

ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

DEPARTMENT LEADER, OPERATIONS

6.1.1 The ~~Plant Manager~~ 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 per Table 6.2-1, shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice President-Nuclear Production shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An offsite and an onsite organization shall be established for unit operation and corporate management. The offsite and onsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. Those relationships shall be documented and updated, as appropriate, in the form of organizational charts. These organizational charts will be documented in the FSAR and updated in accordance with 10 CFR 50.71(e).
- b. There shall be an individual executive position (Executive Vice President Nuclear) in the offsite organization having corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining and providing technical support in the plant so that continued nuclear safety is assured.
- c. There shall be ^{AN} individual management positions ^{VICE PRESIDENT, NUCLEAR PRODUCTION} (~~Plant Managers~~) in the onsite organization having responsibility for overall unit safe operation and having control over those onsite resources necessary for safe operation and maintenance of the plant.
- d. Although the individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate ^{MANAGEMENT} ~~manager~~ onsite, they shall have sufficient organizational freedom to be independent from operating pressures.

6.2.2 UNIT STAFF

- a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

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UNIT STAFF (Continued)

- b. Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for re-fueling, major maintenance, or major plant modifications, on a temporary basis, the following guidelines shall be followed (this excludes the STA working hours):

AND PVNGS FIRE DEPARTMENT

- 1) An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
- 2) An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
- 3) A break of at least 8 hours should be allowed between work periods, including shift turnover time.
- 4) Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

- c. Any deviation from the above guidelines shall be authorized by any one of the following personnel: Director, Technical Support; Director, PVNGS Services; General Manager, Site Radiation Protection; General Manager, Site Chemistry; General Manager, Training; Plant Manager; or their designees who are at the manager level or above, or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime in their respective groups shall be reviewed monthly by these authorized individuals or their designees to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

REPLACE
WITH

{ PERSONNEL WHO ARE AT THE DIRECTOR LEVEL OR ABOVE,
OR THEIR DESIGNEES WHO ARE AT THE DEPARTMENT LEADER
LEVEL OR ABOVE,

ADMINISTRATIVE CONTROLS

6.2.3 INDEPENDENT SAFETY ENGINEERING DEPARTMENT (ISE)

FUNCTION

6.2.3.1 The ISE Department shall function to selectively examine plant 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 ISE Department shall be composed of at least five, dedicated, full-time engineers located on site. Each shall have a Bachelor's Degree in engineering or related science and at least two years professional level experience in his field.

RESPONSIBILITIES

6.2.3.3 The ISE Department shall be responsible for maintaining surveillance of selected plant activities to provide independent verification* that these activities are performed correctly to reduce human errors as much as practical, and to detect potential nuclear safety hazards.

AUTHORITY

DIRECTOR, SITE OPERATIONS

6.2.3.4 The ISE Department shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities or other means of improving plant safety to the ~~Director, Nuclear Safety or designated alternate, Plant Manager,~~ and the Chairman, Offsite Safety Review Committee (OSRC).

RECORDS

6.2.3.5 Records of activities performed by the ISE Department shall be prepared, maintained, and forwarded each calendar month to the Director, Nuclear *ASSURANCE* Safety or designated alternate.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor (STA) shall provide advisory 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. The STA shall be onsite and shall be available in the control room within 10 minutes whenever one or more units are in MODE 1, 2, 3, or 4.

DIRECTOR

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 and Regulatory Guide 1.8, September 1975, except for the ~~General Manager, Site Radiation Protection~~ who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and the Shift Technical Advisor who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and plant operating

*Not responsible for sign-off function.

ADMINISTRATIVE CONTROLS

6.3 UNIT STAFF QUALIFICATIONS (Continued)

characteristics, including transients and accidents. An additional exception is that the Senior Reactor Operator (SRO) license requirement for the Operations Manager shall be met if either the Operations Manager or the Operations Supervisor holds a valid SRO license. The holder of the SRO license shall direct the licensed activities of the licensed operators. *DEPARTMENT LEADER*

6.4 TRAINING

6.4.1 A training program for the unit staff shall be maintained under the direction of the *DIRECTOR* General Manager, Nuclear Training and shall meet or exceed the requirements of Section 5.0 of ANSI/ANS 3.1, 1978 and 10 CFR 55. The program shall include familiarization with relevant industry operational experience.

6.5 REVIEW AND AUDIT

6.5.1 PLANT REVIEW BOARD (PRB)

FUNCTION

6.5.1.1 The Plant Review Board shall function to advise the Vice President Nuclear Production or his designee on all matters related to nuclear safety.

COMPOSITION

AT LEAST SEVEN

6.5.1.2 The PRB shall be composed of nine members from the Palo Verde management staff. These positions will be designated by the Vice President Nuclear Production or his designee in Administrative Procedures.

The Vice President Nuclear Production or his designee shall designate the Chairman and *DESIGNATED ALTERNATE* Vice-Chairmen in writing. The Chairman and *DESIGNATED ALTERNATE* Vice-Chairmen may be from outside the members provided that they meet ANSI/ANS 3.1, 1978.

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the PRB Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PRB activities at any one time.

MEETING FREQUENCY

6.5.1.4 The PRB shall meet at least once per calendar month and as convened by the PRB Chairman, Vice-Chairmen, or his designated alternate.

ADMINISTRATIVE CONTROLS

QUORUM

6.5.1.5 The quorum of the PRB necessary for the performance of the PRB responsibility and authority provisions of these Technical Specifications shall consist of the Chairman, ~~Vice-Chairmen~~, or ~~his~~ designated alternate and ~~five~~ members including alternates. ^A *A MAJORITY OF THE*

RESPONSIBILITIES

6.5.1.6 The PRB shall be responsible for:

- a. Review of all proposed changes to Appendix "A" Technical Specifications.
- b. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Offsite Safety Review Committee (OSRC).
- c. Review of REPORTABLE EVENTS.
- d. Review of unit operations to detect potential nuclear safety hazards.
- e. Performance of special reviews, investigations or analyses and reports thereon as requested by the Vice President-Nuclear Production or PRB Chairman.
- f. Review and documentation of judgment concerning prolonged operation in bypass, channel trip, and/or repair of defective protection channels of process variables placed in bypass since the last PRB meeting.

