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SUBJECT: Forwards info on util radiation protection organization, per
 Reg Guide 8.8, for NRC approval. Reg guide has no regulation
 requiring specific responsibilities of radiation protection
 manager, per NRC concern.

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Arizona Nuclear Power Project

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October 15, 1987
161-00585-EEVB/WFQ

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1987 OCT 22 A 10 03

Docket Nos. 50-528, 50-529, 50-530

U. S. Nuclear Regulatory Commission
Washington D.C. 20555

Attn: Document Control Desk

References: (1) E. E. Van Brunt, Jr., letter (161-00524) to DCD (NRC), 9/22/87
(2) E. E. Van Brunt, Jr., letter (161-00432) to DCD (NRC), 8/10/87

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
Response to NRC Regarding Palo Verde Organization Change
File: 87-005.419.05; 87-056-026

A meeting between NRC and ANPP representatives was held on September 9, 1987, to discuss aspects of the proposed PVNGS organization change. A copy of the information presented and additional information to complete NRC's review was provided by letter on September 22, 1987 (Reference 1). At the conclusion of that meeting, ANPP representatives were informed that one aspect, the Radiation Protection organization, was acceptable as is. However, on October 8, 1987, almost one month later, ANPP was informed that the Radiation Protection organization was now not acceptable. Our understanding of the NRC concern is that NRC requires the Radiation Protection Manager (RPM per Regulatory Guide 8.8) to have authority over the Radiation Protection (RP) personnel in the Units and to supervise their daily activities. After reviewing the requirements again, we have concluded that there is no regulation requiring that the RPM shall have specific responsibilities. The Regulatory Guide 8.8 provides guidance and suggests responsibilities the RPM should have.

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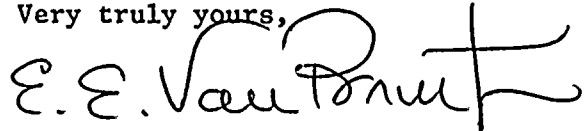
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October 15, 1987
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ANPP believes the proposed Radiation Protection Organization meets the intent of Regulatory Guide 8.8 overall and exceeds the intent in several areas. The attached documents show the radiation protection organization is integrated into overall plant operations. We believe that this organization is acceptable and request expeditious NRC approval.

Very truly yours,



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

EEVB/WFQ/kdf
Attachment

cc: O. M. DeMichele
J. B. Martin
E. A. Licitra
J. G. Haynes
A. C. Gehr
Resident Inspector - J. R. Ball

