RECORD #172

TITLE: Quali.ications Requirements of Line Health Physics Supervisors

Example for update to HPP

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 14 1988

MEMORANDUM FOR: Ronald R. Bellamy, Chief
Emergency Preparedness and Radiological
Protection Branch
Division of Radiation Safety and Safeguards
Region I

FROM: LeMoine J. Cunningham, Chief
Radiation Protection Branch
Division of Radiation Protection
and Emergency Preparedness
Office of Nuclear Reactor Regulation

SUBJECT: QUALIFICATIONS REQUIREMENTS OF LINE HEALTH PHYSICS SUPERVISORS

This is in response to your March 2, 1988, memorandum requesting guidance on the above subject (copy enclosed). The guidance provided reinforces and documents the position Jim Wigginton shared with your staff in February during several telephone discussions.

We support your positions and actions at Susquehanna in regard to the application of ANSI N18.1, 1971, concerning whether a health physics line supervisor should meet the Section 4.3.2 supervisor's experience requirement. Specifically, in this case, the Radiological Operations Supervisor (ROS) has two Health Physics (HP) foreman and a health physicist reporting to him and is directly responsible for the infield implementation of the site radwaste, classical HP job coverage/RWP program, ALARA program and job scheduling. Given this broad spectrum and scope of operating activities and their direct worker safety implications, the ROS (a line supervisor with first line foreman/supervisors reporting to him) unquestionably falls under Section 4.3.2. The ROS thereby needs to have four years of "craft or discipline" experience to be in full compliance with Technical Specifications 6.3.

A word of caution in the generic application of our guidance. With the expansion of the Health Physics (HP) staff in the post-TMI period, many HP organizations have added staff HP specialists who are assigned narrow, specific areas of responsibility. For example, individuals may be assigned as Respiratory Supervisor, Dosimetry Supervisor, etc. We do not believe individuals filling these types of narrow specialty positions with small support staffs should be expected to meet the requirements specified for Section 4.3.2 supervisors.

Technical Contact: James E. Wigginton, NRR
492-1136

We believe the stated guidance is generally consistent with past NRC Headquarters and Regional actions in the plant staff qualifications area. If you have any questions concerning our position, please call Jim Wigginton or me.

Original signed by LeMoine J. Cunningham

LeMoine J. Cunningham, Chief
Radiation Protection Branch
Division of Radiation Protection
and Emergency Preparedness
Office of Nuclear Reactor Regulation

Enclosure:
Memo for L. J. Cunningham from
R. R. Bellamy dtd. 3/2/88

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03/11/88

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

MAR 02 1988

Memorandum For: L.J. Cunningham, Chief
Radiation and Protection Branch,
Division of Radiation Protection
and Emergency Preparedness,
Office of Nuclear Reactor Regulation

From: R.R. Bellamy, Chief
Facilities Radiological Safety
and Safeguards Branch, Region I

Subject: QUALIFICATIONS OF RADIATION
PROTECTION SUPERVISORS

On November 30, 1987, Region 1 issued Susquehanna (Pennsylvania Power and Light Company) a Notice of Violation for assigning an individual to the position of Radiological Operations Supervisor who did not meet applicable Technical Specification qualification requirements for supervisors. The individual possessed only eight months of the required four years of directly applicable radiological controls experience. The licensee responded to the violation in a January 8, 1988 letter. The violation and licensee response are included as Attachment 1. Attachment 2 provides copies of other pertinent back up information including applicable Technical Specifications, Radiation Protection Organization charts, and applicable FSAR sections. Copies of these documents have been provided to Mr. J. Wigginton of your staff.

The licensee contends in his response that the individual assigned to this position need not be qualified as a "supervisor" as defined in Section 4.3.2 of ANSI N18.1, 1971 and therefore need not possess four years of experience "in the craft or discipline he supervises" as specified in Section 4.3.2. The licensee believes it is appropriate to qualify this individual as a "technical manager" as defined in Section 4.2.4 of ANSI N18.1, 1971. Section 4.2.4 specifies that an individual should possess a minimum of eight years in responsible positions of which one year of this experience shall be nuclear power experience. This section does not specify any experience requirement in a particular craft or discipline.

The Radiological Operations Supervisor has program responsibilities for infield radiological controls, ALARA, and radwaste shipping. Because of the scope of responsibilities of this individual and the impact his direction has on the health and safety of personnel, we believe it is appropriate that this individual be qualified to the four year experience provision of Section 4.3.2 of ANSI N18.1, 1971. The licensee has elected not to place an individual in this position who is qualified to Section 4.3.2.

Because of the generic impact the licensee's action could have on the qualifications of Radiation Protection Supervisors in the industry, we request that you provide us written guidance on the acceptability of our position on this matter. Because we are withholding acceptance of the licensee's response, we would appreciate a timely response on this matter.

Ronald R. Bellamy

R.R. Bellamy, Chief
Facilities Radiological Safety
and Safeguards Branch, Region I

Attachments: As stated

cc w/attach.

