

ATTACHMENT 2 TO AEP:NRC:0659M

PROPOSED REVISED TECHNICAL SPECIFICATION PAGES

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## ADMINISTRATIVE CONTROLS

Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants," with data summarized on a quarterly basis following the format of Appendix B, thereof.

The radioactive effluent release report to be submitted 60 days after January 1, and July 1 of each year shall include a quarterly summary of hourly meteorological data collected during the reporting period. This summary may be either in the form of an hour-by-hour listing of wind speed, wind direction, atmospheric stability, and precipitation (if measured) on magnetic tape, or in the form of joint frequency distributions of wind speed, wind direction and atmospheric stability. The report submitted 60 days after January 1 shall include an assessment of the radiation doses due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. These reports shall include an assessment of the radiation doses from radioactive liquid and gaseous effluents to members of the public due to their activities inside the site boundary (Figure 5.1-3) during the reporting period. All assumptions used in making these assessments (i.e., specific activity, exposure time and location) shall be included in these reports. The meteorological conditions concurrent with the time of release of radioactive materials in gaseous effluents (as determined by sampling frequency and measurement) shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the Offsite Dose Calculation Manual (ODCM).

The radioactive effluent release report to be submitted 60 days after January 1 of each year shall also include an assessment of radiation doses to the likely most exposed member of the public from reactor releases and other nearby uranium fuel cycle sources (including doses from primary effluent pathways and direct radiation) for the previous 12 consecutive months to show conformance with 40 CFR 190, Environmental Radiation Protection Standards for Nuclear Power Operation. Acceptable methods for calculating the dose contribution from liquid and gaseous effluents are given in Regulatory Guide 1.109, Rev. 1.

The radioactive effluent release report shall include the following information for each type of solid waste shipped offsite during the report period:

- a. Volume (cubic meters),
- b. Total curie quantity (specify whether determined by measurement or estimate),
- c. Principal radionuclides (specify whether determined by measurement or estimate),

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<sup>3</sup> A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

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- d. Type of waste (e.g., spent resin, compacted dry waste, evaporator bottoms),
- e. Type of container (e.g., LSA, Type A, Type B, Large Quantity), and
- f. Solidification agent (e.g., cement).

The radioactive effluent release report shall include unplanned releases from the site to unrestricted areas of radioactive materials in gaseous and liquid effluent on a quarterly basis.

The radioactive effluent release reports shall include any change to the PROCESS CONTROL PROGRAM (PCP) and the OFFSITE DOSE CALCULATION MANUAL (ODCM) made during the reporting period.

## MONTHLY REACTOR OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or safety valves, shall be submitted on a monthly basis to the U.S. Nuclear Regulatory Commission (Attn: Document Control Desk), Washington, D.C. 20555, with a copy to the Regional Office no later than the 15th of each month following the calendar month covered by the report.

## SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the attention of the document control desk - U.S. Nuclear Regulatory Commission (Washington, D.C. 20555), with copies to the Region III Administrator and the Resident Inspector at the Cook Nuclear Plant within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:

- a. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.
- b. Seismic Monitoring Instrumentation Actuated, Specification 4.3.3.3.2.
- c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.
- d. High Specific Activity in RCS Coolant, Specification 3.4.8.
- e. RCS Pressure Transient Mitigated By RHR Safety Valve or RCS Vent(s), Specification 3.4.9.3.

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- f. Sealed Source Leakage in Excess of Limits, Specification 4.7.7.1.3.
- g. ECCS Actuation, Specifications 3.5.2 and 3.5.3.
- h. Inoperable Fire Rated Assemblies, Specification 3.7.10.
- i. Excessive Releases in Radioactivity, Specifications 3.11.1.2, 3.11.1.3, 3.11.2.2, 3.11.2.3, 3.11.2.4, and 3.11.4.
- j. Inoperable Solid Radwaste System, Specification 3.11.3.
- k. Excessive Level of Radioactivity in Quarterly Environmental Sample, Specification 3.12.1 (Action b).
- l. Milk and Vegetable Samples Not Available, Specification 3.12.1 (Action c).
- m. Greater Calculated Dose or Dose Commitment Identified by Land Census, Specification 3.12.2 (Actions a & b).
- o. Violation of Safety Limit, Specification 6.7.1.

## 6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of unit operation covering time interval at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
- c. All REPORTABLE EVENTS submitted to the Commission.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to the procedures required by Specification 6.8.1.
- f. Records of sealed source and fission detection leak tests and results.
- g. Records of annual physical inventory of all sealed source material on record.

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6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new an irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of radiation exposure for all individuals entering radiation control areas.
- d. Records of gaseous and liquid radioactive material released to the environment.
- e. Records of transient or operational cycles for those facility components identified in Table 5.7-1.
- f. Records of reactor tests and experiments.
- g. Records of training and qualification for current members of the Plant Staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or review of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the PNSRC and the NSDRG.
- l. Records of radioactive shipments.
- m. Records of the service lives of hydraulic snubbers listed on Table 3.7-9 including the date at which service life commences and associated installation and maintenance records.

## 6.11 RADIATION PROTECTION PROGRAM

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.

## 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 20, each high radiation area in which the intensity of radiation is 1000 mrem/hr or less shall be barricaded and

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conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit. 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 dose may be made after the dose rate level in the area has been established and personnel have been made aware of it.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiation Work Permit.

6.12.2 The requirements of 6.12.1 shall also apply to each high radiation area in which the intensity of radiation is greater than 1000mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or the Plant Health Physicist (Plant Radiation Protection Supervisor).

### 6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 The PCP shall be approved by the Commission prior to implementation.

6.13.2 Licensee initiated changes to the PCP:

1. Shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
  - a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;
  - b. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and

\*Health Physics (Radiation Protection) personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

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- c. Documentation of the fact that the change has been reviewed and found acceptable by the PNSRC.

2. Shall become effective upon review and acceptance by the PNSRC.

### 6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 Licensee initiated changes to the ODCM:

1. Shall be submitted to the Commission in the Semi-annual Radioactive Effluent Release Report in the next report after the report period the change(s) was made effective. This submittal shall contain:
  - a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box, together with appropriate analyses or evaluations justifying the change(s);
  - b. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
  - c. Documentation of the fact that the change has been reviewed and found acceptable by the PNSRC.

2. Shall become effective upon review and acceptance by the PNSRC.

6.14.3 Commission initiated changes:

1. Shall be determined by the PNSRC to be applicable to the facility after consideration of facility design.
2. The licensee shall provide the Commission with written notification of their determination of applicability including any necessary revisions to reflect facility design.

### 6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, and Solid)

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

1. Shall be reported to the Commission in the Annual Operating Report for the period in which the evaluation was reviewed by the (PNSRC). The discussions of each change shall contain:

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conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit. 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 dose may be made after the dose rate level in the area has been established and personnel have been made aware of it.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiation Work Permit.

6.12.2 The requirements of 6.12.1 shall also apply to each high radiation area in which the intensity of radiation is greater than 1000mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under the administrative control of the Shift Supervisor on duty and/or the Plant Health Physicist (Plant Radiation Protection Supervisor).

### 6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 The PCP shall be approved by the Commission prior to implementation.

6.13.2 Licensee initiated changes to the PCP:

1. Shall be submitted to the Commission in the semi-annual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain:
  - a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information;
  - b. A determination that the change did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes; and

\*Health Physics (Radiation Protection) personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

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- c. Documentation of the fact that the change has been reviewed and found acceptable by the PNSRC.

2. Shall become effective upon review and acceptance by the PNSRC.

### 6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 The ODCM shall be approved by the Commission prior to implementation.

6.14.2 Licensee initiated changes to the ODCM:

1. Shall be submitted to the Commission in the Semi-annual Radioactive Effluent Release Report in the next report after the report period the change(s) was made effective. This submittal shall contain:
  - a. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box, together with appropriate analyses or evaluations justifying the change(s);
  - b. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and
  - c. Documentation of the fact that the change has been reviewed and found acceptable by the PNSRC.

2. Shall become effective upon review and acceptance by the PNSRC.

6.14.3 Commission initiated changes:

1. Shall be determined by the PNSRC to be applicable to the facility after consideration of facility design.
2. The licensee shall provide the Commission with written notification of their determination of applicability including any necessary revisions to reflect facility design.

### 6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous, and Solid)

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

1. Shall be reported to the Commission in the Annual Operating Report for the period in which the evaluation was reviewed by the (PNSRC). The discussions of each change shall contain:

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- a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
  - b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
  - c. A detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
  - d. An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
  - e. An evaluation of the change which shows the expected maximum exposure to individuals in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
  - f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
  - g. An estimate of the exposure to plant operation personnel as a result of the change; and
  - h. Documentation of the fact that the change was reviewed and found acceptable by the PNSRC.
2. Shall become effective upon review and acceptance by the PNSRC.

### 6.15.2 Commission initiated changes:

1. The applicability of the change to the facility shall be determined by the (PNSRC) after consideration of the facility design.
2. The licensee shall provide the Commission with written notification of its determination of applicability including any necessary revisions to reflect facility design.

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### 6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall facility 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 complex, a designated individual) shall be responsible for the control room command function. A management directive to this effect signed by the Vice President - Nuclear Operations shall be reissued to all station personnel on an annual basis.

### 6.2 ORGANIZATION

#### ONSITE AND OFFSITE ORGANIZATIONS

6.2.1 Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations 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 for the highest management level through intermediate levels to and including all operating organization positions. These 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. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.
- c. The Vice President - Nuclear Operations shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.
- d. The individuals who train the operating staff and those who carry out health physics and quality assurance; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

#### FACILITY STAFF

6.2.2 The Facility organization shall be subject to the following:

- 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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- b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the unit is in Mode 1, 2, 3, or 4, at least one licensed Senior Operator shall be in the control room.
- c. An individual\* qualified in radiation protection procedures shall be on site when fuel is in the reactor.
- d. All CORE ALTERATIONS shall be directly supervised by a licensed Senior Operator trained and qualified in refueling and CORE ALTERATIONS (SO-CA) who has no other concurrent responsibilities during this operation.
- e. A site fire brigade of at least 5 members\* shall be maintained onsite at all times. The fire brigade shall not include 3 members of the minimum shift crew necessary for safe shutdown of the unit or any personnel required for other essential functions during a fire emergency.
- f. The amount of overtime worked by plant staff members performing safety-related functions must be limited in accordance with NRC Policy Statement on working hours (Generic Letter 82-12).
- g. The Shift Supervisor, Assistant Shift Supervisor, and Unit Supervisor shall hold a Senior Operator License.
- h. The Operations Superintendent must have held a Senior Operator License at Cook Nuclear Plant or a similar reactor.

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\*The individual qualified in radiation protection procedures and the composition of the fire brigade may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

TABLE 6.2-1  
MINIMUM SHIFT CREW COMPOSITION\*

LICENSE CATEGORY	APPLICABLE MODES	
	1,2,3 & 4	5 & 6
SS	1**	1**#
SOL	1	None
OL	2	1
Non-Licensed	2	1
Shift Technical Adv.	1**	None

# Does not include the licensed Senior Operator - CA supervising CORE ALTERATIONS.

\* Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2-1.

\*\* Shared with Cook Nuclear Plant Unit 1.

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### 6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Plant Radiation Protection Manager, who shall meet or exceed qualifications of Regulatory Guide 1.8, September 1975, and (2) 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 response and analysis of the plant for transients and accidents.

### 6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and of 10 CFR Part 55.

6.4.2 A training program for the fire brigade shall be maintained under the direction of the Plant Manager and shall meet or exceed the requirements of Section 27 of the NFPA Code-1976.

### 6.5 REVIEW AND AUDIT

#### 6.5.1 PLANT NUCLEAR SAFETY REVIEW COMMITTEE (PNSRC)

##### FUNCTION

6.5.1.1 The PNSRC shall function to advise the Plant Manager on all matters related to nuclear safety.

##### COMPOSITION

6.5.1.2 The PNSRC shall be composed of Assistant Plant Managers, Department Superintendents, or supervisory personnel reporting directly to the Plant Manager, Assistant Plant Managers or Department Superintendents from the functional areas listed below:

Licensing Activities  
Safety & Assessment  
Operations

Technical Support  
Radiation Protection  
Maintenance

The Chairman, his alternate and other members and their alternates of the PNSRC shall be designated by the Plant Manager. In addition to the Chairman, the PNSRC membership shall consist of a minimum of one individual from each of the areas designated above.

PNSRC members and alternates shall meet or exceed the minimum qualifications of ANSI N18.1-1971 Section 4.4 for comparable positions. The nuclear power plant operations individual shall meet the qualifications of Section 4.2.2 and the maintenance individual shall meet the qualifications of Section 4.2.3 of ANSI N18.1-1971.



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### ALTERNATES

6.5.1.3 No more than two alternates shall participate as voting members in PNSRC activities at any one time.

### MEETING FREQUENCY

6.5.1.4 The PNSRC shall meet at least once per calendar month and as convened by the PNSRC Chairman or his designated alternate.

### QUORUM

6.5.1.5 A quorum of the PNSRC shall consist of the Chairman or his designated alternate and at least three members including alternates.

### RESPONSIBILITIES

6.5.1.6 The PNSRC shall be responsible for:

- a. Review of all Plant Manager Instructions (PMIs) and revisions thereto.
- b. Review of safety evaluations for (1) plant site procedures and revisions thereto which affect the nuclear safety of the plant; (2) changes or modifications to nuclear safety-related structures, systems or components; and (3) tests or experiments which affect plant nuclear safety to verify that such actions did not constitute an unreviewed safety question as defined in 10 CFR 50.59.
- c. Review of (1) proposed procedures and revisions to procedures, (2) changes to equipment, systems, or facilities, and (3) proposed tests or experiments which may involve an unreviewed safety question as defined in 10 CFR 50.59.
- d. Review of proposed changes to Appendix "A" Technical Specifications or the Operating License and rendering determinations in writing with regard to whether or not the proposed change constitutes a Significant Hazards Considerations.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Chairman of the NSDRG.
- f. Review of all REPORTABLE EVENTS.
- g. Review of facility operations to detect potential nuclear safety hazards.

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- h. Performance of special reviews, investigations of analyses and reports thereon as requested by the Chairman of the NSDRC.
- i. Review of the Plant Security Plan and implementing procedures and shall submit recommended changes to the Chairman of the NSDRC.
- j. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Chairman of the NSDRC.
- k. Review of any accidental, unplanned, or uncontrolled radioactive release including the preparation of reports covering evaluations, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Vice President - Nuclear Operations and to the NSDRC.
- l. Review of changes to the PROCESS CONTROL PROGRAM, OFFSITE DOSE CALCULATION MANUAL, and radwaste treatment system.

## AUTHORITY

### 6.5.1.7 The PNSRC shall:

- a. Recommend to the Plant Manager written approval or disapproval of items considered under 6.5.1.6 (a) through (d) above.
- b. Render determinations in writing with regard to whether or not each item considered under 6.5.1.6 (a) through (c) above constitutes an unreviewed safety question.
- c. Provide written notification within 24 hours to the Vice President - Nuclear Operations and the NSDRC of disagreement between the PNSRC and the Plant Manager; however, the Plant Manager shall have responsibility for resolution of such disagreements pursuant to 6.1.1 above.

## RECORDS

- 6.5.1.8 The PNSRC shall maintain written minutes of each meeting and copies shall be provided to the Chairman of the NSDRC.

## 6.5.2 NUCLEAR SAFETY AND DESIGN REVIEW COMMITTEE (NSDRC)

### FUNCTION

- 6.5.2.1 The NSDRC shall function to provide independent review and audit of designated activities in the areas of:

- a. nuclear power plant operations
- b. nuclear engineering

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- c. chemistry and radiochemistry
- d. metallurgy
- e. instrumentation and control
- f. radiological safety
- g. mechanical and electrical engineering
- h. quality assurance practices

## COMPOSITION

6.5.2.2 The NSDRC shall be composed of the following regular members:

- 1. Vice President - Nuclear Operations (NSDRC Chairman)
- 2. Section manager, Nuclear Safety and Licensing - Nuclear Operations (NSDRC Secretary)
- 3. Plant Manager - Donald C. Cook Nuclear Plant
- 4. Executive Assistant to the President - Indiana Michigan Power Company
- 5. Senior Executive Vice President - Engineering & Construction
- 6. Senior Vice President and Chief Engineer
- 7. Senior Vice President - Electrical Engineering
- 8. Senior Vice President - Engineering and Design
- 9. Vice President - Mechanical Engineering
- 10. Vice President - Project Management and Construction
- 11. Assistant Vice President - Nuclear Engineering
- 12. Division Manager - Environmental and Technical Assessment
- 13. Division Manager - Design
- 14. Director - Quality Assurance
- 15. Group Manager - Electrical Systems

Additional members and Vice Chairman may be appointed by the Senior Executive Vice President - Engineering and Construction.