Analysis of the Proposed ANPP Organization as Related to Radiological Protection

Background

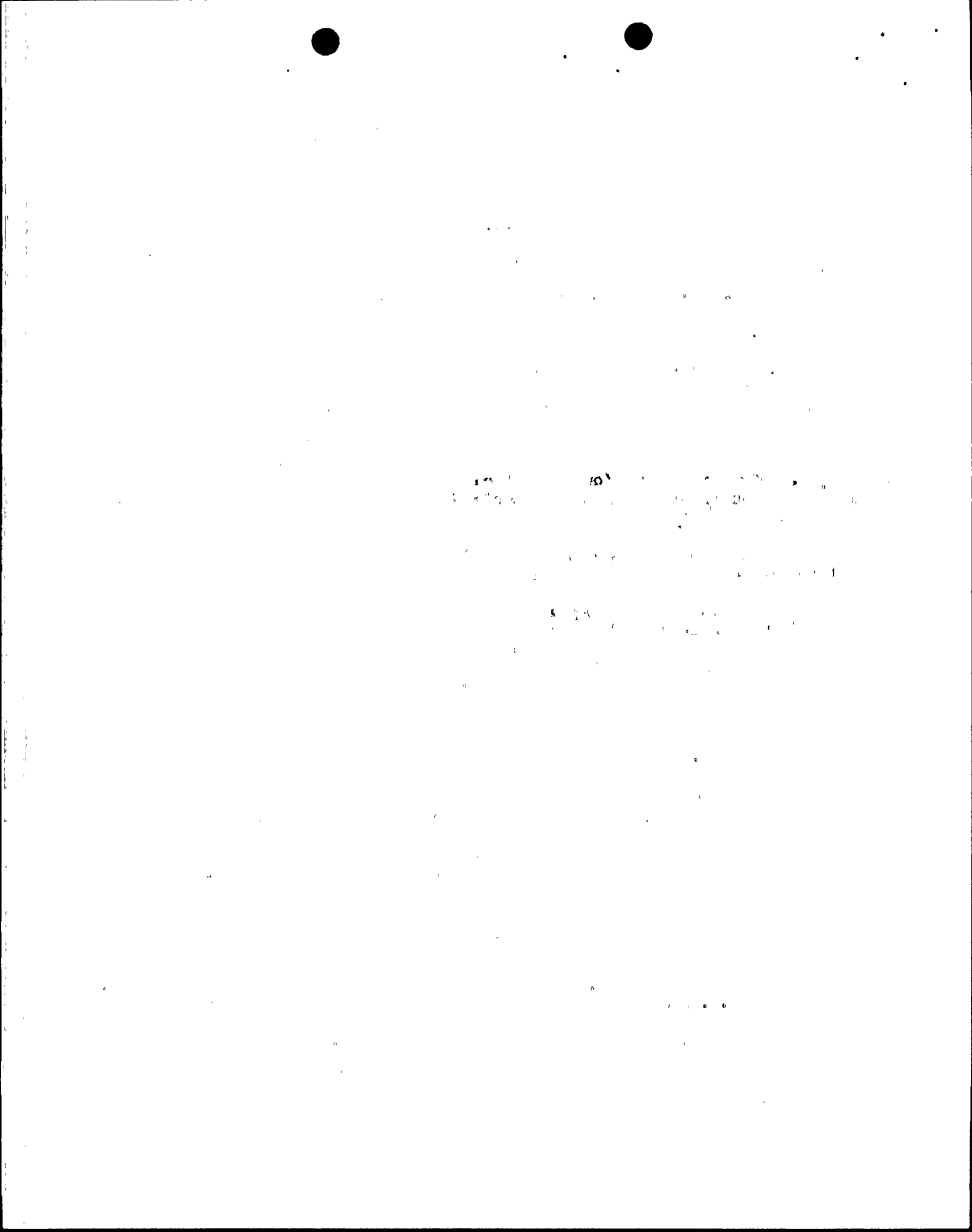
Palo Verde Nuclear Generating Station (PVNGS) is the largest central station in the United States in terms of production of nuclear power generated electricity. Furthermore, the operation of three duplicate generating units combined with the added factors of a desert site location (providing no capability of wastewater discharges offsite) and the use of recycled sewage effluent as a condenser cooling water source combine to increase the site complexity requiring a unique management organizational approach. Responsibility for operation of PVNGS is assigned to the Vice President Nuclear Production with an organization as depicted in Figure 1.

This organization provides a Unit Radiation Protection Manager reporting to each Unit Plant Manager which is consistent with guidance provided in NUREG 0855. The Unit Radiation Protection Managers are responsible for program implementation on a day to day basis including interaction with other unit disciplines and scheduling work activities. Each Plant Manager is responsible for routine power operation of his designated unit and has sufficient staff to support necessary activities. Providing central support functions to each Plant Manager is the Assistant Vice President Nuclear Production Support. This additional support is provided for both special outage requirements and functions which may be provided to each unit from a central service organization. A Central Radiation Protection Manager reports to the Assistant Vice President Nuclear Production Support and is responsible for providing outage radiation protection support as well as respiratory protection, dosimetry, survey instrument calibration and maintenance, and bioassay services to each unit.