AUTHORITY

6.5.1.7 The PRB shall:

- a. Render determinations in writing with regard to whether or not each item considered under Specification 6.5.1.6b. above constitutes an unreviewed safety question.
- b. Provide written notification within 24 hours to the Executive Vice President Nuclear, Vice President Nuclear Production and OSRC of disagreement between the PRB and the Vice President Nuclear Production; however, the Vice President Nuclear Production shall have responsibility for resolution of such disagreements.

RECORDS

6.5.1.8 The PRB shall maintain written minutes of each PRB meeting that, at a minimum, document the results of all PRB activities performed under the responsibility and authority provisions of these Technical Specifications. Copies shall be provided to the Executive Vice President Nuclear, Vice President Nuclear Production, and OSRC.

ADMINISTRATIVE CONTROLS

6.5.2 TECHNICAL REVIEW AND CONTROL ACTIVITIES

6.5.2.1 The Vice President Nuclear Production or his designee shall assure that each procedure and program required by Specification 6.8 and other procedures which affect nuclear safety, and changes thereto, is prepared by a qualified individual/organization. Each such procedure, and changes thereto, shall be reviewed by an individual/group other than the individual/group which prepared the procedure, or changes thereto, but who may be from the same organization as the individual/group which prepared the procedure, or changes thereto.

6.5.2.2 Phase I - IV tests described in the FSAR that are performed by the plant operations staff shall be approved by the Director, ^{SYSTEM ENGINEERING} ~~Technical Support~~ or his designee as previously designated by the Vice President Nuclear Production. Test results shall be approved by the Director, ~~Technical Support~~ or his designee.

6.5.2.3 Proposed modifications to unit nuclear safety-related structures, systems and components shall be designed by a qualified individual/organization. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to nuclear safety-related structures, systems and components shall be approved prior to implementation by the ^{DEPARTMENT LEADER, OPERATIONS} ~~Plant Manager~~; or by the Director, ~~Technical Support~~ as previously designated by the Vice President Nuclear Production.

SITE OPERATIONS

6.5.2.4 Individuals responsible for reviews performed in accordance with 6.5.2.1, 6.5.2.2, and 6.5.2.3 shall be identified in station administrative procedures. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the appropriate designated review personnel.

6.5.2.5 Proposed tests and experiments which affect station nuclear safety and are not addressed in the FSAR or Technical Specifications shall be reviewed by the Vice President Nuclear Production or his designee.

NOT USED

6.5.2.6 ~~The station security program and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

NOT USED

6.5.2.7 ~~The station emergency plan and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

DIRECTOR

6.5.2.8 The ~~General Manager~~, Site Radiation Protection shall assure the performance of a review by a qualified individual/organization of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering the evaluation, recommendations and disposition of the corrective action to prevent recurrence.

ADMINISTRATIVE CONTROLS

TECHNICAL REVIEW AND CONTROL ACTIVITIES (Continued)

6.5.2.9 The Vice President Nuclear Production or his designee shall assure the performance of a review by a qualified individual/organization of changes to the PROCESS CONTROL PROGRAM, OFFSITE DOSE CALCULATION MANUAL, radwaste treatment systems, and the Pre-planned Alternate Sampling Program.

6.5.2.10 Reports documenting each of the activities performed under Specifications 6.5.2.1 through 6.5.2.9 above shall be maintained. Copies shall be provided to the Vice President-Nuclear Production and the Offsite Safety Review Committee.

6.5.3 OFFSITE SAFETY REVIEW COMMITTEE (OSRC)

FUNCTION

6.5.3.1 The OSRC shall function to provide independent review and shall be responsible for the audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

COMPOSITION

6.5.3.2 The OSRC shall be composed of the OSRC Chairman and a minimum of four OSRC members. The Chairman and members are designated by the Executive Vice President, Nuclear and shall have the qualifications that meet the requirements of Section 4.7 of ANSI/ANI 3.1; 1978.

CONSULTANTS

6.5.3.3 Consultants shall be utilized as determined by the OSRC Chairman to provide expert advice to the OSRC.

REVIEW

6.5.3.4 The OSRC shall review:

- a. The safety evaluations program and its implementation for (1) changes to procedures, equipment, systems or facilities within the power block, and (2) tests or experiments completed under the provision of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question;

ADMINISTRATIVE CONTROLS

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President Nuclear Production, ~~Plant Manager~~ and ~~Manager of Nuclear Safety Group~~ shall be notified within 24 hours. ^{DIRECTOR, SITE OPERATION}
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The ^{CHAIRMAN OF THE OSRC} Safety Limit Violation Report shall be submitted to the Commission, the ~~Manager of the NSG~~ and the Vice President Nuclear Production within 30 days of the violation.
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. ~~Security Plan implementation. NOT USED~~
- e. ~~Emergency Plan implementation. NOT USED~~
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants.

NOTES: (1) Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

(2) Modifications to the CPC software (including algorithm changes and changes in fuel cycle specific data) shall be performed in accordance with the most recent version of CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," that has been determined to be applicable to the facility. Additions or deletions to CPC Addressable Constants or changes to Addressable Constant software limit values shall not be implemented without prior NRC approval.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the Vice President-Nuclear Production, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or ~~Assistant Shift~~ CONTROL ROOM Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the cognizant department head, as designated by the Vice President-Nuclear Production, within 14 days of implementation.

*Not required until prior to exceeding 5% of RATED THERMAL POWER.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

6.8.4 The following programs shall be established, implemented, maintained, and shall be audited under the cognizance of the ^{OSRC} NSG at least once per 24 months:

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the high pressure safety injection system, the shutdown cooling portion of the low pressure safety injection system, the post-accident sampling subsystem of the reactor coolant sampling system, the containment spray system, the post-accident sample return piping of the radioactive waste gas system, the post-accident sampling return piping of the liquid rad-waste system, and the post-accident containment atmosphere sampling piping of the hydrogen monitoring subsystem. The program shall include the following:

- (1) Preventive maintenance and periodic visual inspection requirements, and
- (2) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

- (1) Training of personnel,
- (2) Procedures for monitoring, and
- (3) Provisions for maintenance of sampling and analysis equipment.

