In March, 1976 he was promoted to reactor technician and in January 1978 he was promoted to his present position of Computer Support Supervisor.

POSITION: Training Supervisor

NAME: Jimmy Vandergriff

Background

Mr. Vandergriff is a high school graduate and attended 1 year of college at the University of Arkansas.

Mr. Vandergriff has a Senior License in ANO-2, he was Shift Supervisor on Unit 2 from 1976 to 1977. In November 1977 he was promoted to Training Coordinator and in February 1979 he was promoted to his present position of Training Supervisor.

POSITION: Operations Superintendent
NAME: Basil A. Baker

Background

r. Baker is a high school graduate and attended Arkansas College for one year. He holds a Senior Operator License for Unit 1.

Mr. Baker joined Arkansas Power and Light Company in 1963 at Robert E. Ritchie Steam Electric Station. After a year of training in all areas of power plant operation, Mr. Baker worked for three years as an Auxiliary Operator. Mr. Baker served for two years as a Boiler Operator and participated in the startup of Unit 2 of the Robert E. Ritchie Steam Electric Station. Before being chosen as a Shift Operating Supervisor for Arkansas Nuclear One Unit 1, in September, 1970, Mr. Baker had worked as Assistant Plant Operator for two years. In June 1975, he was promoted to Assistant Supervisor of Plant Operations and in January 1979, he was promoted to ANO-2 Operations Superintendent.

POSITION: Supervisor, Planning and Scheduling
NAME: Sydney James McWilliams

Background

Mr. McWilliams is a high school graduate and has completed five semesters in Mechanical Engineering at the University of Arkansas and Little Rock University.

Mr. McWilliams has seven years operating experience with Arkansas Power & Light Company. He started with AP&L as a Helper, was promoted to Filter Plant Operator, then Auxiliary Operator. He was transferred to Arkansas Nuclear One as an Assistant Plant Operator in 1971. In October of 1974, he obtained a Senior Operator License and was promoted to Shift Operating Supervisor on Unit 1. In October of 1976 he was assigned as Planning and Scheduling Coordinator and assumed the scheduling responsibility for the first ANO-1 refueling shutdown.

The ANO staff is a group of highly trained and skilled professionals. The Mechanical Support Group has 1 Superintendent, 3 Supervisors and 39 Mechanics. The Electrical Maintenance Support Group has 1 Superintendent, 2 Supervisors, and 22 Electricians. The Instrument and Control Group has 1 Superintendent, 5 Supervisors, and 41 Technicians. The Operations Section is divided into Unit 1 and Unit 2. Unit 1 has 1 Superintendent, 6 Shift Supervisors, and 25 Operators. Unit 2 has 2 Superintendents, 5 Shift Supervisors, and 25 Operators.