T.T. Martin, Region I
F.J. Congel, NRR
D.M. Collins, Region II
W.D. Shafer, Region III
L.A. Yandell, Region IV
F.A. Wenslawski, Region V
M.M. Shanbaky, Region I
A.R. Blough, Region I
R.L. Nimitz, Region I
M.M. Markley, Region I
J.T. Wigginton, NRR

Attachment 1

PP&L Pennsylvania Power & Light Company
Two North Ninth Street • Allentown, PA 18101 • 215/770-5151

page 1 of 4

JAN 08 1988

Harold W. Keiser
Vice President-Nuclear Operations
215/770-7502

Mr. Thomas T. Martin, Director
Division of Radiation Safety and Safeguards
U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION
NRC INSPECTION REPORTS 50-387/87-19
AND 50-388/87-19
PLA-2939 FILE R41-1C, R41-2

Docket Nos. 50-387
and 50-388

Dear Mr. Martin:

This letter provides PP&L's response to your letter of November 30, 1987 which forwarded NRC Region I Combined Inspection Reports 50-387/87-19 and 50-388/87-19 with Appendix A, Notice of Violation.

The Notice advised that PP&L was to submit a written reply within thirty (30) days of the date of the letter. However, as discussed with Mr. A. R. Blough of NRC Region I on December 30, 1987, PP&L has been authorized to delay the response until January 8, 1988. We trust that the Commission will find the attached response acceptable.

Very truly yours,

H. W. Keiser
Vice President-Nuclear Operations

Attachment

cc: NRC Document Control Desk (original)
NRC Region I
Mr. J. R. Stair - NRC Resident Inspector
Mr. M. C. Thadani, NRC Project Manager

RESPONSE TO NOTICE OF VIOLATION

Violation (387/87-19-01)

Technical Specification 6.3 requires that each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions. ANSI N18.1 - 1971 requires in Section 4.3 that supervisors possess a minimum of four years of experience in the craft or discipline they supervise.

Contrary to the above, as of October 1987, the Radiological Operations Supervisor possessed only eight months of experience in the area of Radiological Controls.

Discussion:

PP&L will not contest the violation because it was the result of an inadequate internal program related to staffing qualifications, in that PP&L's views on the staffing of some management/supervisory positions were not properly defined. We will revise our program to better define our intent on the staffing of manager/supervisor positions.

Additionally, in response to the violation, PP&L performed an in depth review of the Health Physics organization. This review concluded that the Health Physics organization meets Technical Specification Section 6.3 and that the incumbent in the Radiological Operations Supervisor position because of his broad based nuclear and managerial experience actually strengthens the Health Physics organization.

At the management level the current organization is staffed such that the Radiological Operations Supervisor reports directly to the Health Physics/Chemistry Supervisor who in turn reports directly to the Assistant Superintendent of Plant. Although two individuals filled the Health Physics/Chemistry Supervisor position since January 1987, both are fully qualified to ANSI N18.1-1971 Section 4.4.4 and Regulatory Guide 1.8, September, 1975. Parallel to the Radiological Operations Supervisor is the Radiological Protection Supervisor who is also fully qualified to ANSI N18.1-1971 Section 4.4.4 and Regulatory Guide 1.8, September, 1975.

Reporting directly to the Radiological Operations Supervisor are the Health Physics Foreman-Instrumentation and Sources, the Health Physics Foreman-Operations and a Health Physicist/ALARA Planning and Scheduling. Individuals filling these positions since January 1987 are all fully qualified to Section 4.3.2 of the ANSI standard. Additionally, all the HP Assistant Foremen at Susquehanna meet or exceed the qualifications for their positions.

At PP&L, we have developed our own personnel qualification standards which meet or exceed industry standards. Many of our current manager/supe. positions have no equivalent industry standards. These "intermediate level" management positions are in the line organization between senior plant functional management (qualified to Section 4.2 of the ANSI standard or Regulatory Guide 1.8 as applicable) and plant foreman (qualified to Section 4.3.2) or other technically qualified/licensed personnel. PP&L's current qualification standards, which are contained in the FSAR, Nuclear Department

Instructions, and plant administrative procedures, currently do not accurately reflect PP&L's intent that technically and/or managerially qualified individuals can satisfactorily fill these "intermediate level" manager/supervisor positions. We will revise our program to incorporate the proper qualifications for individuals filling "intermediate level" manager/supervisor positions.

PP&L believes this interpretation meets the intent of ANSI N18.1-1971 and also Section 6.3 of the Technical Specifications. We maintain that the Radiological Operations Supervisor position is not an ANSI equivalent position, and therefore, can be filled by an individual having qualifications equivalent to Section 4.2.4. The incumbent fully meets the requirements of Section 4.2.4 (see response for qualifications).