The Standards and Technical Support Director reporting to the Vice President Nuclear Production provides for independent review and monitoring of methods and program implementation by the Units and the Central Organization to provide for uniformity between units, compliance with regulatory guidance and requirements and overall improvements in programs, procedures and performance. The Radiation Protection and Chemistry Manager reporting to the Standards and Technical Support Director is designated as the onsite Radiation Protection Manager (RPM) as defined by Regulatory Guides 1.8 and 8.8.

Discussion

In the August 10, 1987 change request to the PVNGS Units 1, 2, & 3 Technical Specifications, exception was taken to Regulatory Guide 8.8 positions C.1.b.3. (g), (h), (i), and (j) for the Radiation Protection and Chemistry Manager (RPM) due to the unique aspects of the organization as described above. It is the purpose of this discussion to describe our approach to comply with the guidance of these positions as well as to elaborate on the proposed ANPP radiation protection organizational interrelationships.



The major provision presented in Regulatory Guide 8.8 is the independence of the RPM from station divisions such as operations, maintenance, or technical support. The proposed PVNGS organization places responsibility for the radiation protection program content and implementation performance assessment with the Radiation Protection and Chemistry Manager (RPM) who is part of an organization located onsite and is independent of unit operations but responsible to the Vice President Nuclear Production for overall plant standardization, program management, unit information feedback, root cause analysis, and performance auditing and monitoring. Program implementation is assigned to the Unit Radiation Protection Manager reporting to the Unit Plant Manager and on the same reporting level as the other Unit discipline managers including the Unit Work Control Manager. This work control organization ensures that work in the Units is well coordinated with the radiation protection requirements. The Radiation Protection and Chemistry Manager (RPM) continuously monitors the program implemented by the Unit and Central Radiation Protection Managers and the RPM provides direct feedback to correct implementation problems. This organizational relationship has the effect of freeing the Radiation Protection and Chemistry Manager (RPM) from the routine administrative duties of program implementation to greatly enhance and focus his ability to concentrate on program improvements and performance monitoring. This relationship furthermore frees the Unit and Central Radiation Protection Managers to greatly enhance and focus their ability to involve themselves in program implementation and interaction with the other Unit discipline departments and work control. The Unit Radiation Protection Managers have the authority to immediately stop work relating to personnel radiation exposure. This relationship also offers the Unit Radiation Protection Managers the unique ability to raise concerns directly to the Plant Manager or if not satisfied to raise concerns directly to the Radiation Protection and Chemistry Manager (RPM). In addition, the RPM can immediately raise concerns to the Unit Managers or the Director of Standards and Technical Support. One of the prime philosophies behind the reorganization has been to reduce the levels of management so problems can be aired quickly. This accomplishment should be taken into account as part of this review.

Specific provisions presented in Regulatory Guide 8.8 for which the RPM is responsible and how this responsibility is complied within the proposed ANPP organization are presented as follows:

- C.1.b.3. (a) Participating in design reviews for facilities and equipment that can affect potential radiation exposures;

Routine design reviews for plant modifications will be performed under the proposed new organization by ALARA engineers reporting to the ALARA Supervisor within the Central Radiation Protection Department. These reviews will be conducted in accordance with programs and procedures developed and maintained by the Radiation Protection and Chemistry Manager (RPM) who will also conduct performance monitoring (audits) of these programs and procedures. The Radiation Protection and Chemistry Manager (RPM) also has a support staff of radiological engineers and health physicists who are qualified to assist the ALARA engineers with design reviews.

- C.1.b.3. (b) Identifying locations, operations, and conditions that have the potential for causing significant exposures to radiation;

The Radiation Protection and Chemistry Manager (RPM) receives direct feedback of plant operating conditions and radiation protection program implementation through his performance monitoring program.

He also compiles and trends data from each unit to provide routine operating reports and identify potential problem areas. The ALARA Section under the Central Radiation Protection Manager also conducts ALARA reviews of unit operations and procedures in accordance with the ALARA programs and procedures established and monitored by the Radiation Protection and Chemistry Manager (RPM).