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

- (1) Identification of a sampling schedule for the critical variables and control points for these variables,
- (2) Identification of the procedures used to measure the values of the critical variables,
- (3) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- (4) Procedures for the recording and management of data,

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- (2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 11, Column 2,
- (3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 and with the methodology and parameters in the ODCM,
- (4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- (5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days.
- (6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose ~~of~~ dose commitment conforming to Appendix I to 10 CFR Part 50,
- OR
- (7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,
- (8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- (9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- (10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

ADMINISTRATIVE CONTROLS

RECORD RETENTION (Continued)

- i. Records of quality assurance activities required by the QA Manual not listed in Section 6.10.1.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of PRB meetings and of ^{OSRC} ~~NSG~~ activities.
- l. Records of the service lives of all hydraulic and mechanical snubbers required by Specification 3.7.9 including the date at which the service life commences and associated installation and maintenance records.
- m. Records of audits performed under the requirements of Specifications 6.5.3.5 and 6.8.4.
- n. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- o. Meteorological data, summarized and reported in a format consistent with the recommendations of Regulatory Guides 1.21 and 1.23.
- p. Records of secondary water sampling and water quality.
- q. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

6.11.1 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

ADMINISTRATIVE CONTROLS

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR Part 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Exposure Permit (REP)*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. A radiation protection qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Radiation Protection Supervisor or his designated alternate in the REP.

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose greater than 1000 mrem shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved REP which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose in excess of 1000 mrem**, that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device. In lieu of the stay time specification of the REP, direct or remote (such as use of closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities within the area.

*Radiation Protection personnel or personnel escorted by Radiation Protection personnel shall be exempt from the REP issuance requirement during the performance of their assigned radiation protection duties, provided they are otherwise following plant radiation protection procedures for entry into high radiation areas.

**Measurement made at 18 inches from source of radioactivity.

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6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~.

[↑] DIRECTOR, SITE RADIATION PROTECTION

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

[↑] DIRECTOR, SITE CHEMISTRY

6.15 MAJOR CHANGES TO RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS*

6.15.1 Licensee-initiated major changes to the radioactive waste systems (liquid, gaseous, and solid):

Shall be reported to the Commission in the Annual Radioactive Effluent Release Report for the period in which the evaluation was reviewed by the PRB. The discussion of each change shall contain:

- 1) A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59.

*Licensees may choose to submit the information called for in this specification as part of the annual FSAR update.

ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

DEPARTMENT LEADER, OPERATIONS

6.1.1 The ~~Plant Manager~~ 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 per Table 6.2-1, shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice President-Nuclear Production shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An offsite and an onsite organization shall be established for unit operation and corporate management. The offsite and onsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. Those relationships shall be documented and updated, as appropriate, in the form of organizational charts. These organizational charts will be documented in the FSAR and updated in accordance with 10 CFR 50.71(e).

b. There shall be an individual executive position (Executive Vice President Nuclear) in the offsite organization having corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining and providing technical support in the plant so that continued nuclear safety is assured.

c. There shall be ^{AN} individual management positions ^{VICE PRESIDENT, NUCLEAR PRODUCTION} (~~Plant Managers~~) in the onsite organization having responsibility for overall unit safe operation and having control over those onsite resources necessary for safe operation and maintenance of the plant.

d. Although the individuals ^{MANAGEMENT} who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate ~~manager~~ onsite, they shall have sufficient organizational freedom to be independent from operating pressures.

6.2.2 UNIT STAFF

a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be in the Control Room when fuel is in the reactor. In addition, while the reactor is in MODE 1, 2, 3, or 4, at least one licensed Senior Reactor Operator shall be in the Control Room.



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UNIT STAFF (Continued)

- b. Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for re-fueling, major maintenance, or major plant modifications, on a temporary basis, the following guidelines shall be followed (this excludes the STA working hours):

← AND PVNGS FIRE DEPARTMENT

- 1) An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
- 2) An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
- 3) A break of at least 8 hours should be allowed between work periods, including shift turnover time.
- 4) Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

- c. Any deviation from the above guidelines shall be authorized by any one of the following personnel: Director, Technical Support; Director, PVNGS Services; General Manager, Site Radiation Protection; General Manager, Site Chemistry; General Manager, Training; Plant Manager; or their designees who are at the manager level or above, or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime in their respective groups shall be reviewed monthly by these authorized individuals or their designees to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

REPLACE
WITH

{ PERSONNEL WHO ARE AT THE DIRECTOR LEVEL OR ABOVE,
OR THEIR DESIGNEES WHO ARE AT THE DEPARTMENT LEADER
LEVEL OR ABOVE,

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ADMINISTRATIVE CONTROLS

6.2.3 INDEPENDENT SAFETY ENGINEERING DEPARTMENT (ISE)

FUNCTION

6.2.3.1 The ISE Department shall function to selectively examine plant 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 ISE Department shall be composed of at least five, dedicated, full-time engineers located on site. Each shall have a Bachelor's Degree in engineering or related science and at least two years professional level experience in his field.

RESPONSIBILITIES

6.2.3.3 The ISE Department shall be responsible for maintaining surveillance of selected plant activities to provide independent verification* that these activities are performed correctly to reduce human errors as much as practical, and to detect potential nuclear safety hazards.

AUTHORITY

6.2.3.4 The ISE Department shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities or other means of improving plant safety to the ^{DIRECTOR, SITE OPERATIONS} ~~Director, Nuclear Safety~~ or designated alternate, ~~Plant Manager~~, and the Chairman, Offsite Safety Review Committee (OSRC).

RECORDS

6.2.3.5 Records of activities performed by the ISE Department shall be prepared, maintained, and forwarded each calendar month to the Director, Nuclear ^{ASSURANCE} ~~Safety~~ or designated alternate.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor (STA) shall provide advisory 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. The STA shall be onsite and shall be available in the control room within 10 minutes whenever one or more units are in MODE 1, 2, 3, or 4.

6.3 ^{DIRECTOR} UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 and Regulatory Guide 1.8, September 1975, except for the ~~General Manager~~, Site Radiation Protection who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and the Shift Technical Advisor who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and plant operating

*Not responsible for sign-off function.

