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AUTH.NAME AUTHOR AFFILIATION
VAN BRUNT,E.E. Arizona Nuclear Power Project (formerly Arizona Public Serv
RECIP.NAME RECIPIENT AFFILIATION
KNIGHTON,G.W. Licensing Branch 3

SUBJECT: Forwards changes to FSAR Chapter 13,modifying sys training for auxiliary operators,requiring license,certification &/or enrollment in approved requalification program for senior reactor operators & changing organizational titles.

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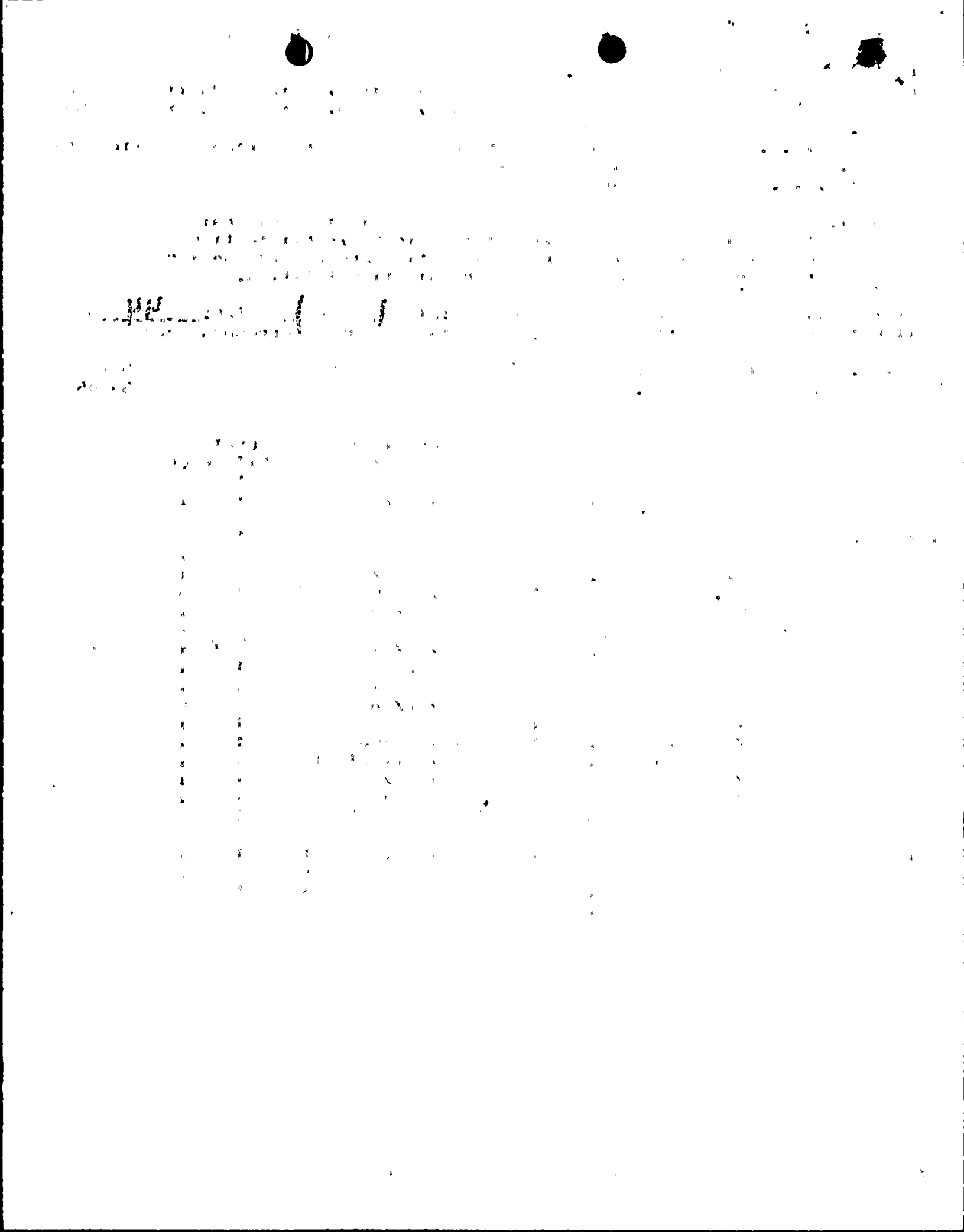

Arizona Nuclear Power Project
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

August 30, 1985
ANPP-33314-EEVB/JKO

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 2 and 3
Changes to PVNGS FSAR (Chapter 13)
Docket Nos. STN 50-529/530
File: 85-056-026; G.1.01.10

Dear Mr. Knighton:

Attached for your review on PVNGS Units 2 and 3 are FSAR changes to Chapter 13. These changes involve: (1) allowance for modified systems training for Auxiliary Operators; (2) requiring Training Instructors who teach certain subjects, to hold, or have held, an SRO license or certification and to be enrolled in an approved requalification program; (3) changes to titles and organizational structure and aligning FSAR to Technical Specification concerning Independent Safety Engineering Group.

We believe these changes to be justified because: (1) the modified systems training will suit the needs of the Auxiliary Operators better; (2) the change to the training instructor requirements is needed to meet the regulatory guidance of NUREG-0737 and Technical Specification 6.4.1; (3) the organization has changed titles of many positions and the FSAR needs to reflect these changes.

For PVNGS Unit 1, safety reviews and evaluations have been completed for implementation of these changes in accordance with the requirements of 10CFR 50.59. The safety reviews and evaluations have determined that there are no unreviewed safety questions involved with the changes. These changes will be included in the next FSAR update.

If you have any questions concerning these changes, please contact William Quinn of my staff.

Very truly yours,

E. E. Van Brunt

E. E. Van Brunt, Jr.
Executive Vice President
Project Diector

EEVB/JKO/slh
Attachment
cc: E. A. Licitra
M. Ley
R. P. Zimmerman
A. C. Gehr
G. B. Zwetzig

B001
1/1

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Executive Vice President, Arizona Nuclear Power Project, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true.

Edwin E. Van Brunt

Edwin E. Van Brunt, Jr.

Sworn to before me this 30 day of August, 1985.

Nora E. Meador

Notary Public

My Commission Expires:

My Commission Expires April 6, 1987

bcc: D. B. Karner
J. G. Haynes
R. M. Butler
W. E. Ide
E. C. Sterling
W. F. Quinn
T. F. Quan
LCTS Coordinator
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SARCN Nos. 2006, 2023, 2034

training involves participation in startup testing, procedure preparation, and qualification on plant systems under the direction of the Operations Superintendent.

13.2.1.1.10 Review and Evaluation

8 This program will include written examinations and an evaluation of the candidate during a plant walkthrough. These evaluations will determine the content of a subsequent three-week classroom review period. A one-week review and evaluation for each candidate will be conducted on the simulator. In the event the 12 NRC operators exams are delayed from the presently scheduled date, this program will either be delayed or repeated, depending on the length of delay.

8

13.2.1.2 Low Power Testing and Coordination with Preoperational Tests

11 Plant operating personnel will be used to the fullest extent practicable during the entire startup test program. The plant staff will operate permanently installed and powered equipment during preoperational and subsequent testing using approved 8 operating and test procedures. Plant technical and maintenance personnel will be involved in testing applicable to their field of specialization.

13.2.1.3 Non-Licensed Personnel Training

12 13.2.1.3.1 Non-Licensed Operator Training (Nuclear Operator I, II)

INSERT

8 Non-licensed operators who independently operate systems or equipment important to safety shall receive instructions for tasks to be performed. This training shall consist of a modified fundamentals course (section 13.2.1.1.1) of approximately six weeks duration for those individuals without experience in

nuclear power, plus extensive on-the-job training. The on-the-job portion shall provide for qualification on specific equipment and system operation, responsibilities during transients, and watchstanding procedures.

13.2.1.3.2 Shift Technical Advisor (STA) Training

The Shift Technical Advisors shall have, as a minimum, a Bachelor's degree in an engineering or science discipline. The STA shall have training in plant design and layout, including the capabilities of instrumentation and controls. The STA

8

INSERT

Non-licensed operators who independently operate systems or equipment important to safety shall receive instructions for tasks to be performed. This training shall consist of a modified systems course of approximately six weeks duration for those individuals without experience in nuclear power, plus on-the-job training. The on-the-job portion shall provide for qualification on specific equipment and system operation, and instruction in the conduct of operations. The modified systems course shall consist of classroom lectures on selected primary and secondary systems. It also includes lectures on watchstanding principles, fundamentals of electrical and mechanical print reading, and control systems.

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13.2 TRAINING

13.2.1 PLANT STAFF TRAINING PROGRAM

A training program for the staff of PVNGS has been developed based on the guidance provided in ANS 3.1-1978. This program will provide the necessary training and knowledge to supplement each individual's background and experience, thus enabling him/her to perform competently and safely. The program will be periodically reviewed to assure that it continues to meet station needs.

REPLACE WITH INSERT A

Members of the PVNGS training staff who routinely provide instruction on systems related to plant safety, integrated responses, transients and simulator courses shall demonstrate their technical competence by successfully completing an approved training program. These instructors shall also be enrolled in appropriate requalification programs. 8

The PVNGS Training Manager, under the direction of the Administrative Support Manager and the Manager of Nuclear Operations, has overall responsibility for the conduct and administration of the training program for staff personnel. Specific procedures for the conduct of this training are provided in the Station Manual. 9 8

13.2.1.1 Cold License Operator Training

The training program for the operator and senior operator cold license candidates is outlined in table 13.2-1 and described in detail in the following paragraphs. The related technical training specified in paragraph 5.2.2 of ANSI/ANS 3.1-1978 has been included in various courses as appropriate. The training will be maintained for subsequent cold license candidates. Previously experienced operators may participate in a modified plant specific program determined by an evaluation of their education, training and experience. 13 8

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(Insert A)

Members of the Training staff who routinely provide instruction on systems, integrated responses, transients and simulator courses shall demonstrate competence by:

1. Holding or having held an NRC license or certification at the SRO level on a PWR.
2. Being enrolled and current in an approved requalification program.
3. Being certified by the PVNGS Training Manager as a qualified instructor for the material being presented.