Response:

1) Corrective steps which have been taken and the results achieved:

PP&L has re-evaluated the justification for placing the incumbent in the Radiological Operations Supervisor's position and has concluded that based on the EP/Chemistry Supervisor and Rad Protection Supervisor meeting Section 4.4.4 of ANSI 18.1-1971 and Regulatory Guide 1.8, the EP Foremen and Assistant Foremen meeting Section 4.3.2 of ANSI 18.1-1971, and the current Radiological Operations Supervisor meeting the requirements of Section 4.2.4 of ANSI 18.1-1971 as outlined below, the intent of Technical Specifications Section 6.3 has been met.

The qualifications of the incumbent used to support our conclusion are identified below:

M. S. Nuclear Engineering	The Pennsylvania State University
B. S. Chemical Engineering	The Pennsylvania State University

Over 20 years of nuclear power experience with particular related Health Physics experience outlined.

6/67 to 2/68 (8 mos.)	NAVSHIPS 08, Division of Naval Reactors

Coordinating Engineer for materials irradiation testing in support of the naval nuclear power program including technical evaluation of the design of material test rig and inspection equipment.

2/68 to 7/68 (5 mos.)	Bettis Reactor Engineering School

Graduate level studies in nuclear reactor engineering equivalent to work required for Master of Science, including Radiation Shielding and Reactor Physics and Core Thermal Design.

7/68 to 5/72 (3 yrs., 10 mos.) NAVSHIPS 08, Division of Naval Reactors

Responsible for safety and quality of refueling work for 12 reactor plants including nuclear and radiation shielding.

5/86 (5 weeks) Oak Ridge Associate University

Obtained Certificate of Completion for Applied Health Physics studies.

2) Corrective steps to be taken to avoid further violations:

FP&L will revise the FSAR Sections 12.5.1.4, 13.1.3.1 and 13.1.3.1.1, the appropriate Nuclear Department Instruction and plant administrative procedures to reflect the suitability of individuals for certain plant management positions.

3) Date of full compliance:

Based on the action taken above, FP&L will be in full compliance upon revisions to the documents stated in (2) above. The procedures will be revised by June 1, 1988. The FSAR will be revised by July 31, 1988.

RDK:tah
rdkmaj101c

Attachment 2

Applicable Tech Specs
1 of 3

6.0 ADMINISTRATIVE CONTROLS

.1 RESPONSIBILITY

6.1.1 The Superintendent of Plant - Susquehanna shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor or, during his absence from the Control Room, a designated individual, shall be responsible for the Control Room command function. A management directive to this effect, signed by the Senior Vice President - Nuclear shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown on Figure 6.2.1-1.

UNIT STAFF

6.2.2 The unit organization shall be as shown on Figure 6.2.2-1 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2.2-1.

b. At least one licensed Reactor Operator assigned to and qualified on that unit shall be in the control room when fuel is in the reactor. In addition, while the reactor is in OPERATIONAL CONDITION 1, 2 or 3, at least one licensed Senior Reactor Operator qualified on this unit shall be in the Control Room. This individual may be qualified on both units and be serving in this capacity on both units.

c. A health physics technician* shall be onsite when fuel is in the reactor.

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

e. A site Fire Brigade of at least 5 members shall be maintained onsite at all times*. The Fire Brigade shall not include the Shift Supervisor and the 2 other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency.

*The health physics technician and Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

