Docket File



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20655-0001

March 21, 1994

Docket Nos. STN 50-454, STN 50-455, and STN 50-456, STN 50-457

LICENSEE: Commonwealth Edison Company (CECo)

FACILITIES: Byron Station, Units 1 and 2; and Braidwood Station,

Units 1 and 2

SUBJECT: SUMMARY OF MARCH 8, 1994 MEETING

On March 8, 1994, a public meeting was held between the NRC and CECo (the licensee) to discuss a possible license amendment request under development by the licensee. A list of attendees is enclosed (Enclosure 1). Enclosure 2 includes the meeting agenda.

The licensee is considering submitting a request for a license amendment for changes to Section 6 of the Technical Specifications (TS)(Enclosure 3). Three major issues would be addressed: 1) removal of Section 6.5 from the TS and placement into the QA Topical Report under administrative controls; 2) change in the reporting of the SQV organization from Nuclear Oversight (corporate) to the respective site Vice Presidents; and 3) changes in organization titles to make them consistent with the present organization.

The majority of the discussions concerned item 2 above (item I.d of the agenda). One point of discussion was that the SQV organizations now include ISEG responsibilities. However TMI Item I.B.1.2 requires that ISEG report "... offsite to a corporate official who holds a high-level technically oriented position that is not in the management chain for power production." Further, the broader question of how Criterion I of 10 CFR Appendix B would be satisfied with regard to organizational independence if the SQV organization reports to the onsite Vice Presidents was identified and discussed. The staff emphasized that it would consider the proposed changes, but that the concerns identified at the meeting would have to be addressed in any submittals.

The staff also suggested that, in the area of reduced administrative burden, the licensee might consider a submittal to remove a portion of the TS administrative controls in accordance with the October 25, 1993, letter from the NRC to the Technical Specifications Committees for the four owners groups.

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The licensee indicated that they would discuss with their management the points noted by the staff at the meeting and determine the most effective way to prepare their submittal. The staff stated that it believes that major points regarding the proposed changes have been identified and further consideration can best be done if the licensee makes a formal submittal on the docket. In that way, staff resources can be officially dedicated and review schedules established.

Original signed by:
George F. Dick, Jr., Project Manager
Project Directorate III-2
Division of Reactor Projects - III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees

2. Agenda

3. Organizational Changes

cc w/enclosures: See next page

DISTRIBUTION (w/enclosures 1, 2 and 3):
Docket File (STN 50-454, 455, 456, 457)
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FOR MARCH 8, 1994

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NRC/NRR

CECo

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NRC/NRR

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NRC/NRR

CECo - NRR MEETING AGENDA (03/08/94)

Proposed Quality Assurance Topical Report Changes and Byron/Braidwood Proposed License Amendment Status and Priorities

- I Proposed Section 6.0 Amendment and QA Topical Changes
 - a. Pending Section 6.0 Amendment will be processed as 3 separate amendments
 - 1. Title changes (6-Station submittal)
 - 2. Relocation of Section 6.5 to the QA Topical (6 Station submittal)
 - 3. Station specific changes (Station specific submittal)
 - b. Title Change Amendment Discussion
 - c. Relocation of Section 6.5 to the QA Topical Discussion
 - d. Implementation of the SQV Organization Changes
- II Byron/Braidwood Amendment Status and Priorities

6.1 RESPONSIBILITY

- 6.1.1 The Station Manager, Byron Station, shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.
- 6.1.2 The Shift Engineer (or during his absence from the control room, a designated individual) shall be responsible for the control room command function. A management directive to this effect, signed by the Vice President PWR Operations shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

6.2.1 ONSITE AND OFFSITE ORGANIZATIONS

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 levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Quality Assurance Manual or the Management Plan for Nuclear Operations, Section 3 Organizational Authority, Activities; Section 6 Interdepartmental Relationships.
- b. The Station 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.
- Chief Nuclear Officer (CNO)

 The Senior 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 functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 UNIT STAFF

The unit staff 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; and
- 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. A Radiation Protection Technician,* qualified in radiation protection procedures, shall be on site when fuel is in the reactor;
- d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation;
- e. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety-related functions; e.g., licensed Senior Operators, licensed Operators, health physics personnel, equipment operators, and key maintenance personnel.

The amount of overtime worked by Unit staff members performing safety-related functions shall be limited in accordance with the NRC Policy Statement on working hours (Generic Letter No. 82-12);

Operations Manager or Shift Operations Supervisor

f. The Assistant Superintendent Operating shall hold a Senior Reactor Operator License.