RESPONSE

The position of Regulatory Guide 1.7 is accepted (refer to section 6.2.5).

REGULATORY GUIDE 1.8: Personnel Selection and Training (Revision 1-R, May 1977)

RESPONSE

The position of Regulatory Guide 1.8 is accepted (refer to sections 13.1 and 13.2) except that the criteria for the selection and training of nuclear power plant personnel contained in ANSI/ANS-3.1-1978 are substituted for ANSI-N18.1-1971, and that the Radiation Protection Supervisor qualifications are as provided in ANSI/ANS-3.1-1978. PVNGS compliance with ANSI/ANS-3.1-1978 along with any deviation from ANSI/ANS-3.1-1978 is presented in section 13.1.3.1. 8

REGULATORY GUIDE 1.9: Selection of Diesel Generator Set Capacity for Standby Power Supplies (Revision 0, March 10, 1971)

RESPONSE

Except as indicated below, standby diesel generator power supplies comply with Regulatory Guide 1.9 (refer to section 8.3.1):

A. Insofar as possible, predicted loads are verified by testing. Since, at the time of preoperational testing, not all systems can be operated at their design basis conditions, loads that cannot be tested are verified by analysis or comparison with similar units.

B. Only the 8760-hour continuous rating and the 2-hour short-term rating will be used.

REGULATORY GUIDE 1.10: Mechanical (Cadweld) Splices in Reinforcing Bars of Category 1 Concrete Structures (Revision 1, January 2, 1973)

responsible for development of plant maintenance programs have been filled.

13.1.1.1.3 Technical Support for Operations

The Vice President-Nuclear Production, through the Executive Vice President of Arizona Nuclear Power Project (ANPP), has been designated by the ~~President~~ Chairman, Board of Directors and Chief Executive Officer of APS as the Corporate Officer responsible for providing management and technical support services for PVNGS (refer to figure 13.1-1). The Vice President-Nuclear Production has established under him departments and staff sections as discussed in section 13.1.1.2.2 and as shown on figure 13.1-2.

Technical support for operations beyond the capabilities of the PVNGS operating staff is provided as discussed in the following section.

13.1.1.1.3.1 Offsite Technical Support. Offsite technical support will be provided and coordinated by the Technical Services Group as described in 13.1.1.2.2.1.

Other APS organizations/departments may be utilized. These include but are not limited to:

- APS Engineering and Construction Organization
- APS Fuel Supply Department
- APS Risk Management Services Department
- APS Electric Operations Organization

The expertise encompassed in these areas includes mechanical, structural, electrical, and instrumentation and controls engineering, uranium supply, chemistry, and fire protection.

Outside consultants will be utilized for work beyond the scope of expertise within APS.

The Director, Project Services is assisted in the performance of duties by the following departments which report directly to him (Refer to figure 13.1-2B):

13.1.1.2.1.1.1 Project Controls Department. The Manager, Project Controls is responsible for policy and procedure development, PVNGS scheduling, budget and cost control development and implementation, and coordination of Computer services.

13.1.1.2.1.1.2 Participant Services Department. The Manager, Participant Services has responsibility for interfacing with the Palo Verde participants on matters of contracts, budgetary plans, cash forecasts, and rate case information coordination.

13.1.1.2.1.1.3 Administrative Services Department. The Manager, Administrative Services is responsible for inventory control, material control, office services, and transportation for the Palo Verde Organization.

~~13.1.1.2.1.1.4 Employee Relations Department. The Manager, Employee Relations is responsible for organizational development, employment, and industrial safety.~~ Deleted

13.1.1.2.1.1.4 INSERT A

13.1.1.2.1.2 Corporate Quality Assurance Department. Refer to FSAR Chapter 17, section 17.2 "Quality Assurance during the Operations Phase" for the responsibilities and interfaces of the Corporate Quality Assurance Department.

13.1.1.2.1.3 Deleted

13.1.1.2.1.4 Deleted

13.1.1.2.2 Vice President-Nuclear Production Organization

The Vice President-Nuclear Production reports to the Executive Vice President ANPP, he is assisted in dispatching line responsibility by the Assistant Vice President, Nuclear Production. He is responsible for the engineering, design, safety, construction, startup and operation, and maintenance

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13.1.1.2.1.1.4 Contracts and Purchasing Department. The Manager, Contracts and Purchasing is responsible for procurement and contracting of services and material for PVNGS.

of PVNGS. He has the authority to allocate services and company resources and to ensure compliance with regulatory requirements. He is charged with the authority to ensure that the nuclear facilities engineering, design, construction, operation, maintenance and support activities related to nuclear safety receive the highest priority and are completed with the highest standards of safety.

Figure 13.1-3 reflects the organization of the Vice President-Nuclear Production.

To carry out his responsibilities the Vice President-Nuclear Production has established the groups discussed in the following sections.

In the absence of the Vice President-Nuclear Production, the Assistant Vice President-Nuclear Production shall be delegated the nuclear safety responsibilities and authority of the Vice President-Nuclear Production and shall have direct access to the Executive Vice President ANPP for support and decisions as required.

13.1.1.2.2.1 Technical Services Group. The function of the Director of Technical Services Department is to provide a diverse range of support services vital to the construction, startup, and operations of PVNGS.

The Director, Technical Services is responsible for engineering, construction, records management, fuels management, emergency planning, and licensing.

The Director, Technical Services is assisted in the performance of his duties by the following departments who report directly to him (Refer to figure 13.1-3D):

~~Nuclear Fuels - provide nuclear fuel design, contracting and utilization expertise. Provide nuclear fuel core and plant transient and accident analysis and alternative core operating strategies.~~

~~Emergency Planning - design, implementation and maintenance of the corporate emergency plan.~~ 13

13.1.1.2.2.2 Nuclear Engineering Department. The offsite Nuclear Engineering Department provides technical support for PVNGS, including design changes and modifications. A Nuclear Engineering Manager directs the engineering activities of the Nuclear Engineering Department. The sections within the Nuclear Engineering Department that provide technical support for PVNGS are Electrical Engineering, Instrumentation and Controls, Chemical Engineering, Mechanical Engineering, Civil Engineering, Corporate Radiation Protection, ~~Configuration Control~~ Onsite Liaison, Engineering Analysis, and Operations Support and Scheduling. (Refer to figure 13.1-3E.) Each engineering section is typically staffed with a Supervisor who presently supervises 6 to 9 15-20 engineers. ~~The Supervisors report to the Nuclear Engineering Manager.~~ The discipline Supervisors report to the Nuclear Engineering Production Manager who reports to the Nuclear Engineering Manager (plus the onsite Liaison Supervisor) as shown in Figure 13.1-3E.

13.1.1.2.2.3 Deleted.

13.1.1.2.3 Nuclear Construction Department. The onsite Nuclear Construction Department is responsible through the Nuclear Construction Manager for all site related construction activities, including construction, erection, receiving, and procurement, during construction and major modifications of PVNGS. (Refer to figure 13.1-3F.)

13.1.1.2.4 Nuclear Records Management Department

The Nuclear Records Management Department provides onsite/offsite support for PVNGS, Construction, Startup, Engineering, and outside consultants and contractors in the areas of documentation, drawing control and associated reference informational material by the means of hardcopy, micromedia and/or computer assisted retrieval.

The Nuclear Records Management Manager directs the technical and administrative activities within the Nuclear Records Management Department. The Nuclear Records Management Department is comprised of ~~four~~ five sections:

- Drawing and Document Control offsite
- Drawing and Document Control onsite
- Nuclear Indexing
- Micrographics (on and offsite)
- As-Built Records Management

In addition, the Nuclear Records Management has a Nuclear Records Analyst position that supports all sections within and coordinates all turnover activities of documentation to the department from outside departments, organizations and contractors. Each Records Management section is typically staffed with a Supervisor who supervises 10 to 30 (average) positions. The Supervisor(s) report to the Nuclear Records Management Manager. (Refer to figure 13.1-3G.)

13.1.1.2.5 Nuclear Fuels Department

Nuclear Fuels Department is responsible for fuels management and core analysis for PVNGS.

The Manager Nuclear Fuels provides nuclear fuel design, contracting and utilization expertise, nuclear fuel core and plant transient and accident analysis and alternative core operating strategies. (Refer to figure 13.1-3H.)

13.1.1.2.6 Emergency Planning Department

The Manager Emergency Planning is responsible for the development and implementation of a PVNGS Emergency Plan. (Refer to figure 13.1-3I.)

13.1.1.2.7 Nuclear Licensing Department

The Nuclear Licensing Manager is responsible for coordinating license document changes, response to NRC requests, routine

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13.1.1.2.10 INSERT B

13.1.1.2.10 Other APS Departments

The organization of other APS departments utilized by the Nuclear Organization is described in the following sections.

13.1.1.2.10.1 Engineering and Construction Organization. The Vice President of Engineering and Construction for fossil fired plants reports to the President and Chief Operating Officer who reports to the Chairman of the Board and Chief Executive Officer. The Vice President of Engineering and Construction has established under him an organization as shown on figure 13.1-5. Engineering support, as required, is provided by the Engineering Departments of the Engineering and Construction Organization in the areas of mechanical, structural, electrical, and instrumentation and controls engineering.

13.1.1.2.10.2 Fuel Supply Department. The Manager of Fuel Supply reports to the Vice President of Resources and Planning as shown in figure 13.1-1. The fuel supply manager has established under him a department with expertise in the area of uranium procurement.

13.1.1.2.10.3 Risk Management Services Department. The Manager of Risk Management Services reports to the Treasurer of Finance and Tax Services who reports to the Executive Vice President and Chief Financial Officer as shown in figure 13.1-1. The Manager of Risk Management Services has established under him an organization with expertise in fire protection, including at least one full-time fire protection engineer.

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13.1.1.2.10 Employee Relations Group. The Director, Employee Relations is responsible for organizational development, personnel, employment, plant payroll, employee relations and industrial safety. (Refer to figure 13.1-2C).

13.1.1.2.10.4 Electric Operations Department. The Vice President of Electric Operations reports to the President and Chief Operating Officer. 13

The Electric Operations Department provides support in the areas of plant chemistry, metallurgy and environmental matters and manages Arizona Public Service Company's Central Service Laboratory which provides laboratory services to all areas of APS including PVNGS. 11

The Electric Operations Department is also responsible for the construction and maintenance of APS transmission systems. The Department also has overhaul crews which may provide manpower to PVNGS during refueling, repair and maintenance outages.

