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ACCESSION NBR: 7908280610 DOC. DATE: 79/08/17 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
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 AUTH. NAME AUTHOR AFFILIATION
 HUNTER, R.S. Indiana & Michigan Power Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H.R. Office of Nuclear Reactor Regulation

SUBJECT: Responds to NRC 790629 request for info re technical & mgt resources available for unusual events. Organization charts & resumes for offsite mgt resources & staff encl.

DISTRIBUTION CODE: A036S COPIES RECEIVED: LTR 45 ENCL 45 SIZE: 110
 TITLE: 6/29/79 Ltr Mgmt & Tech Resource

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INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

August 17, 1979
AEP:NRC:00236

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
Information Required to Review Corporate Capabilities

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

Dear Mr. Denton:

This letter and its attachments respond to your letter dated June 29, 1979 in which you requested information on the technical and management resources available to us to respond to unusual events such as a TMI-2 type accident. On July 30, 1979 a two week extension to August 17, 1979 was granted by your Mr. Walter P. Haass.

A description of the contents of the attachments follows:

Attachment A - provides an organizational chart and biographical sketches or position descriptions of those individuals shown on the chart. This attachment answers that portion of the request under Section I (Management Resources (Off-site)), subparagraphs A. , B., and C.

Attachment B - provides the organizational chart and other information in response to your request under Section II. A (Technical Resources - Plant Staff), subparagraphs 1. , 2., and 3.

Attachment C - provides that information requested under Section II.B (Technical Resources - Off-site (Non-plant staff)), subparagraphs 1., and 2.

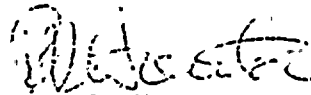
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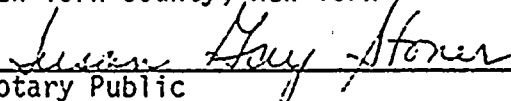
The required 45 copies of the information presented in this letter are being transmitted under separate cover.

Very truly yours,



R. S. Hunter
Vice President

Sworn and subscribed to before me
this 17th day of August, 1979 in
New York County, New York



Notary Public

SUSAN GAY STONER
NOTARY PUBLIC, State of New York
No. 31-4677876
Qualified in New York County
Certificate filed in New York County
Commission Expires March 30, 1980

cc: R. C. Callen
G. Charnoff
R. S. Hunter
R. W. Jurgensen
D. V. Shaller -Bridgman

INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

August 17, 1979
AEP:NRC:00242

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
Guard Force Training Plan

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

Dear Mr. Denton:

This letter transmits five (5) copies of the Guard Force Training Program and the Retraining and Requalification Program Manuals for the Donald C. Cook Nuclear Plant.

As such, these programs serve to comply with the new security requirements contained in Appendix B to 10 CFR 73 entitled "General Criteria for Security Personnel" and in accordance with 10 CFR 73.55 (b) (4), all security personnel are now qualified within the scope of this submitted plan.

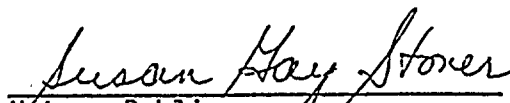
These programs have been developed to meet site-specific needs and are performance oriented. Excluded from the training and retraining plans are any references to those areas of security knowledge, skills, and abilities required for protection of Special Nuclear Materials (SNM) in transport as identified in the corresponding items of Appendix B, Section II.D.

In accordance with 10 CFR 2.790 it is requested that this information be withheld from public disclosure.

Very truly yours,


R. S. Hunter
Vice President

Sworn and subscribed to before me
this 17th day of August, 1979 in
New York County, New York


Notary Public

cc: (attached)

SUSAN GAY STONER
NOTARY PUBLIC, State of New York
No. 31-4677876
Qualified in New York County
Certificate filed in New York County
Commission Expires March 30, 1980

Docket #50-315
Control # 7908280610
Date 8/17/79 of Document
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Mr. Harold R. Denton, Director

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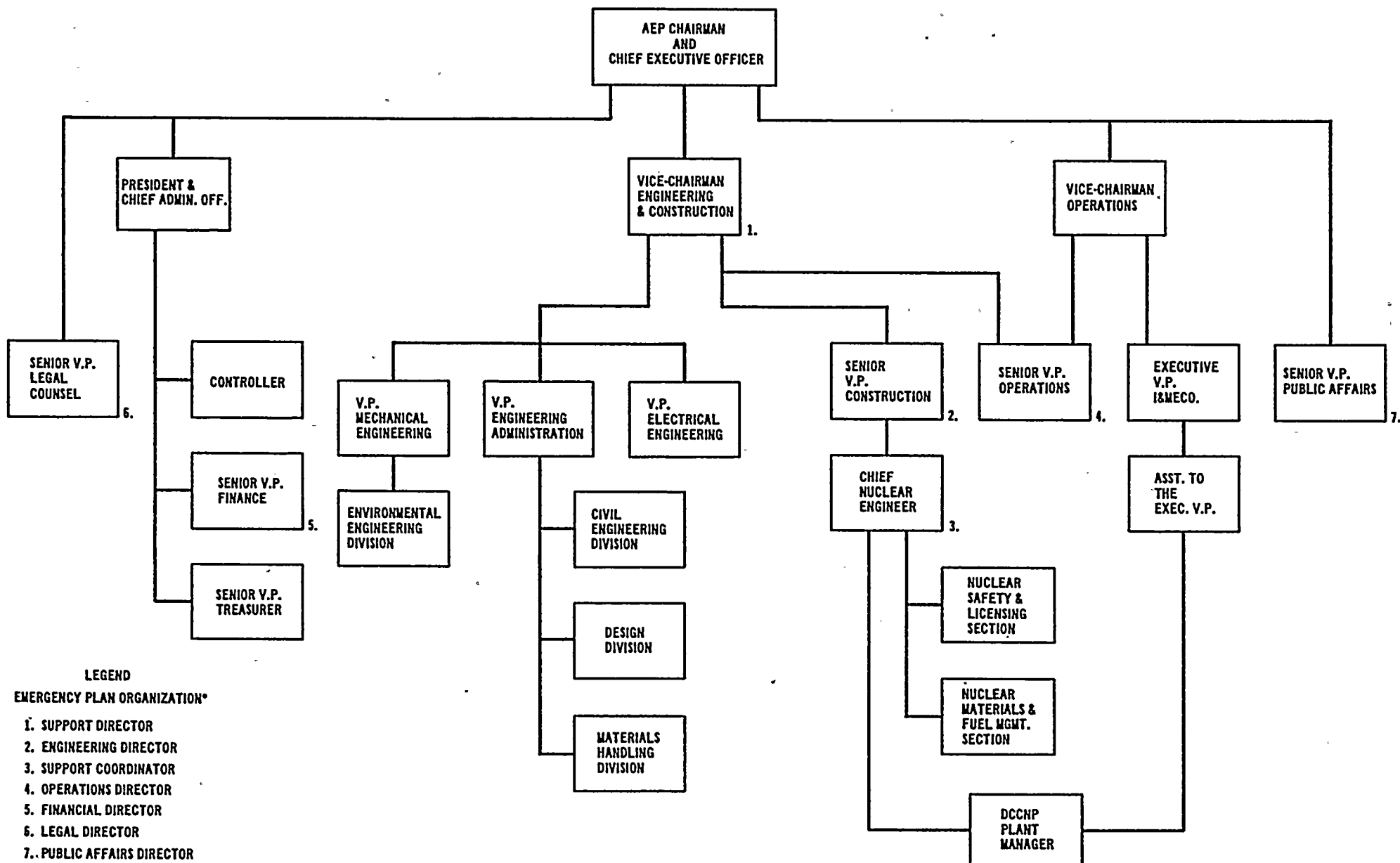
AEP:NRC:00242

cc: R. C. Callen
G. Charnoff
R.S. Hunter
R. W. Jurgensen
D. V. Shaller-Bridgman

ATTACHMENT A

TO

AEP:NRC:00236



*REFERENCE: FSAR - Chapter 12
 Amendment 80 December, 1977

W. S. WHITE, JR.

W. S. White, Jr., on February 19, 1976, became chairman of the board of American Electric Power Company, the seventh in its then 69-year history, and its chief executive officer. At the same time he became chairman and chief executive officer of American Electric Power Service Corporation, its management, technology and service organization subsidiary, and president and chief executive officer of AEP's seven electric utility operating company subsidiaries and its seven coal mining companies.

He has been with the AEP System his entire working career since graduation from college in 1948. He joined the Service Corporation, New York, as an electrical engineer, working in electrical design and system planning/operating. After service with the Defense Electric Power Administration during the Korean War, he returned to AEP in 1952 as assistant to the president. He was named office manager in 1954, then administrative assistant to the operating vice president in 1958.

Mr. White was transferred to Appalachian Power Company, largest of the seven operating companies, in 1961, becoming assistant manager of its Lynchburg (Va.) District. He was appointed manager of the Lynchburg Division in 1962; assistant general manager of the company, with headquarters in Roanoke (Va.) in 1966; then was elected assistant vice president in 1967, vice president in early 1969 and, later the same year, executive vice president and operating head of the company.

He returned to New York in 1972, when he was elected senior executive vice president - operations of the Service Corporation and a director of the parent company. In 1975 he was elected vice chairman - operations of the Service Corporation, and the following February to the highest post in all of the AEP companies. In 1977 he was elected, also, as president of the Ohio Valley Electric Corporation, an electric generating company providing electric energy to the U. S. Department of Energy.



On the AEP Board of Directors, he is chairman of the Executive Committee and a member of the Nominating Committee.

Mr. White was born in Norfolk County, Va. and is an electrical engineering graduate of Virginia Polytechnic Institute and State University, as well as the holder of a master's degree in industrial management from Massachusetts Institute of Technology. He is a U. S. Navy veteran of World War II.

A. JOSEPH DOWD

Senior Vice President and General Counsel of American Electric Power Service Corporation; Secretary of American Electric Power Company, Inc.; Director of a number of the subsidiary companies within the American Electric Power System.

Born: Boston, Massachusetts, November 17, 1929.

Residence: 245 Walnut Road, Glen Cove, New York 11542.

A.B., Harvard College, 1951 magna cum laude, Phi Beta Kappa; L.L.B., The Harvard Law School, 1957 cum laude.

Military: enlisted man, U.S. Army Signal Corps, 1952-54.

Associated with the New York City law firm of Dorr, Hand, Whittaker & Peet, 1957-1962.

Joined Legal Department of American Electric Power Service Corporation in 1962 as Senior Attorney.

Admitted to practice before Courts of New York State, U.S. Court of Appeals for the Fourth Circuit, and U.S. Supreme Court.

Member of Bar Association of the City of New York and the American Bar Association.

Chairman of the Environmental Quality Control Committee of the American Bar Association's Section of Public Utility Law (1973 to date) and former member of the Council of the Public Utility Law Section (1973-1976).

Chairman of the Policy Committee and Chairman of the Steering/Audit Committee of the Utility Air Regulatory Group (UARG) which is an ad hoc group consisting of approximately 100 electric utility companies, the Edison Electric Institute and the National Rural Electric Cooperative Association that was formed to address EPA regulations implementing the Clean Air Act Amendments of 1977 (1977 to date).

Publications: The Winter of '78 in Coal Burning Country, Public Utilities Fortnightly, June 8, 1978.



WILLIAM G. LOFTUS

Vice President - Public Affairs Planning of American Electric Power Service Corporation.

Syracuse University, bachelor's degree in political science and economics.

Joined AEP in November 1977 and was elected vice president - public affairs planning.

Prior to election, Loftus had been deputy director of the Special Issues Department of the American Petroleum Institute's Public Affairs Group. In that organization, had earlier served as manager of programs and services and as manager of media services. In 1970-72, was a senior staff advisor for Mobil Corporation.

Has been an editor on newspapers in Scranton, Pa. and Middletown, N. Y., legislative correspondent for Associated Press in Harrisburg, Pa., White House correspondent for Congressional Quarterly News Features, an associate professor at Penn State University, and owner of his own firm, Loftus Associates in Scranton.

FRANK N. BIEN

Frank N. Bien was elected vice chairman - operations of the American Electric Power Service Corporation, the management, technology and service organization subsidiary of American Electric Power Company, in 1976. At the same time he was elected a director of the parent AEP Company.

Before that he had been executive vice president and operating head of Ohio Power Company, Canton, Ohio, one of AEP's seven operating electric utility subsidiaries.

A native of Pennsylvania, he was graduated from the Wharton School of Finance, University of Pennsylvania, and is a certified public accountant.

Mr. Bien joined Ohio Power as assistant manager of its Main Accounting Office in 1958. Prior to that he had been with Deloitte Haskins & Sells, the AEP System's auditors, from 1946. He was named Ohio Power's accounting manager in 1961, and, at the time of his election as that company's executive vice president, had been its assistant secretary and assistant treasurer.

He served in the U. S. Coast Guard in World War II.



EXEMPT POSITION WORKSHEET

INDIANA & MICHIGAN ELECTRIC COMPANY
(Operating Company or Major AEP Organizational Unit)

POSITION TITLE: Executive Vice President

DEPARTMENT: Administrative

DIVISION: General Office

LOCATION:

DATE:

NOTE: PLEASE READ INSTRUCTION SHEET BEFORE COMPLETING THIS FORM.

I. FUNCTION - Indicate position to which this position reports and summarize the basic function.

The Executive Vice President is responsible to the President for the operation and growth of the Company; making, interpreting and applying policies; and directing and coordinating the activities of his staff and field components in administering all phases of the business.

II. RESPONSIBILITY AND AUTHORITY - Number each major duty and/or responsibility. Start every sentence with an action verb.

The incumbent of this position is responsible for and has the authority to accomplish the following:

1. Plan, organize, coordinate, direct and control the activities of the staff and field components in effecting harmonious, efficient and economical construction, operation and maintenance of the Company's facilities.
2. Formulate and recommend for approval, policies, practices, and procedures governing the operation, construction, and maintenance of the Company's facilities and administer such as approved.
3. Promote and maintain goodwill toward the Company by fostering the development of courteous and tactful manners of employees toward one another, the customer, and the public, and by representing the Company personally or through his staff.
4. Promote cooperation and coordination of activities with other system companies, thus promoting efficient operation of the AEP System.
5. Assist, advise, and consult with the President on overall policies and practices affecting the Company and initiate recommendations to the President on changes in methods, policies and practices.