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ADMINISTRATIVE CONTROLS

6.3 UNIT STAFF QUALIFICATIONS (Continued)

characteristics, including transients and accidents. An additional exception is that the Senior Reactor Operator (SRO) license requirement for the Operations Manager shall be met if either the Operations Manager or the Operations Supervisor holds a valid SRO license. The holder of the SRO license shall direct the licensed activities of the licensed operators. ^{DEPARTMENT LEADER}

6.4 TRAINING

6.4.1 A training program for the unit staff shall be maintained under the direction of the ^{DIRECTOR} General Manager, Nuclear Training and shall meet or exceed the requirements of Section 5.0 of ANSI/ANS 3.1, 1978 and 10 CFR 55. The program shall include familiarization with relevant industry operational experience.

6.5 REVIEW AND AUDIT

6.5.1 PLANT REVIEW BOARD (PRB)

FUNCTION

6.5.1.1 The Plant Review Board shall function to advise the Vice President Nuclear Production or his designee on all matters related to nuclear safety.

COMPOSITION

6.5.1.2 The PRB shall be composed of ^{AT LEAST SEVEN} nine members from the Palo Verde management staff. These positions will be designated by the Vice President Nuclear Production or his designee in Administrative Procedures.

The Vice President Nuclear Production or his designee shall designate the Chairman and ^{DESIGNATED ALTERNATE} Vice-Chairman in writing. The Chairman and ^{DESIGNATED ALTERNATE} Vice-Chairman may be from outside the members provided that they meet ANSI/ANS 3.1, 1978.

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the PRB Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PRB activities at any one time.

MEETING FREQUENCY

6.5.1.4 The PRB shall meet at least once per calendar month and as convened by the PRB Chairman, ~~Vice-Chairman~~, or his designated alternate.

ADMINISTRATIVE CONTROLS

QUORUM

6.5.1.5 The quorum of the PRB necessary for the performance of the PRB responsibility and authority provisions of these Technical Specifications shall consist of the Chairman, ~~Vice-Chairmen~~, or his designated alternate and ~~five~~ members including alternates. A

A MAJORITY OF THE RESPONSIBILITIES

6.5.1.6 The PRB shall be responsible for:

- a. Review of all proposed changes to Appendix "A" Technical Specifications.
- b. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Offsite Safety Review Committee (OSRC).
- c. Review of REPORTABLE EVENTS.
- d. Review of unit operations to detect potential nuclear safety hazards.
- e. Performance of special reviews, investigations or analyses and reports thereon as requested by the Vice President-Nuclear Production or PRB Chairman.
- f. Review and documentation of judgment concerning prolonged operation in bypass, channel trip, and/or repair of defective protection channels of process variables placed in bypass since the last PRB meeting.

AUTHORITY

6.5.1.7 The PRB shall:

- a. Render determinations in writing with regard to whether or not each item considered under Specification 6.5.1.6b. above constitutes an unreviewed safety question.
- b. Provide written notification within 24 hours to the Executive Vice President Nuclear, Vice President Nuclear Production and OSRC of disagreement between the PRB and the Vice President Nuclear Production; however, the Vice President Nuclear Production shall have responsibility for resolution of such disagreements.

RECORDS

6.5.1.8 The PRB shall maintain written minutes of each PRB meeting that, at a minimum, document the results of all PRB activities performed under the responsibility and authority provisions of these Technical Specifications. Copies shall be provided to the Executive Vice President Nuclear, Vice President Nuclear Production, and OSRC.

ADMINISTRATIVE CONTROLS

6.5.2 TECHNICAL REVIEW AND CONTROL ACTIVITIES

6.5.2.1 The Vice President Nuclear Production or his designee shall assure that each procedure and program required by Specification 6.8 and other procedures which affect nuclear safety, and changes thereto, is prepared by a qualified individual/organization. Each such procedure, and changes thereto, shall be reviewed by an individual/group other than the individual/group which prepared the procedure, or changes thereto, but who may be from the same organization as the individual/group which prepared the procedure, or changes thereto.

6.5.2.2 Phase I - IV tests described in the FSAR that are performed by the plant operations staff shall be approved by the Director, ~~Technical Support~~ ^{SYSTEM ENGINEERING} or his designee as previously designated by the Vice President Nuclear Production. Test results shall be approved by the Director, ~~Technical Support~~ or his designee.

6.5.2.3 Proposed modifications to unit nuclear safety-related structures, systems and components shall be designed by a qualified individual/organization. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to nuclear safety-related structures, systems and components shall be approved prior to implementation by the ~~Plant Manager~~ ^{DEPARTMENT LEADER, OPERATIONS}; or by the Director, ~~Technical Support~~ as previously designated by the Vice President Nuclear Production.

^{SITE OPERATIONS}

6.5.2.4 Individuals responsible for reviews performed in accordance with 6.5.2.1, 6.5.2.2, and 6.5.2.3 shall be identified in station administrative procedures. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the appropriate designated review personnel.

6.5.2.5 Proposed tests and experiments which affect station nuclear safety and are not addressed in the FSAR or Technical Specifications shall be reviewed by the Vice President Nuclear Production or his designee.

^{NOT USED}

6.5.2.6 ~~The station security program and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

^{NOT USED}

6.5.2.7 ~~The station emergency plan and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

^{DIRECTOR}

6.5.2.8 The ~~General Manager~~ ^{DIRECTOR}, Site Radiation Protection shall assure the performance of a review by a qualified individual/organization of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering the evaluation, recommendations and disposition of the corrective action to prevent recurrence.

ADMINISTRATIVE CONTROLS

TECHNICAL REVIEW AND CONTROL ACTIVITIES (Continued)

6.5.2.9 The Vice President Nuclear Production or his designee shall assure the performance of a review by a qualified individual/organization of changes to the PROCESS CONTROL PROGRAM, OFFSITE DOSE CALCULATION MANUAL, radwaste treatment systems, and the Pre-planned Alternate Sampling Program.

6.5.2.10 Reports documenting each of the activities performed under Specifications 6.5.2.1 through 6.5.2.9 above shall be maintained. Copies shall be provided to the Vice President-Nuclear Production and the Offsite Safety Review Committee.