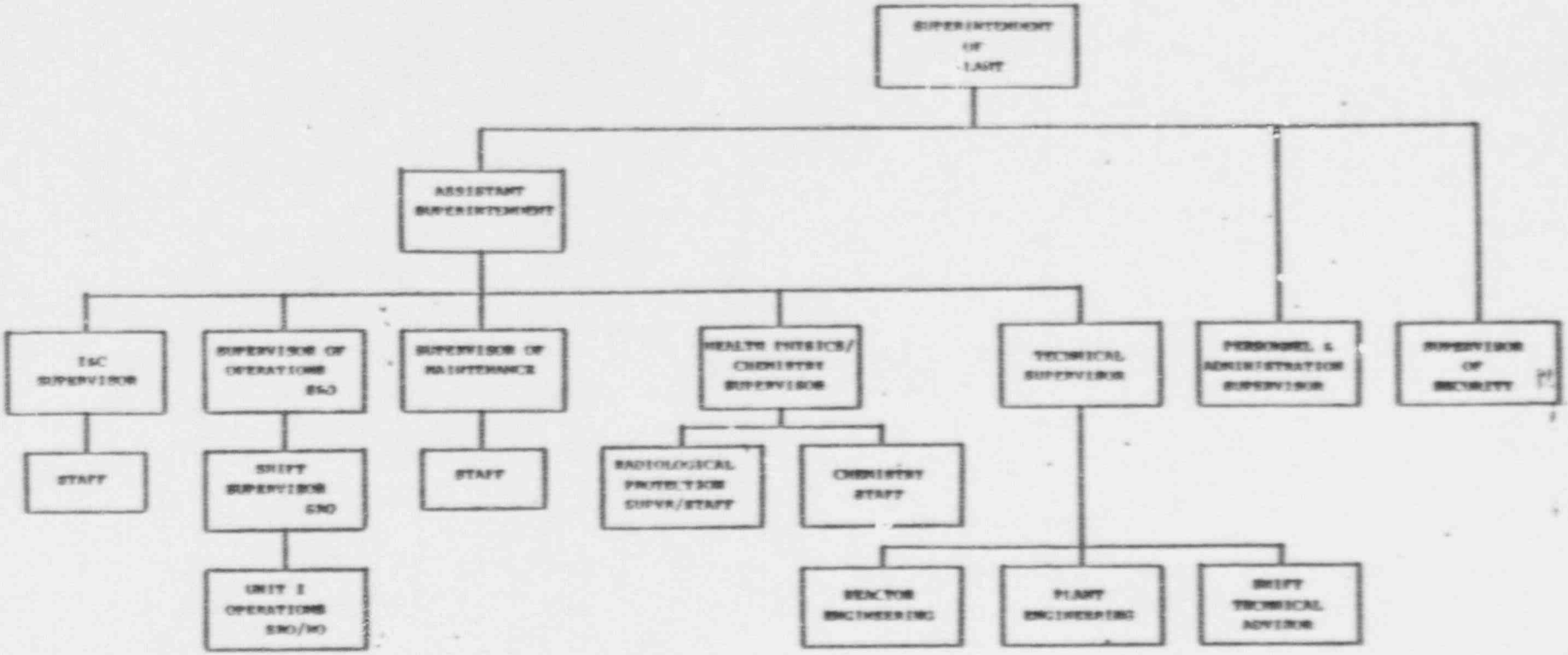


FIGURE 6.2.2-1
UNIT ORGANIZATION

6.2.3 NUCLEAR SAFETY ASSESSMENT GROUP (NSAG)

FUNCTION

6.2.3.1 The NSAG shall function to examine unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving plant safety.

COMPOSITION

6.2.3.2 The NSAG shall be composed of at least five dedicated, full-time engineers with at least three located onsite, each with a bachelor's degree in engineering or related science and at least two years professional level experience in his field, at least one year of which experience shall be in the nuclear field.

RESPONSIBILITIES

6.2.3.3 The NSAG shall be responsible for maintaining surveillance of unit activities to provide independent verification* that these activities are performed correctly and that human errors are reduced as much as practical.

AUTHORITY

6.2.3.4 The NSAG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving unit safety to the Senior Vice President-Nuclear.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor shall provide technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions and the supplemental requirements specified in Section A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, except for the Radiological Protection Supervisor or Health Physics/Chemistry Supervisor who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and the shift Technical Advisor who shall meet or exceed the qualifications referred to in Section 2.2.1.b of Enclosure 1 of the October 30, 1979 NRC letter to all operating nuclear power plants.