## ALTERNATES

6.5.2.3 Designated alternate members shall be appointed by the Senior Executive Vice President - Engineering and Construction or such other person as he shall designate. In addition, temporary alternate members may be appointed by the NSDRC Chairman to serve on an interim basis, as required. Temporary alternate members are empowered to act on the behalf of the regular or designated alternate members for whom they substitute.

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### CONSULTANTS

6.5.2.4 Consultants shall be utilized as determined by the NSDRC Chairman to provide expert advice to the NSDRC.

### MEETING FREQUENCY

6.5.2.5 The NSDRC shall meet at least once per six months.

### QUORUM

6.5.2.6 A quorum, the minimum number of regular members and alternates required to hold a NSDRC meeting shall be eight members, of whom no more than two shall be designated or temporary alternates. The Chairman or acting Chairman shall be present for all NSDRC meetings. If the number of members present is greater than a quorum, then the majority participating and voting at the meeting shall not have line responsibility for operations of the facility. For the purpose of a quorum, only the Plant Manager is considered to have line responsibility.

### REVIEW

6.5.2.7. The NSDRC is responsible for assuring that independent\*\* reviews of the following are performed:

- a. The safety evaluations for 1) changes to Plant Manager Instructions, equipment or systems 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.
- b. Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10 CFR 50.59.
- c. Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59.
- d. Proposed changes in Technical Specifications or this operating license.
- e. Violations of codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.

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\*Regular NSDRC members are expected to attend the meeting whenever possible, and alternates may attend as voting members only on an irregular basis. If both a regular member and his alternate attend a meeting, only the regular member may participate as a voting member, and the alternate is considered a guest.

\*\*Independent reviews may be performed by groups which report directly to the NSDRC and which must have NSDRC membership participation.

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- f. Significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.
- g. All REPORTABLE EVENTS.
- h. All recognized indications of an unanticipated deficiency in some aspect of design or operation of safety-related structures, systems, or components.
- i. Reports and meeting minutes of the PNSRC.

#### AUDITS

6.5.2.8 Audits of facility activities shall be performed under the cognizance of the NSDRC. These audits shall encompass:

- a. The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months.
- b. The performance, training, and qualifications of the entire facility staff at least once per 12 months.
- c. The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of operation that affect nuclear safety at least once per 6 months.
- d. The performance of activities required by the Quality Assurance Program to meet the criteria of Appendix "B", 10 CFR 50, at least once per 24 months.
- e. The Facility Emergency Plan and implementing procedures at least once per 12 months.
- f. The Facility Security Plan and implementing procedures at least once per 12 months.
- g. The fire protection programmatic controls including the implementing procedures at least once per 24 months by qualified licensee QA personnel.
- h. The fire protection equipment and program implementation at least once per 12 months using either a qualified offsite licensee fire protection engineer or an outside independent fire protection consultant. An outside independent fire protection consultant shall be used at least every third year.
- i. The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months.

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- j. The OFFSITE DOSE CALCULATION MANUAL and implementing procedures at least once per 24 months.
- k. The PROCESS CONTROL PROGRAM and implementing procedures for solidification of radioactive wastes at least once per 24 months.
- l. The performance of activities required by the Quality Assurance Program to meet the criteria of Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 at least once per 12 months.
- m. Any other area of facility operation considered appropriate by the NSDRG.

## AUTHORITY

6.5.2.9 The NSDRG shall report to and advise the Senior Executive Vice President - Engineering and Construction, AEPSC, on those areas of responsibility specified in Sections 6.5.2.7 and 6.5.2.8.

## RECORDS

6.5.2.10 Records of NSDRG activities shall be prepared, approved and distributed as indicated below:

- a. Minutes of each NSDRG meeting shall be prepared, approved and forwarded to the Senior Executive Vice President - Engineering and Construction, AEPSC, within 14 days following each meeting.
- b. Reports of reviews encompassed by Section 6.5.2.7 above, shall be prepared, approved and forwarded to the Senior Executive Vice President - Engineering and Construction, AEPSC, within 14 days following completion of the review.
- c. Audit reports encompassed by Section 6.5.2.8 above, shall be forwarded to the Senior Executive Vice President - Engineering and Construction, AEPSC, and to the management positions responsible for the areas audited within 30 days after completion of the audit.

## 6.5.3 TECHNICAL REVIEW AND CONTROL

6.5.3.1 Activities which affect nuclear safety shall be conducted as follows:

- a. Procedures required by Specification 6.8 and other procedures which affect plant nuclear safety, and changes thereto, shall be prepared, reviewed and approved. Each such procedure or procedure change shall be reviewed by a qualified individual/group other than the individual/group which prepared the procedure or procedure change, but who may be from the same organization as the individual/group which prepared the procedure or procedure change. Procedures other than Plant Manager Procedures

## ADMINISTRATIVE CONTROLS

shall be approved by the appropriate department head as previously designated in writing by the Plant Manager. The Plant Manager shall approve Security Plan implementing procedures, Emergency Plan implementing procedures and Plant Manager Procedures. Temporary changes to procedures which do not change the intent of the approved procedures shall be approved for implementation by two members of the plant staff, at least one of whom holds a Senior Operator license, and documented. The temporary changes shall be approved by the original approval authority within 14 days of implementation. For changes to procedures which may involve a change in intent of the approved procedures, the person authorized above to approve the procedure shall approve the change prior to implementation.

- b. Proposed changes or modifications to plant nuclear safety-related structures, systems and components shall be reviewed as designated by the Plant Manager. Each such modification shall be reviewed (reference T/S 6.5.3.1.e) by a qualified (reference T/S 6.5.3.1.d) 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 modifications. Proposed modifications to plant nuclear safety-related structures, systems and components shall be approved prior to implementation by the Plant Manager.
- c. Proposed tests and experiments which affect plant nuclear safety and are not addressed in the Final Safety Analysis Report or Technical Specifications shall be prepared, reviewed, and approved. Each such test or experiment shall be reviewed by qualified individuals/groups other than the individual/group which prepared the proposed test or experiment to assure cross-disciplinary review as appropriate for the proposed test or experiment. Proposed tests and experiments shall be approved before implementation by the Plant Manager.
- d. Individuals who approved the reviews performed in the accordance with Specification 6.5.3.1a, 6.5.3.1b, and 6.5.3.1c, shall be members of the plant management staff previously designated by the Plant Manager and shall meet or exceed the minimum qualifications of ANSI N18.1-1971 Section 4.4 for comparable positions. 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 qualified personnel of the appropriate discipline.
- e. Each review shall include a determination of whether or not an unreviewed safety question is involved. Pursuant to 10 CFR 50.59, NRC approval of items involving unreviewed safety questions shall be obtained prior to the Plant Manager approval for implementation.
- f. The Emergency Plan and implementing procedures shall be reviewed at least once per 12 months. Recommended changes to the

## ADMINISTRATIVE CONTROLS

plan and implementing procedures shall be reviewed pursuant to the requirements of Specifications 6.5.1.6 and 6.5.2.7 and approved by the Plant Manager. NRC approval shall be obtained as appropriate.

- g. Recommended changes to the Security Plan and implementing procedures shall be reviewed pursuant to the requirements of Specifications 6.5.1.6 and 6.5.2.7 and approved by the Plant Manager. NRC approval shall be obtained as appropriate.

6.5.3.2 Records of the above activities shall be provided to the Plant Manager, PNSRC and/or the NSDRC as necessary for required reviews.

## 6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- a. The Commission shall be notified and a report submitted pursuant to the requirements of 10 CFR 50.73, and
- b. Each REPORTABLE EVENT shall be reviewed by the PNSRC, and the results of this review shall be submitted to the NSDRC and the Vice President - Nuclear Operations.

## 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 Chairman of the NSDRC shall be notified within 24 hours.
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PNSRC. 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 Chairman of the NSDRC and the Vice President - Nuclear Operations within 14 days of the violation.
- d. 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:

## ADMINISTRATIVE CONTROLS

- a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, November 1978.
- b. Security Plan implementation.
- c. Emergency Plan implementation.
- d. PROCESS CONTROL PROGRAM implementation.
- e. OFFSITE DOSE CALCULATION MANUAL implementation.
- f. Quality Assurance Program for effluent and environmental monitoring using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974, and Regulatory Guide 4.1, Rev. 1, April 1975.

6.8.2 Each procedure and administrative policy of Specification 6.8.1 above, and changes thereto, including temporary changes, shall be reviewed prior to implementation as set forth in Specification 6.5 above.

## 6.9 REPORTING REQUIREMENTS

### ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Regional Administrator unless otherwise noted.

### STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

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- a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;
- b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;
- c. A detailed description of the equipment, components and processes involved and the interfaces with other plant systems;
- d. An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;
- e. An evaluation of the change which shows the expected maximum exposure to individuals in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;
- f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;
- g. An estimate of the exposure to plant operation personnel as a result of the change; and
- h. Documentation of the fact that the change was reviewed and found acceptable by the PNSRC.

2. Shall become effective upon review and acceptance by the PNSRC.

### 6.15.2 Commission initiated changes:

1. The applicability of the change to the facility shall be determined by the (PNSRC) after consideration of the facility design.
2. The licensee shall provide the Commission with written notification of its determination of applicability including any necessary revisions to reflect facility design.

## INSTRUMENTATION

### FIRE DETECTION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument(s) is required to be OPERABLE.

#### ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-10:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.7.2 The NFPA Standard 72D Class B supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

## INSTRUMENTATION

### RADIOACTIVITY LIQUID EFFLUENT INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-12.

#### ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than a value which will ensure that the limits of 3.11.1.1 are met, without delay suspend the release of radioactive liquid effluents monitored by the affected channel, reset, or declare the channel inoperable.
- b. With one or more radioactive liquid effluent monitoring instrumentation channels inoperable, take the applicable ACTION shown in Table 3.3-12.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.9.1 The setpoints shall be determined in accordance with methodology as described in the ODCM and shall be recorded.

4.3.3.9.2 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-8.



## ADMINISTRATIVE CONTROLS

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of radiation exposure for all individuals entering radiation control areas.
- d. Records of gaseous and liquid radioactive material released to the environment.
- e. Records of transient or operational cycles for those facility components identified in Table 5.7-1.
- f. Records of reactor tests and experiments.
- g. Records of training and qualification for current members of the Plant Staff.
- h. Records of in-service inspections performed pursuant to these Technical Specifications.
- i. Records of Quality Assurance activities required by the QA Manual.
- j. Records of reviews performed for changes made to procedures or equipment or review of tests and experiments pursuant to 10 CFR 50.59.
- k. Records of meetings of the PNSRC and the NSDRG.
- l. Records of radioactive shipments.
- m. Records of the service lives of hydraulic snubbers listed on Table 3.7-9 including the date at which service life commences and associated installation and maintenance records.

## 6.11 RADIATION PROTECTION PROGRAM

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.

## 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 20, each high radiation area in which the intensity of radiation is 1000 mrem/hr or less shall be barricaded and

## REACTOR COOLANT SYSTEM

### SPECIFIC ACTIVITY

#### LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

- a. Less than or equal to 1.0 uCi/gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to  $100/\bar{E}$  uCi/gram.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

#### ACTION:

MODES 1, 2 and 3\*

- a. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 but within the allowable limit (below and to the left of the line) shown on Figure 3.4-1, operation may continue for up to 48 hours provided that operation under these circumstances shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
- b. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with  $T_{avg}$  less than  $500^{\circ}\text{F}$  within 6 hours.
- c. With the specific activity of the primary coolant greater than  $100/\bar{E}$  uCi/gram, be in HOT STANDBY with  $T_{avg}$  less than  $500^{\circ}\text{F}$  within 6 hours.

MODES 1, 2, 3, 4 and 5

- a. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 or greater than  $100/\bar{E}$  uCi/gram, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days. This report shall contain the results of the specific activity analyses together with the following information:

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\* With  $T_{avg}$  greater than or equal to  $500^{\circ}\text{F}$

## Instrumentation

### Radioactive Gaseous Process and Effluent Monitoring Instrumentation

#### Limiting Condition for Operation

3.3.3.10 The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of 3.11.2.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-13.

#### ACTION:

- a. With a radioactive gaseous process or effluent monitoring instrumentation channel alarm/trip setpoint less conservative than a value which will ensure that the limits of 3.11.2.1 are met, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel, reset, or declare the channel inoperable.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13.
- c. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.10.1 The setpoints shall be determined in accordance with methodology as described in the ODCM and shall be recorded.\*

4.3.3.10.2 Each radioactive gaseous process of effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-9.

\* This surveillance requirement does not apply to the Waste Gas Holdup System Hydrogen and Oxygen Monitors, as their setpoints are not addressed in the ODCM.

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment structure and steel liner shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

With the structural integrity of the containment structure or steel liner not conforming to the above requirements, restore their structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

4.6.1.6 The structural integrity of the containment structure and steel liner shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of all accessible surfaces of the structure and steel liner and verifying no apparent changes in appearance of the surfaces or other abnormal degradation.

An initial report of any abnormal degradation of the containment structure or liner detected during these inspections shall be made within 10 days after detection.

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be OPERABLE with:

- a. Two\* high demand pumps, one of which shall be a diesel driven pump, with their discharge aligned to the fire suppression header.
- b. An OPERABLE flow path capable of taking suction from Lake Michigan and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves and the first valve ahead of the hose standpipe or spray system riser or water flow alarm device on each sprinkler, required to be OPERABLE per Specifications 3.7.9.2 and 3.7.9.5.

APPLICABILITY: At all times.

ACTION:

- a. With one pump inoperable, restore the inoperable equipment to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- b. With the fire suppression water system otherwise inoperable:
  1. Establish a backup fire suppression water system within 24 hours, and
  2. Submit a Special Report in accordance with Specification 6.9.2;
    - a) By telephone within 24 hours,
    - b) Confirmed by telegram, mailgram or facsimile transmission no later than the first working day following the event, and

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\* Shared system with Cook Nuclear Plant - Unit 2.

## PLANT SYSTEMS

### SPRAY AND/OR SPRINKLER SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.2 The spray and/or sprinkler systems located in the areas shown in Table 3.7-5 shall be OPERABLE:

APPLICABILITY: Whenever equipment in the spray/sprinkler protected areas is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas\* in which redundant safe shutdown systems or components could be damaged. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.2 Each of the above required spray and/or sprinkler systems shall be demonstrated to be OPERABLE:

- a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

\* For the reactor coolant pumps preaction sprinklers inside the containment, a closed circuit television located in the lower containment, with periodic monitoring (and hourly logging) of the CCTV screen, shall be an acceptable substitute to an hourly fire watch patrol. For high radiation areas where closed circuit television coverage does not exist, an hourly fire watch patrol will be instituted.

## PLANT SYSTEMS

### LOW PRESSURE CO<sub>2</sub> SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.3 The low pressure CO<sub>2</sub> systems located in the areas shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the low pressure CO<sub>2</sub> protected areas is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required low pressure CO<sub>2</sub> systems isolated for personnel protection, to permit entry for routine tours, maintenance, construction or surveillance testing, verify the operability of the fire detection system as per Specification 4.3.3.7 in the affected area(s) and establish a Roving Fire Watch Patrol (as defined in the Bases Section) in those areas affected by the isolated CO<sub>2</sub> system(s). In the event that the Roving Fire Watch Patrol cannot be maintained in the affected areas, then personnel must be evacuated and the CO<sub>2</sub> system returned to its normal condition.
- b. With one or more of the above required low pressure CO<sub>2</sub> systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant safe shutdown systems or components could be damaged; for other areas ensure that back-up fire suppression equipment is available and establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.3 Each of the above required low pressure CO<sub>2</sub> systems shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying the CO<sub>2</sub> storage tank level to be greater than or equal to 50% and pressure to be greater than or equal to 285 psig, and
- b. At least once per 18 months by verifying:
  1. The system valves, associated ventilation dampers and self closing fire doors actuate manually and automatically, upon receipt of a simulated actuation signal, and
  2. Flow from each nozzle during a "Puff Test."