DELETE

6.5.3 OFFSITE SAFETY REVIEW COMMITTEE (OSRC)

FUNCTION

6.5.3.1 The OSRC shall function to provide independent review and shall be responsible for the audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

COMPOSITION

6.5.3.2 The OSRC shall be composed of the OSRC Chairman and a minimum of four OSRC members. The Chairman and members are designated by the Executive Vice President, Nuclear and shall have the qualifications that meet the requirements of Section 4.7 of ANSI/ANI 3.1; 1978.

CONSULTANTS

6.5.3.3 Consultants shall be utilized as determined by the OSRC Chairman to provide expert advice to the OSRC.

REVIEW

6.5.3.4 The OSRC shall review:

- a. The safety evaluations program and its implementation for (1) changes to procedures, equipment, systems or facilities within the power block, and (2) tests or experiments completed under the provision of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question;

ADMINISTRATIVE CONTROLS

6.7 SAFETY LIMIT VIOLATION

The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President Nuclear Production, ~~Plant Manager~~ and ~~Manager of Nuclear Safety Group~~ shall be notified within 24 hours.
 DIRECTOR, SITE OPERATIONS *CHAIRMAN OF THE OSRC*
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The Safety ~~Limit Violation Report~~ shall be submitted to the Commission, ~~the Manager of the NSG~~ and the Vice President Nuclear Production within 30 days of the violation.
 THE CHAIRMAN OF THE OSRC
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. ~~Security Plan implementation. NOT USED~~
- e. ~~Emergency Plan implementation. NOT USED~~
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants--These procedures should include provisions to ensure that sufficient margin is maintained in CPC Type I Addressable Constants to avoid excessive operator interaction with the CPCs during reactor operation.

NOTES: (1) Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

(2) Modifications to the CPC software (including algorithm changes and changes in fuel cycle specific data) shall be performed in accordance with the most recent version of CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," that has been determined to be applicable to the facility. Additions or deletions to CPC Addressable Constants or changes to Addressable Constant software limit values shall not be implemented without prior NRC approval.

1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order.

2. The second part of the document is a list of the topics that were discussed at the meeting. The topics are listed in alphabetical order.

3. The third part of the document is a list of the actions that were taken at the meeting. The actions are listed in alphabetical order.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the Vice President-Nuclear Production, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or ~~Assistant Shift~~ CONTROL ROOM Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the cognizant department head, as designated by the Vice President-Nuclear Production, within 14 days of implementation.

*Not required until prior to exceeding 5% of RATED THERMAL POWER.

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

6.8.4 The following programs shall be established, implemented, maintained, and shall be audited under the cognizance of the ^{OSRC} ~~NSC~~ at least once per 24 months:

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the high pressure safety injection system, the shutdown cooling portion of the low pressure safety injection system, the post-accident sampling subsystem of the reactor coolant sampling system, the containment spray system, the post-accident sample return piping of the radioactive waste gas system, the post-accident sampling return piping of the liquid radwaste system, and the post-accident containment atmosphere sampling piping of the hydrogen monitoring subsystem. The program shall include the following:

- (1) Preventive maintenance and periodic visual inspection requirements, and
- (2) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

- (1) Training of personnel,
- (2) Procedures for monitoring, and
- (3) Provisions for maintenance of sampling and analysis equipment.

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

- (1) Identification of a sampling schedule for the critical variables and control points for these variables,
- (2) Identification of the procedures used to measure the values of the critical variables,
- (3) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- (4) Procedures for the recording and management of data,

ADMINISTRATIVE CONTROLS

RECORD RETENTION (Continued)

- i. Records of quality assurance activities required by the QA Manual not listed in Section 6.10.1.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of PRB meetings and of ^{OSRC}~~NSC~~ activities.
- l. Records of the service lives of all hydraulic and mechanical snubbers required by Specification 3.7.9 including the date at which the service life commences and associated installation and maintenance records.
- m. Records of audits performed under the requirements of Specifications 6.5.3.5 and 6.8.4.
- n. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- o. Meteorological data, summarized and reported in a format consistent with the recommendations of Regulatory Guides 1.21 and 1.23.
- p. Records of secondary water sampling and water quality.
- q. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

6.11.1 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

ADMINISTRATIVE CONTROLS

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR Part 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Exposure Permit (REP)*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. A radiation protection qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Radiation Protection ~~Supervisor~~ ^{SECTION LEADER} or his designated alternate in the REP.

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose greater than 1000 mrem shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved REP which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose in excess of 1000 mrem**, that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device. In lieu of the stay time specification of the REP, direct or remote (such as use of closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities within the area.

*Radiation Protection personnel or personnel escorted by Radiation Protection personnel shall be exempt from the REP issuance requirement during the performance of their assigned radiation protection duties, provided they are otherwise following plant radiation protection procedures for entry into high radiation areas.

**Measurement made at 18 inches from source of radioactivity.

6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~

DIRECTOR, SITE RADIATION PROTECTION

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

DIRECTOR, SITE CHEMISTRY

6.15 MAJOR CHANGES TO RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS*

6.15.1 Licensee-initiated major changes to the radioactive waste systems (liquid, gaseous, and solid):

Shall be reported to the Commission in the Annual Radioactive Effluent Release Report for the period in which the evaluation was review by the PRB. The discussion of each change shall contain:

*Licensees may chose to submit the information called for in this specification as part of the annual FSAR update.

1. The first part of the document is a list of names and addresses of the members of the committee.

2. The second part of the document is a list of names and addresses of the members of the committee.

ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The ^{DEPARTMENT LEADER, OPERATIONS} ~~Plant Manager~~ 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 per Table 6.2-1, shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice President-Nuclear Production shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An offsite and an onsite organization shall be established for unit operation and corporate management. The offsite and onsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

- a. Lines of authority, responsibility and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. Those relationships shall be documented and updated, as appropriate, in the form of organizational charts. These organizational charts will be documented in the FSAR and updated in accordance with 10 CFR 50.71(e).
- b. There shall be an individual executive position (Executive Vice President Nuclear) in the offsite organization having corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining and providing technical support in the plant so that continued nuclear safety is assured.
- c. There shall be ^{AN} individual management position ^{VICE PRESIDENT, NUCLEAR PRODUCTION} ~~(Plant Managers)~~ in the onsite organization having responsibility for overall unit safe operation and having control over those onsite resources necessary for safe operation and maintenance of the plant.
- d. Although the individuals ^{MANAGEMENT} who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate ~~manager~~ onsite, they shall have sufficient organizational freedom to be independent from operating pressures.