TITLE: Executive Vice President

B CODE:

II. RESPONSIBILITY AND AUTHORITY (Continued)

6. Establish and maintain close contacts, personally in his area and through his staff, with local and state officials, and industrial leaders, keeping the President informed on all actions, proposals and plans that have a bearing on Company operations and activities.
7. Develop and maintain a trained staff to meet the present and anticipated personnel needs of the management organization in relation to overall Company plans.

INDIANA & MICHIGAN ELECTRIC COMPANY

POSITION DESCRIPTION

EXECUTIVE ASSISTANT

DIVISION: General Office

DEPARTMENT: Administrative

I. FUNCTION

The Executive Assistant is responsible to the Executive Vice President for coordinating the Company's power production and system operation functions; for supervising the Company's environmental affairs; for carrying out special assignments; and for assisting, advising and consulting with the Executive Vice President on policies and practices relating to these responsibilities.

II. RESPONSIBILITIES AND AUTHORITY

Within the limits of Company policies, approved procedures and practices, is responsible for and has authority to accomplish the following:

1. As assigned by the Executive Vice President and as an extension of that office, serve as that representative on committee activities such as those dealing with civil defense, the Indiana Electric Association, Environmental Policy Committee, and as an alternate on the AEPS Corp. Nuclear Safety Design and Review Committee.
2. Act as liaison between the Company and various local, state and federal regulatory bodies and administrative organizations on matters such as facilities protection, flood control, air and water pollution control, and permits and licenses pertaining to generation facilities.
3. Render functional guidance to and coordinate the activities of the system operation department and the operating, maintenance, and stores activities within the generating divisions.
4. Coordinate total Company activities in matters such as environmental affairs and security.
5. Assist, advise, and consult with the Executive Vice President on policies and practices affecting that area of responsibilities and initiate recommendations for changes in existing methods, policies, and practices.
6. Review and follow-up such items as production and maintenance schedules, plant manpower, construction, and operating budgets, advising and counseling with the parties involved, and keeping the Executive Vice President informed on those matters of interest to that office.
7. Approve wage and salary changes, promotions, demotions, transfers, leaves of absence, hiring and release of personnel within the limits of the organizational components assigned.



EXECUTIVE ASSISTANT

8. Carry out within the assigned area of responsibility the Company's program of Equal Employment Opportunity including its Affirmative Action obligations.
9. Undertake other responsibilities as may be assigned by proper authority.

RICHARD E. DISBROW

Richard E. Disbrow is the seventh president of American Electric Power Company in its 72-year history. He is also president and chief administrative officer of American Electric Power Service Corporation, its management, technology and service organization subsidiary. He was elected to both of these posts in January 1979.

He joined the Service Corporation in 1954 and, since then, has held a number of key posts in the company, including major assignments in engineering, planning, operating and the controllership.

He was elected controller in 1971, vice president later that year, senior vice president in 1973, executive vice president in 1974 and vice chairman in 1975, before becoming president earlier this year. He was elected a director of the parent AEP Company in 1975 and is a member of the Board's Finance Committee.

Mr. Disbrow holds engineering degrees from both Lehigh University and New Jersey Institute of Technology, as well as a master's degree in industrial management from Massachusetts Institute of Technology.

JOSEPH H. VIPPERMAN

Controller of the American Electric Power Service Corporation, the management arm of the seven-state American Electric Power System. Also a director of the Service Corporation.

BSEE Virginia Polytechnic Institute 1962; M. S. Massachusetts Institute of Technology 1975, where he was a Sloan Fellow.

Joined Appalachian Power Company, an AEP subsidiary, in 1962 in Roanoke, Va. as an electrical engineer. Shortly after that, left for a three-year tour of duty with the Strategic Air Command. Upon returning to Appalachian Power, worked as a senior distribution engineer until 1970, then transferred to the AEP Service Corporation as a senior operations engineer.

Named administrative assistant to the senior executive vice-president -- operations in 1972. Became assistant controller in 1975, deputy controller in 1977 and controller in 1978.

He is a deacon in the South Branch Reformed Church.

GERALD P. MALONEY

Vice President, American Electric Power Company

Senior Vice President - Finance, American Electric Power Service Corp.

Mr. Maloney joined the American Electric Power Service Corporation in 1955 and has held a number of key positions through the years, including assignments as administrative assistant to the vice president - fuel supply, administrative assistant to the president, controller, and chief financial officer for the AEP System companies.

He was elected vice president - finance in 1970 and senior vice president - finance in 1974. He was elected a vice president of the parent AEP in 1975.

Mr. Maloney holds degrees in both electrical engineering and business administration from Massachusetts Institute of Technology and a master's in business administration from Rutgers University.



PETER J. DEMARIA

Treasurer of American Electric Power Company and all of its subsidiaries, including the Service Corporation. In these capacities, serves as chief accounting officer for the AEP System. Also, a vice president of AEP Service Corporation and director of three AEP System Companies: the AEP Service Corporation and Ohio Power Company and its subsidiary, Ohio Electric Company.

Queens College, BA - Accounting, 1955; New York University, MBA (Major in taxation), 1963; University of Virginia, Advanced Management Course, 1971.

Joined AEP Service Corporation Tax Division in 1959 and moved to the Treasury Department staff as a senior administrative assistant the following year. Elected assistant treasurer in 1969, assistant vice president in 1971, vice president in 1974, and treasurer in 1978.

Member American Institute of Certified Public Accountants.

JOHN E. DOLAN

John E. Dolan was elected vice chairman - engineering and construction of the American Electric Power Service Corporation in January 1979. That company is the management, technology and service organization subsidiary of American Electric Power Company..

He joined the Service Corporation as a mechanical engineer in 1950. By 1961 he had become head of its Design Division and by 1966 was its chief mechanical engineer. He was elected vice president and named chief engineer in 1967, senior vice president - engineering and construction in 1973, executive vice president - engineering and construction in 1974, and senior executive vice president - engineering and construction in 1975. Four years later he was named to his present post.

Mr. Dolan is an engineering graduate of Columbia University and a Fellow of the American Society of Mechanical Engineers. In World War II he was a combat pilot in the U. S. Army Air Corps.

DAVID H. WILLIAMS, JR.

Senior Vice President - Operations and a director of American Electric Power Service Corporation; director of a number of subsidiary companies within the American Electric Power System.

Virginia Polytechnic Institute, BS in Mechanical Engineering - Power 1953 and M.S. in Power & Fuel Engineering, 1954.

Joined AEP in 1956, worked as section head and project manager named assistant chief mechanical engineer in 1963 and assistant vice president and chief mechanical engineer in 1967. Left AEP in 1971 and became vice president - power at Kaiser Industries, Oakland, Calif. Returned to AEP in 1977 and was elected vice president - operations effective April 18. Became senior vice president - operations in October 1977.

Member of American Society of Mechanical Engineers, General. Committee on Power; American Management Association and American Nuclear Society.

ROBERT S. HUNTER

Senior Vice President - Construction and a director of American Electric Power Service Corporation.

BME, Penn State, 1950 Pi Tau Sigma and Tau Beta Pi; Oak Ridge School of Reactor Technology, Nuclear Engineering, 1953.

Joined AEP in 1953. Chief project engineer and then head of Construction Scheduling Division before elected assistant vice president and chief nuclear engineer in 1970. Elected vice president - nuclear engineering in 1973 and senior vice president in 1977.

Professional Engineer in New York, Ohio, Indiana and West Virginia.

President of Helium Breeder Associates, Inc., an organization dedicated to furthering nuclear technology.

ROBERT W. JURGENSEN

Robert W. Jurgensen has been head of the Nuclear Engineering Division of the American Electric Power Service Corporation, New York since July 1, 1977. Prior to this appointment, he was manager of the Donald C. Cook Nuclear Plant of Indiana & Michigan Electric Company, the American Electric Power System's only nuclear generating station.

Mr. Jurgensen became manager of the Cook Plant in 1968, shortly before construction started on its first unit. Unit 1 went into operation in 1975 and Unit 2 in 1978.

A graduate of Michigan State University, Mr. Jurgensen joined the AEP System in 1949 and served four years as an engineer at the Twin Branch Plant of Indiana & Michigan. In 1953 he was assigned to the Nuclear Power Group, an organization of electric utilities involved in research and development work associated with the Dresden Nuclear Plant of Commonwealth Edison Company. He later spent two years at the Atomic Energy Commission's laboratories at Oak Ridge, Tennessee, and then became assistant manager of the Kammer Plant of Ohio Power Company, a member company of the AEP System.

Mr. Jurgensen also served several years in AEP's Nuclear Engineering Division in New York before he was named manager of the Cook Nuclear Plant.

AMERICAN ELECTRIC POWER SERVICE CORPORATION

POSITION DESCRIPTION
CHIEF NUCLEAR ENGINEER

NUCLEAR ENGINEERING DIVISION

I. FUNCTION

The CHIEF NUCLEAR ENGINEER heads the Nuclear Engineering Division and is responsible to the VICE PRESIDENT AND CHIEF ENGINEER for directing siting and licensing, raw materials procurement, physics and fuel cycle management, radiological health, nuclear safety and other activities relating to the development, study evaluation, design, construction operation and maintenance of nuclear generating units.

II. RESPONSIBILITIES AND AUTHORITY

The DIVISION HEAD - NUCLEAR ENGINEERING is responsible for and has the authority to accomplish the following:

1. Supervise the activities of the division as described above and formulate such policies and programs as necessary for its optimum functioning.
2. Ascertain manpower requirements and prepare annual salary forecasts. Recommend for approval additions, transfers, promotions and salary increases to his staff.
3. Counsel, advise and assist his direct subordinates in their training and self-development and aid them when necessary in providing similar assistance to their staffs.
4. Assure the establishment of work objectives and targets within the division.
5. Correlate the work of the NUCLEAR ENGINEERING DIVISION with that of other divisions and the field organization.
6. Approve cash advances and expense accounts for members of the division. Approve purchase requisitions and petty cash disbursements for the division.
7. Keep informed on current industry problems, technical advances and future developments through a continual study of our own problems and by active participation in outside Committee work.
8. Acquire detailed knowledge on nuclear power developments in this country and abroad, both on fission and fusion, and convey this information to associates who should receive it.
9. Provide for American Electric Power System personnel special nuclear training and maintain contacts with facilities where specialized training is available.

10. Assist in the preparation of publicity relating to company nuclear activities.
11. Serve as a Research and Development Manager of the East Central Nuclear Group (ECNG) under the direction of the Chairman, East Central Nuclear Group, Inc., Research and Development Committee.

5-1-79

RICHARD F. HERING

Richard F. Hering was elected vice president - mechanical engineering of the American Electric Power Service Corporation in 1977. That company is the management, technology and service organization subsidiary of American Electric Power Company.

He joined the Service Corporation in 1954 as an assistant engineer, shortly after receiving his mechanical engineering degree from Stevens Institute of Technology. In 1967 he was appointed head of AEP's Steam Generation Section and, in 1971, chief mechanical engineer. He was elected an assistant vice president in 1973 and vice president, as noted earlier, four years later.

Mr. Hering is a licensed professional engineer. He served in the U. S. Navy in the mid-1950s.

Robert W. Reeves

Robert W. Reeves has been head of the Environmental Engineering Division of the American Electric Power Service Corporation, New York, since it was established

This division has engineering responsibility in the areas of air quality, water quality, aesthetics and noise abatement for the facilities of the seven-state American Electric Power System, which includes Wheeling Electric Company.

By profession, he is both chemist and lawyer. He received his BS degree in chemistry from Colgate University in 1948 and a law degree from LaSalle University in 1967.

Reeves joined the AEP Service Corporation in 1948, was transferred to Ohio Power Company's Muskingum River Plant in 1953 and returned to New York in 1955. He served as head of the AEP Service Corporation's Chemical Engineering Section from 1966 until his promotion to head of the Environmental Engineering Division in early 1971.

Born and reared in Wheeling, he was graduated from Wheeling High School.

AMERICAN ELECTRIC POWER SERVICE CORPORATION
POSITION DESCRIPTION

DIVISION HEAD - ENVIRONMENTAL ENGINEERING
ENVIRONMENTAL ENGINEERING DIVISION

I. FUNCTION

The DIVISION HEAD - ENVIRONMENTAL ENGINEERING, is responsible to the VICE PRESIDENT & CHIEF ENGINEER for the Environmental Engineering activities on the American Electric Power System.

II. RESPONSIBILITIES AND AUTHORITY

The DIVISION HEAD - ENVIRONMENTAL ENGINEERING is responsible for and has authority to accomplish the following:

1. Formulate and recommend policies and practices regarding the solution of Environmental Engineering problems for the AEP System.
2. Coordinate and direct activities as follows:
 - (a) Application of new ideas, research and development, and processes for pollution abatement to the corporate plans, and installing new thinking into corporate policy, as long as such actions are consistent with sound judgement.
 - (b) Maintains close liaison with Public Relations, Financial Staff and Legal departments.
 - (c) Maintain liaison with outside associations, state, federal and local regulatory agencies to assure compliance with existing or proposed statutes.
 - (d) Coordinate over-all implementation of public with plant and divisional engineering staffs.
 - (e) Hire consultants as deemed necessary.
 - (f) Review major construction plans to determine if pollution control considerations are adequate.
 - (g) Develop and direct all environmental research and development studies required for new plant construction, leading to preparation of Environmental Reports.
 - (h) To maintain inventory of existing installations as to their status with regard to compliance with regulatory laws.

- (i) Recommends the hiring, salary adjustments, promotions, transfers and release of personnel and approval of expense accounts.
- (j) Authorize purchase orders and vouchers for payment of monies due under contracts developed by division.

HAROLD N. SCHERER, JR.

Harold N. Scherer, Jr. is vice president - electrical engineering of the American Electric Power Service Corporation, the management, technology and service organization subsidiary of American Electric Power Company. He was elected to that office in 1973.

He joined the Service Corporation as a senior engineer in 1963 after service as an electrical engineer with Public Service Electric & Gas Company of New Jersey. He subsequently became head of the Plant & Station Section of AEP's Electrical Engineering Division, then chief electrical engineer and head of the division, and was elected assistant vice president - electrical engineering.

Mr. Scherer is a Fellow of the Institute of Electrical and Electronics Engineers. He holds a bachelor's degree in electrical engineering from Yale University and a master's degree in business administration from Rutgers - The State University.

RICHARD A. BYRON

Richard A. Byron has been chief electrical engineer of the American Electric Power Service Corporation -- management, technology and service organization subsidiary of American Electric Power Company -- since November 1977.