## PLANT SYSTEMS

### HALON SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.4 The Halon system located in the Unit 1 Control Room Cable Spreading Area shall be OPERABLE.

APPLICABILITY: Whenever equipment in the Halon protected areas is required to be OPERABLE.

#### ACTION:

- a. With the above required Halon system inoperable, within 1 hour verify that the fire detection system and the backup CO<sub>2</sub> fire suppression system are OPERABLE; otherwise, establish a continuous fire watch with backup fire suppression equipment for the Control Room Cable Spreading Area. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.4 The above required Halon system shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying each Halon storage tank to be greater than or equal to 95% of full charge weight and to be greater than or equal to 90% of full charge pressure.
- b. At least once per 18 months by:
  1. Verifying the system, including associated ventilation dampers, actuates manually and automatically to a simulated test signal.
  2. Performance of an air flow test or CO<sub>2</sub> puff test through headers and nozzles to assure no blockage.

## PLANT SYSTEMS

### FIRE HOSE STATIONS

#### LIMITING CONDITION FOR OPERATION

3.7.9.5 The fire hose standpipe connections in the following locations shall be OPERABLE:

1. Auxiliary Building (minimum 12).
2. Access to Diesel Generators (minimum 1).
3. Access to Switchgear Rooms (minimum 1).
4. Access to Control Room (minimum 1).

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required hose standpipe connections inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose standpipe connection within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise, route the additional hose within 24 hours. Restore the fire hose station to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and plans and schedule for restoring the station to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.5 Each of the above required fire hose standpipe connections shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose standpipe connections to assure all required equipment is at the connection.
- b. At least once per 18 months by:
  1. Removing the hose for inspection and re-racking, and
  2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
  1. Partially opening each hose standpipe connection valve to verify valve OPERABILITY and no flow blockage.
  2. Conducting a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at that hose standpipe connection.

## PLANT SYSTEMS

### 3/4.7.10 FIRE RATED ASSEMBLIES

#### LIMITING CONDITION FOR OPERATION

3.7.10 All fire rated assemblies (walls, floor/ceilings, cable tray enclosures) separating safety related fire areas or separating portions of redundant systems important to safe shutdown within a fire area and all sealing devices in fire rated assembly penetrations (fire doors, fire dampers, cable and piping penetration seals, and ventilation seals) shall be OPERABLE.

APPLICABILITY: At all times.

#### ACTION:

- a. With one or more of the above required fire rate assemblies and/or sealing devices inoperable, within one hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of fire detectors per Specification 4.3.3.7 on at least one side of the inoperable assembly and establish an hourly fire watch patrol or secure in the closed position the inoperable sealing device\* and establish an hourly fire watch patrol. Restore the inoperable fire rated assembly and sealing device to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperable fire rated assembly and/or sealing device and the plans and schedule for restoring the fire rated assembly and/or sealing device to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.10.1 At least once per 18 months the above required fire rated assembly and penetration sealing devices shall be verified OPERABLE by:

- a. Performing a visual inspection of the exposed surfaces of each fire rated assemblies.
- b. Performing a visual inspection of each fire damper and associated hardware.

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\* Except fire doors on Turbine Driven Auxiliary Feedwater Pump and Hallway enclosures which cannot be locked closed for HELB considerations.

## RADIOACTIVE EFFLUENTS

### DOSE

#### LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to an individual from radioactive material in liquid effluents released to unrestricted areas (see Figure 5.1-3) shall be limited:

- a. During any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and
- b. During any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be within the above limits. This Special Report shall also include (1) the results of radiological analyses of the drinking water source, and (2) the radiological impacts on finished drinking water supplies with regard to the requirements of 40 CFR 141, Safe Drinking Water Act. (Applicable only if drinking water supply is taken from the receiving water body.)
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.1.2 Dose Calculations: Cumulative dose contributions from liquid effluents shall be determined in accordance with the Offsite Dose Calculation Manual (ODCM) at least once per 31 days.

## Radioactive Effluents

### Liquid Waste Treatment

#### Limiting Condition For Operation

3.11.1.3 The liquid radwaste treatment system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-3) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.

Applicability: At all times.

#### Action:

- a. With radioactive liquid waste being discharged without treatment and in excess of the above limits prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability,
  2. Action(s) taken to restore the inoperable equipment to operable status, and
  3. Summary description of action(s) taken to prevent recurrence.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### Surveillance Requirements

4.11.1.3 Doses due to liquid releases to UNRESTRICTED AREAS shall be projected at least once per 31 days, in accordance with the ODCM, whenever liquid releases are being made without being processed by the liquid radwaste treatment system.

## Radioactive Effluents

### Liquid Holdup Tanks\*

#### Limiting Condition For Operation

3.11.1.4 The quantity of radioactive material contained in each of the following tanks shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

- a. Outside temporary tanks.

Applicability: At all times.

#### Action:

- a. With the quantity of radioactive material in any of the above listed tanks exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- b. The provisions of Specifications 3.0.3 and 3.0.4. are not applicable.

#### Surveillance Requirements

4.11.1.4 The quantity of radioactive material contained in each of the above listed tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

\* Tanks included in this Specification are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and that do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system.

## RADIOACTIVE EFFLUENTS

### DOSE, NOBLE GASES

#### LIMITING CONDITION FOR OPERATION

3.11.2.2 The air dose in UNRESTRICTED AREAS due to noble gases released in gaseous effluents shall be limited to the following:

- a. During any calendar quarter, to less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation;
- b. During any calendar year, to less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be within the above limits.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.2 Dose Calculations Cumulative dose contributions for the total time period shall be determined in accordance with the Offsite Dose Calculation Manual (ODCM) at least once every 31 days.

## RADIOACTIVE EFFLUENTS

### DOSES, RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM, AND RADIONUCLIDES OTHER THAN NOBLE GASES

#### LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to A MEMBER OF THE PUBLIC from radioiodine, radioactive materials in particulate form, and radionuclides other than noble gases with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be limited to the following:

- a. During any calendar quarter to less than or equal to 7.5 mrem to any organ;
- b. During any calendar year to less than or equal to 15 mrem to any organ;
- c. Less than 0.1% of the 3.11.2.3(a) and (b) limits as a result of burning contaminated oil.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated dose from the release of radioiodines, radioactive materials in particulate form, or radionuclides other than noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions taken to reduce the releases and the proposed corrective action to be taken to assure that subsequent release will be within the above limits.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.3 DOSE CALCULATIONS Cumulative dose contributions for the total time period shall be determined in accordance with the ODCM at least once every 31 days.

## RADIOACTIVE EFFLUENTS

### GASEOUS RADWASTE TREATMENT

#### LIMITING CONDITION FOR OPERATION

3.11.2.4 The gaseous radwaste treatment system and the ventilation exhaust treatment system shall be used to reduce the radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases to unrestricted areas (See Figure 5.1.3) when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The ventilation exhaust treatment system shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases to unrestricted areas (See Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.

APPLICABILITY: At all times.

#### ACTION:

- a. With gaseous waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability.
  2. Action(s) taken to restore the inoperable equipment to operable status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.4 Doses due to gaseous releases to UNRESTRICTED AREAS shall be projected at least once per 31 days in accordance with the ODCM, whenever the gaseous waste treatment system or ventilation exhaust treatment system is not operational.

## RADIOACTIVE EFFLUENTS

## EXPLOSIVE GAS MIXTURE

### LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 3% by volume if the hydrogen in the system is greater than or equal to 4% by volume.

APPLICABILITY: At all times.

#### ACTION:

- a. With the concentration of oxygen in the waste gas holdup system greater than or equal to 3% by volume but less than or equal to 4% by volume and containing greater than or equal to 4% hydrogen, restore the concentration of oxygen to less than or equal to 3% or reduce the hydrogen concentration to less than 4% within 96 hours.
- b. With the concentration of oxygen in the waste gas holdup system or tank greater than 4% by volume and greater than 4% hydrogen by volume without delay suspend all additions of waste gases to the system or tank and reduce the concentration of oxygen to less than or equal to 3% or the concentration of hydrogen to less than or equal to 4% within 96 hours in the system or tank.
- c. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

### SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentration of oxygen in the waste gas holdup system shall be determined to within the above limits by continuously monitoring the waste gases in the waste gas holdup system with the oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.10.

## RADIOACTIVE EFFLUENTS

### GAS STORAGE TANKS

#### LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

#### ACTION:

- a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 4 days by analysis of the Reactor Coolant System noble gases.

## RADIOACTIVE EFFLUENTS

### 3/4.11.3 SOLID RADIOACTIVE WASTE

#### LIMITING CONDITION FOR OPERATION

3.11.3 The solid radwaste system shall be used as applicable in accordance with a PROCESS CONTROL PROGRAM for the SOLIDIFICATION and packaging of radioactive wastes to ensure meeting the requirements of 10 CFR Part 20 and of 10 CFR Part 71 prior to shipment of radioactive wastes from the site.

APPLICABILITY: At all times.

#### ACTION:

- a. With the packaging requirements of 10 CFR Part 20 and/or 10 CFR Part 71 not satisfied, suspend shipments of defectively packaged solid radioactive wastes from the site.
- b. With the solid radwaste system inoperable for more than 31 days, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability,
  2. Action(s) taken to restore the inoperable equipment to operable status,
  3. A description of the alternative used for SOLIDIFICATION and packaging of radioactive wastes, and
  4. Summary description of action(s) taken to prevent a recurrence.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

## RADIOACTIVE EFFLUENTS

### 3/4 11.4 TOTAL DOSE

#### LIMITING CONDITION FOR OPERATION

3.11.4 The dose or dose commitment to a real individual from all uranium fuel cycle sources is limited to less than or equal to 25 mrem to the total body or any organ (except the thyroid, which is limited to less than or equal to 75 mrem) over a period of 12 consecutive months.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, prepare and submit a Special Report to the Director, Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, within 30 days, which defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the limits of Specification 3.11.4. This Special Report shall include an analysis which estimates the radiation exposure (dose) to a member of the public from uranium fuel cycle sources (including all effluent pathways and direct radiation) for a 12 consecutive month period that includes the release(s) covered by this report. If the estimated dose(s) exceeds the limits of Specification 3.11.4, and if the release condition resulting in violation of 40 CFR 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR 190 and including the specified information of paragraph 190.11(b). Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete. The variance only relates to the limits of 40 CFR 190, and does not apply in any way to the requirements for dose limitation of 10 CFR Part 20, as addressed in other sections of this Technical Specification.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.4 DOSE CALCULATIONS: Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3 and with the ODCM.

## RADIOLOGICAL ENVIRONMENTAL MONITORING

### LIMITING CONDITION FOR OPERATION (CONTINUED)

- c. With milk or fresh leafy vegetable samples unavailable from any of the sample locations required by Table 3.12-1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause of the unavailability of samples and identifies locations for obtaining replacement samples. The locations from which samples were unavailable may then be deleted from Table 3.12-1 provided the locations from which the replacement samples were obtained are added to the environmental monitoring program as replacement locations, if available.
- d. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

### SURVEILLANCE REQUIREMENTS

4.12.1 The radiological environmental monitoring samples shall be collected pursuant to Table 3.12-1 from the locations given in the table and figures in the ODCM and shall be analyzed pursuant to the requirements of Tables 3.12-1 and 4.12-1.

## RADIOLOGICAL ENVIRONMENTAL MONITORING

### 3/4.12.2 LAND USE CENSUS

#### LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify the location of the nearest milk animal, the nearest residence and the nearest garden\* of greater than 500 square feet producing fresh leafy vegetables in each of the 9 land covering meteorological sectors within a distance of five miles.

APPLICABILITY: At all times.

#### ACTION:

- a. With a land use census identifying a location(s) which yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the new location(s).
- b. With a land use census identifying a location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20 percent greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the new location. The new location shall be added to the radiological environmental monitoring program within 30 days, if possible. The sampling location having the lowest calculated dose or dose commitment (via the same exposure pathway) may be deleted from this monitoring program after (October 31) of the year in which this land use census was conducted.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.12.2. The land use census shall be conducted at least once per 12 months between the dates of June 1 and October 1, by door-to-door survey, aerial survey, or by consulting local agriculture authorities.

\* Broad leaf vegetation sampling may be performed at the site boundary in the direction sector with the highest D/Q in lieu of the garden census.

## Radiological Environment Monitoring

### 3/4 12.3 Interlaboratory Comparison Program

#### Limiting Condition For Operation

3.12.3 Analysis shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program which has been approved by the Commission.

Applicability: At all times.

#### Action:

- a. With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### Surveillance Requirements

4.12.3 A summary of the results obtained as part of the above required Interlaboratory Comparison Program and in accordance with the ODCM (or participants in the EPA crosscheck program shall provide the EPA program code designation for the unit) shall be included in the Annual Radiological Environmental Operating Report.

## INSTRUMENTATION

### FIRE DETECTION INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.3.8 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument(s) is required to be OPERABLE.

#### ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-11:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.8.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.8.2 The NFPA Standard 72D Class B supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.



## INSTRUMENTATION

### RADIOACTIVE LIQUID EFFLUENT INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-12.

#### ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than a value which will ensure that the limits of 3.11.1.1 are met, without delay suspend the release of radioactive liquid effluents monitored by the affected channel, reset, or declare the channel inoperable.
- b. With one or more radioactive liquid effluent monitoring instrumentation channels inoperable, take the applicable ACTION shown in Table 3.3-12.
- c. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.3.3.9.1 The setpoints shall be determined in accordance with methodology as described in the ODCM and shall be recorded.

4.3.3.9.2 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-8.

## Instrumentation

### Radioactive Gaseous Process and Effluent Monitoring Instrumentation

#### Limiting Condition for Operation

3.3.3.10 The radioactive gaseous process and effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of 3.11.2.1 are not exceeded.

Applicability: As shown in Table 3.3-13.

#### Action:

- a. With a radioactive gaseous process or effluent monitoring instrumentation channel alarm/trip setpoint less conservative than a value which will ensure that the limits of 3.11.2.1 are met, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel, reset, or declare the channel inoperable.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-13.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### Surveillance Requirements

4.3.3.10.1 The setpoints shall be determined in accordance\* with methodology as described in the ODCM and shall be recorded.

4.3.3.10.2 Each radioactive gaseous process or effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION, and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-9.

\* This surveillance requirement does not apply to the Waste Gas Holdup System Hydrogen and Oxygen Monitors, as their setpoints are not addressed in the ODCM.

## REACTOR COOLANT SYSTEM

### SPECIFIC ACTIVITY

#### LIMITING CONDITION FOR OPERATION

3.4.8 The specific activity of the primary coolant shall be limited to:

- a. Less than or equal to 1.0 uCi/gram DOSE EQUIVALENT I-131, and
- b. Less than or equal to  $100/\bar{E}$  uCi/gram.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

#### ACTION:

MODES 1, 2 and 3\*

- a. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 but within the allowable limit (below and to the left of the line) shown on Figure 3.4-1, operation may continue for up to 48 hours provided that operation under these circumstances shall not exceed 10 percent of the unit's total yearly operating time. The provisions of Specification 3.0.4 are not applicable.
- b. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with  $T_{avg}$  less than 500°F within 6 hours.
- c. With the specific activity of the primary coolant greater than  $100/\bar{E}$  uCi/gram, be in at least HOT STANDBY with  $T_{avg}$  less than 500°F within 6 hours.

MODES 1, 2, 3, 4 and 5

- a. With the specific activity of the primary coolant greater than 1.0 uCi/gram DOSE EQUIVALENT I-131 or greater than  $100/\bar{E}$  uCi/gram, perform the sampling and analysis requirements of item 4a of Table 4.4-4 until the specific activity of the primary coolant is restored to within its limits. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days. This report shall contain the results of the specific activity analyses together with the following information:

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\* With  $T_{avg}$  greater than or equal to 500°F

## CONTAINMENT SYSTEMS

### CONTAINMENT STRUCTURAL INTEGRITY

#### LIMITING CONDITION FOR OPERATION

3.6.1.6 The structural integrity of the containment structure and steel liner shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

With the structural integrity of the containment structure or steel liner not conforming to the above requirements, restore their structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

4.6.1.6 The structural integrity of the containment structure and steel liner shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of all accessible surfaces of the structure and steel liner and verifying no apparent changes in appearance of the surfaces or other abnormal degradation.