13.1.1.2.11 PVNGS Operating Organization 13

Refer to section 13.1.2.

13.1.1.3 Qualifications of Headquarters Staff

Members of the staff available for the offsite technical support of PVNGS possess a combination of education, experience, and skills commensurate with their level of responsibility. This provides assurance that decisions and actions during the design, procurement, construction, testing, and operation of the Palo Verde units will not constitute a hazard to the health and safety of the public.

The qualification requirements for headquarters staff technical personnel are presented in table 13.1-1. The requirements apply to personnel in engineering disciplines below the supervisor level.

The Assistant Corporate Quality Assurance Manager, the Quality Systems and Engineering Manager, the Procurement Quality Manager, the Quality Audits and Monitoring Manager, and Quality Control Manager shall meet the minimum qualification requirements of section 4.4.5 of ANSI/ANS 3.1 - 1978. 13

Reactor Operator licenses are required. The chart also indicates the minimum number of persons to be added with each unit. Personnel may be transferred from unit to unit depending on station work considerations. Sufficient manpower is normally available to provide at least six minimum operating shift crews.

The schedule for filling positions relative to the fuel loading date for each unit (refer to section 1.1.5) is provided in figure 13.1-7.

13.1.2.2 Station Personnel Responsibilities and Authorities

13.1.2.2.1 PVNGS Plant Manager

The PVNGS Plant Manager reports to the Vice President-Nuclear Production and has direct responsibility for the safe, reliable, and efficient operation of PVNGS.

The PVNGS Plant Manager is totally and solely committed to the management of APS' nuclear facilities. This position, which reports to the Vice President-Nuclear Production, is charged with the responsibility to ensure that APS nuclear facilities are operated and maintained in accordance with regulatory requirements and with the highest level of safety in accordance with APS policy. Accordingly, this position is charged with the authority necessary to ensure that the appropriate resources are available to support all nuclear operational activities. This responsibility and authority shall not be diluted by involvements in areas outside the realm of nuclear operations. The fact that ancillary support is available to the PVNGS Plant Manager shall not diminish the authority and responsibility of this position nor shall it prevent this position from obtaining any and all resources, both within and outside APS, necessary to achieve these goals. In the absence of the PVNGS Plant Manager, the responsibilities for the day-to-day operation, maintenance, and performance of the station are assigned to an individual

designated in writing by the PVNGS Plant Manager. In the event of unexpected contingencies of a temporary nature, when neither the PVNGS Plant Manager nor the designated individual is available at the station, the designated Operations Duty Manager will assume this responsibility. The Operations Duty Manager is a member of the station staff designated in writing by the PVNGS ~~Director of Nuclear Operations~~. Plant Manager

13.1.2.2.2 Technical Support Manager

The Technical Support Manager is responsible to the PVNGS Plant Manager for the technical support required to ensure proper functioning of the nuclear plant. He directs the Manager of Engineering, Manager of Radiation Protection and Chemistry, Supervisor of Compliance, ~~Superintendent~~ Manager of Computer Systems, ~~Operations Schedule~~ and the Shift Technical Advisor Supervisor in the performance of their duties (Refer to Figure 13.1-6A).

13.1.2.2.2.1 Engineering Manager. The OPERATIONS Engineering Manager is the department head responsible to the Technical Support Manager for Onsite Engineering and technical work required for proper operation of the nuclear plant. He directs the supervisors of the onsite nuclear and operations engineering in the performance of their duties.

13.1.2.2.2.1.1 Reactor Engineering Supervisor. The Reactor Engineering Supervisor is responsible for core monitoring and in-core fuel management programs. He coordinates with onsite operating personnel and with offsite support organizations as necessary in performing these functions.

13.1.2.2.2.1.2 Operations Engineering Supervisors. The Operations Engineering Supervisors are responsible to the Engineering

13| Manager for onsite mechanical, electrical, I&C, reactor
9| engineering support, including monitoring station performance and the inservice inspection program.

13| 13.1.2.2.2.1.3 Computer ~~Superintendent~~ Manager. The Computer ~~Superintendent~~ Manager is responsible to the Technical Support Manager
9| for coordinating onsite station computer activities, including hardware and software.

13| 13.1.2.2.2.1.4 Deleted

9| 13.1.2.2.2.2 Radiation Protection and Chemistry Manager. The
12| Radiation Protection and Chemistry Manager is responsible to the Technical Support Manager for the onsite preparation, coordination, and conduct of station radiological protection, chemistry,
9| and radiochemistry programs, including operating philosophy and procedures for maintaining occupational radiation exposures as low as is reasonably achievable. His position corresponds to "Radiation Protection Manager" as discussed in Regulatory Guide 1.8. He directs the Radiological Services ~~Superintendent~~ Manager, the Chemistry Services ~~Superintendent~~ Manager, the Radioactive
13| Materials Control ~~Superintendent~~ Manager and the ALARA Supervisor in the performance of their duties. The Radiological Services ~~Superintendent~~ Manager is designated as backup to provide coverage in
9| event of absence of the Radiation Protection and Chemistry Manager.

13| 13.1.2.2.2.2.1 Radiological Services ~~Superintendent~~ Manager. The Radiological Services ~~Superintendent~~ Manager is responsible to the Radiation Protection and Chemistry Manager for the preparation, coordination, and conduct of the station radiological programs.

Reporting to the Radiological Services ~~Superintendent~~ Manager are the Radiation Protection Supervisors for each unit and the Radiation Protection Support Supervisor. The Radiological Services

Manager
~~Superintendent~~ is responsible for control of radiation exposures to personnel, maintenance of related records, and conduct of surveillance.

13.1.2.2.2.2.2 Chemistry Services Manager ~~Superintendent~~. The Chemistry Services Manager ~~Superintendent~~ is responsible to the Radiation Protection and Chemistry Manager for the conduct of the water chemistry program and coordinates with the Radiological Services Manager ~~Superintendent~~ on radiation exposures and contamination problems associated with the chemistry program. 13 5

13.1.2.2.2.2.3 Radioactive Materials Control Manager ~~Superintendent~~. The Radioactive Materials Control Manager ~~Superintendent~~ is responsible to the Radiation Protection and Chemistry Manager for the preparation, coordination, and conduct of the station radioactive waste management programs including approval of radioactive waste disposal activities.

Reporting to the Radioactive Materials Control Manager ~~Superintendent~~ are the Radwaste Supervisors for each unit and the Radwaste Support Supervisor. 13

13.1.2.2.2.2.4 ALARA Supervisor. The ALARA Supervisor is responsible to the Radiation Protection and Chemistry Manager for the preparation, coordination, and conduit of the station ALARA Program.

13.1.2.2.2.3 Compliance Supervisor. The Compliance Supervisor is responsible to the Technical Support Manager for providing support in the licensing, regulatory compliance, and periodic and event-related reporting of PVNGS activities. 12 9 12

13.1.2.2.2.4 Shift Technical Advisor (STA) Supervisor. The STA Supervisor is responsible to the Technical Support Manager for providing Shift Technical Advisors. 13

Control Center (MCC) Superintendent, Mechanical Superintendent, Electrical Superintendent, Instrumentation and Control Superintendent WRF Maintenance Supervisor, and the Station Services Supervisor.

The MCC Superintendent is responsible for providing a planning and scheduling function which efficiently utilizes the MCC facility, its attendant resources and the capabilities of the System Engineers and Analysts. He is responsible for the technical content of work control packages used in the performance of maintenance tasks as well as for the performance and technical adequacy of root cause analyses performed to assure station problems are properly and uniformly addressed.

13 The Mechanical and Electrical Superintendents are responsible for mechanical and electrical maintenance, respectively.

The Instrumentation and Control Superintendent is responsible for calibration and maintenance of instruments and controls.

The Station Services ~~Supervisor~~ Superintendent is responsible for providing support services such as carpentry, painting, heating, ventilation, air conditioning, Unit and area housekeeping, building and grounds maintenance.

The Water Reclamation Supervisor is responsible for all maintenance activities in the Water Reclamation Facility as well as the incoming pipeline.

13.1.2.2.4 Plant Services Manager

14 The ~~Administrative Support~~ Plant Services Manager is responsible to the PVNGS Plant Manager for station ~~administrative activities,~~ fire
12 protection, physical security, and training. He directs the ~~administrative services,~~ security, and training managers, and the fire protection supervisor. (Refer to figure 13.1.6D.)

13 13.1.2.2.4.1 Fire Protection Supervisor. The Fire Protection Supervisor is responsible to the Plant Services Manager for

establishing and supervising the Fire Protection program at the station. The Fire Protection Program is discussed in section 9.5.1.5.1.. | 12

13.1.2.2.4.2 Security Manager. The Security Manager is responsible to the Plant Services Manager to plan, develop, implement and manage the PVNGS Security Program. The Operations Security Supervisor and the Security Training Supervisor report to the Security Manager. | 9 | 9 | 8

13.1.2.2.4.3 Training Manager. The Training Manager is responsible to the Plant Services Manager for the preparation, coordination, and conduct of PVNGS training. The Licensed Operator Training, General Training, and Training Support Supervisors report to the Training Manager. | 9 | 13 | 9 | 8

13.1.2.2.5 Deleted | 9

13.1.2.2.6 Outage Maintenance Manager

The Outage Maintenance Manager is responsible for an integrated outage schedule for both planned and unplanned outages and for an integrated schedule for modifications to ensure proper work controls. (Refer to figure 13.1-2.) | 13

13.1.2.3 Operating Shift Crews

An operating crew for each unit will normally consist of a Shift Supervisor and Assistant Shift Supervisor (both of whom will possess Senior Reactor Operator licenses), two Nuclear Operator III's who will possess Reactor Operator licenses), and four Operator I and/or II's. The minimum shift crew composition for various modes of operation is as shown in the PVNGS Technical Specifications. | 8 | 13

A site Fire Team of at least 5 members shall be maintained onsite at all times.(a) The Fire Team shall not include | 8

9 3 members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential function during a fire emergency.