He joined AEP in 1958 upon his graduation, with a bachelor's degree in electrical engineering, from Ohio University. He had worked in the Electrical Engineering Division's Electrical Station Projects Section, including a period as its section head beginning in 1968, until he was named assistant chief electrical engineer of the company in 1971.

AMERICAN ELECTRIC POWER SERVICE CORPORATION
POSITION DESCRIPTION

310

CHIEF ELECTRICAL ENGINEER
ELECTRICAL ENGINEERING DIVISION

I. FUNCTION

The CHIEF ELECTRICAL ENGINEER is responsible to the CHIEF ENGINEER for supervision of the activities of the ELECTRICAL ENGINEERING DIVISION including the selection, procurement, application and performance of all electrical equipment and associated facilities used in the generation, transmission, distribution, metering and utilization of electrical energy on the system as authorized.

II. RESPONSIBILITIES AND AUTHORITY

The CHIEF ELECTRICAL ENGINEER is responsible for and has the authority to accomplish the following:

1. Supervise the Division.
2. Formulate policy effecting the Division.
3. Correlate the work of the ELECTRICAL ENGINEERING DIVISION with that of other divisions and the field organization.
4. Review and recommend for Executive approval, improvement requisitions for all capital expenditures pertaining to the electrical facilities of the system.
5. Provide sufficient engineering and related manpower to efficiently perform the responsibilities of the Division including development of supervisory personnel.
6. Coordinate work and efforts of all of the sections and staff of the ELECTRICAL ENGINEERING DIVISION in both New York and Canton as they relate to the design, operation and maintenance of generation plants, electric stations, distribution and transmission systems.
7. Negotiate for major electrical equipment and approve purchase requisitions and contract vouchers for electrical facilities.
8. Approve electrical drawings.
9. Evaluate economic studies, investigations, analysis and reports for electrical facilities pertaining to the design, operation and maintenance of the generating plants, electrical stations and the distribution and transmission systems.

10. Keep informed on current industry problems, technical advances and developments through a continual study of AEP System problems and by active participation in outside committee work.
11. Represent the Company on industry groups on committee assignment.
12. Maintain a constant vigilance for improvements and more economic designs of equipment, electric facilities, maintenance and operating methods or procedures.
13. Provide guidance to the CHIEF ENGINEER on Electrical matters..

JOHN R. STRUYK

Vice President - Engineering Administration of the American Electric Power Service Corporation, the management arm of the seven-state American Electric Power System.

BME Clarkson College of Technology, 1951; Oak Ridge School of Reactor Technology 1953-54; Nuclear Power Group, Chicago 1954-55; Nuclear Power Station Training Program - Shippingport 1959.

Joined AEP in 1951 and became head of the Civil Engineering Division in 1968. Elected assistant vice president - Civil Engineering in 1974.

Registered professional engineer in New York State and member of the American Society of Mechanical Engineers, Tau Beta Pi and Pi Tau Sigma.

William W. Stelle, Mount Kisco, has been named chief civil engineer of the American Electric Power Service Corporation, New York, the management and technology arm of the seven-state American Electric Power System. He had been assistant chief civil engineer.

Stelle joined American Electric Power in 1956, and moved from the Design Division to Civil Engineering shortly thereafter. He became a section head in 1962 and assistant chief civil engineer in 1972.

He attended Princeton University, and, after spending the years 1940-46 in the Army, rising from private to captain, he earned his engineering degree from New York University. He is a Fellow of the American Society of Civil Engineers, a member of the American Concrete Institute, and a registered professional engineer in New York State.

6579

B.S. in Civil Engineering 1948, registered Professional Engineer in the State of New York. Has extensive experience in all phases of Civil Engineering including nuclear power plants. Assisted in the design and construction of the Cook Nuclear Plant, Units 1 & 2 by providing technical support and direction in both areas for the last ten years.

Technical Experience:

For the last 18 years has served in a supervisory capacity supervising a large number of engineers and non-technical personnel.

Has over thirty (30) years of utility experience in fossil, hydroelectric and nuclear power plants.

At the present time he is responsible for the administration and supervision of the Civil Engineering Division of American Electric Power Service Corporation consisting of three engineering sections with total personnel of over fifty people.

AMERICAN ELECTRIC POWER SERVICE CORPORATION
POSITION DESCRIPTION
HEAD, CIVIL ENGINEERING DIVISION

I. FUNCTION

The DIVISION HEAD, CIVIL ENGINEERING DIVISION is responsible to the VICE PRESIDENT AND CHIEF ENGINEER for all Civil Engineering activities relating to the planning, engineering, construction and operation of steam-electric and hydro-electric plants, electrical facilities and other structures.

II. RESPONSIBILITIES AND AUTHORITY

The DIVISION HEAD, CIVIL ENGINEERING DIVISION is responsible for, and has the authority to accomplish the following:

1. Formulate and recommend policies and practices regarding Civil Engineering matters relating to steam-electric and hydro plants, electrical facilities and other structures.
2. Coordinate the work of the Civil Engineering Division with that of other divisions.
3. Administer the general affairs of the Civil Engineering Division, including the planning of personnel requirements and their hiring, promotions, demotions and transfer subject to the approval of the VICE PRESIDENT AND CHIEF ENGINEER.
4. In the administration of the general affairs of the Division, approve the following:
 - a) Improvement requisitions for capital expenditures
 - b) Purchase requisitions
 - c) Monthly time sheets
 - d) Cash advance requests, petty cash vouchers and expense accounts
5. Approve and recommend salary increases of personnel in the Division subject to the approval of the VICE PRESIDENT AND CHIEF ENGINEER.

6. Provide sufficient engineering and related manpower to efficiently perform the responsibilities of the Division including the development of supervising personnel.
7. Keep informed on Civil Engineering problems, advances and developments through an awareness of AEP System and industry activities.
8. Represent the AEP System by committee assignments in industry groups.
9. Evaluate economic studies, investigations, analysis and reports of Civil works relating to facilities of the AEP System.
10. Maintain relationships with manufacturers, material suppliers, contractors and other organizations to carry out and improve the Division's functions.
11. Expedite all policies, directives and requests by the VICE PRESIDENT AND CHIEF ENGINEER relating to the Civil Engineering Division.

AMERICAN ELECTRIC POWER SERVICE CORPORATION
POSITION DESCRIPTION

DIVISION HEAD-MATERIALS HANDLING

I. FUNCTION

The Division HEAD-MATERIALS HANDLING is responsible for the engineering, planning, review of design, and the following of construction and maintenance of coal handling and ash handling storage area facilities; specification and purchase of miscellaneous transportation and hoisting equipment for power plants.

II. RESPONSIBILITIES AND AUTHORITY

The Division HEAD-MATERIALS HANDLING is responsible for, and has the authority to accomplish the following:

1. Direct the personnel in the section and administer the work thereof.
2. Plan and engineer coal handling systems, crane and hoist installations in power plants and service buildings, and ash disposal systems outside the plants.
3. Review and approve design drawings on coal handling facilities.
4. Specify and purchase equipment for coal handling systems, power plant and service building cranes, miscellaneous hoists, tractors, loading towers and harbor boats.
5. Maintain contact with manufacturers regarding new equipment and systems and develop new ideas as needed.
6. Study and plan arrangement of space in office and service buildings, storerooms and miscellaneous areas.
7. Seek purchasers of ash and find ways to truck the material to other disposal areas.
8. Follow maintenance of all coal handling facilities and equipment.
9. Prepare instructions for coal handling equipment, etc.
10. Recommend salary increases, promotions, demotions and transfers of his staff subject to the approval of the VP - Engineering Administration

AMERICAN ELECTRIC POWER SERVICE CORPORATION
POSITION DESCRIPTION

CHIEF ENGINEER & DIVISION HEAD
DESIGN AND DRAFTING SERVICES DIVISION

I. FUNCTION

The DIVISION HEAD - DESIGN AND DRAFTING is responsible for the preparation of plans and designs of power generating plants, substations, office and service buildings, coal and materials handling equipment and miscellaneous structures on the American Electric Power System, through the general supervision of the Architectural, Electrical, Mechanical and Structural Design Sections.

II. RESPONSIBILITIES AND AUTHORITY

The DIVISION HEAD - DESIGN AND DRAFTING is responsible for and has the authority to accomplish the following:

1. Make recommendations to and assist the V.P. - Engineering Administration on the formulation of policies and practices relating to the design of power plants, substations, office and service buildings, coal and materials handling equipment and miscellaneous structures.
2. Provide the general supervision of the architectural, electric, mechanical and structural design of such facilities and structures.
3. Establish and maintain engineering files of original tracings and drawings for construction and record purposes, including manufacturers' equipment prints and drawings.
4. Administer the general affairs of the Design and Drafting Services Division, including the planning of personnel requirements and their hiring, promotions, demotions and transfer, subject to the approval of the CHIEF ENGINEER.
5. Recommend salary increases of personnel in the division, subject to the approval of the V.P. - Engineering Administration.

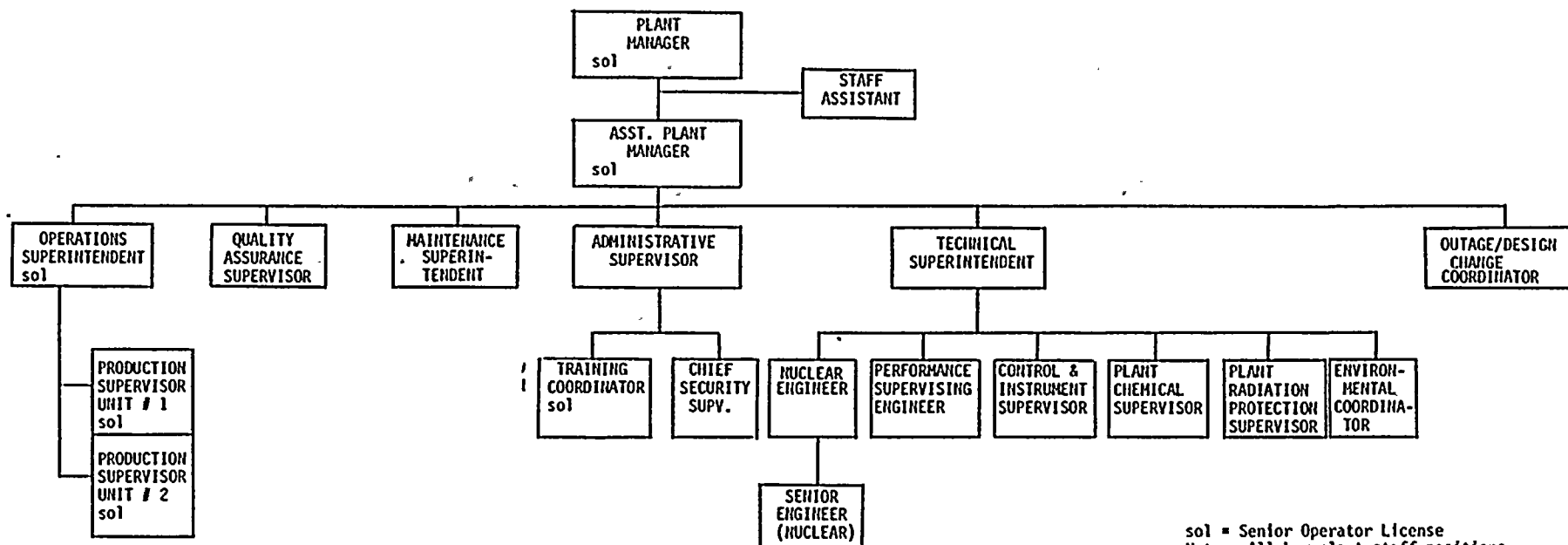
6. In the administration of the general affairs of the division, approve the following:
- (a) Improvement requisitions for capital expenditures.
 - (b) Purchase requisitions.
 - (c) Monthly time sheets.
 - (d) Cash advance requests, petty cash vouchers and expense accounts.
7. Generally supervise the Section Heads of the Design Division and interpret Company policies to them.
8. Approve the recommendations of the Section Heads with regard to salary increases, promotions, hiring, transfer and release of personnel in the design sections.
9. Provide an overall coordination for the work of the different design sections and mediate differences between them.
10. Maintain a continuous contact with the engineering departments and operating Company personnel to determine their design needs and with the assistance of their ideas develop better designs.
11. Maintain relationships with material suppliers, manufacturers, contractors and other organizations necessary to carry out and improve the general division functions.
12. Initiate and maintain a program of training for personnel in the division.
13. Supervise a continuing survey of design and drafting efficiency and establish programs for the evaluation of design personnel and the improvement of such efficiency.

ATTACHMENT B

TO

AEP:NRC:00236

INDIANA & MICHIGAN POWER CO.
DONALD C. COOK NUCLEAR PLANT
KEY PLANT STAFF ORGANIZATION



sol = Senior Operator License
Note: All key plant staff positions
are full time positions

TABLE 1

Management and Technical ResourcesPlant Staff Positions

1. Plant Manager (D. V. Shaller)

Has overall responsibilities for all Technical, Engineering, and Administrative areas of the operation and maintenance of the Donald C. Cook Nuclear Plant.

A. Educational Background

Graduated from the University of Notre Dame in 1949 with a Bachelor of Science degree in Mechanical Engineering.

Nuclear Training:

Educational background in the area of reactor operation is an eleven (11) week Westinghouse Reactor Operator Training Program at Waltz Mill, Pennsylvania.

- (1) Seven weeks devoted to classroom work covering atomic and nuclear physics, reactor physics, reactor control theory and instrumentation, reactor engineering and PWR technology, radiation protection, reactor safety, AEC regulations and operating procedures.
- (2) Two weeks - group loading exercises, experiments and calculations.
- (3) Two weeks on the Westinghouse CES/NTR reactor gaining experience in starting up the reactor, determining criticality, observing source effects, changing power levels, calculating periods, making rod worth calculations and calibrating nuclear instruments.

Westinghouse Reactor Training Program at SNEC Reactor Saxton, Pennsylvania.

- (1) Six weeks of classroom study on the Saxton Nuclear Plant Systems, procedures, technical

specifications, radiation protection, health physics, plant chemistry and related subjects.

- (2) Twelve weeks under licensed operating crew supervision and instruction, received actual experience in operating the plant systems and components including starting up to criticality and operating the reactor at power.
- (3) Six weeks review of all material covered in theory and systems portions of training with final week devoted to AEC reactor operator examination for the Saxton Nuclear Plant.
- (4) Five weeks Design Lecture Series by Westinghouse Design Engineers covering all the various reactor components and associated systems being furnished for the Donald C. Cook Nuclear Plant.