An initial report of any abnormal degradation of the containment structure or liner detected during these inspections shall be made within 10 days after detection.

PLANT SYSTEMS

3/4.7.9 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.9.1 The fire suppression water system shall be OPERABLE with:

- a. Two\* high demand pumps, one of which shall be a diesel driven pump, with their discharge aligned to the fire suppression header.
- b. An OPERABLE flow path capable of taking suction from Lake Michigan and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves and the first valve ahead of the hose standpipe or spray system riser or water flow alarm device on each sprinkler, required to be OPERABLE per Specifications 3.7.9.2 and 3.7.9.5.

APPLICABILITY: At all times.

ACTION:

- a. With one pump inoperable, restore the inoperable equipment to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide for the loss of redundancy in this system. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- b. With the fire suppression water system otherwise inoperable:
  1. Establish a backup fire suppression water system within 24 hours, and
  2. Submit a Special Report in accordance with Specification 6.9.2;
    - a) By telephone within 24 hours,
    - b) Confirmed by telegram, mailgram or facsimile transmission no later than the first working day following the event, and

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\* Shared system with Cook Nuclear Plant - Unit 1.

## PLANT SYSTEMS

### SPRAY AND/OR SPRINKLER SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.2 The spray and/or sprinkler systems located in the areas shown in Table 3.7-5 shall be OPERABLE:

APPLICABILITY: Whenever equipment in the spray/sprinkler protected areas is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required spray and/or sprinkler systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas\* in which redundant safe shutdown systems or components could be damaged. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.2 Each of the above required spray and/or sprinkler systems shall be demonstrated to be OPERABLE:

- a. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

\* For the reactor coolant pumps preaction sprinklers inside the containment, a closed circuit television located in the lower containment, with periodic monitoring (and hourly logging) of the CCTV screen, shall be an acceptable substitute to an hourly fire watch patrol. For high radiation areas where closed circuit television coverage does not exist, an hourly fire watch patrol will be instituted.

## PLANT SYSTEMS

### LOW PRESSURE CO<sub>2</sub> SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.3 The low pressure CO<sub>2</sub> systems located in the areas shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the low pressure CO<sub>2</sub> protected areas is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required low pressure CO<sub>2</sub> systems isolated for personnel protection, to permit entry for routine tours, maintenance, construction or surveillance testing, verify the operability of the fire detection system as per Specification 4.3.3.8 in the affected area(s) and establish a Roving Fire Watch Patrol (as defined in the Bases Section) in those areas affected by the isolated CO<sub>2</sub> system(s). In the event that the Roving Fire Watch Patrol cannot be maintained in the affected areas, then personnel must be evacuated and the CO<sub>2</sub> system returned to its normal condition.
- b. With one or more of the above required low pressure CO<sub>2</sub> systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant safe shutdown systems or components could be damaged; for other areas ensure that back-up fire suppression equipment is available and establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.3 Each of the above required low pressure CO<sub>2</sub> systems shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying the CO<sub>2</sub> storage tank level to be greater than or equal to 50% and pressure to be greater than or equal to 285 psig, and
- b. At least once per 18 months by verifying:
  1. The system valves, associated ventilation dampers and self closing fire doors actuate manually and automatically, upon receipt of a simulated actuation signal, and
  2. Flow from each nozzle during a "Puff Test".

## PLANT SYSTEMS

### HALON SYSTEMS

#### LIMITING CONDITION FOR OPERATION

3.7.9.4 The Halon system located in the Unit 2 Control Room Cable Spreading Area shall be OPERABLE.

APPLICABILITY: Whenever equipment in the Halon protected areas is required to be OPERABLE.

#### ACTION:

- a. With the above required Halon system inoperable, within 1 hour verify that the fire detection system and the backup CO<sub>2</sub> fire suppression system are OPERABLE; otherwise, establish a continuous fire watch with backup fire suppression equipment for the Control Room Cable Spreading Area. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.4 The above required Halon system shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying each Halon storage tank to be greater than or equal to 95% of full charge weight and to be greater than or equal to 90% of full charge pressure.
- b. At least once per 18 months by:
  1. Verifying the system, including associated ventilation dampers, actuates manually and automatically to a simulated test signal.
  2. Performance of an air flow test or CO<sub>2</sub> puff test through headers and nozzles to assure no blockage.

## PLANT SYSTEMS

### FIRE HOSE STATIONS

#### LIMITING CONDITION FOR OPERATION

3.7.9.5 The fire hose standpipe connections in the following locations shall be OPERABLE:

1. Auxiliary Building (minimum 12).
2. Access to Diesel Generators (minimum 1).
3. Access to Switchgear Rooms (minimum 1).
4. Access to Control Room (minimum 1).

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

#### ACTION:

- a. With one or more of the above required hose standpipe connections inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose standpipe connection within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise, route the additional hose within 24 hours. Restore the fire hose station to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and plans and schedule for restoring the station to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.9.5 Each of the above required fire hose standpipe connections shall be demonstrated OPERABLE:

- a. At least once per 31 days by a visual inspection of the fire hose standpipe connections to assure all required equipment is at the connection.
- b. At least once per 18 months by:

## PLANT SYSTEMS

### 3/4.7.10 FIRE RATED ASSEMBLIES

#### LIMITING CONDITION FOR OPERATION

3.7.10 All fire rated assemblies (walls, floor/ceilings, cable tray enclosures) separating safety related fire areas or separating portions of redundant systems important to safe shutdown within a fire area and all sealing devices in fire rated assembly penetrations (fire doors, fire dampers, cable and piping penetration seals, and ventilation seals) shall be OPERABLE.

APPLICABILITY: At all times.

#### ACTION:

- a. With one or more of the above required fire rate assemblies and/or sealing devices inoperable, within one hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of fire detectors per Specification 4.3.3.8 on at least one side of the inoperable assembly and establish an hourly fire watch patrol or secure in the closed position the inoperable sealing device\* and establish an hourly fire watch patrol. Restore the inoperable fire rated assembly and sealing device to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperable fire rated assembly and/or sealing device and the plans and schedule for restoring the fire rated assembly and/or sealing device to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.7.10.1 At least once per 18 months the above required fire rated assembly and penetration sealing devices shall be verified OPERABLE by:

- a. Performing a visual inspection of the exposed surfaces of each fire rated assemblies.
- b. Performing a visual inspection of each fire damper and associated hardware.

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\* Except fire doors on Turbine Driven Auxiliary Feedwater Pump and Hallway enclosures which cannot be locked closed for HELB considerations.

## RADIOACTIVE EFFLUENTS

### DOSE

#### LIMITING CONDITION FOR OPERATION

3.11.1.2 The dose or dose commitment to an individual from radioactive material in liquid effluents released to unrestricted areas (see Figure 5.1-3) shall be limited:

- a. During any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and
- b. During any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated dose from the release of radioactive materials in liquid effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be within the above limits. This Special Report shall also include (1) the results of radiological analyses of the drinking water source, and (2) the radiological impacts on finished drinking water supplies with regard to the requirements of 40 CFR 141, Safe Drinking Water Act. (Applicable only if drinking water supply is taken from the receiving water body.)
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.1.2 Dose Calculations: Cumulative dose contributions from liquid effluents shall be determined in accordance with the Offsite Dose Calculation Manual (ODCM) at least once per 31 days.

## Radioactive Effluents

### Liquid Waste Treatment

#### Limiting Condition For Operation

3.11.1.3 The liquid radwaste treatment system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-3) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.

Applicability: At all times.

#### Action:

- a. With radioactive liquid waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability,
  2. Action(s) taken to restore the inoperable equipment to operable status, and
  3. Summary description of action(s) taken to prevent recurrence.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### Surveillance Requirements

4.11.1.3 Doses due to liquid releases to UNRESTRICTED AREAS shall be projected at least once per 31 days, in accordance with the ODCM, whenever liquid releases are being made without being processed by the liquid radwaste treatment system.

## Radioactive Effluents

### Liquid Holdup Tanks\*

#### Limiting Condition For Operation

3.11.1.4 The quantity of radioactive material contained in each of the following tanks shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases.

- a. Outside temporary tanks.

Applicability: At all times.

#### Action:

- a. With the quantity of radioactive material in any of the above listed tanks exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### Surveillance Requirements

4.11.1.4 The quantity of radioactive material contained in each of the above listed tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank.

\* Tanks included in this Specification are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tank contents and that do not have tank overflows and surrounding area drains connected to the liquid radwaste treatment system.

## RADIOACTIVE EFFLUENTS

### DOSE, NOBLE GASES

#### LIMITING CONDITION FOR OPERATION

3.11.2.2 The air dose in UNRESTRICTED AREAS due to noble gases released in gaseous effluents shall be limited to the following:

- a. During any calendar quarter, to less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation;
- b. During any calendar year, to less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated air dose from radioactive noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce the releases and the proposed corrective actions to be taken to assure that subsequent releases will be within the above limits.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.2 Dose Calculations Cumulative dose contributions for the total time period shall be determined in accordance with the Offsite Dose Calculation Manual (ODCM) at least once every 31 days.

## RADIOACTIVE EFFLUENTS

### DOSES, RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM, AND RADIONUCLIDES OTHER THAN NOBLE GASES

#### LIMITING CONDITION FOR OPERATION

3.11.2.3 The dose to A MEMBER OF THE PUBLIC from radioiodines, radioactive materials in particulate form, and radionuclides other than noble gases with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be limited to the following:

- a. During any calendar quarter to less than or equal to 7.5 mrem to any organ;
- b. During any calendar year to less than or equal to 15 mrem to any organ;
- c. Less than 0.1% of the 3.11.2.3(a) and (b) limits as a result of burning contaminated oil.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated dose from the release of radioiodines, radioactive materials in particulate form, or radionuclides other than noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions taken to reduce the releases and the proposed corrective action to be taken to assure that subsequent release will be within the above limits.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.3 DOSE CALCULATIONS Cumulative dose contributions for the total time period shall be determined in accordance with the ODCM at least once every 31 days.

## RADIOACTIVE EFFLUENTS

### GASEOUS RADWASTE TREATMENT

#### LIMITING CONDITION FOR OPERATION

3.11.2.4 The gaseous radwaste treatment system and the ventilation exhaust treatment system shall be used to reduce the radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases to unrestricted areas (See Figure 5.1.3) when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The ventilation exhaust treatment system shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases to unrestricted areas (See Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.

APPLICABILITY: At all times.

#### ACTION:

- a. With gaseous waste being discharged without treatment and in excess of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability.
  2. Action(s) taken to restore the inoperable equipment to operable status.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.4 Doses due to gaseous releases to UNRESTRICTED AREAS shall be projected at least once per 31 days in accordance with the ODCM, whenever the gaseous waste treatment system or ventilation exhaust treatment system is not operational.

## RADIOACTIVE EFFLUENTS

## EXPLOSIVE GAS MIXTURE

### LIMITING CONDITION FOR OPERATION

3.11.2.5 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 3% by volume if the hydrogen in the system is greater than or equal to 4% by volume.

APPLICABILITY: At all times.

#### ACTION:

- a. With the concentration of oxygen in the waste gas holdup system greater than 3% by volume but less than or equal to 4% by volume and containing greater than or equal to 4% hydrogen, restore the concentration of oxygen to less than or equal to 3% or reduce the hydrogen concentration to less than 4% within 96 hours.
- b. With the concentration of oxygen in the waste gas holdup system or tank greater than 4% by volume and greater than 4% hydrogen by volume without delay suspend all additions of waste gases to the system or tank and reduce the concentration of oxygen to less than or equal to 3% or the concentration of hydrogen to less than or equal to 4% within 96 hours in the system or tank.
- c. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

### SURVEILLANCE REQUIREMENTS

4.11.2.5 The concentration of oxygen in the waste gas holdup system shall be determined to within the above limits by continuously monitoring the waste gases in the waste gas holdup system with the oxygen monitors required OPERABLE by Table 3.3-13 of Specification 3.3.3.10.

## RADIOACTIVE EFFLUENTS

### GAS STORAGE TANKS

#### LIMITING CONDITION FOR OPERATION

3.11.2.6 The quantity of radioactivity contained in each gas storage tank shall be limited to 43,800 curies noble gas (considered as Xe-133).

APPLICABILITY: At all times.

#### ACTION:

- a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.2.6 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit at least once per 4 days by analysis of the Reactor Coolant System noble gases.

## RADIOACTIVE EFFLUENTS

### 3/4.11.3 SOLID RADIOACTIVE WASTE

#### LIMITING CONDITION FOR OPERATION

3.11.3 The solid radwaste system shall be used as applicable in accordance with a PROCESS CONTROL PROGRAM for the SOLIDIFICATION and packaging of radioactive wastes to ensure meeting the requirements of 10 CFR Part 20 and of 10 CFR Part 71 prior to shipment of radioactive wastes from the site.

APPLICABILITY: At all times.

#### ACTION:

- a. With the packaging requirements of 10 CFR Part 20 and/or 10 CFR Part 71 not satisfied, suspend shipments of defectively packaged solid radioactive wastes from the site.
- b. With the solid radwaste system inoperable for more than 31 days, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:
  1. Identification of the inoperable equipment or subsystems and the reason for inoperability,
  2. Action(s) taken to restore the inoperable equipment to operable status,
  3. A description of the alternative used for SOLIDIFICATION and packaging of radioactive wastes, and
  4. Summary description of action(s) taken to prevent a recurrence.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

## RADIOACTIVE EFFLUENTS

### 3/4 11.4 TOTAL DOSE

#### LIMITING CONDITION FOR OPERATION

3.11.4 The dose or dose commitment to a real individual from all uranium fuel cycle sources is limited to less than or equal to 25 mrem to the total body or any organ (except the thyroid, which is limited to less than or equal to 75 mrem) over a period of 12 consecutive months.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, prepare and submit a Special Report to the Director, Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, within 30 days, which defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the limits of Specification 3.11.4. This Special Report shall include an analysis which estimates the radiation exposure (dose) to a member of the public from uranium fuel cycle sources (including all effluent pathways and direct radiation) for a 12 consecutive month period that includes the release(s) covered by this report. If the estimated dose(s) exceeds the limits of Specification 3.11.4, and if the release condition resulting in violation of 40 CFR 190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40 CFR 190 and including the specified information of paragraph 190.11(b). Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete. The variance only relates to the limits of 40 CFR 190, and does not apply in any way to the requirements for dose limitation of 10 CFR Part 20, as addressed in other sections of this Technical Specification.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.11.4 DOSE CALCULATIONS: Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3 and with the ODCM.



## RADIOLOGICAL ENVIRONMENTAL MONITORING

### LIMITING CONDITION FOR OPERATION (CONTINUED)

- c. With milk or fresh leafy vegetable samples unavailable from any of the sample locations required by Table 3.12-1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause of the unavailability of samples and identifies locations for obtaining replacement samples. The locations from which samples were unavailable may then be deleted from Table 3.12-1 provided the locations from which the replacement samples were obtained are added to the environmental monitoring program as replacement locations, if available.
- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

### SURVEILLANCE REQUIREMENTS

4.12.1 The radiological environmental monitoring samples shall be collected pursuant to Table 3.12-1 from the locations given in the table and figures in the ODCM and shall be analyzed pursuant to the requirements of Tables 3.12-1 and 4.12-1.

## RADIOLOGICAL ENVIRONMENTAL MONITORING

### 3/4.12.2 LAND USE CENSUS

#### LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify the location of the nearest milk animal, the nearest residence and the nearest garden\* of greater than 500 square feet producing fresh leafy vegetables in each of the 9 land covering meteorological sectors within a distance of five miles.

APPLICABILITY: At all times.