6.4 TRAINING

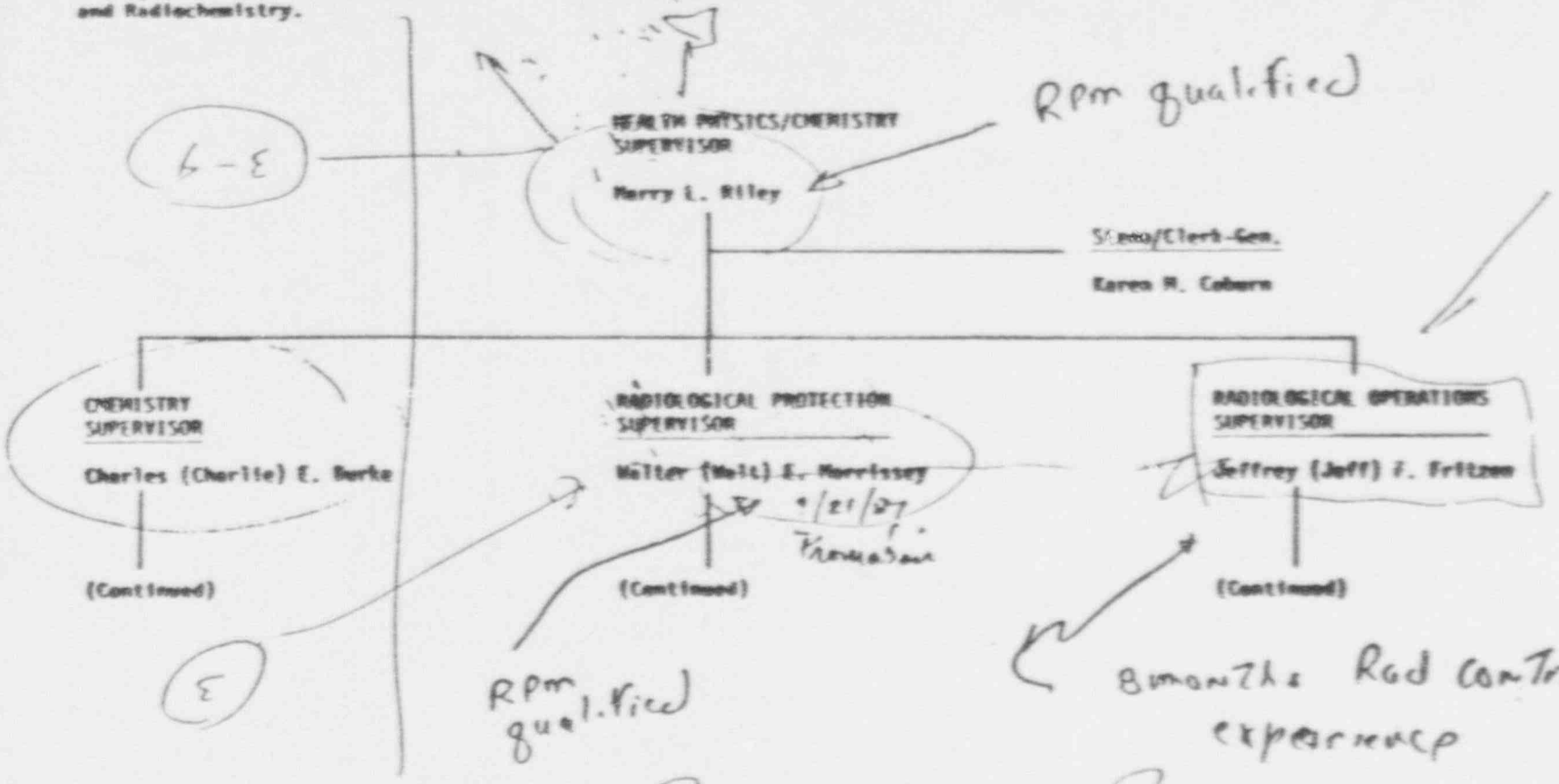
6.4.1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the Manager - Nuclear Training, shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and Appendix "A" of 10 CFR Part 55 and the supplemental requirements specified in Section A and C of Enclosure 1 of the March 28, 1980 NRC letter to all licensees, and shall include familiarization with relevant industry operational experience.

*Not responsible for sign-off function.

SUSQUEHANNA STEAM ELECTRIC STATION
HEALTH PHYSICS/CHEMISTRY SECTION - CA 461

October 1987

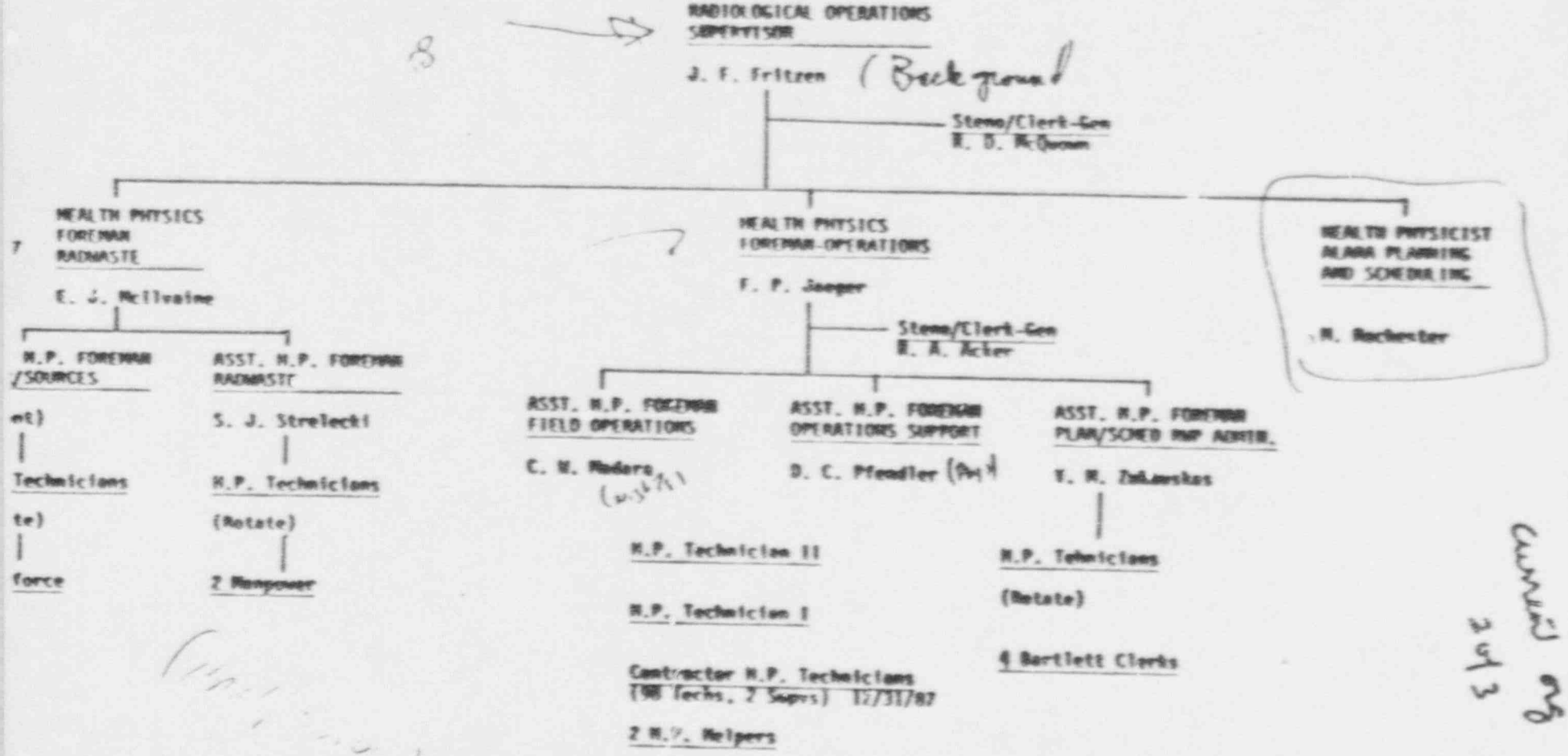
STATEMENT: Evaluate and document plant radiological conditions, personnel exposures and ensure that every reasonable effort is expended to maintain personnel exposures to levels that are as low as reasonably achievable (ALARA). Provide for the safe transfer, storage, transport and shipment of radioactive material. Provide support for plant operations and maintenance in Chemistry and Radiochemistry.