B. Experience

(1) Nuclear

(a) Directly-related

Mr. Shaller functioned as the Assistant Plant Manager from 9-1-69 to 7-1-77, when he was promoted to Plant Manager, the position that he now occupies. He has been involved in all licensed plant operator training programs and has maintained his Senior Reactor Operators license.

(b) Other

As mentioned above, Mr. Shaller spent 24 weeks at the Saxton Nuclear Plant.

(2) Other

In 1949 joined the Indiana and Michigan Electric Company as a Production Engineer at the Twin Branch Steam Plant. After various engineering assignments within the Twin Branch organization, was



named Maintenance Supervisor
of the Twin Branch Steam Plant
in 1963. In 1969 was named
Assistant Plant Manager at
Donald C. Cook Nuclear Plant.



TABLE 1

Management and Technical Resources

Plant Staff Positions

2. Assistant Plant Manager
(B. A. Svensson)

The Assistant Plant Manager position assists the Plant Manager in the overall responsibility of technical, engineering, and administrative areas of the D. C. Cook Nuclear Plant.

A. Educational Background

Graduated in May, 1952 from Norrkoping Technical College, Norrkoping, Sweden with a degree in Mechanical Engineering.

Participated in the Westinghouse Reactor Operator Training Program at Waltz Mill, Pennsylvania for 11 weeks.

- (1) Seven weeks devoted to classroom work covering atomic and nuclear physics, reactor physics, reactor control theory and instrumentation, reactor engineering and PWR technology, radiation protection, reactor safety, AEC regulations and operating procedures.
- (2) Two weeks - group loading exercises, experiments and calculations.
- (3) Two weeks on the Westinghouse CES/NTR reactor gaining experience in starting up the reactor, determining criticality, observing source effects, changing power levels, calculating periods, making rod worth calculations and calibrating nuclear instruments.

Westinghouse Reactor Training Program
at SNEC Reactor, Saxton, Pennsylvania

- (1) Six weeks of classroom study on the Saxton Nuclear Plant systems, procedures, technical specifications, radiation protection, health physics, plant chemistry and related subjects.

- (2) Twelve weeks under licensed operating crew supervision and instruction, received actual experience in operating the plant systems and components including starting up to criticality and operating the reactor at power.
- (3) Six weeks of all material covered in theory and systems portions of training with final week devoted to AEC reactor operator examination for the Saxton Nuclear Plant.
- (4) Five weeks Design Lecture Series by Westinghouse Design Engineers covering all the various reactor components and associated systems being furnished for the Donald C. Cook Nuclear Plant.

B. Experience

(1) Nuclear

(a) Directly Related -

He has held a Senior Operators License since November 5, 1970 as a result of the training and educational experience outlined above. He joined the Cook Nuclear Plant staff on September 1, 1969 as the Operations Superintendent. He held this position until July 1, 1977 and was promoted to Assistant Plant Manager.

(b) Other

As mentioned above, Mr. Svensson spent 24 weeks at the Saxton Nuclear Plant.



(2) Other

1968-1969 - AEP Service Corporation's New York offices to assist in the design of the Cook Nuclear Plant.

1965-1968 - AEP Service Corporation's Canton, Ohio offices. Lead instructor on a training simulator for a 600 MW coal fired power plant. Startup engineer for four 600 MW coal fired super critical units. Lead Startup Engineer for the last two of those units.

1958-1965 - Ohio Power Company, Kammer Plant as a test engineer. Promoted to Assistant Results Engineer in 1959 and to Results Engineer in 1960.

1955-1958 - AEP Service Corporation as an engineer in the Piping and Metallurgy Section.

1953-1955 - Knutsen's Shipbuilding Corporation, Halsite, New York as a Mechanical Engineer.

TABLE 1

Management and Technical Resources

Plant Staff Positions

3. Staff Assistant (R. D. Begor)

(Responsible to the Plant Manager for advising him on plant operating procedures, performing engineering assignments, promoting plant efficiency and operability, providing liaison with the American Electric Power Service Corporation, Nuclear Regulatory Commission and other federal, state and local agencies.)

A. Educational Background

Received a Bachelor of Science Degree in Electrical Engineering in June, 1972 from Virginia Polytechnic Institute and State University.

Received a Master of Science Degree in Nuclear Engineering in August, 1977 from Penn State.

B. Experience

1. Nuclear

(a) Directly Related -

He was a Performance Engineer with the Plant Technical Department from November, 1974 to July, 1976.

His principle responsibilities were in making engineering evaluations relating to equipment performance in operation. From September, 1977 to the present time, he performs engineering design functions overseeing plant task force inputs to American Electric Power Service Corporation and assists the Plant Manager on assigned engineering studies.

2. Other.

Following his graduation from VPI, he was employed by Appalachian Electric Power Company at their coal-fired Clinch River Plant as a Performance Engineer from July, 1972 to November, 1974.

His previous responsibilities included performance engineering evaluations relating to equipment performance and operation.

TABLE 1

Management and Technical Resources

Plant Staff Positions

4. Operations Superintendent
(R. S. Lease)

The Operations Superintendent is responsible to the Plant Manager; to administer, enforce and coordinate station objectives, regulations, and policies, to assure continuity and efficiency to the safe operations of the Donald C. Cook Nuclear Plant Operations Department.

A. Educational Background

Graduated from Freemont Rose High School in Freemont, Ohio, in 1942.

Graduated from Utilities Training Institute, Chicago, Illinois, in 1947.

Nuclear Training:

Educational background in the area of reactor operation is an eleven (11) week Westinghouse Reactor Operator Training Program at Waltz Mill, Pennsylvania.

- (1) Seven weeks devoted to classroom work covering atomic and nuclear physics, reactor physics, reactor control theory and instrumentation, reactor engineering and PWR technology, radiation protection, reactor safety, AEC regulations and operating procedures.
- (2) Two weeks - group loading exercises, experiments and calculations.
- (3) Two weeks on the Westinghouse CES/NTR reactor gaining experience, determining criticality, observing source effects, changing power levels, calculating periods, making rod worth calculations and calibrating nuclear instruments.

Westinghouse Reactor Training Program
at SNEC Reactor Saxton, Pennsylvania.

- (1) Six weeks of classroom study on the Saxton Nuclear Plant Systems, procedures, technical specifications, radiation protection, health physics,

plant chemistry and related subjects.

- (2) Twelve weeks under licensed operating crew supervision and instruction, received actual experience in operating the plant systems and components including starting up to criticality and operating the reactor at power.
- (3) Six weeks of review of all material covered in theory and systems portions of training with final week devoted to AEC reactor operator examination for the Saxton Nuclear Plant.
- (4) Five weeks Design Lecture Series by Westinghouse Design Engineers covering all the various reactor components and associated systems being furnished for the Donald C. Cook Nuclear Plant.

B. Experience

(1) Nuclear

(a) Directly-related

Mr. Lease functioned as a Shift Operating Engineer from 1-1-70 to 10-1-73, when he was promoted to Production Supervisor of the Operations Department. As a Production Supervisor, his primary responsibility was as an assistant to the Operations Superintendent. On 2-1-75 he was promoted to the position of Operations Superintendent, the position that he now occupies.

(b) Other

As mentioned above, Mr. Lease spent 24 weeks at the Saxton Nuclear Plant.

(2) Other

1955 - 1969 - Ohio Valley Electric Company, Gallipolis, Ohio. Shift Operating Engineer for the startup and operation of five 225 MW coal fired units.

1952 - 1954 - Appalachian Power
Company Kanawha River Plant.
Shift Operating Engineer for
startup and operation of two
225 MW coal fired units.

1947 - 1952 - Started with Ohio
Power as a boiler fireman Ballville
Plant, Freemont, Ohio. Transferred
to Philip Sporn Plant, New Haven,
West Virginia in 1949. Auxiliary
Equipment Operator on initial startup
of Unit #1, and was promoted to
Control Operator on Unit #1 when
Unit #2 started. Control Operator
on Unit #4 for its initial startup.
These are 160 MW coal fired units.

TABLE 1

Management and Technical Resources

Plant Staff Positions

5. Quality Assurance Supervisor
(J. F. Stietzel)

Heads up the Quality Assurance Department as a Department Head, and is responsible for planning and conducting inspections and audits of activities encompassed by Appendix B to 10CFR50 entitled "Quality Assurance Criteria in Nuclear Power Plants".

A. Educational Background

Graduated from Aviation High School, Long Island City, New York in 1962 with a technical diploma.

Graduated from Suffolk College, Selden, Long Island with an AS degree in Business Administration.

Nuclear Fuel Quality Assurance and Auditing - R.H. Rahiser and Associates.

B. Experience

(1) Nuclear

(a) Directly Related -

- i. Quality Assurance Supervisor. The Plant Quality Assurance Supervisor is responsible for the development of the Quality Assurance Program, for the planning and directing of an effective internal audit plan and for the planning and directing of quality control inspection activities to assure that codes, regulations, instructions and Company policies regarding Quality Assurance/Quality Control for the nuclear generating station are enforced and that these activities are properly documented.

ii. Quality Assurance Auditor Senior. Responsible for conducting audits of all activities encompassed by the Plant's QA Program as required by Appendix B to 10CFR50, Quality Assurance Criteria for Nuclear Power Plants. This entails the following: preparing audit plans, conducting the audit, preparing the audit report and alerting management to any items of non-conformance identified during the audit. In addition to auditing functions, responsible for implementing the Nuclear Plant Reliability Data System (NPRDS) for Units 1 and 2 of the Donald C. Cook Nuclear Plant. This involves collecting, preparing, and submitting baseline engineering data on the four-thousand (4000) safety related components to Southwest Research Institute (SWRI). In performing this task, directed the activities of three technicians, one secretary and various support personnel. Also requested by the Plant Manager to direct rework activities of one of the fuel suppliers, whose fuel components were found to be unacceptable by an audit.

iii. Quality Assurance Coordinator. Responsible for the Nuclear Fuel Quality Assurance Program. This required an ongoing surveillance program of vendors engineering and fuel fabricating facilities, which was accomplished through periodic audits. These audits commenced with



iii. continued

design verification and ended with the receipt of fuel at the Plant site. In addition to this responsibility, acted as a member of the Nuclear Safety and Design Review Committee (NSDRC). This committee is comprised of senior and middle management personnel and reports to the Assistant Vice-Chairman of the company. Functioned as secretary of the Audit Subcommittee. In addition to these responsibilities, prepared the company's Fuel QA Manual, conducted internal division audits, and worked closely with the company's fuel consultant on special assignments.

(2) Other

- (a) Grumman Aerospace Corporation. Responsibilities in the reliability test section included preparation of a Data Package for the Lunar Module Program. This package was an evaluation of overall acceptable test effectiveness and provided a basis for evaluating vehicle flight readiness. Other duties entailed: reviewing all failure reports and extracting thermal failures, categorizing all failures as to failure mode, environment and type of failure. Coordinated all failure closeouts, updating of all charts and graphs in the package and maintained a list of all open failures. Special assignments included the preparation of statistical reports.



- (b) Grumman Aerospace Corporation. Provided the Lunar Module Program Management with Bi-weekly test program status of all equipment being qualified and the test status of all ground test vehicles. This statusing was transmitted to NASA and was recognized as the official Grumman report of test status. Maintained and updated Reliability Test Certification/Qualification test documentation. This provided Reliability Test support in the form of data reduction for statistically designed tests. Provided reliability test support for the assessment and classification of failures that occurred during Qualification and Acceptance tests.
- (c) Grumman Aerospace Corporation - Field Representative. Responsibilities, aboard the USS Constellation for a 6 month deployment in Vietnam, included failure reporting for the A6A and the calculation of failure rates of the electronic systems. Received a special award and commendation from the Vice President of Grumman.
- (d) Grumman Aerospace Corporation. Responsible for the A6A production aircraft. Supplied the Reliability Department with the following: Number of electronic removals by part number, accountability of equipment in and out of aircraft. Operating hours of equipment at installation and removal for MTBF (mean time between failures) calculations. Responsible for troubleshooting problems and solutions. Called upon for special assignments, i.e. graphic representations, etc.

TABLE 1

Management and Technical Resources

Plant Staff Positions

6. Maintenance Superintendent
(R. L. Dudding)

The Maintenance Superintendent is directly responsible to the Plant Manager for planning, scheduling, and directing the activities relating to the maintenance of all nuclear plant equipment and for fuel handling activities during fuel handling outages.

A. Educational Background

Mr. Dudding graduated from Mishawaka High School in 1942. Other educational background includes 1-1/2 divisions of International Correspondence Schools' "Professional Engineering-Electrical". Adult education courses from 1967 through 1970 at McKinley Vocational High School in Wheeling, West Virginia majoring in industrial electronics. Bailey Meter Instrument School, 1954 and 1959. Leeds and Northrup Instrument School, 1959. Diamond Power Specialties Company, Utili-scope School, 1960. I.R.D. Company's School, Vibrations Analysis Course, 1966 and C.P.M.'s Seminar Course entitled, "Critical Path Method", 1971. In 1973 he completed the Maintenance Engineering Program course at Westinghouse Nuclear Services Division, in Monroeville, Pennsylvania.

B. Experience

(1) Nuclear

(a) Directly Related -

Mr. Dudding joined the Cook Plant organization on March 1, 1971 as a Maintenance Foreman and on October 1, 1975 was promoted to his current position of Maintenance Superintendent.

(2) Other

Mr. Dudding originally joined our company in 1948 as a Boiler Operator and Maintenance Man at the Kendalville Coal Fired Power Plant.

On January 6, 1958 he was transferred to the Kammer Plant, a 3 Unit coal fired facility, as an Instrument Maintenance Man. In 1965 he was promoted to Junior Test Engineer at Kammer Plant's Results Department where he was responsible for station efficiency testing and engineering assignments.

On February 16, 1967 Mr. Dudding was transferred to the Bluffton, Ohio, Woodcock Plant as the Administrative Assistant to the Plant Manager. Mr. Dudding and the Plant Manager were the only 2 supervisory employees in this organization and they supervised 30 employees at bringing this facility out of retirement and into commercial operation after it had been in retirement for a number of years. As Administrative Assistant, Mr. Dudding directly supervised all operating and maintenance work in the plant.

On October 1, 1969 he was promoted to Plant Manager and assumed full management responsibilities for this facility until he was transferred to the Cook Plant as Maintenance Foreman on February 28, 1971.