#### ACTION:

- a. With a land use census identifying a location(s) which yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the new location(s).
- b. With a land use census identifying a location(s) which yields a calculated dose or dose commitment (via the same exposure pathway) 20 percent greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the new location. The new location shall be added to the radiological environmental monitoring program within 30 days, if possible. The sampling location having the lowest calculated dose or dose commitment (via the same exposure pathway) may be deleted from this monitoring program after (October 31) of the year in which this land use census was conducted.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

4.12.2. The land use census shall be conducted at least once per 12 months between the dates of June 1 and October 1, by door-to-door survey, aerial survey, or by consulting local agriculture authorities.

\* Broad leaf vegetation sampling may be performed at the site boundary in the direction sector with the highest D/Q in lieu of the garden census.

Radiological Environment Monitoring

3/4 12.3 Interlaboratory Comparison Program

Limiting Condition For Operation

3.12.3 Analysis shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program which has been approved by the Commission.

Applicability: At all times.

Action:

- a. With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

Surveillance Requirements

4.12.3 A summary of the results obtained as part of the above required Interlaboratory Comparison Program and in accordance with the ODCM (or participants in the EPA crosscheck program shall provide the EPA program code designation for the unit) shall be included in the Annual Radiological Environmental Operating Report.



ATTACHMENT 1 TO AEP:NRC:0692BO

REASONS AND 10 CFR 50.92 SIGNIFICANT HAZARDS

EVALUATION FOR THE PROPOSED TECHNICAL SPECIFICATION CHANGES

FOR DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2

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## I. Introduction

This letter proposes changes to the following T/Ss and their Bases.

Unit 1: 3/4.3.3.7, 3/4.7.9.1, 3/4.7.9.2, 3/4.7.9.3,  
3/4.7.9.4, 3/4.7.9.5, 3/4.7.10, 6.9.2

Unit 2: 3/4.3.3.8, 3/4.7.9.1, 3/4.7.9.2, 3/4.7.9.3,  
3/4.7.9.4, 3/4.7.9.5, 3/4.7.10, 6.9.2

The following recurring themes and comments helped form the basis for the justifications used in this letter.

1. The fire brigade consists of a minimum of five operators. The minimum number of operators required in each control room for continued plant operation is three. A total of eleven operators per shift is therefore required for minimum staffing during a fire scenario. On average, the normal operator staffing is eighteen per shift. This demonstrates a very high staffing level and ensures the minimum fire brigade requirements can easily and rapidly be met. The response time of our fire brigade is considered to be very good with members arriving on the scene within minutes after annunciation in the control room. Continuous training and fire drills maintain the operators and fire brigade at a high level of readiness.
2. The combustible loading values given in the justifications are based on our latest values for fixed combustibles. These values are found in Revision 2 of the Fire Hazards Analysis (FHA). Normally, only small incremental changes in the combustible loadings occur over time for a given area. This pattern is not expected to change in the future. Changes in the fixed combustible loading values are monitored through periodic updates of the FHA.
3. The equivalent fire severity given is the approximate time required for the heating potential of the fixed combustibles within a fire zone to produce an exposure equivalent to the standard time-temperature curve. A change in the combustible loading value for a fire zone will have a corresponding change in the fire severity of that fire zone.
4. Appendix R to 10 CFR 50 compliance strategy III.G.3 has been identified as a basis for several of the technical justifications. Under this compliance strategy, alternate shutdown capability and its associated

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circuits are located outside of the fire area, fire zone, or room under consideration. Therefore, a fire in the fire area, fire zone, or room will have no effect on safe shutdown of the plant.

5. A number of changes reflect an attempt to clarify the requirements of the T/Ss. These clarifications are a result of our past experiences and an attempt to provide T/Ss which are easier to read and understand. These changes are intended to avoid misunderstandings and misinterpretations of the requirements.
6. The action statements take credit, where possible, for the operability of an alternate fire protection system in lieu of fire watches or with a reduction in fire watch requirements. These alternate fire protection systems serve the same area as the inoperable system, assembly or device. As discussed in the technical justifications for these changes, these alternate fire protection systems provide a degree of protection equal to or better than those of the fire watch.
7. Reduction in the number of fire watches has a beneficial effect on safety in that it reduces the need for having idle fire watch personnel stationed in unoccupied or infrequently travelled areas.

## II. Description of Proposed Changes

### A. Fire Detection Instrumentation

The following changes are proposed for T/Ss 3/4.3.3.7 (Unit 1) and 3/4.3.3.8 (Unit 2).

1. The fire detectors originally included in Table 3.3-10 (Unit 1) and 3.3-11 (Unit 2) have been divided into four groups and the original table has now been replaced by four separate tables (Tables 3.3-10A through D for Unit 1 and Tables 3.3-11A through D for Unit 2). The detectors have been divided in the following manner:
  - a. Group 1 is composed of single zone fire detection systems in areas containing water suppression systems.
  - b. Group 2 is composed of cross-zoned detection systems.
  - c. Group 3 is composed of miscellaneous single zone detection systems.



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- d. Group 4 is composed of detection systems inside containment.
2. A separate action statement has been provided for each detector group. The new action statements provide alternatives for complying with the action statement other than establishing a fire watch and thereby alleviate the fire watch burden at the plant.

Each detector group and its associated action statement are described below.

a. Action Statement A

The action statement for this group of detectors takes credit for the automatic sprinkler systems located in the same area as the detection system. Our current action statement for our fire detectors requires that an hourly fire watch patrol be established within one hour if the minimum number of detectors are not operable. Our proposed change would allow us the option of either verifying that the suppression system for the affected area is operable or establishing an hourly fire watch patrol.

b. Action Statement B

Action statement B involves those areas having two complete detection zones known as cross-zoned fire detection circuits and takes credit for the corresponding circuit when the other is inoperable. Our current T/Ss require that an hourly fire watch patrol be established within one hour if the minimum number of detectors are not operable. Our proposed change would allow us the option of either verifying that the other cross-zoned detection circuit is operable or establishing an hourly fire watch patrol.

c. Action Statement C

Action statement C involves miscellaneous single zone detection systems which follow the current action statement by requiring an hourly fire watch be established within one hour.



d. Action Statement D

Action statement D involves detection systems located inside containment. The action statement now gives an additional option of viewing areas visible to close circuit television at least once per hour for those areas visible to closed circuit television. Otherwise, the action statement requirements remain unchanged.

3. The format of the tables has been modified to list the maximum number of inoperable detectors rather than the minimum number of operable detectors. This new format enables the plant operators to readily know the maximum number of inoperable fire detectors that are allowed before having to enter the action statement. This format should also reduce the number of future T/S changes required to update the tables when additional detectors are added to the detection circuit. With the new format when new detectors are added, the T/Ss automatically become more conservative by allowing a lower percentage of detectors to be inoperable. The old format became less conservative as the number of detectors added to a detection circuit increased.
4. Our current T/Ss allow 25% of the detectors on a single circuit to be inoperable before declaring the detection circuit inoperable. We are proposing to allow 50% of the detectors to be inoperable before declaring the circuit inoperable. This change is consistent with the General Electric Standard T/Ss.
5. The Bases have been revised to maintain consistency with the revised limiting condition for operation (LCO), action statements, and surveillance requirements.
6. The special reporting requirements have been deleted as advised by members of the NRC staff.
7. As requested by members of the NRC staff, the tables have been updated to incorporate detection systems added in response to Appendix R to 10 CFR 50.
8. Detection systems associated with charcoal filter units 1-HV-CFT-1 and 2 have been deleted from the tables.

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9. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below.
- a. The phrases "detection instrumentation" and "detection instruments" have been replaced by the phrases "detection systems" and "detectors." In addition, the phrase "(SYSTEMS/DETECTORS)" has been added to the title. These new phrases are more consistent with the standard terminology used to describe the subject equipment.
  - b. The phrase "As a minimum, the " has been deleted from the LCO. This phrase is implied and need not be stated explicitly.
  - c. Specification 4.3.3.7 has been added as an introductory sentence for the surveillance requirements.
  - d. The existing surveillance requirement 4.3.3.7.2 is vague and confusing and has been reworded to clarify its requirements. The revised surveillance requirement defines what the supervised detector alarm circuits include in order to clearly indicate what is to be tested.
  - e. The phrase "/Zone" has been added to the maximum inoperable heading of each table to be consistent with the table format which divides the systems into zones.
  - f. The table footnotes "Shared system with D.C. COOK - UNIT 1" and "Shared system with D.C. COOK - UNIT 2" have been changed to "System protects area common to both Units 1 and 2." We believe this change more accurately reflects the situation which exists.
  - g. A footnote was added to Table 3.3-10B stating that both detection circuits are required for actuation of the fire suppression system. This footnote simply incorporates additional information into the T/Ss and in no way affects any T/S requirements.
  - h. Items 1b and 1c of Table 3.3-10B have been modified to more accurately and more completely describe the area covered by the subject detectors.

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- i. The cable tunnel areas have been grouped under the heading of "Cable Tunnels" rather than under the heading "Outside Containment." We believe the new heading is more descriptive.
- j. The phrases "Zone 17" and "Zone 18" under Item 3b of Table 3.3-10B are being changed to "Circuit No. 17" and "Circuit No. 18." The word "Zone" is being changed to "Circuit No." for clarity and to avoid confusion with other usages of the term "zone." The switchgear cable vault also includes two circuits of infrared, and the Item 3a of Table 3.3-10B is being modified to indicate this fact.
- k. The title of Item 4 in Table 3.3-10B has been changed from "Diesel Generators" to "Diesel Generator Rooms" to more clearly and more accurately describe the subject area.
- l. Two footnotes have been added to Table 3.3-10C. The first footnote states that the detection circuit is required for actuation of the fire suppression system. The second footnote states that the water spray system for the charcoal filters are manually actuated. These footnotes simply incorporate additional information into the T/Ss and in no way affect any T/S requirements.
- m. The phrase "(Includes Detectors Above Suspended Ceiling)" has been added to the Item 3 of Table 3.3-10C to clarify that the ceiling detectors above the suspended ceiling are included as well as those below the ceiling.
- n. The charcoal filter units have been grouped under the heading "Charcoal Filter Ventilation Units" rather than under the heading "Auxiliary Building." We believe the new heading is more descriptive.
- o. Item 8 of Table 3.3-10C has been changed from "Diesel Fuel Oil Room" to "Diesel Fuel Oil Transfer Pump Room" to more accurately describe the area.
- p. A footnote has been added to Table 3.3-10D which states that thermistors located in cable trays are assigned to a quadrant based on the location of the thermistor circuit start



point. This footnote simply incorporates additional information to describe how each thermistor was assigned to a quadrant and in no way affects any T/S requirements.

- q. "- Cable Trays" was added to the description of each quadrant inside containment. This change has been made to more clearly and more accurately describe the thermistors covered by this Table entry. Thermistors are also used inside containment for the reactor coolant pumps, and a separate table entry has been created for the reactor coolant pump thermistors.

B. Fire Suppression Water System

The following changes are proposed for T/S 3.7.9.1 and its associated surveillance requirements.

1. Action statement A has been modified to include a requirement to establish a backup fire suppression water system within seven days if only one of the fire pumps is operable.
2. The Bases have been revised to maintain consistency with the revised LCO, action statement, and surveillance requirements.
3. The special reporting requirements have been deleted.
4. Surveillance requirement 4.7.9.1.1.f has been modified to describe the required test rather than referencing the NFPA Handbook.
5. Surveillance requirement 4.7.9.1.2.c has been modified to allow the subject test to be performed during plant operation.
6. We have deleted the requirement that the diesel engine testing be conducted on recirculation flow.
7. Various editorial changes have been made to clarify and improve the wording of this specification.

These changes are described below.

- a. The LCO has been modified to incorporate the 2000 gpm pump capacity. This change incorporates additional information about the

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pumps into the T/Ss and is consistent with the Westinghouse Standard T/Ss.

- b. Specification 3.7.9.1.b has been reworded for clarity.
- c. The phrase "With one pump inoperable" in action statement A has been changed to "With only one pump operable." We interpret both statements to have an equivalent meaning but prefer the proposed wording over the current wording.
- d. Action statement B has been modified to explicitly allow restoration of the fire suppression water distribution system to operable status as a means of complying with the action statement. Specification 3.0.2 already states that if the LCO is restored (i.e., the pumps is returned to operable status) prior to expiration of the specified time, completion of the action statement (i.e., establishing a backup fire suppression water system) is not required. This change is therefore an editorial change to avoid confusion and intended only to explicitly state what is already allowed by Specification 3.0.2.
- e. The phrase "restore the inoperable equipment" in Action Statement A has been changed to "restore an inoperable pump (diesel if required) and equipment." This provides additional clarification on what equipment must be restored and indicates that if the remaining operable pump is an electric-driven pump, the inoperable pump restored is required to be a diesel-driven pump.
- f. The phrase "of above ground internal distribution headers and fire hydrants" has been added to surveillance requirement 4.7.9.1.1.c. This is an editorial change intended to clarify and define what is meant by the phrase "system flush."
- g. The phrase "simulated automatic actuation of the system throughout its operating sequence" has been deleted from surveillance requirement 4.7.9.1.1.e. This phrase specifies testing

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

which is redundant to the testing required by surveillance requirements 4.7.9.1.1.e.1 through 4.

- h. The word "(sequentially)" in surveillance requirements 4.7.9.1.1.e.4 has been changed to the phrase "in its pre-planned sequence." We believe the proposed wording is clearer and more descriptive.
- i. The ASTM standards specified in surveillance requirement 4.7.9.1.2 have been updated. The existing requirement specifies sampling in accordance with ASTM-D270-65. This ASTM standard has been superseded by ASTM-D-4057-81 and we have therefore changed the T/Ss to reference ASTM-D-4057-81 rather than ASTM-D-270-65. The T/Ss have also been updated to reference the 1981 version of ASTM-D-975 rather than the 1974 version.
- j. The phrase "overall battery voltage" has been changed to "output battery voltage" in surveillance requirement 4.7.9.1.3.a.2 to more precisely describe the parameter.
- k. The word "the" in surveillance requirement 4.7.9.1.3.b has been changed to "each" to make it consistent with the wording used in the surveillance requirement 4.7.9.1.3.a.
- l. The greater than or equal to signs have been replaced by the words "greater than or equal to."

C. Spray and/or Sprinkler Systems

The following changes to the spray and/or sprinkler system T/Ss are being proposed.

- 1. The spray systems have been separated from the sprinkler systems, and separate tables and action statements have been established for each. The revised action statements provide alternatives other than establishing a fire watch and thereby alleviate the fire watch burden at the plant. The revised action statements are described below.

a. Action Statement A

This action statement applies to the charcoal filter ventilation units outside containment.

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These units contain a fixed manual deluge system and a single zone thermistor linear heat detector. The new action statement takes credit for the detection system and provides the option of either verifying that the detection system is operable or establishing a continuous fire watch as a means of complying with the action statement. Our current action statement requires establishing a continuous fire watch with backup suppression equipment for those areas in which redundant safe shutdown systems or components could be damaged.

b. Action Statement B

This action statement applies to the automatic closed head sprinkler systems located in areas which also have automatic detection systems. The only exception to this is the contractors access control building elevation 612' which is not provided with an automatic fire detection system. The new action statement takes credit for the automatic fire detection system located in the same areas as the sprinkler systems and provides the options of verifying that the detection system is operable if the area is equipped with such a system or establishing a continuous fire watch as a means of complying with the action statement. Since the contractors access control building at elevation 612' is not equipped with a fire detection system, verifying the detection system operable is not an option for this fire area and the new action statement therefore requires a continuous fire watch for this area. Our current action statement requires establishing a continuous fire watch with backup suppression equipment for those areas in which redundant safe shutdown systems or components could be damaged.

2. The special reporting requirements have been deleted.
3. The Bases have been revised to maintain consistency with the revised LCO and action statement.