R.I.

CA 461

October 1987



CA 461

October 1987

RADIOLOGICAL PROTECTION SUPERVISOR

Walter E. Morrissey

HEALTH PHYSICS SPECIALIST RESP. PROT.

P. J. McGlynn

Level II - Specialist

HEALTH PHYSICS SPECIALIST PROGRAMS/PROCEDURES

C. P. Tevis ~~Level II - Specialist~~

1 Steno/Clerk-Gen.

M. M. McAloose

HEALTH PHYSICIST/ DOSIMETRY

Vacant

Tech. Records Input

B. M. Davidson

Steno/Clerk-Gen.

B. A. Ferdinand
J. A. Fink
P. R. Wilds

Consultant

R. Brink 12/18/87

FSAR
Section referenced in Response 1of7

12.5.1.9 Experience and Qualification

The Health Physics staff, responsible for the Health Physics program at Susquehanna, will meet minimum experience and qualification requirements.

The Health Physics Supervisor will be an experienced professional in applied radiation protection at nuclear power plants or nuclear facilities dealing with radiation protection problems similar to those at nuclear power stations; familiar with the design features of nuclear power stations that affect the potential for exposures of persons to radiation; in possession of technical competence to establish radiation protection programs and supervisory capability to direct the work of professionals and technicians required to implement such programs.

The Health Physics Supervisor will have experience in applied radiation protection which is to include five years of professional experience. Four years of the experience requirement may be fulfilled by a bachelor's degree in a science of engineering subject. Three years of the professional experience will be in a nuclear power plant or nuclear facility dealing with radiological problems similar to those encountered in nuclear power stations. One year of professional experience may be fulfilled by a master's degree and two years may be fulfilled by a doctor's degree where course work related to radiation protection is involved.

The Radiological Support Supervisor will have a minimum of five years of experience in applied radiation protection in a nuclear power plant or a nuclear facility dealing with radiological problems similar to those encountered in nuclear power stations. Up to four years of the experience requirement may be fulfilled by related technical training or academic training in a science or engineering subject.

The Health Physics Specialist will have a minimum of four years of experience in applied radiation protection to include two years of experience in a nuclear power plant or a nuclear facility dealing with radiological problems similar to those encountered in nuclear power stations. A maximum of two years of the experience requirement may be fulfilled by related technical training or academic training in a science or engineering subject.

To at all times assure adequate manpower for Health Physics supervisory functions, the experience and qualification requirements of the Radiological Support Supervisor and Health Physics Specialist positions may be reduced on a temporary basis. The Superintendent of Plant will approve or disapprove such

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action following review of the Health Physics Supervisor's recommendations and justification.

The Health Physics Technicians Level II will meet the qualification requirements of ANS 3.1-1978.

12.5.2 FACILITIES, EQUIPMENT & INSTRUMENTATION

12.5.2.1 Control Structure Facilities

The facilities, shown in Figure 12.5-2, are located at the central access to the Controlled Zone, elevation 676', for efficiency of operation. Self-survey personnel monitoring equipment, such as hand and foot, portal, or Geiger-Mueller (G-M) type friskers, will be located at the exit from the central access control area. Self-survey requirements will be administratively imposed prior to exiting the Controlled Zone.