6.2.2 UNIT STAFF

- a. Each on-duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.



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ADMINISTRATIVE CONTROLS

UNIT STAFF (Continued)

- b. Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a nominal 40-hour week while the plant is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for re-fueling, major maintenance, or major plant modifications, on a temporary basis, the following guidelines shall be followed (this excludes the STA working hours):

LAND PVNGS FIRE DEPARTMENT

- 1) An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
- 2) An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.
- 3) A break of at least 8 hours should be allowed between work periods, including shift turnover time.
- 4) Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

c.

REPLACE
WITH

Any deviation from the above guidelines shall be authorized by any one of the following personnel: Director, Technical Support; Director, PVNGS Services; General Manager, Site Radiation Protection; General Manager, Site Chemistry; General Manager, Training; Plant Manager; or their designees who are at the manager level or above, or higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. Controls shall be included in the procedures such that individual overtime in their respective groups shall be reviewed monthly by these authorized individuals or their designees to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

{ PERSONNEL WHO ARE AT THE DIRECTOR LEVEL OR ABOVE,
OR THEIR DESIGNEES WHO ARE AT THE DEPARTMENT LEADER
LEVEL OR ABOVE,

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ADMINISTRATIVE CONTROLS

6.2.3 INDEPENDENT SAFETY ENGINEERING DEPARTMENT (ISE)

FUNCTION

6.2.3.1 The ISE Department shall function to selectively examine plant 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 ISE Department shall be composed of at least five, dedicated, full-time engineers located on site. Each shall have a Bachelor's Degree in engineering or related science and at least two years professional level experience in his field.

RESPONSIBILITIES

6.2.3.3 The ISE Department shall be responsible for maintaining surveillance of selected plant activities to provide independent verification* that these activities are performed correctly to reduce human errors as much as practical, and to detect potential nuclear safety hazards.

AUTHORITY

6.2.3.4 The ISE Department shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving plant safety to the ^{DIRECTOR, SITE OPERATIONS} ~~Director, Nuclear Safety or designated alternate, Plant Manager~~, and the Chairman, Offsite Safety Review Committee (OSRC).

RECORDS

6.2.3.5 Records of activities performed by the ISE Department shall be prepared, maintained, and forwarded each calendar month to the Director, Nuclear ^{ASSURANCE} ~~Safety~~ or designated alternate.

6.2.4 SHIFT TECHNICAL ADVISOR

6.2.4.1 The Shift Technical Advisor (STA) shall provide advisory 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. The STA shall be onsite and shall be available in the control room within 10 minutes whenever one or more units are in MODE 1, 2, 3, or 4.

^{DIRECTOR}
6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1-1978 and Regulatory Guide 1.8, September 1975, except for the ~~General Manager~~, Site Radiation Protection who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, and the Shift Technical Advisor who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design and plant operating

*Not responsible for sign-off function.

ADMINISTRATIVE CONTROLS

6.3 UNIT STAFF QUALIFICATIONS (Continued)

characteristics, including transients and accidents. An additional exception is that the Senior Reactor Operator (SRO) license requirement for the Operations ~~Manager~~ shall be met if either the Operations ~~Manager~~ or the Operations Supervisor holds a valid SRO license. The holder of the SRO license shall direct the licensed activities of the licensed operators.

DEPARTMENT LEADER

6.4 TRAINING

6.4.1 A training program for the unit staff shall be maintained under the direction of the ~~General Manager~~ ^{DIRECTOR}, Nuclear Training and shall meet or exceed the requirements of Section 5.0 of ANSI/ANS 3.1, 1978 and 10 CFR 55. The program shall include familiarization with relevant industry operational experience.

6.5 REVIEW AND AUDIT

6.5.1 PLANT REVIEW BOARD (PRB)

FUNCTION

6.5.1.1 The Plant Review Board shall function to advise the Vice President Nuclear Production or his designee on all matters related to nuclear safety.

COMPOSITION

AT LEAST SEVEN

6.5.1.2 The PRB shall be composed of ~~nine~~ members from the Palo Verde management staff. These positions will be designated by the Vice President Nuclear Production or his designee in Administrative Procedures.

The Vice President Nuclear Production or his designee shall designate the Chairman and ~~Vice-Chairmen~~ ^{DESIGNATED ALTERNATE} in writing. The Chairman and ~~Vice-Chairmen~~ ^{DESIGNATED ALTERNATE} may be from outside the members provided that they meet ANSI/ANS 3.1, 1978.

ALTERNATES

6.5.1.3 All alternate members shall be appointed in writing by the PRB Chairman to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PRB activities at any one time.

MEETING FREQUENCY

6.5.1.4 The PRB shall meet at least once per calendar month and as convened by the PRB Chairman, ~~Vice-Chairmen~~, or his designated alternate.

ADMINISTRATIVE CONTROLS

QUORUM

6.5.1.5 The quorum of the PRB necessary for the performance of the PRB responsibility and authority provisions of these Technical Specifications shall consist of the Chairman, ~~Vice-Chairman~~, or his designated alternate and ~~five~~ ^A members including alternates.

A MAJORITY OF THE

RESPONSIBILITIES

6.5.1.6 The PRB shall be responsible for:

- a. Review of all proposed changes to Appendix "A" Technical Specifications.
- b. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Offsite Safety Review Committee (OSRC).
- c. Review of REPORTABLE EVENTS.
- d. Review of unit operations to detect potential nuclear safety hazards.
- e. Performance of special reviews, investigations or analyses and reports thereon as requested by the Vice President-Nuclear Production or PRB chairman.
- f. Review and documentation of judgment concerning prolonged operation in bypass, channel trip, and/or repair of defective protection channels of process variables placed in bypass since the last PRB meeting.

AUTHORITY

6.5.1.7 The PRB shall:

- a. Render determinations in writing with regard to whether or not each item considered under Specification 6.5.1.6b. above constitutes an unreviewed safety question.
- b. Provide written notification within 24 hours to the Executive Vice President Nuclear, Vice President Nuclear Production and OSRC of disagreement between the PRB and the Vice President Nuclear Production; however, the Vice President Nuclear Production shall have responsibility for resolution of such disagreements.