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4. Surveillance requirement 4.7.9.2.b.2 has been modified so that preaction system piping supervised by air no longer requires inspection.
5. The tables have been updated to incorporate spray/sprinkler systems added in response to Appendix R 10 CFR 50.
6. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below:
  - a. The footnote on Page 3/4 7-44 (Unit 1) and Page 3/4 7-39 (Unit 2) has been reworded for clarity.
  - b. The word "areas" has been changed to "area" in the applicability statement. This clarifies that equipment for a particular area is required only when the equipment in that area is required to be operable.
  - c. The phrase "as provided by Technical Specification 4.7.9.1.1.d" has been added to surveillance requirement 4.7.9.2.a to indicate that this requirement is redundant to the requirement included in 4.7.9.1.1.d.
  - d. The word "visual" has been added to surveillance requirements 4.7.9.2.b.2 and 3. This change clarifies that the required inspections are to be visual inspections.
  - e. The phrase "that there is" has been added to surveillance requirement 4.7.9.2.b.3 to improve the wording.
  - f. The titles of Tables 3.7-5A and B have been modified slightly to more accurately describe the systems contained in the tables.
  - g. In Table 3.7-5B, Elevations 587 ft. and 609 ft. have been separated and the description of each area has been modified to more accurately describe the areas included within each.
  - h. The elevation of the auxiliary building cask handling area and auxiliary building drumming room have been included. These changes provide additional information and in no way affect a T/S requirement.

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- i. The phrase "Auxiliary Building Drumming Area" has been changed to "Auxiliary Building Drumming Room" to more accurately describe the intended location.
- j. The table footnotes "Shared system with D.C. COOK - UNIT 1" and "Shared system with D.C. COOK - UNIT 2" have changed to "System protect area common to both Units 1 and 2." We believe this change improves the wording and more accurately reflects the situation which exists.
- k. A footnote has been added to Table 3.7-5B stating that dry pilot actuation is considered to be a heat actuated pneumatic type detection system. A footnote has also been added to this table to indicate which locations also have an automatic detection system. Both footnotes incorporate additional information and provide clarification and in no way affect any T/S requirements.
- l. The phrase "spray header" in surveillance requirement 4.7.9.2.b.2 has been changed to "piping." The phrase "each open head deluge header" has been changed to "the piping of each open head deluge system" in surveillance requirement 4.7.9.2.c. Both of these changes are intended to clarify what is to be inspected or tested.

D. Low Pressure CO<sub>2</sub> Systems

The following changes to the low pressure CO<sub>2</sub> system T/Ss are being proposed:

1. The requirement for establishing a fire watch when the required low pressure CO<sub>2</sub> systems are isolated to permit entry into an area<sup>2</sup> for routine tours, maintenance, construction, or surveillance testing has been eliminated. We have also modified the requirements for verifying operability of the fire detection system. The action statement now requires verification that at least one zone of fire detection is operable. This is consistent with the changes proposed for the fire detection system. These changes will help alleviate the fire watch burden at the plant.
2. Action Statement B now takes credit for the fire detection system located in the same area by



providing the option of either verifying at least one zone of detection is operable and establishing an hourly fire watch patrol or establishing a continuous fire watch patrol. Our current action statement requires that a continuous fire watch be established with backup suppression equipment for those areas in which redundant safe shutdown systems or components could be damaged and that an hourly fire watch be established with backup fire suppression available for all other areas.

3. The special reporting requirements have been deleted.
4. The Bases have been revised to maintain consistency with the revised LCO, action statement, and surveillance requirements.
5. Surveillance requirement 4.7.9.3.b has been added to verify manual valve lineup.
6. Table 3.7-6 has been revised to convert several systems from automatic to manual operation. These systems include the emergency power system areas (Unit 1 Fire Zones 7 through 11 and 38; Unit 2 Fire Zones 23 through 27 and 39). The primary reason for these conversions is the high number of entries into these areas for normal/routine plant activities requiring the areas to be isolated a significant portion of the time. On average, approximately 24 fire watches are required each day for entries into CO<sub>2</sub> protected areas throughout the plant. The emergency power system areas and penetration cable tunnel quadrants have recently shown weekly averages for individual entries by workers ranging from 570 and 130, respectively, during non-outage periods and up to 1,600 and 200, respectively, during outages. Each entry requires the involvement of many people. With this conversion, no fire watches would be required, and it would significantly reduce the involvement of others. Previously, fire watches were provided whenever the systems were isolated. However, since the manual systems do not need to be isolated, the fire watches are no longer necessary. This change was suggested by a member of the NRC staff.
7. A footnote has been added to Table 3.7-6 stating that the cable vault CO<sub>2</sub> system is required to be operable only when the cable vault halon system is inoperable.



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8. Surveillance requirement 4.7.9.3.c.3 has been modified to allow an airflow test as an alternative to a CO<sub>2</sub> puff test.
9. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below:
  - a. Surveillance requirements 4.7.9.3.b.1 and 2 have been renumbered to be 4.7.9.3.c.1, 2, and 3. The original 4.7.9.3.b.1 has been separated into two requirements (4.7.9.3.c.1 and 2). The proposed 4.7.9.3.c.1 identifies the associated equipment requiring automatic operation upon receipt of a simulated actuation signal. The proposed 4.7.9.3.c.2 specifically identifies the system actuation methods which are to be tested. We believe these changes more clearly define the testing requirements for the subject equipment.
  - b. The phrase "- 2 Circuits" has been deleted from the actuation method column for the first two items in Table 3.7-6, and the phrase "cross-zoned" has been added. The phrase "cross-zoned" has also been added to the actuation method for the switchgear room cable vault. We believe these changes more clearly describe the actuation methods for the subject areas.
  - c. The word "(Backup)" has been moved from the actuation method column to the location column for the control room cable vault.
  - d. The greater than or equal to signs have been replaced by the words "greater than or equal to."
  - e. The "Emergency Safety Switchgear Room" has been changed to "Engineered Safety Switchgear Room to maintain consistency with Table 3.3-10B.

E. Halon System

The following changes to the halon system T/Ss are being proposed.

1. Changes are being proposed to the action statement to help alleviate the fire watch burden at the plant.



Action statement A has been provided for the case in which the halon statement is isolated from automatic isolation for personnel protection. This action statement takes credit for the fire detection present in the area and allows the halon system to be isolated from automatic operation for personnel protection if the detection is operable.

The provision in Action Statement B requiring that we verify operability of the fire detection system has been modified and now requires verification that at least one zone of fire detection is operable. This is consistent with the changes proposed for the fire detection system.

2. The special reporting requirements have been deleted.
3. The Bases have been revised to maintain consistency with the revised LCO, action statement, and surveillance requirements.
4. Surveillance requirement 4.7.9.4.a has been modified to use a liquid level meter to confirm the fill capacity of the halon storage tank. This device will significantly reduce the manhour requirements in verifying the operability of the tanks.
5. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below:
  - a. The phrases "Unit 1" and "Unit 2" were deleted from the LCOs. Since each T/S is unit specific, it is implied that the Unit 1 T/Ss refer to the Unit 1 cable vault and the Unit 2 T/Ss refer to the Unit 2 cable vault and it is therefore unnecessary to specify "located in the Unit 1 Control Room Cable Vault" or "located in the Unit 2 Control Room Cable Vault."
  - b. The phrase "Control Room Cable Spreading Area" has been changed to "Control Room Cable Vault" to be consistent with the terminology used at our plant.
  - c. The word "areas" has been changed to "area" in the applicability statement. This clarifies that the halon system for a particular area is required only when the equipment in that area is required to be operable.

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- d. The phrase "there is" has been added to surveillance requirement 4.7.9.4.b.3 to improve the wording.
- e. Surveillance requirement 4.7.9.4.a has been modified to clarify that the full charge pressure measurement must be corrected for ambient temperature as required by the NFPA standards.
- f. Surveillance requirements 4.7.9.4.b.1 and 2 has been modified to more clearly define the testing requirements for this equipment. See the description of this type of change for the CO<sub>2</sub> system (D.9.a) for a more detailed description.

F. Fire Hose Stations

The following changes to the fire hose station T/Ss are being proposed.

- 1. The action statement requirements for the case in which the hose station is the primary means of suppression have not been changed. If the hose station is not the primary means of suppression, the new action statement takes credit for the fixed suppression system(s) also protecting the affected area(s) and requires that the operability of the fixed suppression system be verified within one hour. The current action statement requires that an additional hose be routed within 24 hours.
- 2. The special reporting requirements have been deleted.
- 3. The Bases have been revised to maintain consistency with the revised LCO, action statements, and surveillance requirements.
- 4. Additional hose stations have been added to the T/Ss and incorporated into Table 3.7-7.
- 5. The hydrostatic test of surveillance requirement 4.7.9.5.c.2 has been revised to ensure the station meets the minimum service test pressure.
- 6. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below:

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- a. The phrase "fire hose standpipe connections" has been changed to "fire hose stations" to be consistent with the terminology used at our plant.
- b. The listing of the required hose stations has been relocated from the LCO to a separate table; this makes the format of this T/S consistent with the format for other fire protection T/Ss. In order to maintain consistency, the phrase "above required fire hose stations" in the introductory sentence of surveillance requirement 4.7.9.5 has been replaced by the phrase "fire hose stations shown in Table 3.7-7."
- c. Surveillance requirement 4.7.9.5.b.1 has been modified to clarify that the inspection is to be visual. This change is consistent with our interpretation of the current requirement and is intended for clarification.
- d. The word "valve" has been deleted from surveillance requirement 4.7.9.5.c.1. This word is redundant and unnecessary.
- e. Two footnotes have been added to Table 3.7-7 to provide additional information regarding the hose stations in the auxiliary building. The first footnote indicates the stations are shared by both units while the second footnote indicates they are within the controlled area. These footnotes simply provide additional information and in no way affect any T/S requirements.
- f. Instead of specifying a minimum of one hose station being operable for the access to the diesel generator rooms, the access to the switchgear rooms, and the access to the control room, the proposed changes state which particular hose stations are to be operable. These changes provide additional detail in the T/Ss and in no way reduce any T/S requirements.
- g. The area "Access to Diesel Generators" has been changed to "Access to Diesel Generator Rooms" to more clearly describe the applicable area.



G. Fire Rated Assemblies

The following changes to the T/Ss for fire rated assemblies are being proposed.

1. Changes to the action statement are being proposed to help alleviate the fire watch burden at the plant. Our current T/S action statement provides three options for complying with the action statement. These options are (1) establish a continuous fire watch on at least one side of the affected assembly, (2) verify detection on at least one side of the affected assembly and establish an hourly fire watch, or (3) secure the inoperable sealing device in its closed position and establish an hourly fire watch. The order of Options (1) and (2) are being switched. The proposed Option (1), (the current Option (2)), now takes credit for operable suppression in addition to operable detection and the hourly fire watches currently required have been deleted. The proposed Option (2), (the current Option (1)), has not been changed. The current Option (3) has been separated into two separate options. The proposed Option (3) no longer covers fire dampers and normally locked doors; other than this, Option (3) is unchanged. Option (4) has been added to cover fire dampers and normally locked doors. The proposed Option (4) does not require a fire watch in addition to securing the device in its closed position as was required when these devices were covered under Option (3).
2. The special reporting requirements have been deleted.
3. The Bases have been revised to maintain consistency with the revised LCO, action statements, and surveillance requirements.
4. Surveillance requirement 4.7.10.1.c has been added to require a functional test requiring closure testing of 10 percent of the fire dampers. A footnote has also been added to clarify that this testing is above and beyond the testing required by Specifications 4.7.9.3.c.1 and 4.7.9.4.b.1.
5. Surveillance requirement 4.7.1.10.1.c has been modified to require inspection of an additional 10% of each type of seal when changes in appearance are found in the initial sample only if there is indication of a plant-wide trend.



6. Various editorial changes have been made to clarify and improve the wording of this specification. These changes are described below:
- a. The LCO has been modified to separate the requirements for fire rated assemblies from the requirements for penetration sealing devices. This is an editorial change intended to improve the format of the T/S.
  - b. The LCO for fire rated assemblies has been modified to include conduit enclosures since these enclosures are considered fire rated assemblies which must be operable in accordance with T/S requirements.
  - c. The word "penetration" has been added to the LCO for sealing devices to clarify that the "sealing devices" are "penetration sealing devices."
  - d. The LCO for penetration sealing devices has been modified to include penetration seals around conduit and in and around cable trays since these seals are considered penetration seals which must be operable in accordance with the T/S requirements.
  - e. The word "ductwork" was added to the "ventilation ductwork penetration seals" to more accurately describe the subject seals.
  - f. The phrase "for open penetrations" was added to surveillance requirement 4.7.10.1.a to clarify and more specifically state what the inspection is to be looking for.
  - g. The word "exposed" has been replaced by the word "accessible" in surveillance requirement 4.7.10.1.a. We believe that the word "accessible" more accurately describes what is intended by the T/S requirement and is consistent with how we have been interpreting this T/S requirement.
  - h. The phrase "cannot be locked closed for" has been changed to "must remain open due to" in the footnote on Page 3/4 7-53. The meaning of the footnote is unchanged; however, we believe the wording of the proposed footnote is preferable.

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- i. Surveillance requirement 4.7.10.1.c requires the 10% of each type of penetration seal be inspected. This requirement has been clarified by providing a listing of each type of penetration seal.
- j. The phrase "sealed penetration" in surveillance requirement 4.7.10.1.c has been changed to "penetration seal." The meaning of each is the same; however, we believe the phrase "penetration seal" is preferable.
- k. The format of surveillance requirement 4.7.10.2 has been modified. The requirement that was part of the opening sentence has been separated and listed below the opening sentence like the other three requirements. We believe this change improves the format of this surveillance requirement.
- l. The phrase "before declaring a penetration fire barrier OPERABLE" in surveillance requirement 4.7.10.3 has been changed to "before exiting the applicable action statement." Since the fire barrier must be declared operable prior to exiting the action statement, there is no change to the T/S requirement; however, we believe the proposed change improves the wording of the requirement. The remainder of this surveillance requirement has also been reworded for clarity.

#### H. Administrative Controls Section

Section 6.9.2 has been modified to delete the special reporting requirements for fire protection.

### III. Justifications and Significant Hazards Analyses

#### A. Deletion of Special Reporting Requirements

This justification and significant hazards analysis (SHA) section corresponds to Section A.6, B.3, C.2, D.3, E.2, F.2, G.2, and H of the Description Section (Section II).

Our current T/Ss require that we submit a special report to the NRC if the required fire detection systems, fire suppressions systems, or fire rated assemblies are not restored to operable status within the specified time. We are proposing to delete these special reporting



requirements as advised by members of the NRC staff. We have added a statement in the Bases which states that it is not our intent to rely on the compensatory actions for an extended period of time and action will be taken to restore the required fire protection equipment to operable status within a reasonable amount of time.

This proposed change impacts each of the specific specifications along with Specification 6.9.2 which lists the special reporting requirements contained in the T/Ss.

#### Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed.
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

#### Criterion 1

Deletion of the special reporting requirements will not affect the actions taken or the time required to restore the inoperable equipment to operable status. We will continue to endeavor to restore inoperable fire protection equipment to operable status as soon as reasonably possible. We therefore believe that the proposed change will not increase the probability or consequences of a previously analyzed accident or decrease a margin of safety.

#### Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that this change should not create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated.

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Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. We believe the proposed change is less likely than the sixth example in the above guidance to involve a significant hazards consideration. Sepcifically, we believe the proposed change will not result in an increase in the probability or consequences of a previously analyzed accident or reduce a safety margin, and is within all acceptable criteria. Therefore we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

B. Changes to the Action Statements

1. Fire Detection Instrumentation

This section provides justification for changes to the action statements associated with the fire detection instrumentation and corresponds to Section A.2 of the Description Section. Following is the justification for each of the new action statements for the fire detection instrumentation.

a. Action Statement A

The automatic sprinkler systems provide an increased degree of protection and suppression capability over that provided by a fire watch.

The turbine building sprinkler systems are of the wet pipe sprinkler design, while the auxiliary building sprinkler systems are of the dry pilot preaction system type. The dry pilot actuating mechanism consists of pneumatic piping containing heat actuated devices (sprinklers) which activate at a lower temperature setting than the sprinklers which will discharge water. In those cases where detection of a fire by the independent dry pilot actuating system is possible, annunciation of the fire will be given in the associated control room prior to system actuation. Actuation of either type of sprinkler system will be annunciated in the

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associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire.

The sprinkler systems in the turbine building provide complete coverage of the same area protected by the detection system. This one-for-one coverage allows continuous automatic suppression capability.