13.1.3 QUALIFICATIONS OF NUCLEAR PLANT PERSONNEL

13.1.3.1 Qualification Requirements

The recommendations of Regulatory Guide 1.8, Personnel Selection and Training, are used as the basis for establishing minimum qualifications for nuclear power plant personnel.

The minimum requirements for station personnel described in section 13.1.2 are keyed to ANSI/ANS 3.1-1978 as follows:

Position	ANSI/ANS 3.1-1978 Position (Paragraph No.)
14 PVNGS Plant Manager	Plant Managers (4.2.1)
13 Operations Manager	Operations Manager - No license (4.2.2) (Note d) Plant Manager Principal alternate (4.2.1)
9 Technical Support Manager	~~Plant Managers (principal alternate)~~ Technical Manager (4.2.4)
13 Plant Services Manager	Supervisor not requiring NRC license (4.3.2)
9 Engineering Manager	Technical Manager (4.2.4)
12 Maintenance Manager	Supervisor not requiring NRC license (4.2.3)
13 Reactor Engineering Supervisor	Reactor Engineering (4.4.1)
12 Compliance Supervisor	Supervisor not requiring NRC License (4.3.2)

a. Fire Team composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of Fire Team members provided immediate action is taken to restore the Fire Team within the minimum requirements.

Position	ANSI/ANS 3.1-1978 Position (Paragraph No.)	
Operations Engineering ~~Manager~~ Supervisor(s)	Supervisor not requiring NRC License (4.3.2)	8
		13
STA Supervisor	Supervisor not requiring NRC License (4.3.2)	11
Radiation Protection and Chemistry Manager	Radiation Protection (4.4.4)	9
Chemistry Services ~~Superintendent~~ Manager	Chemistry and Radiochemistry (4.4.3)	
Radiological Services ~~Superintendent~~ Manager	Radiological Services ~~Superintendent~~ Manager (Note a)	
Radiation Protection Supervisor	Radiation Protection Supervisor (Note a)	
Radiation Protection Support Supervisor	Radiation Protection Support Supervisor (Note a)	
Radioactive Materials Control ~~Super-intendent~~ Manager	Supervisor not requiring NRC License (4.3.2)	13
ALARA Supervisor	Supervisor not requiring NRC License (4.3.2)	
Computer ~~Super-intendent~~ Manager	~~Superintendent~~ Supervisor not requiring NRC License (4.3.2)	
Maintenance Control Center Super-intendent	Superintendent not requiring NRC License (4.3.2).	
Instrumentation and Control Super-intendent ~~Maintenance~~	Instrumentation and Control (4.4.2)	
Plant Instrumentation and Control Technician	Technicians (4.5.2)	8
		5
Station Services ~~Supervisor~~ Superintendent	Supervisor not requiring NRC License (4.3.2)	8
Mechanical Super-intendent ~~Maintenance~~	Superintendent not requiring NRC License (4.3.2)	13
Plant Mechanic	Maintenance Personnel (4.5.3)	8
Electrical Super-intendent	Superintendent not requiring NRC License (4.3.2)	13
Plant Electrician	Maintenance Personnel (4.5.3)	8
Administrative Services Manager	Supervisor not requiring NRC License (4.3.2)	5

Position	ANSI/ANS 3.1-1978 Position (Paragraph No.)
Unit Operations Superintendents	Operations Manager requiring NRC License (4.2.2)
Dayshift Supervisors	Supervisor Requiring NRC License (4.3.1)
Operations Support Supervisor	Supervisor Requiring NRC License (4.3.1)
Shift Supervisors	Supervisor Requiring NRC License (4.3.1)
Assistant Shift Supervisors	Supervisor Requiring NRC License (4.3.1)
Nuclear Operators III	Operators (Licensed) (4.5.1)
Nuclear Operators I & II	Operator (Not Licensed) (4.5)
Training Manager	Supervisor not requiring NRC License (4.3.2)
Security Manager	Supervisor not requiring NRC License (4.3.2)
ISEG Personnel	(Note c)

NOTES:

a. The Radiological Services ~~Superintendent~~ Manager, the Radiation Protection Supervisors, and the Radiation Protection Support Supervisor shall have a minimum of five years experience in radiation protection at a nuclear facility. A minimum of two years of this five years experience should be related technical training. A maximum of four years of this five years experience may be fulfilled by related technical or academic training. Two years of this five years experience shall be at a professional level.

b. Deleted

c. ISEG personnel shall have at least a Bachelor's Degree in an engineering or science discipline. The group

will have at least five members with at least ~~three~~ two years average level of nuclear power plant experience. 1

d. The Operations Manager shall have completed equivalent PVNGS senior licensed operator training. 1

13.1.3.2 Qualifications of Plant Personnel

Resumes of the initial appointees to key plant managerial and supervisory positions through the Shift Supervisor level have been provided to the NRC. 1

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13.2 TRAINING

13.2.1 PLANT STAFF TRAINING PROGRAM

A training program for the staff of PVNGS has been developed based on the guidance provided in ANS 3.1-1978. This program will provide the necessary training and knowledge to supplement each individual's background and experience, thus enabling him/her to perform competently and safely. The program will be periodically reviewed to assure that it continues to meet station needs.

Members of the PVNGS training staff who routinely provide instruction on systems related to plant safety, integrated responses, transients and simulator courses shall demonstrate their technical competence by successfully completing an approved training program. These instructors shall also be enrolled in appropriate requalification programs.

The PVNGS Training Manager, under the direction of the ~~Administrative Support~~ Plant Services Manager and the ~~Manager of Nuclear Operations~~ PVNGS Plant Manager has overall responsibility for the conduct and administration of the training program for staff personnel. Specific procedures for the conduct of this training are provided in the Station Manual.

13.2.1.1 Cold License Operator Training

The training program for the operator and senior operator cold license candidates is outlined in table 13.2-1 and described in detail in the following paragraphs. The related technical training specified in paragraph 5.2.2 of ANSI/ANS 3.1-1978 has been included in various courses as appropriate. The training will be maintained for subsequent cold license candidates. Previously experienced operators may participate in a modified plant specific program determined by an evaluation of their education, training and experience.

the Training Manager. The Training Manager shall provide a recommendation to the ~~Manager of Nuclear Operations~~ PVNGS Plant Manager regarding the individual's permanent removal from licensed duties or additional upgrading efforts to be considered. If appropriate, another accelerated requalification program shall be structured to correct deficiencies.

Licensed operating personnel may be excused from lectures in areas in which they scored above 90% in the annual evaluation examination.

Licensed supervisory or training personnel will be exempt from taking the annual examination, provided these individuals are directly involved in the preparation and grading of the examination.

Periodic observation and evaluation of licensed operators while at the controls of the simulator will be made. The evaluation will include actions taken or to be taken during simulated abnormal and emergency conditions.

8 13.2.2.1.4 Inactive Status Retraining

If a licensed individual has not actively carried out licensed duties for a period in excess of four months, a special retraining program and/or evaluation will be required prior to resuming licensed duties.

The Training Manager shall designate a licensed senior operator to conduct an oral examination similar in scope and format to an annual oral examination prior to resuming licensed duties.

In addition, evaluation of performance in the current lecture series shall be conducted. If performance in the lecture series is unsatisfactory a written examination similar in scope and format to the annual written examination shall be administered to the licensed individual prior to resuming licensed duties.

The performance standards applied to the annual requalification examination shall be used in evaluating the results of the oral

13.5 PLANT PROCEDURES

This section describes administrative and operating procedures that will be used by the operating organization to ensure that routine operating, off-normal, and emergency activities affecting nuclear safety are conducted in a safe manner.

13.5.1 ADMINISTRATIVE PROCEDURES

13.5.1.1 Conformance With Regulatory Guide 1.33

The administrative procedures for Palo Verde Nuclear Generating Station (PVNGS) will be consistent with recommendations contained in Regulatory Guide 1.33, Appendix A, as discussed in section 1.8.

Administrative controls governing crane operation will be established prior to fuel loading and will include a requirement that crane operators who operate cranes over fuel pools will be qualified and conduct themselves in accordance with the guidelines of ANSI B30.2-1976 (Chapter 2-3). ε

Temporary changes to station procedures will be governed by administrative controls in an administrative control procedure.

13.5.1.2 Preparation of Procedures

Cognizant station supervisors are responsible for initiating, preparing, and controlling station procedures consistent with their responsibilities and for ensuring that work is performed in accordance with the latest applicable approved documents. Review of these procedures is accomplished by station staff personnel; review for nuclear safety aspects will be as described in section 13.4. The ~~Manager of Nuclear Operations~~ PVNGS Plant Manager or his designee will approve these procedures for use and distribution. 8

Required administrative procedures will be available approximately 6 months prior to fuel loading of Unit 1.