- C.1.b.3. (c) Initiating and implementing an exposure control program;

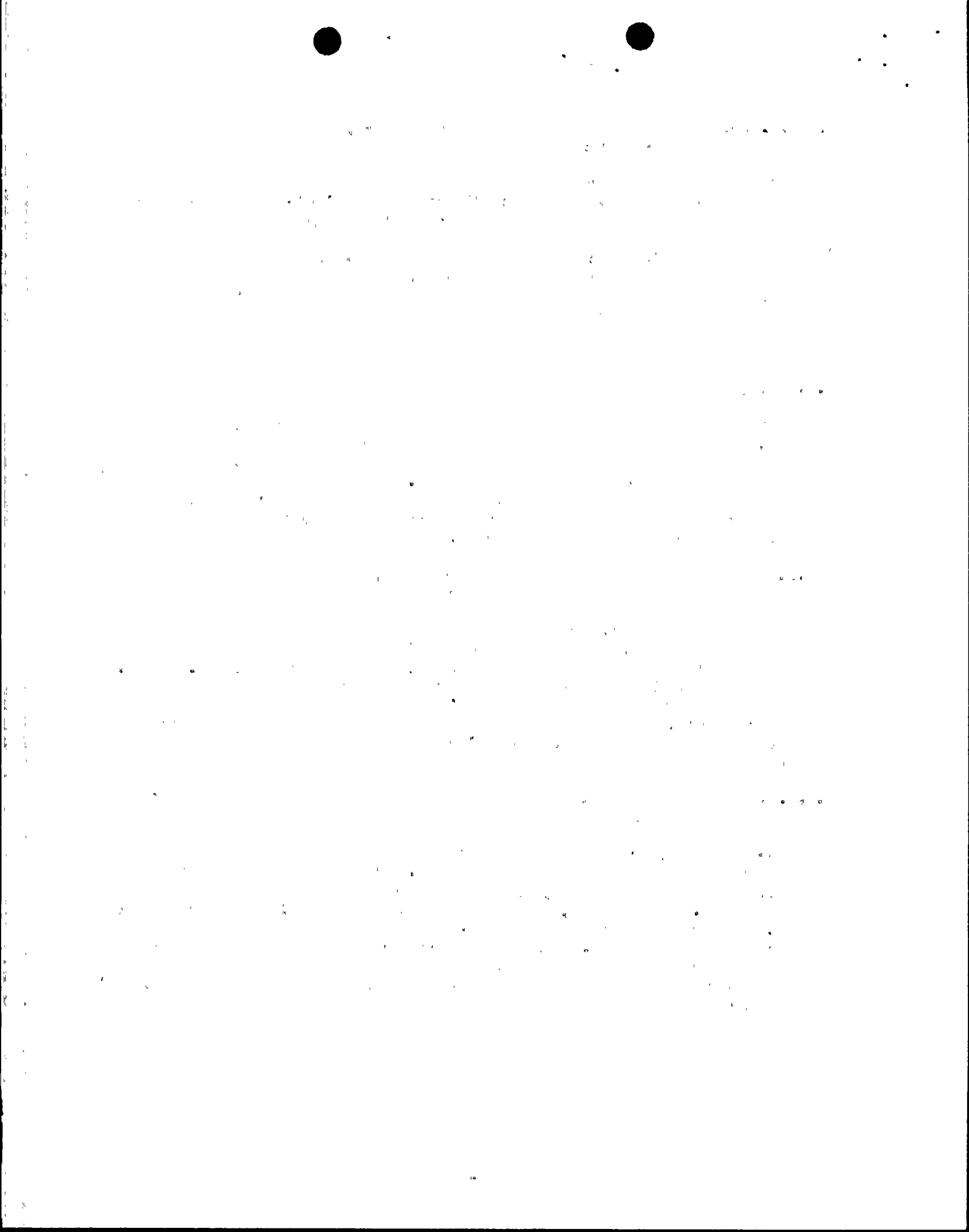
The exposure control program is part of the overall radiation protection program and procedures developed and maintained by the Radiation Protection and Chemistry Manager (RPM) and implemented by the Unit and Central Radiation Protection Managers. The Radiation Protection and Chemistry Manager (RPM) monitors implementation in each unit, evaluates and trends results to determine program effectiveness, and revises the program to incorporate improvements.