RECORDS

6.5.1.8 The PRB shall maintain written minutes of each PRB meeting that, at a minimum, document the results of all PRB activities performed under the responsibility and authority provisions of these Technical Specifications. Copies shall be provided to the Executive Vice President Nuclear, Vice President Nuclear Production, and OSRC.

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ADMINISTRATIVE CONTROLS

6.5.2 TECHNICAL REVIEW AND CONTROL ACTIVITIES

6.5.2.1 The Vice President Nuclear Production or his designee shall assure that each procedure and program required by Specification 6.8 and other procedures which affect nuclear safety, and changes thereto, is prepared by a qualified individual/organization. Each such procedure, and changes thereto, shall be reviewed by an individual/group other than the individual/group which prepared the procedure, or changes thereto, but who may be from the same organization as the individual/group which prepared the procedure, or changes thereto.

6.5.2.2 Phase I - IV tests described in the FSAR that are performed by the plant operations staff shall be approved by the Director, ^{SYSTEM ENGINEERING} ~~Technical Support~~ or his designee as previously designated by the Vice President Nuclear Production. Test results shall be approved by the Director, ~~Technical Support~~ or his designee.

6.5.2.3 Proposed modifications to unit nuclear safety-related structures, systems and components shall be designed by a qualified individual/organization. Each such modification shall be reviewed by an individual/group other than the individual/group which designed the modification, but who may be from the same organization as the individual/group which designed the modification. Proposed modifications to nuclear safety-related structures, systems and components shall be approved prior to implementation by the ^{DEPARTMENT LEADER, OPERATIONS} ~~Plant Manager~~; or by the Director, ~~Technical Support~~ as previously designated by the Vice President Nuclear Production.

^{SITE OPERATIONS}

6.5.2.4 Individuals responsible for reviews performed in accordance with 6.5.2.1, 6.5.2.2, and 6.5.2.3 shall be identified in station administrative procedures. Each such review shall include a determination of whether or not additional, cross-disciplinary, review is necessary. If deemed necessary, such review shall be performed by the appropriate designated review personnel.

6.5.2.5 Proposed tests and experiments which affect station nuclear safety and are not addressed in the FSAR or Technical Specifications shall be reviewed by the Vice President Nuclear Production or his designee.

^{NOT USED}

6.5.2.6 [^] ~~The station security program and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

^{NOT USED}

6.5.2.7 [^] ~~The station emergency plan and implementing procedures shall be reviewed. Recommended changes shall be approved by the Director, PVNGS Services or designated alternate and transmitted to the Vice President Nuclear Production and to the OSRC.~~

^{DIRECTOR}

6.5.2.8 The ^{General Manager} ~~General Manager~~, Site Radiation Protection shall assure the performance of a review by a qualified individual/organization of every unplanned onsite release of radioactive material to the environs including the preparation and forwarding of reports covering the evaluation, recommendations and disposition of the corrective action to prevent recurrence.

ADMINISTRATIVE CONTROLS

TECHNICAL REVIEW AND CONTROL ACTIVITIES (Continued)

6.5.2.9 The Vice President Nuclear Production or his designee shall assure the performance of a review by a qualified individual/organization of changes to the PROCESS CONTROL PROGRAM, OFFSITE DOSE CALCULATION MANUAL, radwaste treatment systems, and the Pre-planned Alternate Sampling Program.

6.5.2.10 Reports documenting each of the activities performed under Specifications 6.5.2.1 through 6.5.2.9 above shall be maintained. Copies shall be provided to the Vice President-Nuclear Production and the Offsite Safety Review Committee.

DELETE

6.5.3 OFFSITE SAFETY REVIEW COMMITTEE (OSRC)

FUNCTION

6.5.3.1 The OSRC shall function to provide independent review and shall be responsible for the audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering
- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

COMPOSITION

6.5.3.2 The OSRC shall be composed of the OSRC Chairman and a minimum of four OSRC members. The Chairman and members are designated by the Executive Vice President, Nuclear and shall have the qualifications that meet the requirements of Section 4.7 of ANSI/ANI 3.1; 1978.

CONSULTANTS

6.5.3.3 Consultants shall be utilized as determined by the OSRC Chairman to provide expert advice to the OSRC.

REVIEW

6.5.3.4 The OSRC shall review:

- a. The safety evaluations program and its implementation for (1) changes to procedures, equipment, systems or facilities within the power block, and (2) tests or experiments completed under the provision of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question;

6.7 SAFETY LIMIT VIOLATION

The following actions shall be taken in the event a Safety Limit is violated:

- a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President Nuclear Production, ~~Plant Manager and Manager of Nuclear Safety Group~~ shall be notified within 24 hours.
DIRECTOR, SITE OPERATIONS *CHAIRMAN OF THE OSRC*
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PRB. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems, or structures, and (3) corrective action taken to prevent recurrence.
- c. The *CHAIRMAN OF THE OSRC* Safety Limit Violation Report shall be submitted to the Commission, the ~~Manager of the NSG~~ and the Vice President Nuclear Production within 30 days of the violation.
- d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented, and maintained covering the activities referenced below:

- a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, and those required for implementing the requirements of NUREG-0737.
- b. Refueling operations.
- c. Surveillance and test activities of safety-related equipment.
- d. ~~Security Plan implementation. NOT USED~~
- e. ~~Emergency Plan implementation. NOT USED~~
- f. Fire Protection Program implementation.
- g. Modification of Core Protection Calculator (CPC) Addressable Constants--These procedures should include provisions to ensure that sufficient margin is maintained in CPC Type I Addressable Constants to avoid excessive operator interaction with the CPCs during reactor operation.

NOTES: (1) Modification to the CPC Addressable Constants based on information obtained through the Plant Computer - CPC data link shall not be made without prior approval of the PRB.

(2) Modifications to the CPC software (including algorithm changes and changes in fuel cycle specific data) shall be performed in accordance with the most recent version of CEN-39(A)-P, "CPC Protection Algorithm Software Change Procedure," that has been determined to be applicable to the facility. Additions or deletions to CPC Addressable Constants or changes to Addressable Constant software limit values shall not be implemented without prior NRC approval.

1. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

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$$\frac{d}{dt} \left(\frac{1}{\rho} \right) = - \frac{1}{\rho^2} \frac{d\rho}{dt}$$

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- h. PROCESS CONTROL PROGRAM implementation.
- i. OFFSITE DOSE CALCULATION MANUAL implementation.
- j. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Revision 1, June 1974 and Regulatory Guide 4.1, Revision 1, April 1975.
- k. Pre-planned Alternate Sampling Program implementation.
- l. Secondary water chemistry program implementation.

NOTE: The licensee shall perform a secondary water chemistry monitoring and control program that is in conformance with the program discussed in Section 10.3.4.1 of the CESSAR FSAR or another NRC approved program.

- m. Post-Accident Sampling System implementation.*
- n. Settlement Monitoring Program implementation.

NOTE: The licensee shall maintain a settlement monitoring program throughout the life of the plant in accordance with the program presented in Table 2.5-18 of the PVNGS FSAR or another NRC approved program.

- o. CEA Reactivity Integrity Program implementation

NOTE: The licensee shall perform, after initial fuel load or after each reload, either a CEA symmetry test or worth measurements of all full-length CEA groups to address Section 4.2.2 of the PVNGS SER dated November 11, 1981.

- p. Fuel Assembly Surveillance Program Implementation

NOTE: The licensee shall perform a fuel assembly surveillance program in conformance with the program discussed in Section 4.2.4 of the PVNGS SER dated November 11, 1981.

6.8.2 Each program or procedure of Specification 6.8.1, and changes thereto, shall be reviewed as specified in Specification 6.5 and approved prior to implementation. Programs, administrative control procedures and implementing procedures shall be approved by the Vice President-Nuclear Production, or designated alternate who is at supervisory level or above. Programs and procedures of Specification 6.8.1 shall be reviewed periodically as set forth in administrative procedures.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

- a. The intent of the original procedure is not altered.
- b. The change is approved by two members of the plant supervisory staff, at least one of whom is a Shift Supervisor or ~~Assistant Shift CONTROL ROOM~~ Supervisor with an SRO on the affected unit.
- c. The change is documented, reviewed in accordance with Specification 6.5.2 and approved by the cognizant department head, as designated by the Vice President-Nuclear Production, within 14 days of implementation.

*Not required until prior to exceeding 5% of RATED THERMAL POWER.



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ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

6.8.4 The following programs shall be established, implemented, maintained, and shall be audited under the cognizance of the ^{OSRC} NSG at least once per 24 months:

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the high pressure safety injection system, the shutdown cooling portion of the low pressure safety injection system, the post-accident sampling subsystem of the reactor coolant sampling system, the containment spray system, the post-accident sample return piping of the radioactive waste gas system, the post-accident sampling return piping of the liquid radwaste system, and the post-accident containment atmosphere sampling piping of the hydrogen monitoring subsystem. The program shall include the following:

- (1) Preventive maintenance and periodic visual inspection requirements, and
- (2) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

A program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:

- (1) Training of personnel,
- (2) Procedures for monitoring, and
- (3) Provisions for maintenance of sampling and analysis equipment.

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

- (1) Identification of a sampling schedule for the critical variables and control points for these variables,
- (2) Identification of the procedures used to measure the values of the critical variables,
- (3) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- (4) Procedures for the recording and management of data,

ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

- (2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR Part 20, Appendix B, Table 11, Column 2,
- (3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 and with the methodology and parameters in the ODCM,
- (4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- (5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days.
- (6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual ~~dose~~ ^{OR dose} of dose commitment conforming to Appendix I to 10 CFR Part 50,
- (7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR Part 20, Appendix B, Table II, Column 1,
- (8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- (9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- (10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

ADMINISTRATIVE CONTROLS

RECORD RETENTION (Continued)

- i. Records of quality assurance activities required by the QA Manual not listed in Section 6.10.1.
- j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of PRB meetings and of ^{OBRC}~~NSG~~ activities.
- l. Records of the service lives of all hydraulic and mechanical snubbers required by Specification 3.7.9 including the date at which the service life commences and associated installation and maintenance records.
- m. Records of audits performed under the requirements of Specifications 6.5.3.5 and 6.8.4.
- n. Records of analyses required by the radiological environmental monitoring program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.
- o. Meteorological data, summarized and reported in a format consistent with the recommendations of Regulatory Guides 1.21 and 1.23.
- p. Records of secondary water sampling and water quality.
- q. Records of reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

6.11.1 Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

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ADMINISTRATIVE CONTROLS

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR Part 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Exposure Permit (REP)*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. A radiation protection qualified individual (i.e., qualified in radiation protection procedures) with a radiation dose rate monitoring device who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Radiation Protection Supervisor or his designated alternate in the REP.

6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose greater than 1000 mrem shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved REP which shall specify the dose rate levels in the immediate work area and the maximum allowable stay time for individuals in that area. For individual areas accessible to personnel with radiation levels such that a major portion of the body could receive in 1 hour a dose in excess of 1000 mrems**, that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and no enclosure can be reasonably constructed around the individual areas, then that area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device. In lieu of the stay time specification of the REP, direct or remote (such as use of closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities within the area.

*Radiation Protection personnel or personnel escorted by Radiation Protection personnel shall be exempt from the REP issuance requirement during the performance of their assigned radiation protection duties, provided they are otherwise following plant radiation protection procedures for entry into high radiation areas.

**Measurement made at 18 inches from source of radioactivity.

6.13 PROCESS CONTROL PROGRAM (PCP)

Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~.

DIRECTOR, SITE RADIATION PROTECTION

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2.q. This documentation shall contain:
 - (1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and
 - (2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the PRB and the approval of the ~~Plant Manager~~.
- c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

DIRECTOR, SITE CHEMISTRY

6.15 MAJOR CHANGES TO RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS*

6.15.1 Licensee-initiated major changes to the radioactive waste systems (liquid, gaseous, and solid):

Shall be reported to the Commission in the Annual Radioactive Effluent Release Report for the period in which the evaluation was reviewed by the PRB. The discussion of each change shall contain:

*Licensees may choose to submit the information called for in this specification as part of the annual FSAR update.