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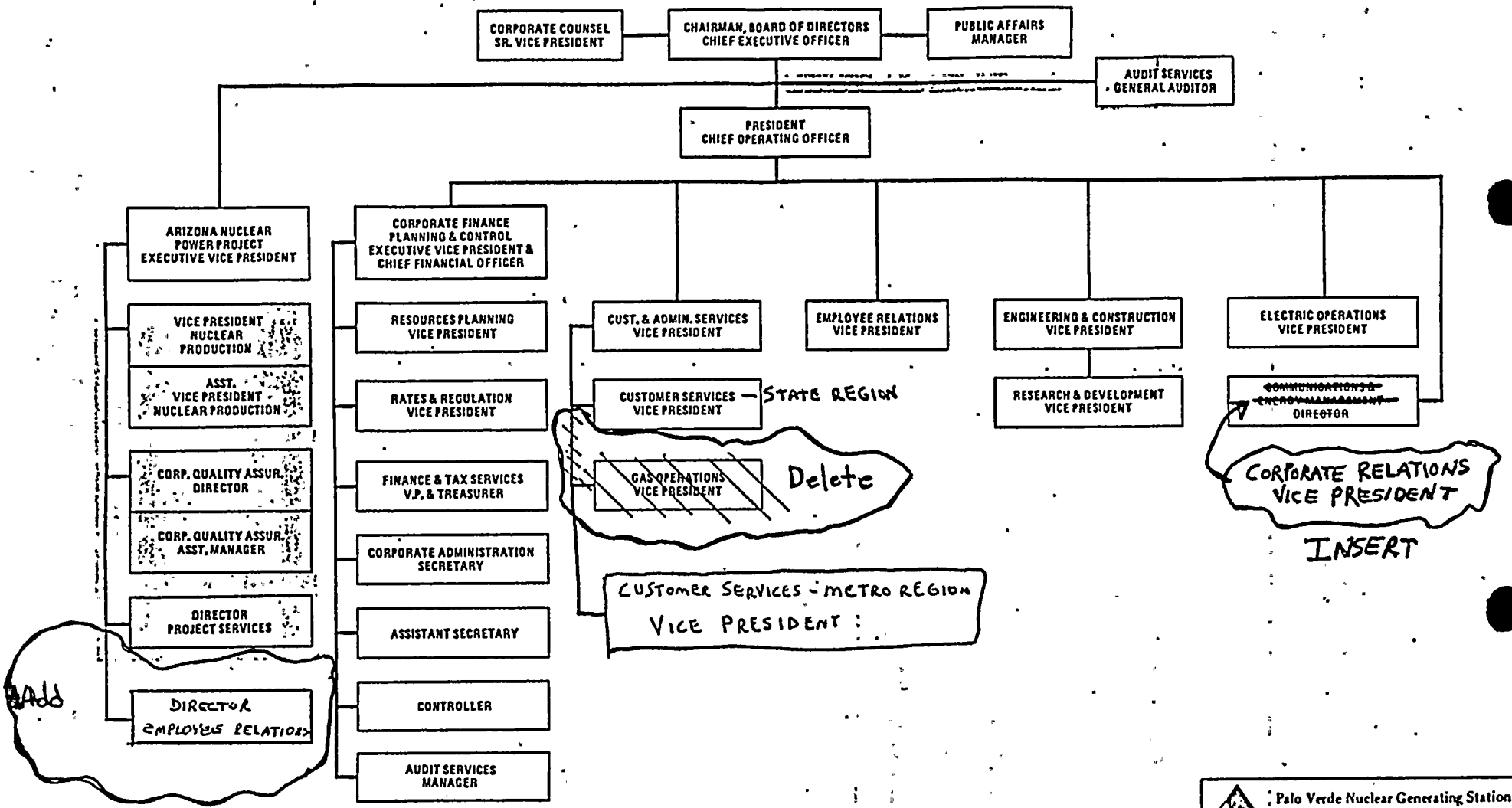


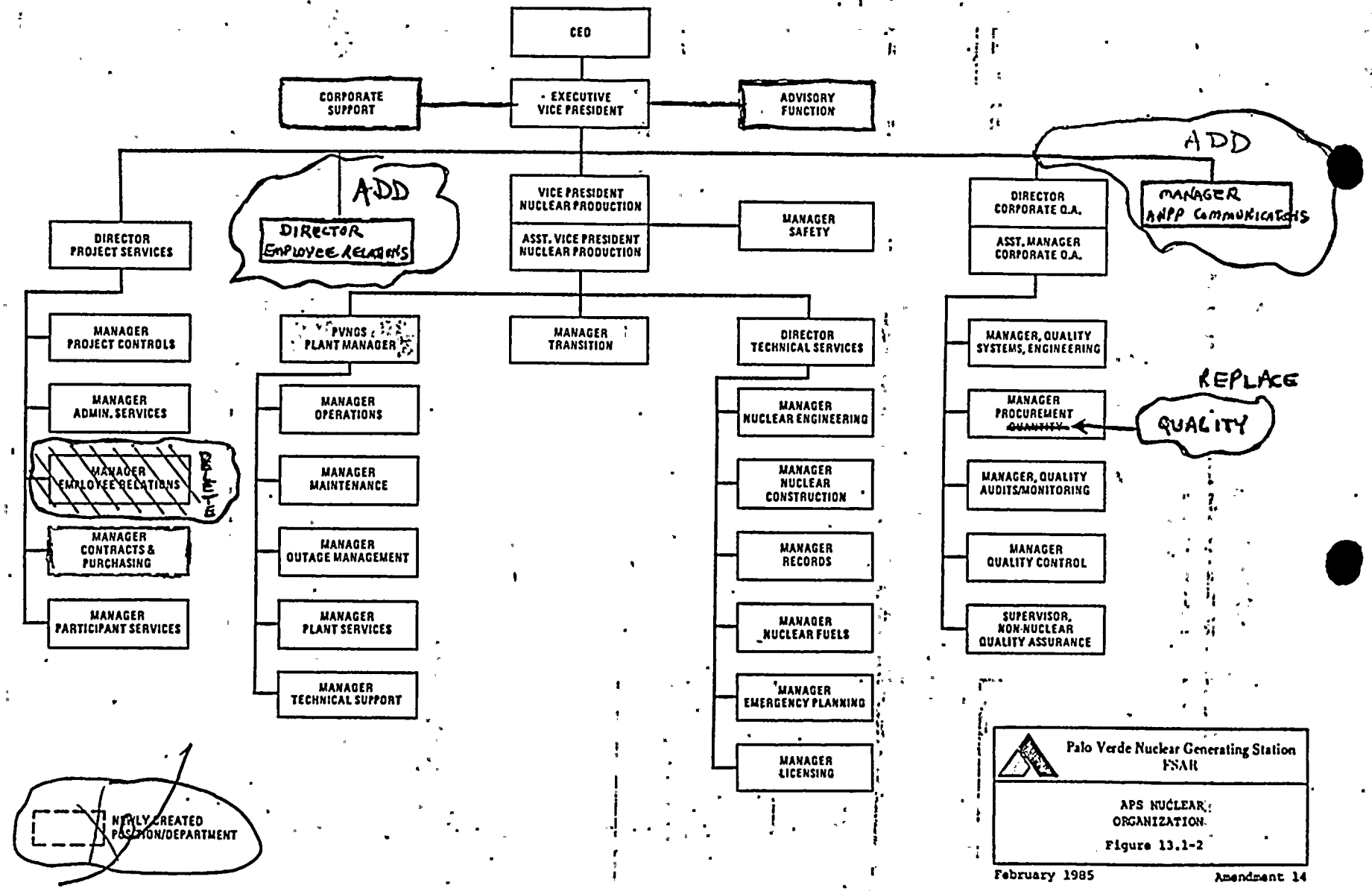
Palo Verde Nuclear Generating Station
FSAR

APS MASTER ORGANIZATION

Figure 13.1-1

CHANGE

August 1984 Amendment 13



Palo Verde Nuclear Generating Station
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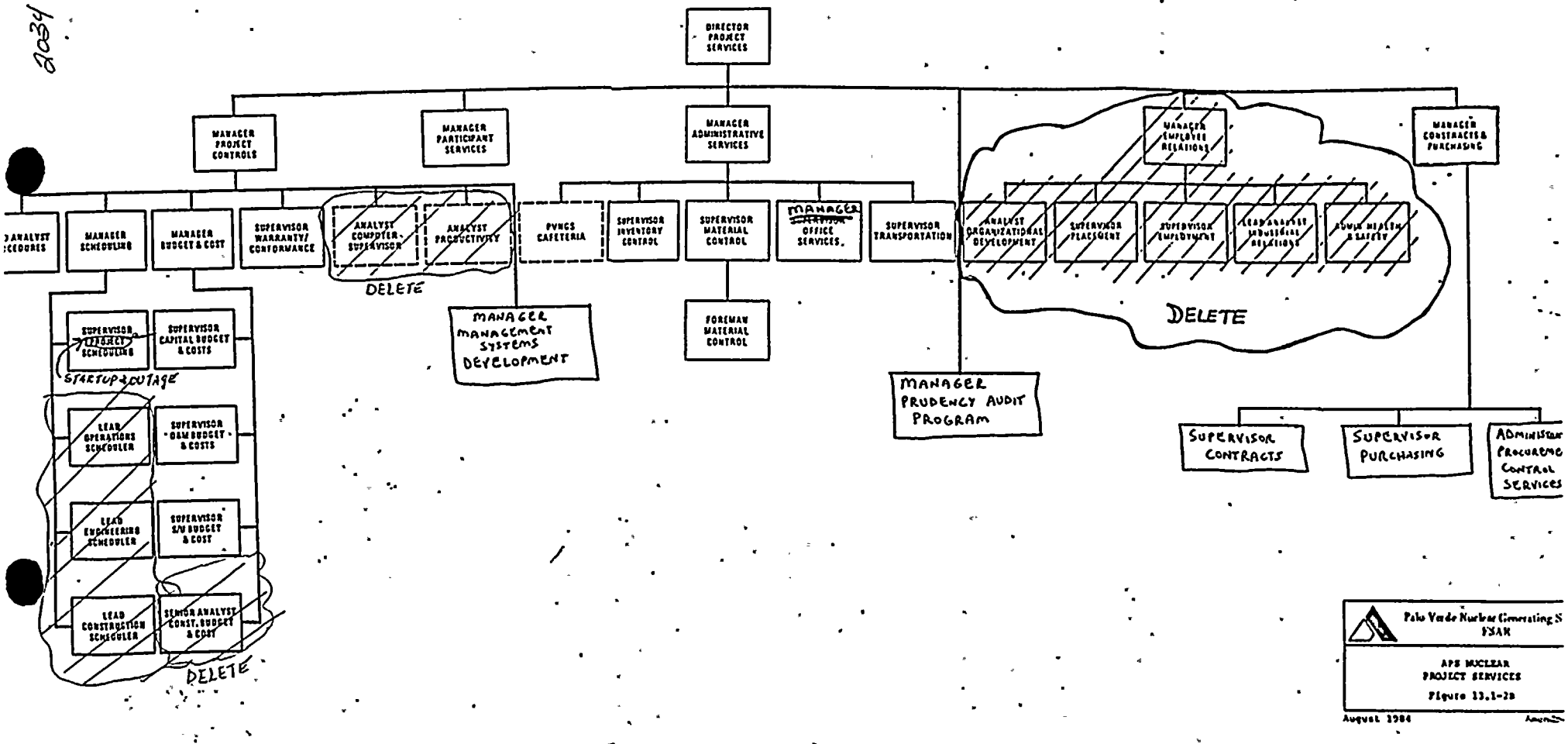
APS NUCLEAR ORGANIZATION