TABLE 1

Management and Technical Resources

Plant Staff Positions

7. Administrative Supervisor

(L. J. Matthias)

(Administrative Supervisor is responsible to the Plant Manager for handling plant administrative activities associated with labor relations; for supervising the procurement, handling, and control of stores material; for directing the processing and maintenance of plant accounting and statistical records; for directing the activities associated with maintaining the Plant Master File; for directing the activities associated with plant security; for the administrative direction of plant training activities, and for advising plant management on the policies and practices relating to those matters.)

A. Educational Background

Graduated from Heidelberg College, Tiffin, Ohio in 1955, with a Bachelor of Arts Degree in Psychology and a Bachelor of Arts Degree in Sociology, and a minor in Business Administration.

B. Experience

1. Nuclear

(a) Directly Related -

Mr. Matthias joined the Cook Plant Department Head Staff as Administrative Supervisor on July 1, 1968, the position he now continues to hold.

He has experience in screening and selecting trustworthy employees for the plant facility and in directing all work-related activities in the areas outlined above in accordance with and meeting the parameters of the Nuclear Regulatory Commission relative to training, plant security, document control, as well as stores procurement and control.

2. Other -

Mr. Matthias joined the Ohio Power Company on June 16, 1955 and held personnel and labor relations position in that company's general offices and various operating divisions.

From May 31, 1957 to July 1, 1968, he was the Personnel Supervisor of Ohio Power Company's Kammer Plant located in Moundsville, West Virginia. This generation station consisted of three 225 megawatt coal-fired generating units.

TABLE 1

Management and Technical ResourcesPlant Staff Positions8. Technical Superintendent
(E. A. Smarrella)

The Technical Superintendent is responsible to the Plant Manager for planning and directing Engineering and Technical studies, Nuclear Fuel Management, Equipment Performance, Instrument and Control Maintenance, Health Physics and Chemical/Radiochemical activities within a nuclear generating station to assure continuity and optimum performance in the operation of plant facilities.

A. Education Background

Graduated from Steubenville College, Steubenville, Ohio in 1964 with a BA Degree in Chemistry and a Minor in Physics.

B. Experience

(1) Nuclear

(a) Directly Related -

Mr. Smarrella joined the Cook Plant organization on January 1, 1971 as Plant Chemical Supervisor. Responsible for all documentation, testing and coordination of all nuclear and secondary flushing and cleaning operations for two 1100 MW PWR units. Responsible for pre-operational testing, start-up and physical construction status for all systems covered during period with Mechanical Engineering Division, and overall troubleshooting responsibility for same systems during operation. Responsible for directing the operations of the plant Radioactive Waste Disposal System, including all solid and liquid waste systems, testing, troubleshooting and acting as plant liaison with waste contractors. Responsible for all site chemical environmental sampling and surveillance programs, Federal and State reporting. Initially involved with facility design changes and procedures required to meet applicable EPA, State of Michigan and Nuclear Regulatory Commission requirements. Responsible for the preparation and revision of all Chemical Section analytical and surveillance procedures as well as all QA procedures, their implementation and documentation.

On July 1, 1977 Mr. Smarrella was promoted to his current position as Technical Superintendent and a member of the Plant Manager's Staff. In this position, he has been responsible for the implementation, scheduling and review of the Pre-Operational Test Program for Unit No. 2 (1100 MW PWR) and was also responsible for the preparation of the Initial Start-Up Report for Unit No. 2 and all subsequent start-up reports following the refueling of Unit No. 1.

(2) Other -

Mr. Smarrella originally joined our Company as a Chemical Trainee on June 15, 1964 at the American Electric Power Service Corporation's General Laboratories in Huntington, West Virginia. The chemical training program included analytical techniques in water, coal, oil and deposit analysis utilizing all appropriate equipment. On October 1, 1964 he transferred to the Indiana & Michigan Electric Company's Tanners Creek Plant, continuing with the Chemical Training Program. This included various periods of time spent in the Chemical, Maintenance, Operations and Results Departments of the Plant.

On March 3, 1966 Mr. Smarrella transferred to the Ohio Power Company, Cardinal Plant, as Plant Chemist. This involved assisting in the initial start-up of two supercritical units and all water, coal, oil, chemical feed, etc., sub-systems; setting up and directing the plant laboratory and acting as plant liaison for summer college students.

On March 1, 1968 he was promoted to the position of Performance Engineer, where he was deeply involved in engineering studies and performance testing of all coal fired plant equipment.

From January to December of 1970, Mr. Smarrella worked in the American Electric Power Service Corporation's Mechanical Engineering Division (Chemical Section) in New York, where he was involved with numerous design phases of the Donald C. Cook Nuclear Plant Systems as follows:

1. Chemical & Volume Control System
2. Waste Disposal
3. Demineralized Make-Up Water
4. Primary Water
5. Sampling (primary & secondary)
6. Chemical feed
7. Lubricating oil purification
8. Spent Fuel Pit
9. Steam Generator Blowdown
Treatment
10. Chlorination
11. Chemical Cleaning
12. Laboratory design & supply

TABLE 1

Management and Technical Resources

Plant Staff Positions

9. Outage/Design Change Coordinator

(R. S. Keith)

(The Outage/Design Change Coordinator is responsible to the Plant Manager for planning and coordinating plant-wide activities relative to planned and forced unit outages. This includes major maintenance work and repair of mechanical and electrical plant equipment, such as reactors, steam generators, steam turbines, electrical generators, auxiliary equipment, buildings, and all associated nuclear plant equipment.

The Outage/Design Change Coordinator is responsible for coordinating plant-wide activities relative to the initiation, review, approval, installation and close out of design changes. This includes both Requests for Change (RFC's) and Minor Modifications.

A. Educational Background

Mr. Keith graduated from Kokomo High School in Kokomo, Indiana in 1947.

Special Training:

- U. S. Naval Nuclear Power School, New London, Connecticut
- U. S. Naval Air Condition and Refrigeration School, Norfolk, Virginia
- U. S. Naval Diesel Engine School, Great Lakes, Illinois

Correspondence courses on engineering administration, blueprint reading, material management and control.

B. Experience

1. Nuclear

(a) Directly Related -

Mr. Keith joined the Cook Plant organization on March 1, 1972 following his 20-year retirement from the U. S. Navy Nuclear Program as a Lieutenant Cmdr.

Mr. Keith's initial job responsibility was that of Maintenance Foreman. On September 1, 1973 he was promoted to the position of Quality Assurance Supervisor, and was a member of the Plant Manager's Staff. On July 1, 1977 he was promoted to Operations Superintendent, and on January 1, 1979, he was made Outage/Design Change Coordinator, his current position.

(b) Other -

1970-1971 - Quality Assurance Officer for hull and main propulsion systems for a squadron of nuclear powered submarines. Review, approval and audit of procedures for repair, maintenance and alterations to hull, air water, hydraulics and nuclear mechanical systems.

1968-1970 - Strip Ship Officer. Organized and supervised the efforts of 30 men in removing electrical, electronic and mechanical equipment for submarines to be inactivated. Established inventory and distributed approximately \$2,000,000 worth of usable equipment in a period of 18 months.

1967-1968 - Engineer Officer on diesel electric submarine. Organized and supervised staff of 26 men in operation maintenance and repair of diesel engine storage battery, electrical and mechanical systems. Maintained records for all associated equipment.

1965-1967 - Machinery Repair and Radiological Control Officer for submarine support facility. Scheduled and supervised staff of 150 men in repairs and alterations to mechanical equipment. Organized training of 1200 men in radiological controls and procedures for working around nuclear systems, including handling of radioactive materials.

1960-1965 - Shift supervisor for land based nuclear power plant. Supervised operation of a staff of 20 men. Senior Instructor and advisor to 30 men per quarter in operation, maintenance, and repair to nuclear propulsion plant.

2. Other

Operation and maintenance of diesel engines, air compressors, air conditioning and refrigeration equipment. Maintenance of records for these equipment

TABLE 1

Management and Technical Resources

Plant Staff Positions

10. Production Supervisor - Operations
(H. M. Chadwell)

Mr. Chadwell is one of two assistants that reports directly to Operations Superintendent. This position assists in the supervision of all Operating Department personnel, coordinating the operation of all Nuclear Plant equipment in the Operating Department, assisting in formulation of policies and procedures relating thereto, and coordinating the work of the Operations Department with other Plant Departments.

A. Educational Background

Graduated from Philo High School, Philo, Ohio, in 1936

Attended Ohio University College of Commerce from 1936 to 1939 and majored in Accounting and Business Administration courses.

Nuclear Training:

Educational background in the area of reactor operation is an eleven (11) week Westinghouse Reactor Operator Training Program at Waltz Mill, Pennsylvania.

- (1) Seven weeks devoted to classroom work covering atomic and nuclear physics, reactor physics, reactor control theory and instrumentation, reactor engineering and PWR technology, radiation protection, reactor safety, AEC regulations and operating procedures.
- (2) Two weeks -- group loading exercises, experiments and calculations.
- (3) Two weeks on the Westinghouse CES/NTR reactor gaining experience, determining criticality, observing source effects, changing power levels, calculating periods, making rod worth calculations and calibrating nuclear instruments.

Westinghouse Reactor Training Program at SNEC Reactor Saxton, Pennsylvania.

- (1) Six weeks of classroom study on the Saxton Nuclear Plant



Systems, procedures, technical specifications, radiation protection, health physics, plant chemistry and related subjects.

- (2) Twelve weeks under licensed operating crew supervision and instruction, received actual experience in operating the plant systems and components including starting up to criticality and operating the reactor at power.
- (3) Six weeks of review of all material covered in theory and systems portions of training with final week devoted to AEC reactor operator examination for the Saxton Nuclear Plant.
- (4) Five weeks Design Lecture Series by Westinghouse Design Engineers covering all the various reactor components and associated systems being furnished for the Donald C. Cook Plant.

B. Experience

(1) Nuclear

(a) Directly-related

1974 - July, 1977: Shift Operating Engineer at the Donald C. Cook Nuclear Plant. On 7-1-77 was appointed as Production Supervisor in charge of overall operation of Unit #1. During the term of his license, has supervised the operating shift during initial fuel loading, startup, low power physics testing and power operations of the plant to 100% power for a total of approximately 4140 hours. From 9-1-76 to 6-30-77, was assigned to write procedures for Unit #2 Operation and to review and revise Unit #1 procedure. Has supervised twelve (12) unit startups, two (2) from cold condition. Also, assigned as outage coordinator during the second Unit #1 refueling outage,

which was just completed.

(b) Other

As mentioned above, Mr. Chadwell spent 24 weeks at the Saxton Nuclear Plant.

(2) Other

1953 - 1970 - Ohio Power Company,
Beverly, Ohio. Control Room
Operator for fossil power plant.
Promoted to Assistant Shift Operating
Engineer in 1957.

TABLE 1

Management and Technical ResourcesPlant Staff Positions11. Production Supervisor - Operations
(C. E. Murphy)

Mr. Murphy is one of two assistants that report directly to the Operations Superintendent. This position assists in the supervision of all Operating Department personnel, coordinating the operation of all Nuclear Plant equipment in the Operating Department, assisting in formulation of policies and procedures relating thereto, and coordinating the work of the Operations Department with other Plant Departments.

A. Educational Background

Graduated from East Bank High School, East Bank, West Virginia, in 1943.

Nuclear Training:

Educational background in the area of reactor operation is an eleven (11) week Westinghouse Reactor Operator Training Program at Waltz Mill, Pennsylvania.

- (1) Seven weeks devoted to classroom work covering atomic and nuclear physics, reactor physics, reactor control theory and instrumentation, reactor engineering and PWR technology, radiation protection, reactor safety, AEC regulations and operating procedures.
- (2) Two weeks - group loading exercises, experiments and calculations.
- (3) Two weeks on the Westinghouse CES/NTR reactor gaining experience, determining criticality, observing source effects, changing power levels, calculating periods, making rod worth calculations and calibrating nuclear instruments.

Westinghouse Reactor Training Program at SNEC Reactor Saxton, Pennsylvania.

- (1) Six weeks of classroom study on the Saxton Nuclear Plant Systems, procedures, technical specifications, radiation protection, health physics, plant chemistry and related



subjects.

- (2) Twelve weeks under licensed operating crew supervision and instruction, received actual experience in operating the plant systems and components including starting up to criticality and operating the reactor at power.
- (3) Six weeks of review of all material covered in theory and systems portions of training with final week devoted to AEC reactor operator examination for the Saxton Nuclear Plant.
- (4) Five weeks Design Lecture Series by Westinghouse Design Engineers covering all the various reactor components and associated systems being furnished for the Donald C. Cook Nuclear Plant.

B. Experience

(1) Nuclear

(a) Directly-related

1970 - Present: Shift Operating Engineer at the Donald C. Cook Nuclear Plant. During term of his license, has supervised the operating shift during initial fuel loading, refueling, start-up physics testing and power operations of both units to 100% power for a total of approximately 8650 hours.

(b) Other

As mentioned above, Mr. Murphy spent 24 weeks at the Saxton Nuclear Plant.

(2) Other

1958 - 1970 - Appalachian Power Company Clinch River Plant. Promoted from Unit Foreman to Assistant Shift Operating Engineer in 1959. Responsible for the operation of three (3) 250 MW Fossil Units.

1953 - 1958 - Appalachian Power Company Kanawha River Plant as an Auxiliary

Equipment Operator. Responsible to Unit Foreman for routine operation of equipment for two (2) 225 MW Fossil Units.

1948 - 1953 - Cardox Corporation, Cabin Creek, West Virginia as a Plant Operator. Responsible for routine operation and maintenance of CO₂ generating plant.

TABLE 1

Management and Technical ResourcesPlant Staff Positions12. Training Coordinator
(D. D. Nelson)

The Training Coordinator is administratively responsible to the Administrative Supervisor and functionally responsible to the Plant Manager for establishing plant training programs. He is responsible for supervising general employee training, operator replacement training, operator requalification training and fire protection and emergency plan training.

A. Educational Background

Graduated from Bethel Local High School, Tipp City, Ohio in 1963.

While in the U.S. Nuclear Navy Program, he graduated from the Electronics Technician Class A school in March of 1964, attended Basic Nuclear Power School from February through August of 1965. Attended Nuclear Power Training (Operational) from August, 1965 through March, 1966.

B. Experience

(1) Nuclear

(a) Directly Related -

He joined the Cook Plant organization as an Equipment Operator on July 1, 1971. He received his Senior Operator license on August 29, 1974 following substantial on-site training. From April, 1972 through April, 1974 he was temporarily assigned as Start-Up Engineer for Unit #1. On May 16, 1972 he was promoted to the Unit Supervisor position and on July 1, 1974 he was promoted to Assistant Shift Operating Engineer. On September 1, 1976 he was promoted to Training Instructor and on September 16, 1977 was promoted to his current position as Plant Training Coordinator. Mr. Nelson has an excess of 4,400 hours of plant operations and has demonstrated that he is an efficient and competent Training Coordinator.