12.5.2.1.1 Health Physics Facilities

The Health Physics office and workroom are located in the Control Structure. Job planning and Radiation Work Permit coordination may be conducted through the pass-thru window of the workroom. Portable radiation survey instrumentation as well as air monitoring and sampling equipment, self-reading dosimeters, and miscellaneous Health Physics supplies will be stored in the Health Physics Office and Workroom area. Health Physics equipment used for routine counting of smears and air samples such as end window G-M counters, alpha and beta scintillation detectors, and/or gas flow proportional counters will be located in the Health Physics Office to prevent cross contamination of chemistry samples and minimize counting room background variations. Health Physics samples requiring gamma isotopic analysis and/or low level counting may be analyzed in the Health Physics Counting Room.

Decontamination facilities at the central access control area consist of a main personnel decontamination area and auxiliary decontamination area. Auxiliary toilets and locker room are also provided. The personnel decontamination areas contain showers, sinks, and decontamination agents. Decontamination area ventilation is filtered through prefilter, High Efficiency Particulate Air (H.E.P.A.), and charcoal filters prior to exhaust through the Turbine Building vent. Sinks and showers drain to the chemical drain tanks for processing through the Liquid Radioactive Waste System. G-M type friskers will be located in these areas for personnel contamination monitoring.

FSAR 3.1.7

plant operating activities. One individual is designated as the Lead STA and supervises group activities.

- The Senior Compliance Engineer Supervises the activities of the compliance staff. The compliance staff provides the plant technical interface with NRC, evaluates and interprets licensing documents such as Technical Specifications, Regulatory Guides, IE Bulletins and Circulars, represents the plant staff in licensing activities, coordinates the surveillance and inservice inspection programs at the plant, and prepares routine and special NRC reports.

13.1.2.3 Shift Crew Composition

The shift complement for normal operation of both units consists of eleven (11) qualified individuals; the Shift Supervisor who holds an SRO License, two (2) Unit Supervisors who hold SRO Licenses, three (3) Licensed Operators with RO Licenses and five (5) Non-Licensed Operators (See Figure 13.1-6). Five crews as specified provide continuous coverage. Table 6.2.2-1 of the Technical Specifications shows the minimum number and type of licensed and non-licensed operating personnel required to be on-site for each operating shift. Health Physics coverage is described in Subsection 13.1.2.2.2. For those operations that involve core alterations, direct supervision of fuel movements is provided by an individual holding an SRO License. This person will have no other concurrent responsibilities during this assignment.

13.1.3 QUALIFICATION REQUIREMENTS FOR NUCLEAR PLANT PERSONNEL

13.1.3.1 Minimum Required Qualifications

When selecting personnel and scheduling training assignments for the plant staff positions listed below, the requirements of NRC Regulatory Guide 1.8, Rev. 1-R, 9/75 will be met. Experience, education, and training are such that the criteria in Section 4 of ANSI/ANS-3.1-1978 are met at the time of the core loading of the appropriate unit.

For these determinations the following plant staff positions are identified with the classifications contained in Section 4 of ANSI/ANS-3.1-1978:

FSAR 4.4.7

Susquehanna SES Staff Position	ANSI/ANS-3.1 Classification
Superintendent of Plant	Plant Manager (4.2.1)
Assistant Superintendent of Plant	Plant Manager (4.2.1)
Assistant Superintendent of Plant-Outages	Plant Manager (4.2.1)
Supervisor of Operations (4.2.2)	Operations Manager
Shift Supervisor NRC Licenses (4.3.1)	Supervisors Requiring
Unit Supervisor NRC Licenses (4.3.1)	Supervisors Requiring
Licensed Operators (4.5.1)	Operators (Licensed)
Non-licensed Operators (4.5.1)	Operators (Non-Licensed)
Technical Supervisor (4.2.4)	Technical Manager
Reactor Engineering Supervisor (4.4.1)	Reactor Engineering
Instrumentation and Control/ Computer Supervisor	Instrumentation and Control (4.4.2)
Instrumentation and Controls Foreman and Assistant Foreman	Supervisors Not Requiring NRC Licenses (4.3.2)
Instrument Man	Technician (4.5.2)
Chemistry Leader	Technician (4.5.2)
Chemistry Supervisor	Radiochemistry (4.4.3)
Supervisor of Maintenance (4.2.3)	Maintenance Manager
Foreman and Assistant Foreman - Mechanical Repairs	Supervisors Not Requiring NRC Licenses (4.3.2)

FSAR 5Q7

Foreman and Assistant Foreman - Electrical Repairs	Supervisors Not Requiring NRC Licenses (4.3.2)
Mechanic	Repairmen (4.5.3)
Health Physics Supervisor Regulatory Guide 1.8, Rev. 1-R, 9/75	Qualifications per NRC
Health Physics Foreman and Assistant Foreman	Supervisors Not Requiring NRC Licenses (4.3.2)
Health Physics Personnel Section 12.5	Qualifications per