Figure 13.1-2

February 1985 Amendment 14



Palo Verde Nuclear Generating S
FSAR

APS NUCLEAR
PROJECT SERVICES
Figure 13.1-2b

August 1984

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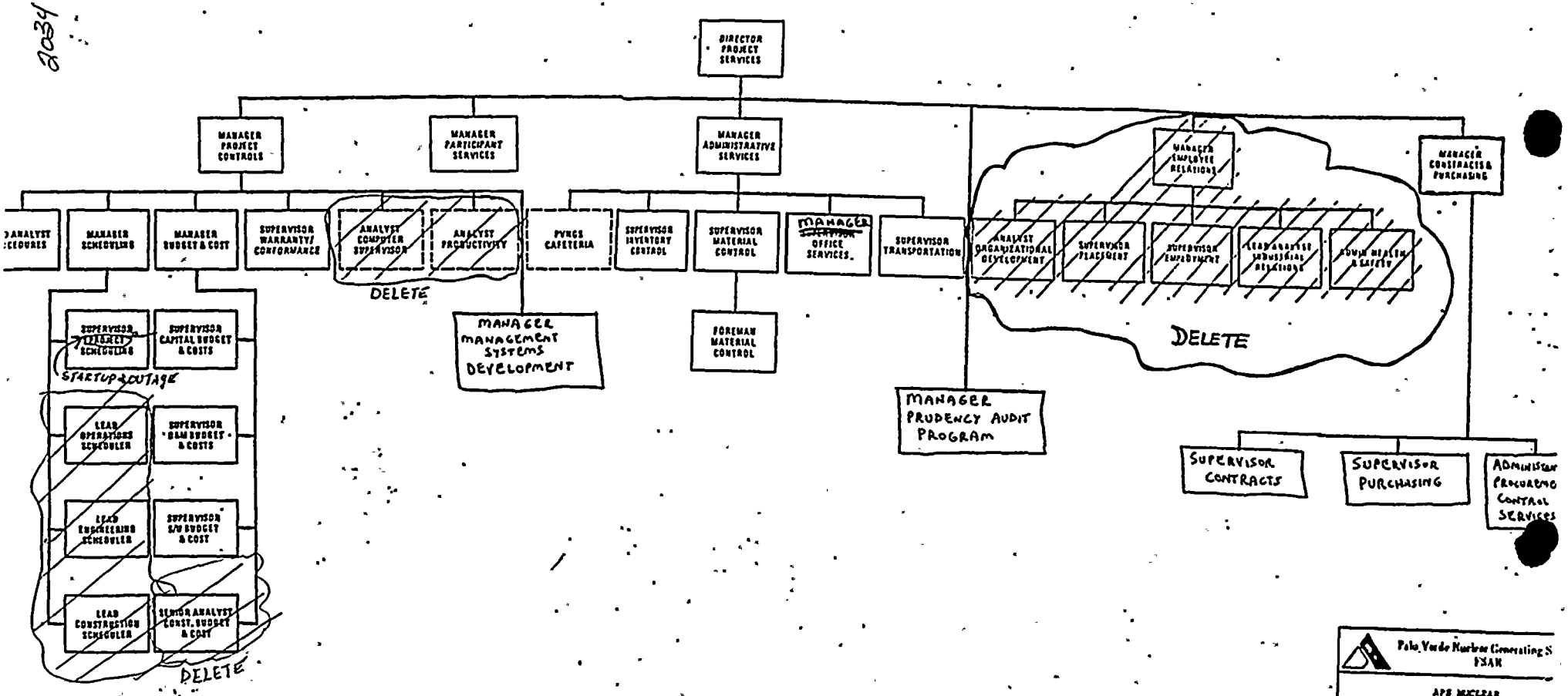

Palo Verde Nuclear Generating S
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APS NUCLEAR
PROJECT SERVICES

Figure 13.1-2B

August 1984

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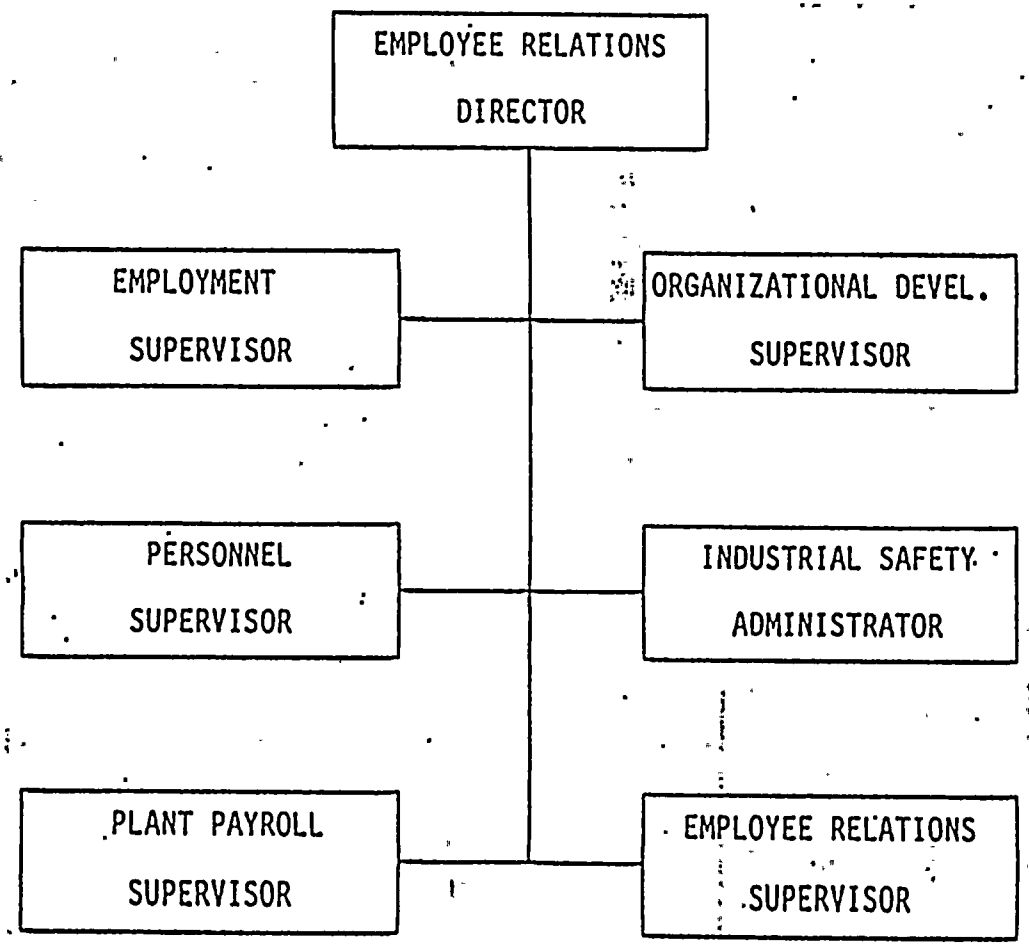
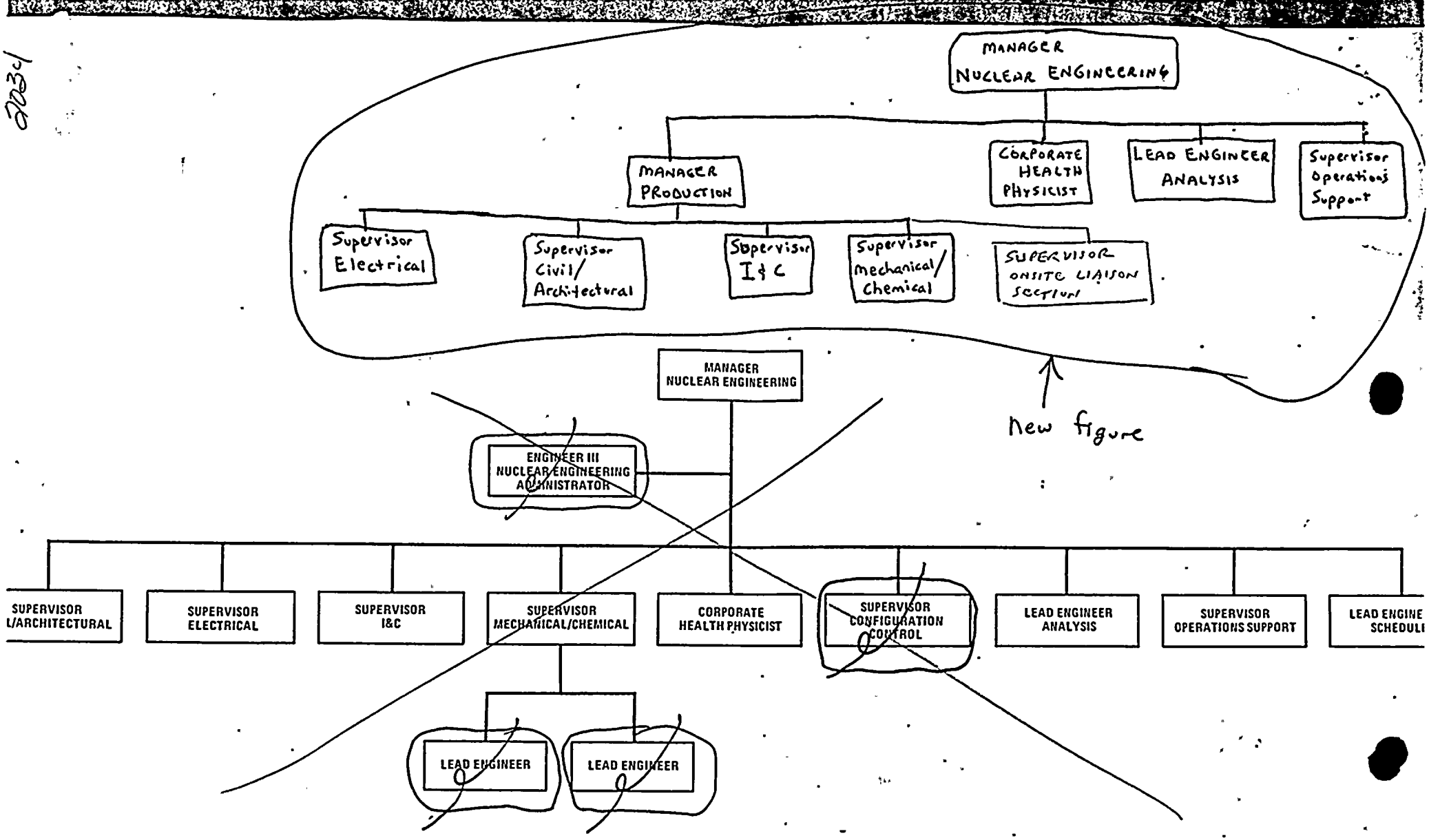


Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR EMPLOYEE RELATIONS

Figure 13.1-2C

Amendment

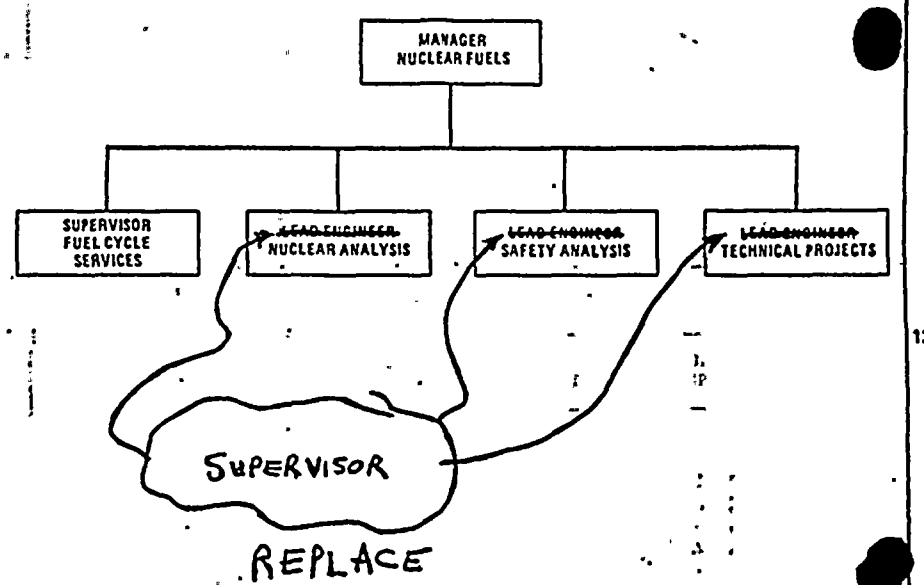


Palo Verde Nuclear Generating
FSAR

APS NUCLEAR
ENGINEERING

Figure 13.1-3E

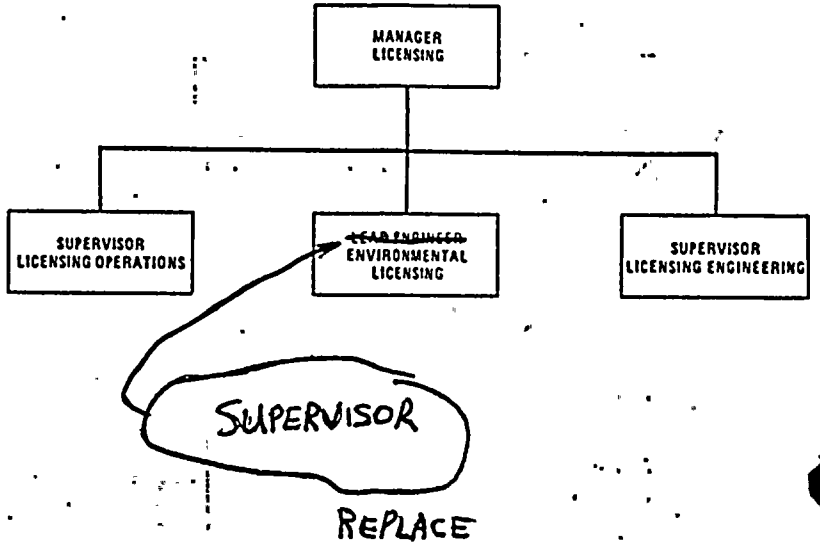
August 1984



Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR
FUELS

Figure 13.1-3H

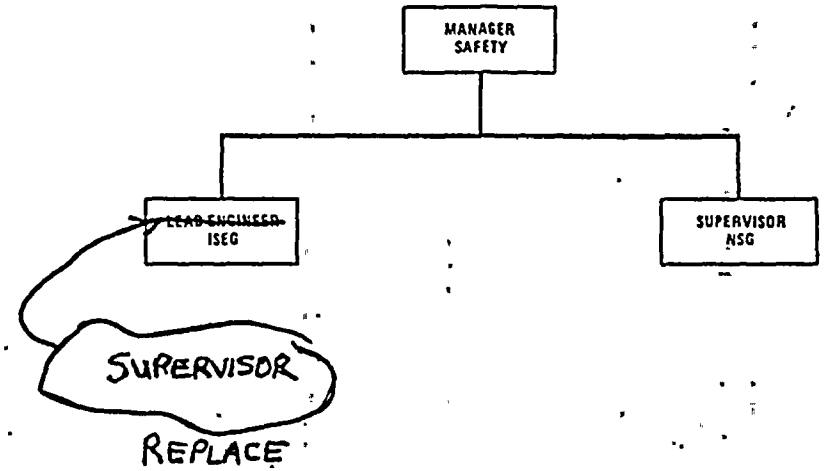


13

Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR
LICENSING

Figure 13.1-33



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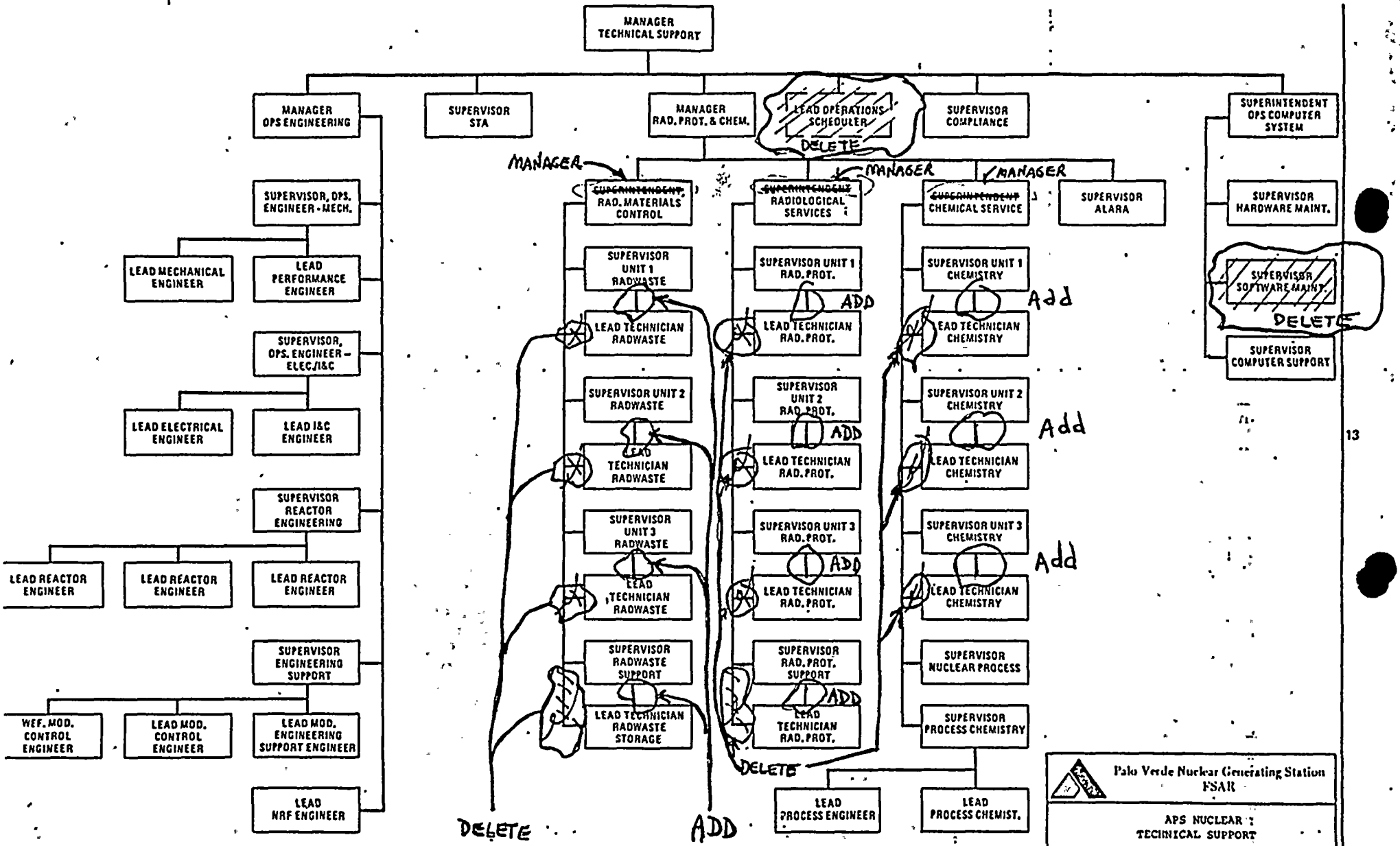
Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR
SAFETY