- C.1.b.3. (d) Developing plans, procedures, and methods for keeping radiation exposures of station personnel ALARA;

The Radiation Protection and Chemistry Manager (RPM) is directly responsible for developing and maintaining plans, procedures, and methods for keeping radiation exposures of station personnel ALARA. He also conducts routine performance monitoring of the implementation of these plans and procedures in the units to receive direct feedback for improvements. He conducts root cause analysis of any problems in this area and conducts post operation briefings for outages or unusual operations.

- C.1.b.3. (e) Reviewing, commenting on, and recommending changes in job procedures to maintain exposures ALARA;

The Radiation Protection and Chemistry Manager (RPM) serves as a member of the Plant Review Board with responsibilities as defined in Section 1.4.1 of the August 10, 1987 Technical Specification Change Request (pg 1-21). In summary, these responsibilities include reviewing plant activities and administrative controls as related to nuclear (including radiological) safety. The ALARA Section under the Central Radiation Protection Manager also conducts ALARA reviews of procedures and conducts job specific ALARA reviews and evaluations. He is directly responsible for review of Radiation Protection Procedures even as a PRB member.



- C.1.b.3. (f) Participating in the development and approval of training programs related to work in radiation areas or involving radioactive materials;

The Radiation Protection and Chemistry Manager (RPM) establishes technical requirements related to work in radiation areas or involving radioactive materials through his staff of health physicists and radiological engineers and through feedback from his performance monitoring programs. The Unit and Central Radiation Protection Managers also provide training recommendations as a result of feedback from their program implementation through specific radiological work job coverage. The ALARA Supervisor conducts ALARA reviews of training programs and provides feedback from pre and post job ALARA briefings.

- C.1.b.3. (g) Supervising the radiation surveillance program to maintain data on exposures of and doses to station personnel, by specific job functions and type of work;

Collection of data relating to radiation exposure is performed by each Unit Radiation Protection Manager and the Central Radiation Protection Manager. The data is centrally collected by a computerized radiological records management system. Final data analysis, trending, and report preparation is performed by the Radiation Protection and Chemistry Manager (RPM).

- C.1.b.3. (h) Supervising the collection, and evaluation of data and information attained from radiological surveys and monitoring activities:

The position is addressed in the same manner as that described for position C.1.b.3. (g) above.

- C.1.b.3 (i) Supervising, training, and qualifying the radiation protection staff of the station;