13.1.3.1.1 Qualifications of Personnel that Cannot Be Directly Cross-Referenced to ANSI/ANS-3.1-1978

The below listed positions cannot be directly cross-referenced to corresponding positions in ANSI/ANS-3.1-1978; however, personnel filling these positions will have that combination of education, experience and skills commensurate with their functional level of responsibility which provides assurance that decisions and actions during normal and abnormal conditions will be such that the plant is operated in a safe and efficient manner:

Personnel and Administrative Supervisor

Security Supervisor

Senior Compliance Engineer

Shift Technical Advisor

Mechanical Maintenance Supervisor

Electrical Maintenance Supervisor

Senior Results Engineer

Engineer

Administrative Supervisor

Clerks

Material Supervisor

Material Personnel

FSAR 6/7

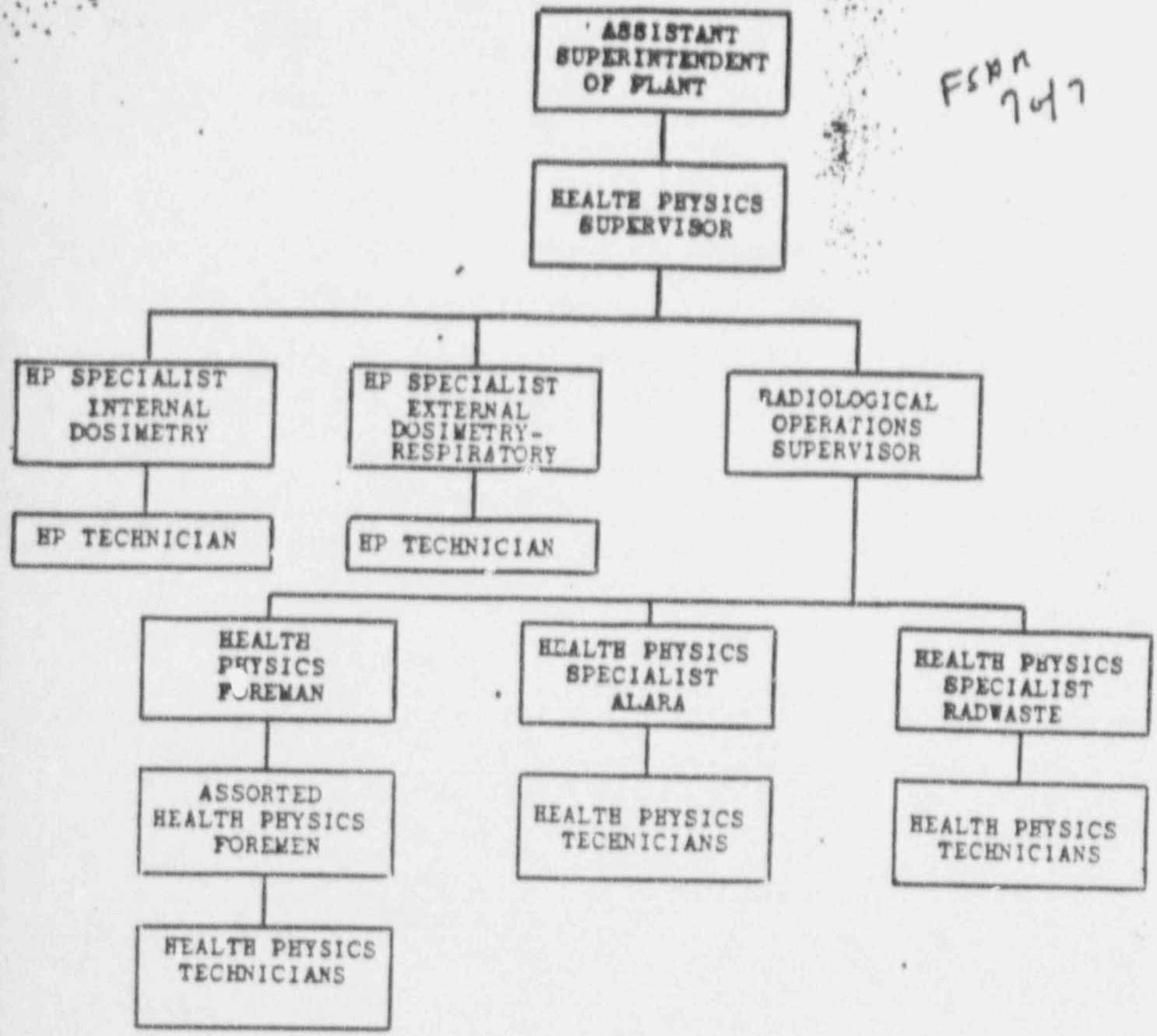
Stockman

Supervisor - Nuclear Records System

Records Personnel

13.1.3.2 Qualifications of Plant Personnel

The qualifications of the key plant supervisors are shown on Tables 13.1-3.



FSAR 7/87

Rev. 35, 07/84

SUSQUEHANNA STEAM ELECTRIC STATION
UNITS 1 AND 2
FINAL SAFETY ANALYSIS REPORT

HEALTH PHYSICS ORGANIZATION

FIGURE 12.5-1