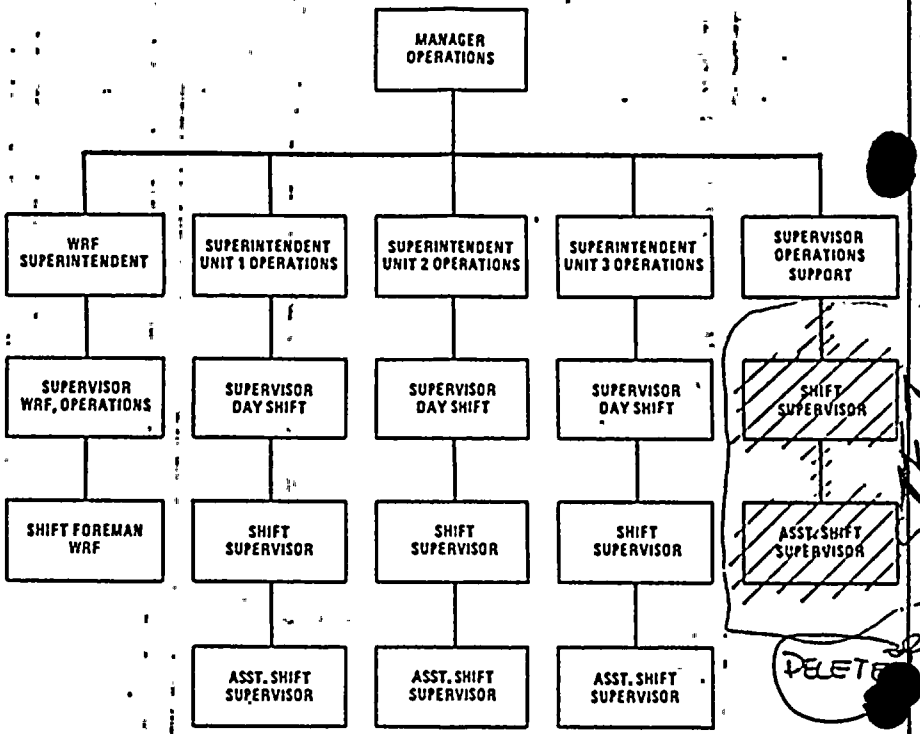
Figure 13.1-3K



Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR
TECHNICAL SUPPORT

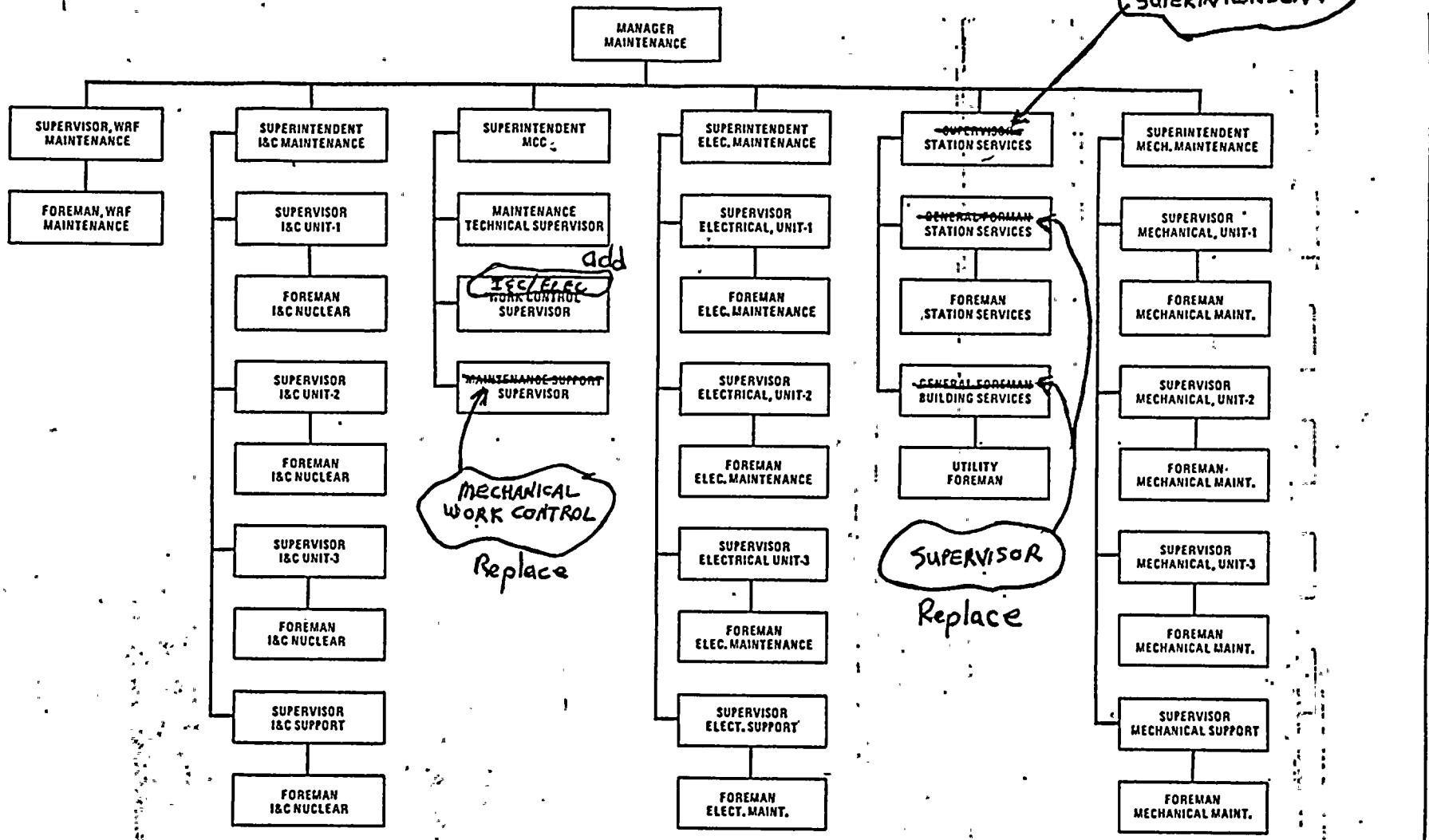
Figure 13.1-6A



Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR OPERATIONS

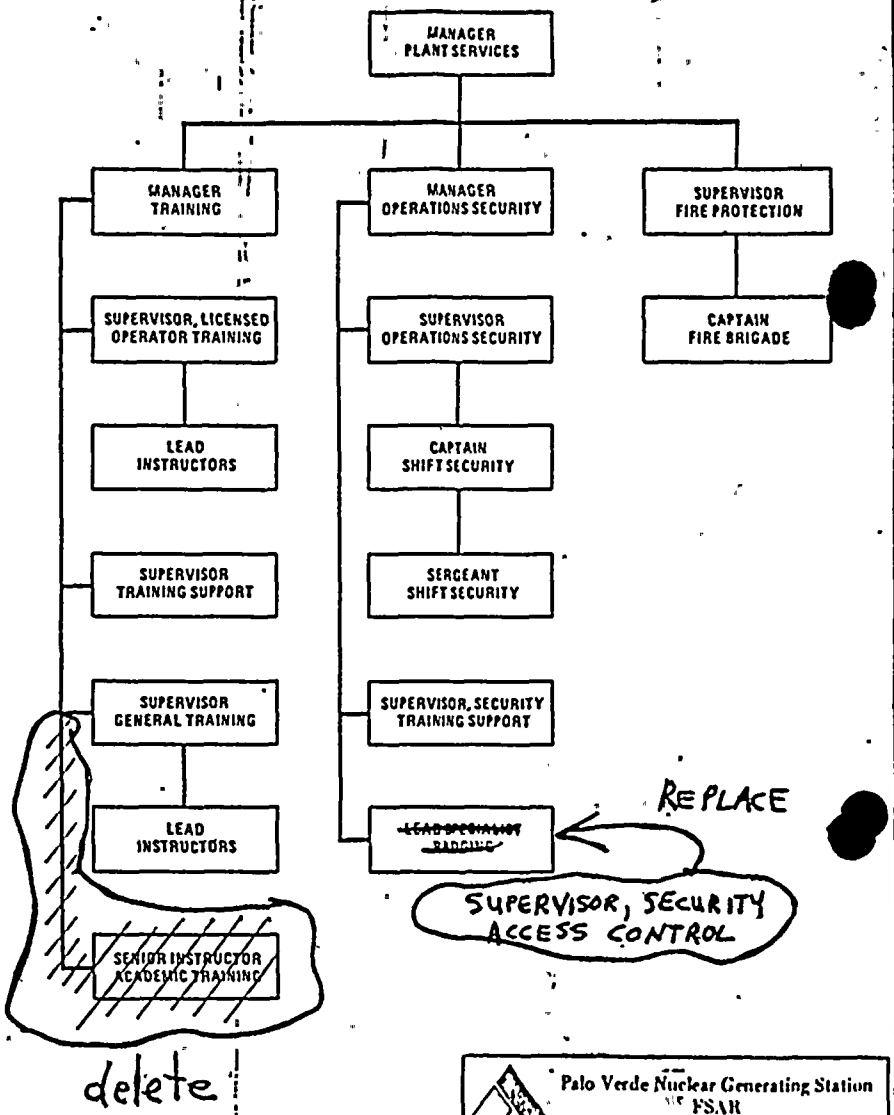
Figure 13.1-6B



Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR MAINTENANCE

Figure 13.1-6C



Palo Verde Nuclear Generating Station
FSAR

APS NUCLEAR
PLANT SERVICES
Figure 13.1-6D

QUESTION 13A.9 (NRC I&E Question 6a) (13.1)

Please revise FSAR Section 13.1 to reflect your commitment to meet the guidance contained in ANS 3.1-1978 for all positions described in that edition of this industry standard.

RESPONSE: The response is given in amended sections 13.1.1.3 and 13.1.3.1 which reflect the recommended qualifications of ANSI/ANS 3.1-1978 for those positions listed therein.

Also see amended section 1.8.

QUESTION 13A.10 (NRC I&E Question 6b) (13.1.3)

Please justify the deletion in FSAR Section 13.1.3.1 of the requirement for a Senior Reactor Operator's License for the Operations Superintendent when such a license appears to be required by Section 4.2.2 of all editions of ANS 3.1, or restore the requirement.

RESPONSE: Each unit has an Operations ~~Supervisor~~ Superintendent who is responsible for the day-to-day conduct of operations within that unit. The Operations ~~Supervisors~~ Superintendents, who report to the Operations ~~Superintendent~~ Manager, are responsible for shift manning, performance of operating personnel, conduct of administrative duties, review and evaluation of plant status, and qualification of personnel. The Operations ~~Supervisor~~ Superintendent shall hold a Senior Operator's License. Therefore, it is our position that the Operations ~~Superintendent~~ Manager does not need a SRO.

QUESTION 13A.11 (NRC I&E Question 7a) (13.1)

FSAR Figure 13.1-5 indicates that five shift crews are planned for each unit. Experience indicates that five crews are inadequate to assure an effective training program for shift