(b) Other

April 1966 - April 1968 was a Reactor Operator/Technician aboard the USS Long Beach. Was responsible for standing watches as a Reactor Operator, Reactor Technician, Electric Plant Operator, and Control Room Shutdown Watch in the main control room.

May 1968 - May 1971 was an Operational Training Instructor at U.S. Navy Nuclear Power Training Unit, Schenectady, New York. (KAKS, DIG Plant). Was the Shift Lead Reactor Operator/Technician Instructor.



TABLE 1

Management and Technical ResourcesPlant Staff Positions

13. Chief Security Supervisor

(F. A. Arsenault)

(The Chief Security Supervisor is responsible to the Administrative Supervisor, but will maintain direct access to the Plant Manager and the Assistant Plant Manager on important security matters that cannot go through the line organization.)

The Chief Security Supervisor is directly responsible for the supervision of his own assistants, as well as the contract security guard organization.

He is responsible for developing and coordinating plant security procedures within the parameters of the Nuclear Regulatory Commission's laws.)

A. Educational Background

- 1946 - James Whitcomb Riley High School - diploma
- 1949 - Central Radio and Television School Kansas City, Missouri - Airline Manager Training - diploma
- 1952 - South Bend Police Academy
- 1964 - Baxter School of Lie Detection, New York City, New York - diploma
- 1966 - Homicide Investigation - University of Cincinnati, Ohio - certificate
- 1969 - Correspondence course with Chicago Police Department, Interviews and Interrogations - certificate
- 1972 - Bethel College - Mishawaka, Indiana Organization and Administrative course, four (4) credit hours.

B. Experience

1. Nuclear

(a) Directly Related -

Mr. Arsenault joined the Cook Plant organization on February 7, 1973 as the Chief Security Officer. Since that time he has participated in the development of all Cook Plant security procedures. He has successfully supervised the day to day activities of the site security force. He has been directly involved with writing and development of the Modified Amended Site Security Plan. He also holds appropriate federal clearances which enables him to read proprietary subject matter filed with the Nuclear Regulatory Commission in Bethesda, Maryland.

2. Other -

Military record, United States Army, World War II veteran, honorable discharge, attained the rank of Sergeant. Retired Police Officer with over twenty (20) years service - South Bend Police Department, South Bend, Indiana. Retired with rank of Division Chief, head of the Plain Clothes Division.

1971 - Served on the St. Joseph County Youth Service Bureau

1971 - Served on Coalition of Youth Advocacy.

1971 - Served on Advisory Board of Prisoner Work Release Program

1969 - Served on the Mayor's Committee for Consolidation of County Agencies

- Served three (3) years on the South Bend Police Pistol Team

- Served three (3) years on the Fraternal Order of Police, Lodge #36 Initiating Team

- Served five (5) years as a Staff Teacher - South Bend Police Academy

- Served on the Criminal Justice, Region 1, Organized Crimes Task Force

- Served as Chairman of Committee of Local Cub Scout Pack

- Served on Committee of Boy Scouts of America, local troupe.

TABLE 1

Management and Technical ResourcesPlant Staff Positions14. Nuclear Engineer
(V. D. Vanderburg)

The Nuclear Engineer is responsible to the Technical Superintendent for the planning and directing of nuclear reactor technical studies and tests to establish core parameters, and safe nuclear operational limits of the nuclear reactors within the scope of the Technical Specifications.

A. Educational Background

Graduated from Syracuse University, Syracuse, New York, in 1960 with a BS Degree in Physics. Graduated from Purdue University in LaFayette, Indiana in 1963 with an MS Degree in Physics. Received his PhD Degree in Physics from Purdue University in 1965.

B. Experience

(1) Nuclear

(a) Directly Related -

Mr. Vanderburg originally joined our Company with the American Electric Power Service Corporation's Nuclear Division as a Nuclear Engineer on January 2, 1974. In this capacity, his primary responsibilities were in the area of Fuel and Rad. Waste Contract Administration. On May 1, 1975 he transferred to the Cook Plant as Nuclear Engineer and is still working in this capacity.

(b) Other -

From April, 1965 to April, 1967 Mr. Vanderburg was in the United States Army and attained the rank of Captain. He was assigned to U.S. Army Division Research, U.S. Atomic Energy Commission.

Following separation from military service, he joined Brookhaven National Laboratories as a physicist.

TABLE 1

Management and Technical Resources

Plant Staff Positions

15. Performance Supervising Engineer
(E. W. Kant)

Performance Supervising Engineer is directly responsible to the Technical Superintendent for the on-going program of managing the performance and efficiency testing of plant equipment.

A. Educational Background

Graduated from the University of Wisconsin, Kenosha, Wisconsin in 1971 with a Bachelor of Science Electrical Engineering degree. Currently involved in after hour studies at Western Michigan University working toward an MS degree in Industrial Engineering.

B. Experience

(1) Nuclear

(a) Directly Related -

Mr. Kant joined the D. C. Cook Nuclear Plant on June 6, 1972 as a Performance Engineer. On May 26, 1975 he was promoted to his current position of Performance Supervising Engineer. Mr. Kant was involved in the pre-operational testing and startup of the Cook Plant's 2 Westinghouse pressurized water reactor units.

TABLE 1

Management and Technical ResourcesPlant Staff Positions16. Control and Instrument Supervisor
(D. E. Duncan)

The Control and Instrument Supervisor is responsible to the Technical Superintendent for supervising and directing the activities required to maintain the integrity of all plant controls, instrumentation, and communications systems both Nuclear and conventional, including all electronic, pneumatic, hydraulic, and Class 1E electrical systems.

A. Educational Background

Graduated from Pine Mountain High in Harlan, Kentucky in 1946.

Graduated from Coyne Elect. School, Chicago, Illinois, with a degree in Elect. and Indus. Electronics in 1948. In addition, he attended all major industrial electronic control schools such as: Foxboro Co., Honeywell Inst. Co., Bailey Inst. Co., Hagan Inst. Co., L & N Inst. Co.

B. Experience

(1) Nuclear

(a) Directly-related

Mr. Duncan joined the Cook Plant organization on 7-23-73 as Control and Instrument Supervisor. In this capacity, he supervises the activities of several engineers, five (5) Instrument Foremen, and over twenty (20) Instrument Technicians. He was instrumental in the startup and preoperational testing of both units.

(b) Other

From 1961 - 1969, he worked at the Piqua Nuclear Power Facility Piqua, Ohio. At the closing of this facility, he was the supervisor of the Electronic/Pneumatic Instrument Control Group.

From 1969 - July 1973, he was Maintenance Superintendent at Carolina Power and Lights, H. B. Robinson Plant. In this department head capacity, he supervised and directed all plant maintenance activities, including Instrumentation and Control Systems.

TABLE 1

Management and Technical ResourcesPlant Staff Positions17. Plant Chemical Supervisor
(J. T. Wojcik)

The Chemical Supervisor is responsible to the Technical Superintendent for planning, organizing, directing and controlling the chemical and radiochemical laboratory and counting room activities in connection with the laboratory analysis of water (primary, secondary, and effluent), gasses, deposits, materials of construction, bulk chemicals, insulating and lubricating oils and for the chemical treatment of all water and for coordinating these activities with other plant and system departments; for conducting special tests in working out solutions to problems of power plant operation and maintenance; for maintaining proper water conditions in all systems, particularly where Technical Specifications apply for inspecting plant oil systems and directing the use of proper lubricants; for keeping the department technologically abreast of new improved methods and materials and for advising management on matters of relating threats.

A. Educational Background

Graduated from Hutchinson Central High School, Buffalo, New York in 1963 (3 year program in Industrial Chemistry).

Received Associate Applied Science degree in Industrial Chemistry in 1965 from Erie County Technical Institute, Buffalo, New York.

Received Bachelor of Arts and Science degree in Chemistry in 1973 from State University of New York at Buffalo, Buffalo, New York.

B. Experience

(1) Nuclear

(a) Directly Related -

- Six years experience including system cleanliness and flushing during assembly; performing pre-operational testing on plant equipment/systems as responsible engineer; chemistry control and surveillance during cold hydro, hot functional testing and initial criticality and startup of both units; Attended two week seminar at University of Michigan on radiation biology, health physics and counting room equipment and statistics designed for nuclear power plant personnel. Experience on site from construction to operation has given knowledge and experience of plant systems and their operation.

(b) Other

Four and a half years experience in analysis and control of process chemistry in the spent fuel processing facility. Analysis on mixed fission products, uranium and plutonium solutions, including 200 gram per liter uranium and plutonium product. Work experience included criticality training, inventory and control of product solutions. Use of remote handling and sampling equipment including master-slave manipulators, and radiation and contamination monitoring equipment and decontamination procedures.

TABLE 1

Management and Technical ResourcesPlant Staff Positions

18. Plant Radiation Protection Supervisor

(D. C. Palmer)

(The Plant Radiation Protection Supervisor is responsible to the Technical Superintendent and has direct access to the Assistant Plant Manager and/or Plant Manager on all matters related to radiation protection in the plant. He is responsible for directing the area and personnel monitoring, maintaining records of radioactive sources, radioactive releases and shipments, managing the environmental sampling program, and all other matters of radiological safety concerning the plant.)

A. Educational Background

Mr. Palmer graduated from the University of Michigan with a Bachelor of Science degree in engineering physics in 1967. He received a Master of Science Degree in environmental health sciences (radiological health) from the University of Michigan in 1969. From May, 1968 to August, 1968, Mr. Palmer spent 13 weeks at the National Reactor Station receiving field training in health physics as part of his masters degree program.

B. Experience

1. Nuclear

(a) Directly Related -

In February, 1971, Mr. Palmer joined Indiana & Michigan Power Company's Donald C. Cook Nuclear Plant as Radiation Protection Supervisor. In that position, he has been responsible for the design and implementation of both the pre-operational and operational environmental radiation monitoring program, in-plant dosimetry and respiratory protection programs. He also has participated in the start-up of both units of the Cook Plant, including complete pre-operational testing of the Radiation Monitoring System and has subsequently participated in the three refuelings of the Unit 1 reactor.

(b) Other

Following Mr. Palmer's graduate work at the University of Michigan, he was employed as the Health Physics Supervisor at the Elk River reactor in Elk River, Minnesota. Mr. Palmer was employed in this capacity from May, 196

until January, 1971. During this period, he directed the facility's environmental program and plant health physics during fuel shipping, removal and disposal of control rods and general preparation for decommissioning this reactor facility.

TABLE 1

Management and Technical ResourcesPlant Staff Positions

19. Environmental Coordinator

(T. A. Kriesel)

(The Environmental Coordinator is responsible to the Technical Superintendent for assuring that the plant's environmental activities are being performed in a satisfactory and orderly manner in compliance with the Technical Specifications. The Environmental Coordinator is responsible for coordinating plant environmental activities with the American Electric Power Service Corporation Environmental and Nuclear Divisions, Indiana & Michigan Electric General Office, Environmental Protection Administration, Nuclear Regulator Commission and the Michigan Water Resources Commission. The Environmental Coordinator is responsible for contract monitoring, collection of samples, data analysis and reduction, performing design studies, Spill Prevention Control and Countermeasure (SPCC) and Pollution Incident Plant (PIP) implementation and waste handling coordination.

A. Educational Background

Bachelor of Science in Chemistry from Butler University, Indianapolis, 1968

Six (6) hours post graduate credit, Radioisotopes Techniques 1970-71

Participated in several subjects of operator training for cold license exams:

- Reactor Coolant System, Steam Generator
- Reactor Coolant System, Reactor and Internals
- Reactor Coolant System, RCP
- Reactor Coolant System, Instrument and Control
- Reactor Coolant System, Technical Specifications
- Chemical Volumn Control System
- Chemical Volumn Control System, Instrument & Control
- Chemical Volumn Control System, Boron Recycle
- Chemical Volumn Control System, Operating Procedures
- Atomic Physics
- Nuclear Physics
- Reactor Physics

B. Experience

1. Nuclear

(a) Directly Related -

May, 1971 to April 1976 - Chemist at Donald C. Cook Nuclear Plant, responsible for pre-operational and operation of all make-up water and waste water systems including analysis on such systems. Set up hot and cold laboratory analysis equipment and developed laboratory procedures manual for proper operation. Set up, including

initial calibrations, etc., all laboratory radioactive counting room equipment including computer based 4096 channel analyzer with Lithium drifted Germanium Detector. Coordinated chemical control of Unit I during hot functionals, initial and commercial operation. Performed pre-op engineer functions on such systems as Nuclear Sampling, Boron Make-up and Recovery, and Chemical Addition. Responsible for system cleanliness, documentation, and flushing of all plant systems.

April 1976 to Present - Environmental Coordinator at Donald C. Cook Nuclear Plant (Westinghouse PWR) responsible for solid waste processing and shipping the quantification and reporting of both routine and accidental releases of radioactive material in solids liquids, and gases. Responsible for monitoring and reporting all Technical Specification, EPA, and state environmental requirements.

(b) Other -

June, 1968 - April, 1969 - Graduate chemist at the Huntington General Laboratory, American Electric Power Service Corporation. While at Huntington, studied the chemical analysis required during power plant construction and operation, such as paint technology, oil analysis, water analysis, coal analysis, boiler tube analysis, and deposits analysis.

TABLE 1

Management and Technical Resources

Plant Staff Positions

20. Senior Engineer (Nuclear)
(C. C. Ho)

The Senior Engineer (Nuclear) is directly responsible to the Nuclear Engineer and assists in the planning and directing of nuclear reactor technical studies and tests to establish core parameters, fuel management economics, and safe nuclear and thermal operational limits of the nuclear reactors within the scope of the technical specifications.

A. Educational Background

M. S. in Nuclear Engineering from Massachusetts Institute of Technology.

M. E. (Master of Engineering) in Mechanical Engineering from North Carolina State University.

P. E. (Professional Engineering Degree) in Nuclear Engineering from N. C. State University.

B. Experience

(1) Nuclear.

(a) Directly-related

Mr. Ho originally joined the Cook Plant organization on 9-1-71 as a Performance Engineer and his principle duties consisted of Plant Performance and Equipment testing. On 3-15-73, Mr. Ho transferred to the American Electric Power Service Corporation as a cognizant engineer in fuel management. His principle duties here were in the area of core analysis and fuel handling.