In the auxiliary building, the areas of sprinkler system coverage are smaller than that of the detection systems. The detection systems include rooms and areas that are not covered by sprinkler systems. Generally speaking, the sprinkler system provides protection of the normally accessible areas for each floor. While these rooms or areas are without coverage, they do adjoin and have access from the normally assessable portions of the floor where the sprinkler systems are installed. Should the detectors within the rooms or areas be inoperable and a fire start, the fire would be detected by the remaining operable detectors outside the room or area and prevented from spreading beyond the area of origin by the sprinklers located outside the room or area. The original sprinkler systems at elevations 587' and 609' were installed to meet the requirements of Appendix A to BTP APCSB 9.5-1. Under Appendix R to 10 CFR 50, the systems were again analyzed and expanded or added where required as detailed in our submittal of the Safe Shutdown Capability Assessment, Proposed Modification and Evaluation Report.

The fire zones where the automatic detection systems are installed have a low fixed combustible loading. With the exception of one fire zone, the current fire loading in each fire zone has an equivalent fire severity of less than 20 minutes. The one fire zone has an equivalent fire severity of less than 40 minutes.

b. Action Statement B

This action statement includes those areas having cross-zoned fire detection circuits. The cross-zoned fire detection circuits employ



either two zones of ionization smoke detectors, one zone of ionization detectors and one zone of infrared flame detectors, or two zones of thermistor heat detectors. Each detection zone provides essentially 100% coverage. Exceptions to this have been documented by the NFPA 72E Code Compliance Report. Where justifications could not be provided, modifications are being pursued. The second zone of detection provides detection capabilities equal to or better than those of the fire watch. Upon detection of a fire, annunciation will be given in the associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire.

Fire zones using an Appendix R III.G.3 compliance strategy include the Unit 1 and 2 Quadrant 2 penetration cable tunnels (Fire Zones 38 and 39), the auxiliary building emergency power system areas (Unit 1 Fire Zones 40A-B, 41, 42A through 42D, plus Unit 2 Fire Zones 45, 46A, 46C, 46D, 47A-B), Unit 1 and 2 switchgear room cable vaults (Fire Zones 55 and 60), and Unit 1 and 2 control room cable vaults (Fire Zones 57 and 58). This compliance strategy requires alternate shutdown capability and its associated circuits to be located outside of the fire area, zone or room under consideration. Fire zone 46b of the Unit 2 emergency power system area does not contain any safe shutdown components. The remaining fire zones use III.G.1 and III.G.2.a compliance strategies. They include the penetration cable tunnel quadrants 1, 3N, 3M, 3S and 4 (Unit 1 Fire Zones 7 through 11 and Unit 2 Fire Zones 23 through 27), and emergency diesel generator rooms (Unit 1 Fire Zones 15 and 16 and Unit 2 Fire Zones 18 and 19).

Current fire loading for these zones range from very low (under five minutes) to moderate (under two hours). Fire loading of under one-half hour exists in 20 fire zones. Fire loadings between one-half and one hour exist in five other fire zones, while another five fire zones have loadings under one and one-half hours. The diesel generator rooms have the highest fire loadings at less than



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two hours. The following chart shows the equivalent fire severity by fire zone.

<u>Equivalent Fire Severity</u>	<u>Fire Zones</u>
Less than one-half hour	8, 11, 23, 26, 39, 40A-B, 41, 42A-C, 45, 46A-D, 47A-B, 55, 60
Less than one hour	9, 24, 25, 38, 42D
Less than one and one-half hours	7, 10, 27, 57, 58
Less than two hours	15, 16, 18, 19

The combustible loading values for the fire zones in the less than one hour and one and one-half hour categories are basically comprised of cabling. The diesel generator rooms have high quantities of oil. The various combinations of cross-zoned detection circuits, couples with their extent of coverage provides reasonable assurance that a fire, even in the zones of high fire loading, will be detected promptly and initiate a fire brigade response.

c. Action Statement C

This action statement is unchanged from that currently included in the T/Ss, and therefore, no justification is required.

d. Action Statement D

Closed circuit television is a quicker, more definitive means of detecting a reactor coolant pump fire than by monitoring containment air temperatures.

2. Fire Suppression Water System

This section provides justification for the change to the action statement associated with the fire suppression water system and corresponds to Section B.1 of the Description Section.

The requirement that we establish a backup fire suppression water system within seven days if one of the fire pumps is inoperable is not currently included in the T/Ss and therefore constitutes an additional requirement and makes our T/Ss more restrictive.

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### 3. Spray and/or Sprinkler System

This section provides justification for the change to the action statements associated with the spray and/or sprinkler systems and corresponds to Section C.1 of the Description Section. Following is the justification for each of the new action statements.

#### a. Action Statement A

The current action statement requires a continuous fire watch with backup suppression while our new action statement provides an option of either verifying detection or establishing a continuous fire watch.

The main justification for this approach is that the unit housing acts as a shield to prevent exposure fires outside the unit from igniting the charcoal inside and by preventing the spread of an internal charcoal fire to combustibles outside the unit. Also, a fire within a ventilation unit would not affect the operation of its redundant ventilation train due to the inherent confinement of the charcoal. Even though redundant trains are usually located next to each other, spatial separation between the units would allow adequate dissipation of the heat.

Smoke detection systems are also provided in the same zones that the charcoal filter ventilation units are located. When smoke from an internal fire leaks outside the unit or where an exposure fire exists, it will be detected by the area smoke detectors. Alarm annunciation will then be given in the appropriate control room and begin the fire brigade response. Upon arrival and assessment of the fire situation, the manual deluge suppression system is available for actuation and suppression of the fire.

The current combustible loading for the fire zones in which the charcoal filter ventilation units outside of containment are located are generally low. With the exception of the two units located at elevation 633' in the auxiliary building, the equivalent fire severities in these zones are currently less



than ten minutes. These other two units are located in the Unit 1 and 2 HVAC vestibules (Fire Zones 49 and 50), which have equivalent fire severities of just over one and one-half hour, respectively.

Power plant experience has shown that activities or events most likely to result in a charcoal fire are welding, burning and grinding (WBG). These fires are also a result of failure to remove or provide adequate protection of the charcoal during these activities. Work under this scenario, as well as all WBG activities, are covered by plant administrative controls.

The above discussion demonstrates how unlikely it would be for a fire to start, spread, affect redundancy or cause an unsafe condition in the absence of a fire watch patrol

Deletion of the requirement that the fire watch have backup fire suppression equipment is justified by taking credit for the permanent fire suppression equipment. We believe that the permanently installed equipment is adequate and that there is no need to require the fire watches to carry portable fire suppression equipment.

b. Action Statement B

This action statement takes credit for automatic detection systems located in the same area as the sprinkler systems.

The automatic detection systems provide detection capability that is equal to or better than those of the fire watch. Upon detection of a fire, annunciation will be given in the associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire.

In general, the fire zones where the automatic sprinkler systems are installed have a low combustible loading. For areas outside of containment, the current fixed combustible loadings are less than 30 minutes for all but one fire zone, which has a loading of less than 40 minutes. Inside containment, the fire zones containing the reactor coolant pumps

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have current fixed combustible loadings of a little less than one hour in Unit 1 and less than 70 minutes in Unit 2.

We believe that deletion of the backup fire suppression equipment requirement is justified for the reasons cited for Action A above.

4. Low Pressure CO<sub>2</sub> Systems

This section provides justification for changes to the action statements associated with the low pressure CO<sub>2</sub> systems and corresponds to Sections D.1 and D.2 of the Description Section. Following is the justification for each action statement.

a. Action Statement A

Action statement A has removed the requirement for establishing a fire watch during the isolation and entry of an automatic CO<sub>2</sub> protected area for routine tours, maintenance, construction or surveillance testing. A precondition before entry is the verification that at least one zone of fire detection for the affected fire area is operable. Upon detection of a fire, annunciation will be given in the associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire.

Prior to entry, the system will be isolated through the use of a key-lock switch. The use of any key-lock switch is annunciated on the control room fire panel, indicating the system is in the abnormal position. Changing the system from an operable condition to an isolated condition and vice versa is controlled by procedure. Also, by procedure, entry into an isolated area is logged through the use of a sign-in board. The systems will not be changed back to operable status until all names have been removed from the sign-in board.

Additionally, workers will be instructed to be alert for fires and the required actions to be taken upon detection of a fire through pre-job briefings. Fire watches will still be provided for those work activities such as WBG, which require their use through plant administrative controls.

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Should a fire be detected by the fire detection system before the workers have detected the fire, alarms would be annunciated in the control room and begin the local predischage audible and/or visual alarm signals. Key-lock isolation switches used to isolate only an individual hazard will block only the automatic operation of the CO<sub>2</sub> system from the detection equipment. The locally mounted CO<sub>2</sub> breakglass station is still available for initiating a CO<sub>2</sub> discharge if necessary. Key-lock switches used to isolate a group of rooms or hazards will block the automatic operation of the CO<sub>2</sub> system from both the detection systems and the CO<sub>2</sub> breakglass push button stations in all the areas within the group. Upon restoring the key-lock switch to its normal position, the system must still cycle through its predischage time delay before discharging. These time delays will be reviewed and adjusted as needed to ensure that sufficient duration is provided to allow for evacuation under worst-case conditions in accordance with NFPA 12. Since annunciation of a fire is given immediately in the control room upon detection by the detectors, the fire brigade response will have already been initiated prior to any involvement by the workers in the area. Upon arrival of the fire brigade, they are trained to perform an initial fire assessment and review the sign-in boards of areas protected by gaseous suppression systems for personnel who may still be in the area and need assistance in evacuation.

Even though the automatic CO<sub>2</sub> system protecting an area is isolated, the water and CO<sub>2</sub> hose stations are still operable for manual fire fighting purposes by the fire brigade. Additionally, portable fire extinguishers are always available for use by the building occupants to control and extinguish small fires.

Fire zones with the automatic CO<sub>2</sub> system and using the Appendix R III.G.3 compliance strategy include the switchgear room cable vault and auxiliary cable vault, Fire zones 55 and 56 in Unit 1 and 59 and 60 in Unit 2. The remaining fire zones with an automatic CO<sub>2</sub> system are the diesel generator fuel oil pump



rooms and emergency diesel generator rooms (Fire Zones 13, 15 and 16 in Unit 1 and 18, 19 and 21 in Unit 2) which use III.G.1 and III.G.2.a compliance strategy.

The current fire loadings for fire zones protected by an automatic CO<sub>2</sub> system ranges from less than one-half hour<sup>2</sup> for the diesel generator fuel oil pump rooms to under two hours for the diesel generator rooms. The cross-zoned detection circuits in the diesel generator rooms provide reasonable assurance that a fire will be detected promptly and initiate a fire brigade response.

b. Action Statement B

Action statement B has been reworded to take credit for an operable fire detection system and the establishment of an hourly fire watch patrol whenever one of the systems in Table 3.7-6 is inoperable.

The justifications for this approach are the same as those given in the discussion for Table 3.3-10B under Fire Detection Instrumentation. In summary, each zone of detection provides essentially 100% coverage (exceptions have been documented by the NFPA 72E Code Compliance Report and modifications are being pursued when justification could not be provided), each zone provides detection capabilities equal to or better than those of the fire watch, and annunciation in the control room will provide a quick response by the fire brigade. Manual fire fighting equipment in the form of water and CO<sub>2</sub> hose stations are still available for use by the fire brigade. Additionally, portable fire extinguishers are always available for use by the building occupants to control and extinguish small fires.

Fire zones using an Appendix R III.G.3 compliance strategy include the Unit 1 and 2 Quadrant 2 penetration cable tunnels (Fire Zones 38 and 39), the emergency power system areas (Unit 1 Fire Zones 40A-B, 41, 42A through 42D, plus Unit 2 Fire Zones 45, 46A, 46C, 46D, 47A-B), Unit 1 and 2 switchgear room cable vaults (Fire Zones 55 and 60), Unit 1

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and 2 auxiliary cable vaults (Fire Zones 56 and 59) and Unit 1 and 2 control room cable vaults (Fire Zones 57 and 58). This compliance strategy requires alternate shutdown capability and its associated circuits to be located outside of the fire area, zone or room under consideration. Fire Zone 46B of the Unit 2 emergency power system area does not contain any safe shutdown components. The remaining fire zones use III.G.1 and III.G.2.a compliance strategies. They include the penetration cable tunnel quadrants 1, 3N, 3M, 3S and 4 (Unit 1 Fire Zones 7 through 11 and Unit 2 Fire Zones 23 through 27) and emergency diesel generator rooms (Unit 1 Fire Zones 15 and 16 and Unit 2 Fire Zones 18 and 19).

Current fire loadings for these zones range from very low (under five minutes) to moderate (under two hours). Fire loadings between one-half and one hour exist in six other fire zones, while another five fire zones have loadings under one and one-half hours. The diesel generator rooms have the highest fire loadings at less than two hours. The following chart shows the equivalent fire severity by fire zone.

<u>Equivalent Fire Severity</u>	<u>Fire Zones</u>
Less than one-half hour	8, 11, 13, 21, 23, 26, 39, 40A-B, 41, 42A-C, 45, 46A-C, 47A-B, 55, 60
Less than one hour	9, 24, 25, 38, 56, 59
Less than one and one-half hours	7, 10, 27, 57, 58
Less than two hours	15, 16, 18, 19

The combustible loading values for the fire zones in the less than one hour and one and one-half hours categories are basically comprised of cabling. The diesel generator rooms have high quantities of oil. A single zone of detection coverage, coupled with its extent of coverage, provides reasonable assurance that a fire, even in the zones of high fire loading, will be detected promptly and initiate a fire brigade response.

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Deletion of the requirement that the fire watch have backup fire suppression equipment is justified by taking credit for the permanent fire suppression equipment. We believe that the permanently installed equipment is adequate and that there is no need to require the fire watches to carry portable fire suppression equipment.

5. Halon Systems

This section provides justification for changes to the action statements associated with the halon systems and corresponds to Section E.1 of the Description Section. Following is the justification for each of the new action statements for the halon system.

a. Action Statement A

This action statement allows entry into the control room cable vault during isolation of the halon systems when at least one zone of fire detection is operable.

The justifications for this approach are the same as given for action statement on low pressure CO<sub>2</sub> systems. In summary, at least one zone of fire detection for the affected area is operable and will annunciate in the control room, a quick response will be given by the fire brigade, isolation of the halon system is annunciated on the control room fire panel, workers will be instructed of the required fire precautions through pre-job briefings, the fire brigade is trained to perform initial fire assessments and review sign-in boards for personnel upon their arrival, and manual fire fighting equipment is available for use by the fire brigade and building occupants. Differences between the CO<sub>2</sub> and halon systems exist in the isolation mechanisms. When the isolating switch for the halon system is placed in the "isolate" position, the associated fire detection system cannot operate the system. Manual electric operation by means of the manual release stations is not affected, and operation can be initiated if required.



b. Action Statement B

This action statement takes credit for at least one zone of detection and the backup CO<sub>2</sub> fire suppression system.

The justifications for this approach are the same as those given in the discussion for Table 3.3-10B under Fire Detection Instrumentation. In summary, each zone of detection provides essentially 100% coverage (exceptions have been documented by the NFPA 72E Code Compliance Report and modifications are being pursued when justifications could not be provided), each zone provides detection capabilities equal to or better than those of the fire watch, and annunciation in the control room will provide a quick response by the fire brigade. Manual fire fighting equipment in the form of water and CO<sub>2</sub> hose stations are still available for use by the fire brigade. Additionally, portable fire extinguishers are always available for use by the building occupants to control and extinguish small fires.

The control room cable vaults, Fire Zones 57 and 58, use Appendix R strategy III.G.3. This compliance strategy requires alternate shutdown capability and its associated circuits to be located outside of the fire area, zone or room under consideration.

Current fire loadings for these fire zones is less than one and one-half hours. The single zone detection coverage, coupled with its extent of coverage provides reasonable assurance that a fire, even with its moderate fire loading, will be detected promptly and initiate a fire brigade response.

Deletion of the requirement that the fire watch have backup fire suppression equipment is justified by taking credit for the permanent fire suppression equipment. We believe that the permanently installed equipment is adequate and that there is no need to require the fire watches to carry portable fire suppression equipment.

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#### 6. Fire Hose Stations

This section provides justification for changes to the action statement associated with the fire hose stations and corresponds to Section F.1 of the Description Section. Following is the justification for the new action statement.