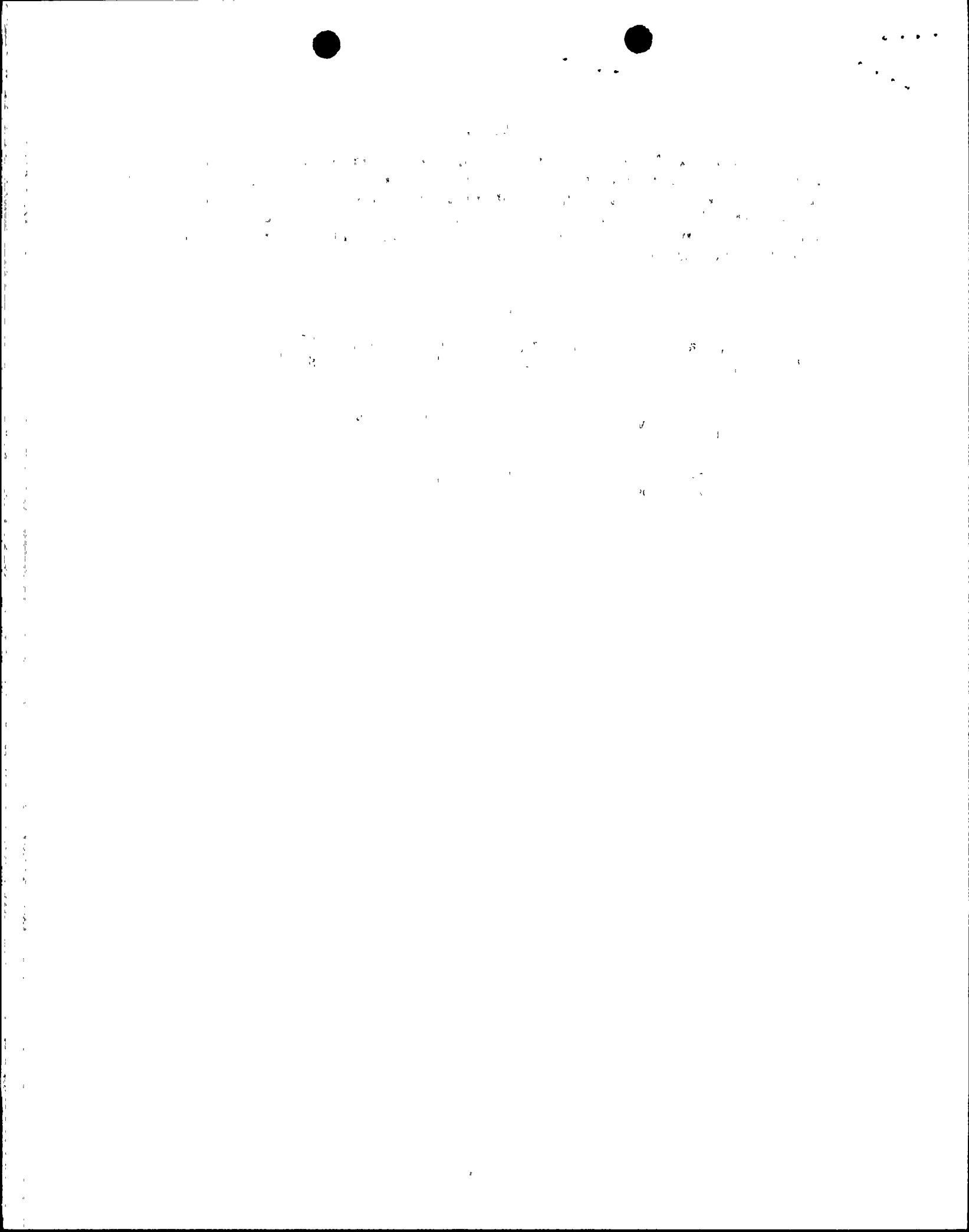
The Radiation Protection and Chemistry Manager (RPM) prescribes training requirements for the Unit and Central Radiation Protection staffs and monitors training program development and administration by the Training Department. The Unit and Central Radiation Protection Managers implement the training programs by ensuring participation by their staffs.