Mr. Ho transferred back to the Cook Nuclear Plant on 1-1-78 as a Senior Engineer (Nuclear).

(b) Other

Mr. Ho worked one year as an engineer for the Westinghouse Atomic Power Division and was involved in thermal hydraulic analysis for pressurized water reactors.

He also spent one year with Babcock and Wilcox Co. in their Nuclear Power Division as an engineer, working in the area of thermal and hydraulic design for pressurized water reactors.



ATTACHMENT C

TO

AEP:NRC:00236



AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|--|
| NUCLEAR ENGINEERING DIVISION (F) | 26 | The Nuclear Division is responsible for all technical activities relating to Nuclear Design, Construction, Operation, and Maintenance of the AEP Nuclear Power Plants including coordination of work with all other Engineering Divisions. |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Nuclear Safety and Licensing Section (F) | 11 | NS&L is responsible for all of the following activities: (a) Preparation of all license related documents (b) Review of designs and design changes for safety (c) Ensures AEP meets its commitments to the NRC (d) Development of safety criteria and comments on proposed NRC regulations (e) Maintains Lead Engineers for seismic analysis, health physics, shielding design, LOCA analysis, security, fire protection, and emergency planning. |
| Nuclear Materials & Fuel Management Section (F) | 12 | This subunit is responsible for the following fuel related activities: (a) New and Spent Fuel (b) Computer Coding (c) Fuel Cycle (d) Reactor Startup Physics and core physics projections (e) Fuel contracting & QA analysis |
| Plant Operations Staff Engineer (F) | 1 | The function of this position is to coordinate activities between the Plant and the AEP Service Corporation with respect to maintenance and operation of Nuclear Power Plants. |
| * NOTE: INCLUDES MANAGERIAL PERSONNEL | | |

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED.



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AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| UNIT | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|--|--------------------|---------|-----|------|-------------------------|------------------|------------------|---------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| NUCLEAR ENGINEERING DIVISION (CONT'D.) | 22 | 20 | 6 | 3 | 117 | 66 | 183 | 76 |
| <u>SUBUNITS</u> | | | | | | | | |
| Nuclear Safety & Licensing Section | 9 | 8 | 3 | 1 | 50 | 29 | 79 | 29 |
| Nuclear Materials & Fuel Management Section | 10 | 10 | 3 | - | 34 | 6 | 40 | 5 |
| Staff Engineer Plant Operations | 1 | - | - | 1 | 2 | 14 | 16 | 8 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|---|
| MECHANICAL ENGINEERING DIVISION (F) | 26 | This Division is responsible for the study, design, and development of the mechanical portions of new power plants, both nuclear and conventional electrical generating stations. It also is concerned with construction, operation, and maintenance of existing plants' mechanical systems. |
| (P) | 76 | |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Piping and Valves Section (F) | 5 | This Section is responsible for recommendations on all matters in connection with engineering, design, construction, procurement, operation and maintenance of systems and equipment as follows: Power plant system piping, power plant system valves, development of system flow diagrams, development of physical piping layouts, piping system insulation, piping stress analysis and support, system piping flush, blowout and cleanups, and system strainers, traps and miscellaneous tanks. |
| Fire Protection & HVAC Section (F) | 3 | This Section is responsible for recommendation on all matters in connection with design, engineering, procurement, construction, operation and maintenance of fire protection equipment and heating, ventilation, and air conditioning equipment and systems. Further responsibilities include assurance of adequacy of fire fighting systems and techniques throughout the AEPSC System. |
| (P) | 10 | |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|--|
| MECHANICAL ENGINEERING DIVISION (CONT'D.) | | |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Steam Generator Section (F) | 2 | This Section is responsible for engineering, construction, operation and maintenance of and improvements to steam generators and related auxiliary equipment, including steam generation equipment, fuel feeding equipment, flues and ducts, atmospheric pollution control equipment, and access and handling facilities. |
| (P) | 13 | |
| Staff Engineers (F) | 3 | The Staff Engineer is responsible to the Assistant Division Head-Mechanical Engineering to coordinate the activities of the Mechanical Engineering Division, its consultants and suppliers and other AEP Divisions to insure the highest standards of engineering for the power plant to which he is assigned. He shall keep the Assistant Division Head advised of the status of and developments related to all significant Mechanical Engineering Division engineering tasks. |
| (P) | 7 | |
| Instrumentation & Controls Section (F) | 4 | This Section is responsible for specifying and recommending the purchase of mechanical instrumentation for power plants; directing and coordinating the assembly, analysis and presentation of thermal performance information including incremental heat rates; supervising special equipment tests and instrument maintenance and installation practices. |
| (P) | 4 | |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|--|
| MECHANICAL ENGINEERING DIVISION (CONT'D.) | | |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Heaters & Pumps Section (F) | 3 | This Section is responsible for recommendations on all matters in connection with design, procurement, construction, operation and maintenance of the following equipment: boiler feed pumps, feedwater heaters, cooling towers, condensers, air compressors, evaporators, deaerators, vacuum equipment, circulating water pumps, condensate pumps, fire pumps, sump pumps, and strainers as applicable. |
| (P) | 7 | |
| Turbine Section (F) | 3 | This Section is responsible for engineering on all matters concerned with selection, design, installation, and operation of turbine-generating equipment. |
| (P) | 7 | |
| Cycle Evaluation. Section (P) | 4 | This Section is responsible for conceiving the thermodynamic cycle for future power plants, evaluating alternatives, and recommending the most suitable one for development. Involved are such areas as heat balance calculations, economic analysis, technical feasibility and equipment reliability studies. A follow-up function of the section is performance testing and analysis of the operating power plant cycle to determine if the equipment actually performs as it was designed to perform. The section is responsible for uncovering the reasons for any performance deficiencies and recommending ways of eliminating them. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|---|
| MECHANICAL ENGINEERING DIVISION (CONT'D.) | | |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Chemistry Section (F) | 3 | This Section is responsible for directing, coordinating and guiding all work of a chemical engineering nature related to the generation, transmission and distribution of electric power, including but not limited to: water treatment systems, chlorination equipment, chemical feed systems, radioactive waste disposal systems, and chemical laboratories. |
| (P) | 2 | |
| Analytical R&D Section (P) | 4 | This Section provides analytical expertise to other Service Corporation departments and the AEP System operating companies regarding the operation and maintenance of power plant equipment and systems. The section Analytical Capabilities extend in the areas of thermodynamics, heat and mass transfer and fluid dynamics. The Section is also responsible for evaluation of new energy related technologies for the purpose of determining whether or not to recommend to management for further investigation and/or funding. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| <u>UNIT</u> | <u>NUMBER OF DEGREES*</u> | | | | <u>MAN-YEARS OF EXPERIENCE</u> | | | |
|--|---------------------------|----------------|------------|-------------|--------------------------------|--------------------------|--------------------------|-----------------------------------|
| | <u>BACH.</u> | <u>MASTERS</u> | <u>PhD</u> | <u>P.E.</u> | <u>NUCLEAR ENGR'G.</u> | <u>OTHER ENGR'G.</u> | <u>TOTAL UTILITY</u> | <u>ENGINEERING MANAGEMENT</u> |
| MECHANICAL ENGINEERING DIVISION (CONT'D.) | 71 | 16 | 2 | 25 | 285 | 838 | 1123 | 206 |
| <u>SUBUNITS</u> | | | | | | | | |
| Pipe & Valve Section | 11 | - | - | - | 24 | 67 | 91 | 11 |
| Fire Protection & HVAC Section | 12 | 1 | - | 8 | 39 | 171 | 210 | 18 |
| Instrumentation & Controls Section | 6 | 2 | - | 3 | 47 | 58 | 105 | 4 |
| Heater & Pumps Section | 8 | 2 | - | 2 | 19 | 115 | 134 | 11 |
| Turbine Section | 7 | 2 | - | - | 24 | 101 | 125 | 18 |
| Cycle Evaluation Section | 2 | 2 | - | 2 | 21 | 14 | 35 | 8 |
| Chemistry Section | 4 | 1 | - | 1 | 26 | 46 | 72 | 9 |
| R&D Section | - | 2 | 2 | 1 | 12 | 7 | 19 | 3 |
| Steam Generator Section | 12 | 3 | - | 3 | 23 | 91 | 114 | 17 |
| Staff | 9 | 1 | - | 5 | 74 | 144 | 218 | 107 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|--|
| ELECTRICAL ENGINEERING DIVISION (P) | 150 | |
| Staff (N) | 11 | |
| <u>SUBUNITS</u> | | |
| Electrical Station Projects Section (N) | 30 | Electrical Station Projects - furnishes the engineering required in the design, construction, operation and maintenance of transmission and distribution stations. The section coordinates its activities with the related divisions in the operating companies and with other engineering and design sections or divisions of the Service Corporation. Electrical Station Projects assures that the engineering of stations is technically and economically sound, and that all phases of the project are coordinated to meet service requirements and commitments. |
| System Measurements Section (P) | 15 | System Measurements engineers metering, monitoring and instrumentation facilities for use on customer premises, and in power plants and substations. The section is also involved in System-wide data acquisition, mini-and micro-computer developments and advanced measuring techniques. |
| System Protection Section (N) | 23 | System Protection provides the engineering required in the application, installation, operation and maintenance of protective relays, control equipment and electric circuits associated with the equipment used on our transmission and subtransmission systems. The section's activities are coordinated with related divisions in the operating companies and other engineering and design sections or divisions of the Service Corporation. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| UNIT (A.O.S.) | NUMBER OF PROFESSIONAL TECHNICAL PERSONS* | UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES |
|--|--|---|
| ELECTRICAL ENGINEERING DIVISION (CONT'D.) | | |
| SUBUNITS | | |
| Distribution Engineering Section (N) | 15 | Distribution Engineering develops, in cooperation with the operating companies, engineering and construction standards for use by the latter's Distribution Departments. This activity includes planning criteria and studies designed to lead to adequate reliable and economical distribution systems. |
| Transmission Structures Section (N) | 10 | Transmission Structure Engineering engineers and designs the structures required to support the conductors, insulators and hardware used in transmission line construction. |
| Transmission Line Engineering Section (N) | 14 | Transmission Line Engineering handles the engineering, design and material acquisition required for construction of System transmission lines. |
| Electrical Generation Section (F) (P) | 7 30 | Electrical Generation furnishes the engineering required in the design, construction, installation, operation and maintenance of the electrical systems in power plants. Included here are the controls and protective schemes associated with the generators, turbines, steam generators, auxiliary systems, coal-handling facilities, transformers and other plant electrical equipment. |
| Major Electrical Equipment Section (N) | 8 | This Section is responsible for <u>all</u> aspects relating to two categories of electrical equipment: transformers and rotating machinery. Besides the direct responsibilities for the assigned equipment, the Major Electrical Equipment Section is also responsible for staying abreast of the state-of-the-art technologies in its fields. The section also seeks to improve the equipment and operating techniques used on the equipment to enhance the overall reliability of the AEP System and to materially aid in the profitability of the Company. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P- PART TIME, and N - NOT ASSIGNED



AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| UNIT | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|---------------------------------------|--------------------|---------|-----|------|-------------------------|---------------|---------------|------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| ELECTRICAL ENGINEERING DIVISION -N.Y. | 114 | 46 | 1 | 13 | 65 | 872 | 1,024 | 87 |
| <u>SUBUNITS</u> | | | | | | | | |
| Staff | 13 | 5 | - | 1 | 25 | 158 | 223 | 40 |
| Electrical Station Projects | 20 | 11 | - | 4 | - | 176 | 181 | 5 |
| System Measurements Section | 12 | 4 | 1 | 2 | - | 42 | 43 | 1 |
| System Protection Section | 17 | 4 | - | - | 5 | 185 | 200 | 10 |
| Distribution Engineering Section | 8 | 4 | - | - | - | 81 | 91 | 10 |
| Transmission Structures Section | 9 | 4 | - | 1 | - | 24 | 34 | 10 |
| Transmission Line Engr. Section | 7 | 2 | - | 3 | - | | | |
| Electrical Generation Section | 23 | 11 | - | 2 | 30 | 155 | 195 | 10 |
| Major Electrical Equipment Section | 5 | 1 | - | - | 5 | 51 | 57 | 1 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME, MSEE

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| UNIT (A.O.S.) | NUMBER OF PROFESSIONAL TECHNICAL PERSONS* | UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES |
|---|--|--|
| ELECTRICAL RESEARCH & DEVELOPMENT DIVISION | | |
| SUBUNITS | | |
| Electrical Research Section (N) | 16 | Electrical Research initiates and conducts the basic and applied research necessary for the most efficient and economical operation and development of present and future electrical facilities. This work includes the direction of the company's investigations of such System problems as lightning performance, radio and television interference, audible noise, switching surges and insulation coordination and then the development of their solutions. |
| UHV Research Project Section (N) | 10 | The UHV Section is responsible for testing equipment and transmission line components in a range of 1 to 2 million volts, in order to develop the technology for future UHV Systems. This work includes the acquisition and analysis of data relating to the audible noise performance and radio interference of future UHV lines, the calculation and measurement of electrical and magnetic fields, and the organization of studies to determine the effects of such fields. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| <u>UNIT</u> | <u>NUMBER OF DEGREES*</u> | | | | <u>MAN-YEARS OF EXPERIENCE **</u> | | | |
|---|---------------------------|----------------|------------|-------------|-----------------------------------|--------------------------|--------------------------|-----------------------------------|
| | <u>BACH.</u> | <u>MASTERS</u> | <u>PhD</u> | <u>P.E.</u> | <u>NUCLEAR ENGR'G.</u> | <u>OTHER ENGR'G.</u> | <u>TOTAL UTILITY</u> | <u>ENGINEERING MANAGEMENT</u> |
| ELECTRICAL RESEARCH & DEVELOPMENT DIVISION | 15 | 6 | 5 | - | - | 179 | 190 | 11 |
| <u>SUBUNITS</u> | | | | | | | | |
| Electrical Research Section | 10 | 5 | 5 | - | - | 67 | 68 | 1 |
| UHV Research Project Section | 4 | 1 | - | - | - | 101 | 109 | 7 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME, MSEE, MSEE