If the hose station is not the primary means of suppression, the new action statement requires verifying that the fixed suppression systems protecting the areas serviced by the inoperable hose station is operable rather than routing an additional hose. The fixed suppression system provides protection that is superior to the routing of an additional fire hose. The additional fire hose still requires manual action by the fire brigade within the area on fire. An automatic fire suppression system provides initial fire suppression activities independent of any human involvement. Actuation of the suppression system will be annunciated in the associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire.

Manual fire suppression systems would also be included in Part 2 of the action statement, but would require fire brigade involvement for system actuation. However, this fire brigade involvement can be taken outside of the area on fire which would reduce their direct exposure to the fire. Limiting the need for routing an additional fire hose is also beneficial in reducing the impact on fire rated assemblies (Specification 3.7.10). Under certain scenarios, the additional fire hose may have to be routed through a fire door. This results in the fire door being declared inoperable and an increase in the associated administrative burden.

#### 7. Fire Rated Assemblies

This section provides justification for changes to the action statement associated with the fire rated assemblies and corresponds to Section G.1 of the Description Section. Following is the justification for the new action statement.

The proposed Option 1 takes credit for operable fire detectors and/or fire suppression systems on at least one side of the inoperable assembly. The



fire suppression system provides a means of suppression that is superior to the use of the fire watch. Under the previous and proposed T/S requirements, a heat detection system was an acceptable means of meeting the requirements. A sprinkler is the equivalent of a fixed temperature heat detector. Sprinklers are used in both wet pipe sprinkler systems, as well as in the dry pilot actuation piping and sprinkler piping of a dry pilot sprinkler system. Upon actuation of the detection system and/or suppression system, annunciation will be given in the associated control room. The fire brigade will respond quickly to the fire scene upon annunciation of the fire. The hourly fire watch patrol was also removed since no real benefit was obtained by this action as explained above. Further details that support this approach are given in the discussions of Tables 3.3.10A and 3.3.10B under Fire Detection Instrumentation and Table 3.7-5B under Spray and/or Sprinkler Systems.

The proposed requirements of the second and third options are essentially unchanged from the current requirements.

The fourth option allows fire dampers and normally locked doors to be secured in the closed position as a means of complying with the action statement. This action is the same as previously allowed in the T/S, with the exception that a fire watch patrol is no longer required. No benefit is provided by the fire watch patrol since the inoperable sealing device is closed in its fail safe mode. The impact on HVAC will be considered prior to implementing option 3 or 4.

#### Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

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Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

We believe our above discussions demonstrate that the changes proposed will provide adequate fire protection for the subject areas and will provide adequate assurance that a condition will not be created which would prevent safe shutdown during a fire scenario. For these reasons, we believe the proposed changes will not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

Criterion 2

Since the proposed change will not result in a change in plant configuration and will maintain adequate fire protection for the affected areas, we therefore conclude that this change will not create the possibility of a new or different kind of accident from any previously analyzed or evaluated.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

C. Editorial Changes

This section provides justification for those editorial changes discussed in Sections A.1, A.3, A.9, B.7, C.6, D.9, E.5, F.6 and G.6 of the Description Section. These changes are editorial in nature and intended to clarify the T/S requirements and improve their wording.

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Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

These changes, being editorial in nature, will not reduce in any way the requirements or commitments contained in the existing T/Ss and therefore will not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

Criterion 2

The proposed changes will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that these changes will not create the possibility of a new or different kind of accident from any previously analyzed or evaluated.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples of amendments not likely to involve significant hazards considerations. The first example is that of a purely administrative change to the T/Ss: for example, a change to achieve consistency throughout the T/Ss, correction of an error, or change in nomenclature. We believe that the changes requested above are editorial changes and consequently are purely administrative. Therefore, we believe that



this change will involve no significant hazards consideration as defined in 10 CFR 50.92.

D. Incorporation of Additional Requirements

This section provides justification for those changes discussed in Section A.7, C.5, D.5, F.4, F.5, and G.4. These changes incorporate requirements currently not included in the T/Ss or make the current requirement more restrictive.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Since the proposed changes make our T/Ss more restrictive, they will not significantly increase the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident, or significantly reduce a margin of safety.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The second of these examples refers to a change that constitutes an additional limitation, restriction, or control not presently included in the T/Ss. Since the surveillance requirements imposed by the requested changes are more stringent than the requirements in our current T/Ss, we believe the proposed change falls within the scope of this example. Therefore, we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.



E. Change to Allowable Number of Inoperable Detectors

This section provides justification for the change described in Description Section A.4. This change allows 50% of the detectors on a single circuit to be inoperable before declaring the detection circuit inoperable rather than the 25% allowed by the current T/Ss. The 50% value is based on the allowable value given in the General Electric (GE) Standard T/Ss and had the concurrence of members of the NRC staff when discussed at the June 1988 meeting. The current Westinghouse Standard T/Ss do not state an allowable percentage.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards consideration if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

The proposed change is consistent with the NRC approved GE Standard T/Ss, and the fire protection requirements for the Cook Nuclear Plant do not differ significantly from those for a GE plant. In addition, we believe that the proposed change will ensure that adequate fire protection is maintained for the affected areas. Based on this, we believe the proposed change will not significantly increase the probability or consequences of a previously analyzed accident or significantly reduce a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration and will maintain adequate fire protection for the affected areas. We therefore conclude that this

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change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards or providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

F. Deletion of Systems Associated with 1-HV-CFT 1 and 2

This section provides justification for the change described in Description Section A.8. This proposed change deletes the detection systems associated with the charcoal filter units 1-HV-CFT 1 and 2. These detection systems are not taken credit for in any Appendix R boundary evaluations or exemption requests and the subject filter units are not included elsewhere in the T/Ss.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

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Criterion 1

The detection systems being deleted are not taken credit for in the Appendix R boundary evaluations or exemption requests and there are no T/Ss requiring operability of the filter units protected by these systems. The Westinghouse Standard T/Ss specify that all detectors in areas required to ensure operability of safety-related equipment be listed in the table of fire detection systems required to be operable. The standard T/Ss therefore do not require fire detectors to be included unless they protect safety-related equipment. The subject ventilation units are not safety-related equipment and perform no safety-related functions. We therefore believe that deleting the detection systems protecting this equipment is consistent with the standard T/Ss and will not affect our ability to provide adequate fire protection for the subject area. Based on the above discussions, we believe this change will not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration and will not affect our ability to provide adequate fire protection for our plant. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

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G. Changes to Surveillance Requirement 4.7.9.2.b.2

This section provides justification for the change discussed in Description Section C.4. This proposed change modifies surveillance requirement 4.7.9.2.b.2 by deleting the inspection of piping supervised by air. The air supervision provide continuous verification of piping integrity and an inspection is therefore unnecessary.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

The inspection is an unnecessary test for piping supervised by air and provides no benefit. Elimination of this test for piping supervised by air will therefore not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant

Figure 6

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hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

#### H. Conversion of Systems From Automatic to Manual

This section provides justification for the change discussed in Description Section D.6. This proposed change revises Table 3.7-6 to convert several systems from automatic to manual operation.

Appendix A to BTP APCSB 9.5-1 requires CO<sub>2</sub> suppression systems protecting cable spreading and switchgear areas to be automatic in operation. As identified below, the Appendix R compliance strategy used for each of these fire zones involved is either III.G.1 or III.G.3. Neither of these compliance strategies require automatic fire suppression systems to be installed. It should be noted that III.G.3 required the installation of fixed fire detection and a fixed fire suppression system in the area, room or zone under consideration. This requirement is met by the manual CO<sub>2</sub> system.

<u>Compliance Strategy</u>	<u>Fire Zones</u>
III.G.1	Unit 1 - 7 through 11 Unit 2 - 23 through 27
III.G.3	Unit 1 - 38, 40A-B, 41, 42A-C, 55, 56 Unit 2 - 39, 45, 46A, 46C, 47A-B, 59, 60

NOTE: III.G compliance is provided for Fire Zone 46B since no safe shutdown cables or equipment are located in the zone.

Compliance strategy III.G.1 requires one train of systems necessary to achieve and maintain hot shutdown conditions from either the control room or emergency control stations to be free of fire damage and that

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systems necessary to achieve and maintain cold shutdown from either the control room or emergency control stations can be repaired in 72 hours. The Safe Shutdown Capability Assessment, Proposed Modifications and Evaluations (SSCA), Revision 1, states in Table 1-1 that III.G.1 compliance is provided since no redundant safe shutdown equipment is in the area. III.G.3 requires alternate or dedicated shutdown capability and its associated circuits to be located outside of the fire area, zone or room under consideration. As demonstrated by the SSCA, conversion of these systems to manual operation will have no impact on the original analysis. The previous discussions (in Section B.4 of the Justification Section) concerning current combustible loading values and the availability of manual fire fighting equipment are also applicable to this issue of conversion.

#### Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

#### Criterion 1

As discussed above, the subject systems are not required by Appendix R to be automatic and their conversion to manual operation will have no impact on the original analysis. The proposed change will therefore not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

#### Criterion 2

The proposed change will not place the plant in an unanalyzed condition. We therefore conclude that the

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change will not create the possibility of a new or different kind of accident.

### Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

### I. Change to Surveillance Requirement 4.7.9.4.a

This section provides justification for the changes described in Description Section E.4. This proposed change allows the use of a liquid level meter to confirm the fill capacity of the halon storage tank. This method is allowed by NFPA 12A, 1987 edition.

### Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

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Criterion 1

The proposed change allows a method of measuring the fill capacity of the halon storage tank which has been found to be acceptable by the National Fire Protection Association. We believe measurement of liquid level will provide a means of verifying the adequacy of the halon storage tank which is essentially equivalent to measuring the full charge weight. We therefore believe that this proposed change will not significantly increase the probability or consequences of a previously analyzed accident.

Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

J. Change to Surveillance 4.7.9.1.1.f

This justification section and its associated SHA corresponds to Description Section B.4. The existing surveillance requirement for the fire suppression system flow test references the NFPA Fire Protection Handbook. The test we are proposing differs slightly from the test described in the handbook. Although the intent of both tests is equivalent, we believe our method of testing is an improvement over the test described in the handbook. The test described in the handbook verifies the flow rate through the system but does not require confirmation of flow through all segments of the system.

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Our proposed test breaks up the system and allows us to verify the flow in individual segments and thereby allows us to verify each individual segment is clear of obstruction.

#### Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards consideration if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

#### Criterion 1

We believe that our proposed test will enhance our ability to meet the intent of the T/S requirement and will therefore not increase the probability or consequences of a previously analyzed accident or reduce a margin of safety.

#### Criterion 2

The proposed change will not result in a change in plant configuration or operation and in our opinion will enhance our ability to meet the intent of the T/S requirement. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

#### Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve a significant hazards consideration. We believe the proposed change is less likely than the sixth example in the above guidance to involve a significant hazards consideration. Specifically, we believe the proposed

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change will not result in an increase in the probability or consequences of a previously analyzed accident or reduce a safety margin, and is within all acceptable criteria. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

L. Changes to Surveillance Requirement 4.7.9.1.2.c

This justification section and its associated SHA corresponds to Section B.5 of the description section. The change allows the fire pump diesel engine inspection to be performed during plant operation. The current T/Ss require that this inspection be performed during shutdown. We are not aware of any reason for requiring that the inspection be performed during shutdown. We have a total of four fire pumps that are shared by both units, and we can therefore ensure that adequate fire protection is maintained while one of the pumps is inoperable to allow testing of its diesel engine. We prefer to test the diesels during operation because plant personnel are typically very busy during shutdown periods. Allowing the diesel to be tested during operation will relieve us of the requirement to test them during this busy period.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

Adequate fire protection can be maintained by the other fire pumps while one of the diesel driven pumps is inoperable for testing. This is true during plant operation as well as during shutdown. We therefore believe that this proposed change will not significantly

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increase the probability or consequences of a previously analyzed accident or significantly reduce a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not affect our ability to maintain adequate fire protection. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

M. Change to Surveillance Requirement 4.7.10.1.c

This justification section and its associated SHA corresponds to Section G.5 of the description section. The proposed change modifies the surveillance requirement to require inspection of an additional 10% of each type of seal when changes in appearance or abnormal degradation are found in the initial sample only if there is indication of a plant-wide trend. This change was discussed with our project manager, and he was receptive to this proposal. Most fire seal problems are due to circumstances restricted to one particular fire seal and are not indicative of plant-wide problems. We believe it is unnecessary to test additional seals in these cases and place an additional testing burden on the plant with no apparent benefit. We plan to continue testing additional seals if a problem is found which might indicate a generic or plant-wide trend.

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Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

We believe that testing additional seals when the discovered seal degradation has apparently been caused by circumstances restricted to one particular seal provides no apparent benefit. We plan to continue testing additional seals when the degradation appears to have been caused by circumstances which could produce similar problems in other seals. Based on the above discussion, we believe the proposed change will not significantly increase the probability or consequences of a previously analyzed accident or significantly decrease a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a

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previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

N. Change to Surveillance Requirement 4.7.9.3.c.3

This section provides justification and the SHA for the proposed change described in description section C.6. The subject change proposes to allow an airflow test as an alternative to the CO<sub>2</sub> puff test. The use of compressed air to test the flow through each CO<sub>2</sub> nozzle will allow the plant a safer, easier, and more cost-effective means of testing the nozzles for blockage. The intent of the test is to check the nozzles for blockage, and for the purposes of meeting this intent, an airflow test is equivalent to the CO<sub>2</sub> puff test.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1

The airflow test is a safer method of testing the CO<sub>2</sub> nozzles and is equivalent to the existing T/S test from the standpoint of meeting the intent of the T/S requirement. For these reasons, we believe the proposed change will not significantly increase the probability or consequences of a previously analyzed accident or significant increase in a margin of safety.

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Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

O. Addition of Footnote to Table 3.7-6

This section provides justification and the SHA for the proposed change described in description section C.7. The proposed change added a footnote to Table 3.7-6 stating that the control room cable vault CO<sub>2</sub> system is only required to be operable when the control room cable vault halon system is inoperable.

The control room cable vault is equipped with a fire detection system, a halon suppression system and a CO<sub>2</sub> suppression system. The CO<sub>2</sub> system is considered a backup CO<sub>2</sub> suppression system. We believe that the halon system and the detection system provides adequate fire protection for the cable vault area and there is no need to require the redundant (backup) suppression system to be operable unless the primary suppression system is inoperable.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

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- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

#### Criterion 1

We believe that the primary suppression system (halon system) and the detection system provide adequate fire protection for the control room cable vault area. The CO<sub>2</sub> system is intended as a backup to the halon system and need only be required to be operable when the halon system is inoperable. We therefore believe the proposed change will not significantly increase the probability or consequences of a previously analyzed accident or significant increase in a margin of safety.

#### Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not affect our ability to maintain adequate fire protection for the affected area. We therefore conclude that this change will not create the possibility of a new or different kind of accident.

#### Criterion 3

See Criterion 1 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

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P. Deletion of Requirement to Test Fire Pump Diesel on Recirculation Flow

This section provides justification and the SHA for the proposed change described in description Section B.6. The proposed change deletes the requirement that the fire pump diesel test be performed on recirculation flow. The specific flow path used for testing has no impact on the results of the test and is therefore an unnecessary restriction. When measuring parameters such as discharge or differential pressure, the flow rate at which the testing is conducted and consequently the flow path used for the testing can have an affect on the test results; however, the intent of the test specified surveillance requirement 4.7.9.1.2.a.2 is to ensure that the diesel is capable of starting and operating for 30 minutes, and this objective can be accomplished using any flow path.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from an accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Criterion 1

The proposed change eliminates an unnecessary restriction. The flow path used in conducting the subject test has no impact on the test results and the intent of the surveillance test can therefore be met without requiring that a particular flow path be used. For these reasons, we believe the proposed change will not significantly increase the probability or consequences of a previously analyzed accident or significantly reduce a margin of safety.

Criterion 2

The proposed change will not result in a change in plant configuration or operation and will not place the plant in an unanalyzed condition. We therefore conclude that

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this change will not create the possibility of a new or different kind of accident.

Criterion 3

See Criterion 2 above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The sixth of these examples refers to changes which may result in some increase to the probability of occurrence or consequences of a previously analyzed accident, but the results of which are within limits established as acceptable. We believe these changes fall within the scope of this example for the reasons cited above. Therefore we believe this changes does not involve a significant hazards consideration as defined in 10 CFR 50.92.

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