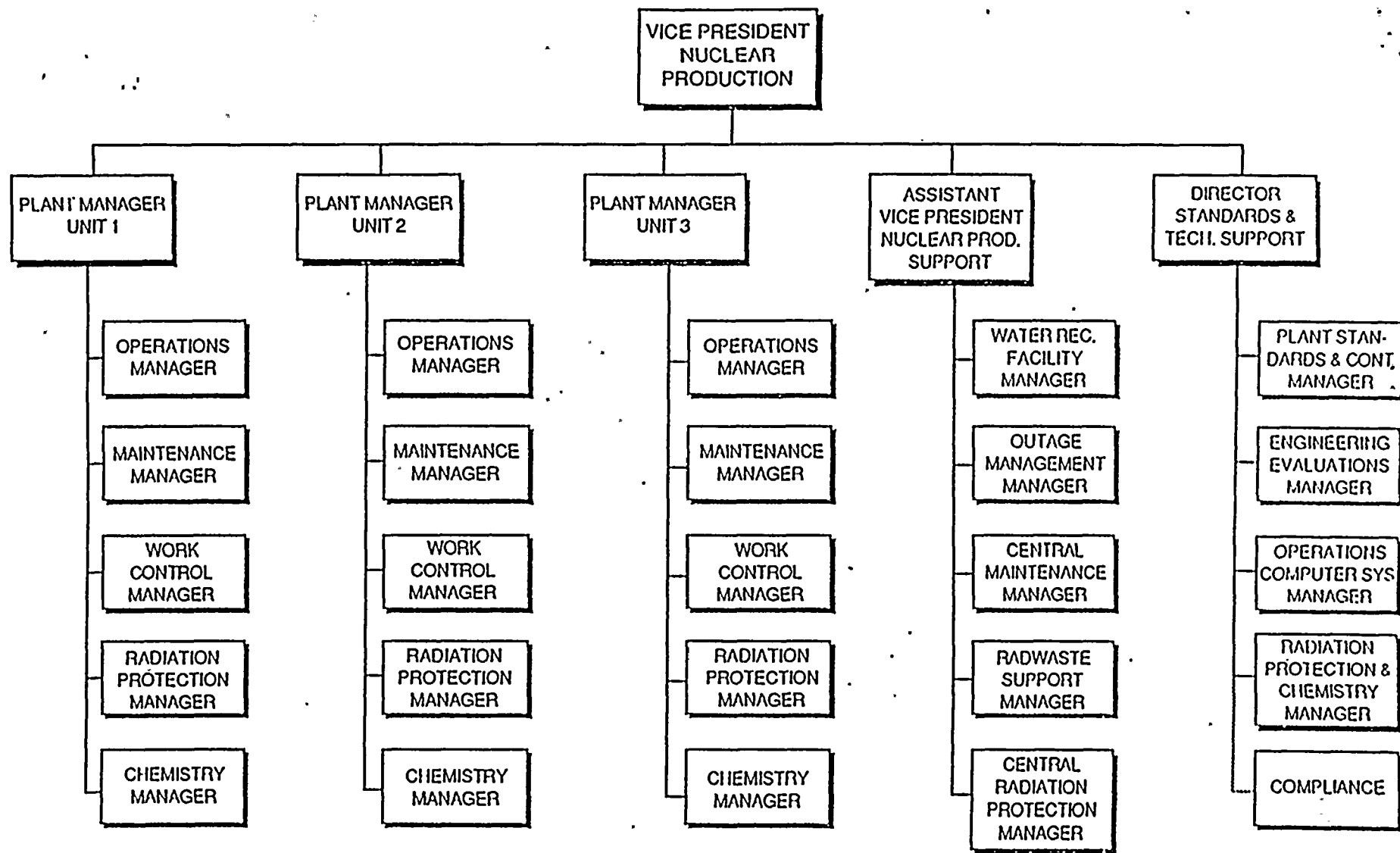
- C.1.b.3. (j) Ensuring that adequate radiation protection coverage is provided for station personnel during all working hours.

Although radiation protection coverage is provided by the Unit and Central staffs, the Radiation Protection and Chemistry Manager (RPM) provides an independent review function of radiation protection resources and utilization on a continuing basis. Needs for additional resource allocation can then be made known to appropriate station management personnel.

Conclusion

In summary, it is concluded that the proposed organization meets the intent of Regulatory Guides 8.8 guidance in the above paragraphs as required for the operation of the three duplicate PVNGS units combined with the added factors described above. Additionally, the span of control and procedural definition of authority provided in the Station Manual is consistent with the guidance provided in NUREG 0588.





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Figure 1