** INCLUDES: ADMINISTRATIVE STAFF

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|---|
| DESIGN ENGINEERING DIVISION (P) | 375 | It is the responsibility of the Design Division to translate engineering decisions into completed drawings for the major generation, transmission and other facilities of the AEP System. The division achieves its goals through the coordinated effort of its five design section, working with the Engineering Divisions. |
| Staff (N) | 16 | Assist Management |
| <u>SUBUNITS</u> | | |
| Architectural Design Section (P) | 16 | Architectural Design - Engineers and designs the architectural aspects of power plants, offices, service buildings and other System facilities. |
| Electrical Plant Design Section (P) | 97 | Electrical (Plant) Design - Handles layout of main and auxiliary power systems and physical connections to all electrical equipment. Plant electrical controls and equipment protection, lighting and communications systems are included. |
| Electrical Station Design Section (N) | 66 | Electrical (Station) Design - Designs all outdoor stations, from 4-kv to 765-kv, including station layout, site grading, physical electrical-assembly-detail drawings and equipment-protection wiring drawings. |
| Mechanical Design Section (P) | 63 | Mechanical Design - Has responsibility for general design functions as they apply to over-all site and plant arrangements; turbine and steam-generating systems layout; water, fuel, air and lubrication systems; heating, ventilating, air-conditioning and fire-protection systems; and piping design, support and stress analysis. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED



AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|-------------------------------------|--|---|
| <u>DESIGN ENGINEERING (CONT'D.)</u> | | |
| <u>SUBUNITS</u> | | |
| Structural Design Section (P) | 77 | Structural Design - is responsible for the structural design of fossil-fueled and nuclear power plants and stations, including foundations, superstructures, stacks, coal handling and other structures. Most of this section's personnel are graduate engineers. Extensive use is made of advanced analytical and computer techniques. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| UNIT | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|-----------------------------------|--------------------|---------|-----|------|-------------------------|---------------|---------------|------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| DESIGN ENGINEERING DIVISION | 141 | 22 | - | 25 | 754 | 3804 | 4558 | 221 |
| SUBUNITS | | | | | | | | |
| Architectural Design Section | 10 | 1 | - | 8 | 44 | 349 | 393 | 33 |
| Electrical Plant Design Section | 48 | 5 | - | 2 | 364 | 893 | 1257 | 41 |
| Electrical Station Design Section | 16 | - | - | - | - | - | - | - |
| Mechanical Design Section | 20 | 1 | - | 2 | 190 | 796 | 986 | 26 |
| Structural Design Section | 47 | 17 | - | 13 | 136 | 1706 | 1842 | 41 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|---|--|--|
| ELECTRICAL ENGINEERING DIVISION - CANTON | 146 | |
| <u>SUBUNITS</u> | | |
| Communications Section (N) | 15 | Communications engineers the radio and microwave communication networks across the seven-state AEP System. Its activities include the review and procurement of associated equipment, supervision of its installation advising on its operation and maintenance. |
| Design Engineering Section (N) | 81 | Electrical Design is responsible for the design of new and existing substations and generating plants. It coordinates closely with the Station Engineering Section and the other station-design groups in the Service Corporation in New York and in the operating companies. |
| Station Engineering Section (N) | 17 | Station Engineering provides the engineering required in the design and construction of transmission and distribution stations. Its activity is closely related to that of the Electrical Station Projects, System Protection and System Measurements Sections. |
| Maintenance and Installation Section (N) | 13 | Maintenance and Installation coordinates the initial installation testing and subsequent maintenance and repair of both generation and transmission equipment. The use of highly specialized equipment, particularly as a result of AEP's 765-kv system, makes this coordination necessary and provides for the systematic development of highly trained experts in these vital areas. Members of this section include specialists in transformers, switchgear, rotating machinery and high-voltage cable who work closely with plant and station personnel. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B: OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|---|--|--|
| ELECTRICAL ENGINEERING DIVISION - CANTON (CONT'D.) | | |
| <u>SUBUNITS</u> | | |
| EE Laboratory | 15 | Canton Laboratory conducts research and development investigations using high voltages, extreme environmental conditions and large amounts of data. The laboratory performs its own research and provides assistance for investigations by other sections of the division. |
| Staff (N) | 1 | Assists the division head in performance of division duties and responsibilities. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| UNIT | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|--|--------------------|---------|-----|------|-------------------------|------------------|------------------|---------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| ELECTRICAL ENGINEERING DIVISION -CANTON | 28 | 3 | - | 12 | 15 | 1,111 | 1,173 | 47 |
| <u>SUBUNITS</u> | | | | | | | | |
| Communications Section | 2 | - | - | 1 | 5 | 79 | 94 | 10 |
| Staff | 4 | - | - | 1 | - | 40 | 55 | 15 |
| Design Engr.Section | 2 | - | - | - | - | 478 | 483 | 5 |
| Station Engr. Section | 8 | 2 | - | 3 | - | 151 | 160 | 9 |
| M&I Section | 9 | - | - | 6 | 10 | 208 | 223 | 5 |
| EE Laboratory Section | 3 | 1 | - | 1 | - | 155 | 158 | 3 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME, MSEE

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|--|
| ENVIRONMENTAL ENGINEERING DIVISION (P) | 22 | This division is responsible for activities related to air and water quality, pollution control, the effect of power plants on the environment, biological and botanic studies, as well as general environmental research and laboratory work. |
| Huntington General Environmental Laboratory (N) | 21 | Not Applicable. |

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A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED



AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| <u>UNIT</u> | <u>NUMBER OF DEGREES*</u> | | | | <u>MAN-YEARS OF EXPERIENCE</u> | | | |
|--|---------------------------|----------------|------------|-------------|--------------------------------|--------------------------|--------------------------|-----------------------------------|
| | <u>BACH.</u> | <u>MASTERS</u> | <u>PhD</u> | <u>P.E.</u> | <u>NUCLEAR ENGR'G.</u> | <u>OTHER ENGR'G.</u> | <u>TOTAL UTILITY</u> | <u>ENGINEERING MANAGEMENT</u> |
| Environmental Engineering Division - Canton | 20 | 6 | 0 | 3 | 0 | 0 | 157 | 15 |
| <u>SUB-UNIT</u> | | | | | | | | |
| Huntington General Laboratory | 12 | 1 | 0 | 0 | 0 | 0 | 187 | 16 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|---|--|---|
| CIVIL ENGINEERING DIVISION (P) | 52 | This division is responsible for the execution of studies, preparation of plans, and development of design criteria in the areas of structural engineering, soils and foundations analyses, and hydrological aspects of constructing nuclear and conventional power plants. |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Structural Engineering Section (P/N) | 2/12 | The structural engineering section is responsible for general engineering functions as they apply to: Steel and concrete for power plants, rail facilities equipment supports and restraints, hatches, cooling towers, intakes and discharge structures, and materials testing. |
| Soils, Foundations & Hydro Section (N) | 19 | Not Applicable. |
| Civil Engineering Laboratory (N) | 19 | Not Applicable. |

*NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED



AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

| UNIT (A.O.S.) | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|--|--------------------|---------|-----|------|-------------------------|------------------|------------------|---------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| Civil Engineering Division (P) | 37 | 13 | 1 | 8 | 26 | 92 | 346 | 36 |
| <u>SUBUNITS (A.O.S.)</u> | | | | | | | | |
| Structural Engineering Section (P/N) | 13 | 2 | 0 | 2 | 13 | 0 | 90 | 7 |
| Soils, Foundations & Hydro Section (N) | 17 | 11 | 1 | 4 | 3 | 42 | 93 | 7 |
| Civil Engineering Laboratory (N) | 6 | 0 | 0 | 1 | 0 | 50 | 163 | 7 |

* NOTE: INCLUDES: BA, BSEE, BSCE, BSNE, MBA, MSME, MSNE, BEME

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE (NON-PLANT STAFF) 1. ORGANIZATION

| <u>UNIT (A.O.S.)</u> | <u>NUMBER OF PROFESSIONAL TECHNICAL PERSONS*</u> | <u>UNIT/SUBUNIT - FUNCTIONS AND RESPONSIBILITIES</u> |
|--|--|---|
| MATERIALS HANDLING DIVISION (P) | 34 | The division has the responsibility to provide the expertise for the planning, design and construction of coal handling and material handling projects from conception to operation. Engineers in this division are involved in preliminary feasibility studies, conceptual engineering and system development, establishment of design criteria and equipment requirements, equipment evaluation and selection and construction. |
| <u>SUBUNITS (A.O.S.)</u> | | |
| Coal & Materials Handling Section (P) | 15 | This section handles the engineering, design and procurement of coal handling equipment for new power plants; feasibility studies to evaluate various alternatives to transport coal from mine to power plant; and the evaluation and selection of materials handling equipment for coal fired, nuclear and hydroelectric plants. |
| Ash Handling & Research Sections (N) | 17 | Not Applicable. |

* NOTE: INCLUDES MANAGERIAL PERSONNEL

A.O.S. - AVAILABILITY OF SUPPORT: F-FULL TIME, P-PART TIME, and N-NOT ASSIGNED

AEP:NRC: 00236 PART II TECHNICAL RESOURCES: B. OFFSITE 2. EDUCATION AND 3. EXPERIENCE

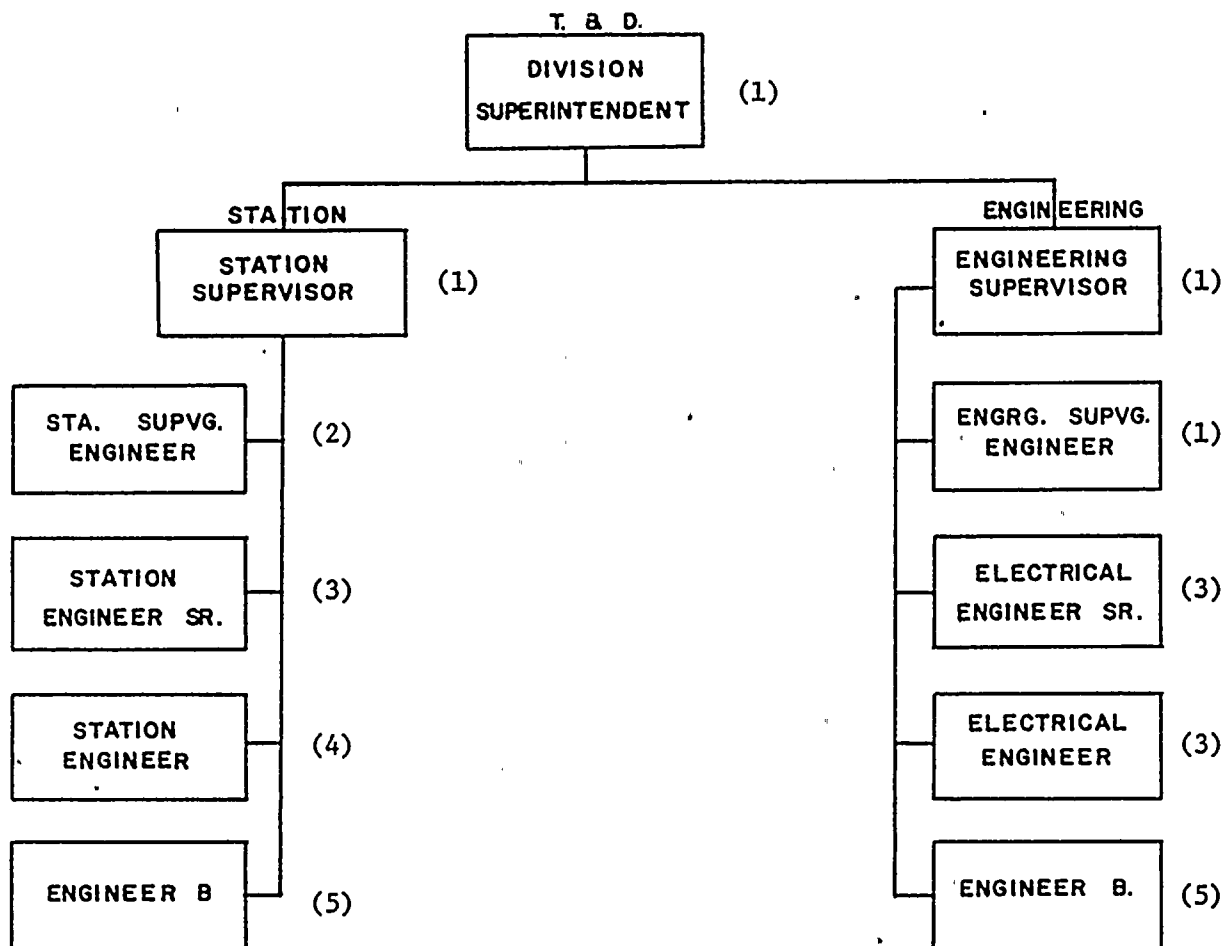
| UNIT | NUMBER OF DEGREES* | | | | MAN-YEARS OF EXPERIENCE | | | |
|--------------------------------------|--------------------|---------|-----|------|-------------------------|------------------|------------------|---------------------------|
| | BACH. | MASTERS | PhD | P.E. | NUCLEAR ENGR'G. | OTHER ENGR'G. | TOTAL UTILITY | ENGINEERING MANAGEMENT |
| Materials Handling Division | 25 | 8 | - | 1 | - | 323 | 236 | 32 |
| <u>SUBUNITS</u> | | | | | | | | |
| Coal & Materials Handling Section | 13 | 4 | - | - | - | 147 | 75 | 3 |
| Ash Handling & Research Sections | 11 | 2 | - | 1 | - | 90 | 78 | 6 |

* NOTE: INCLUDES: BA, BSEE, BSME, BSNE, MBA, MSME, MSNE, BEME

** INCLUDES: ADMINISTRATIVE STAFF

ORGANIZATIONAL CHART

OFFSITE (NON PLANT TECHNICAL RESOURCE)



NOTE: Number in parentheses indicates total employees employed in that classification.



| | General Engineering |
|--|--------------------------------|
| 1. Total number (Superintendent, Supervisors, Engineers, and Professional Personnel) | 29 (including 3 Managerial) |
| 2. By education background, e.g. - | |
| B.S. Nuclear Engineering | |
| B.S. Electrical/Mechanical Engineering | 19 |
| Associate Degree - Engineering | 10 |
| 3. Technical Experience (in man-years) | |
| a. Engineering | |
| (1) Nuclear Power Field | |
| (2) Engineering Management | 22 |
| (3) Total Utility Experience | 309 |
| *b. Field | |
| (1) Reactor Physics | |
| (2) Electrical/Mechanical Engineering | |
| (3) Health Physics | |
| Others as applicable | |

| F | N |
|---|---|
| | X |

*Specify whether experience is (F) - full time nuclear experience, (N) - non-nuclear experience.

8/7/79

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