6.2.3 ONSITE NUCLEAR SAFETY GROUP (ONSG) INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

FUNCTION

6.2.3.1 The ONSG serves as an independent safety engineering group and shall function to examine plant operating characteristics, NRC issuances, industry advisories, REPORTABLE EVENTS and other sources of plant design and operating experience information, including plants of similar design, which may indicate areas for improving plant safety. The ONSG shall make detailed recommendations for revised procedures, equipment modifidations, maintenance activities, operations activities or other means of improving plant safety to the Safety Assessment Manager, and the Station Manager, Byron Station.

Site Quality Composition

6.2.3.2 The $\frac{\text{ONSG}}{\text{ONSG}}$ shall be composed of at least three, dedicated, full-time engineers located on site.

^{*}The Radiation Protection Technician 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.

ENDEPENDENT SAFETY ENCINEERING GLOUP (ISEG) 6.2.3 ONSITE NUCLEAR SAFETY GROUP (ONSG) (Continued)

RESPONSIBILITIES

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

RECORDS

5.2.3.4 Records of activities performed by the ONSG shall be prepared, maintained, and forwarded each calendar month to the Safety Assessment Manager, and the Station Manager, Byron Station.

5/te Quality Verification Director

6.2.4 SHIFT TECHNICAL ADVISOR

The Station Control Room Engineer (SCRE) may serve as the Shift Technical Advisor (STA) during abnormal operating or accident conditions. During these conditions the SCRE or other on duty STA shall provide technical support to the Shift Supervisor in the areas of thermal hydraulics, reactor engineering and plant analysis with regard to the safe operation of the unit.

To assure capability for performance of all STA functions:

- (1) The shift foreman (SRO) shall participate in the SCRE shift relief turnover.
- (2) During the shift, the shift engineer and the shift foreman (SRO) shall be made aware of any significant changes in plant status in a timely manner by the SCRE.
- (3) During the shift, the shift engineer and the shift foreman (SRO) shall remain abreast of the current plant status. The shift foreman (SRO) shall return to the control room two or three times per shift, where practicable, to confer with the SCRE regarding plant status. Where not practicable to return to the control room, the shift foreman (SRO) shall periodically check with the SCRE for a plant status update. The shift foreman (SRO) shall not abandon duties original to reactor operation, unless specifically ordered by the shift engineer.

^{*}Not responsible for sign-off function.

(THIS FIGURE MOT USEP)

FIGURE 6.2-2 (THIS FIGURE NOT USED)

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION

POSITION	NUMBE	R OF INDIVIDUALS F	REQUIRED TO FILL POSITION		
	BOTH UNITS IN MODE 1, 2, 3, OR 4	BOTH UNITS IN MODE 5 OR 6 OR DEFUELED	ONE UNIT IN MODE 1, 2, 3 OR 4 AND ONE UNIT IN MODE 5 OR 6 OR DEFUELE		
SE	1	1	1		
SF	1	None##	1		
RO	3#	2#	3"		
AO-	3#	3#	3#		
STA or	1	None	1		

SE - Shift Supervisor (Shift Engineer) with a Senior Operator license

F - Shift Foreman with a Senior Operator license

RO - Individual with an Operator license

AO - Auxiliary Operator

STA - Shift Technical Advisor

SCRE - Station Control Room Engineer with a Senior Operator License

The Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 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. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent.

During any absence of the Shift Supervisor from the control room while the Unit is in MODE 1, 2, 3 or 4, an individual with a valid Senior Operator license shall be designated to assume the control room command function. During any absence of the Shift Supervisor from the control room while the Unit is in MODE 5 or 6, an individual with a valid Operator license shall be designated to assume the control room command function.

[#]At least one of the required individuals must be assigned to the designated position for each unit.

^{##}At least one licensed Senior Operator or licensed Senior Operator Limited to Fuel Handling must be present during Core Alterations or either unit, who has no other concurrent responsibilities.

6.3 UNIT STAFF QUALIFICATIONS

6.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971, except for the Health Physics Supervisor or Lead Health Physicist, who shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975, for a Radiation Protection Manager.

6.4 TRAINING

6.4.1 A retraining and replacement training program for the unit staff shall be maintained under the direction of the Production Training Department and shall meet or exceed the requirements and recommendations of Section 5 of ANSI/ ANS 3.1-1978, and shall include familiarization with relevant industry operational experience, from the program managed by Quality Programs and Assessment.

6.5 REVIEW INVESTIGATION AND AUDIT

The Review and Investigative Function and the Audit Function of activities affecting quality during facility operations shall be constituted and have the responsibilities and authorities outlined below.

OFFSITE

Director of Safety Review 6.5.1 The Superintendent of the Offsite Review and Investigative Function Nuelear 3 oversight shall be appointed by the Manager of Quality Assurance/Nuclear Safety (QA/NS) responsible for nuclear activities. The corporate audit function shall be the Manage responsibility of the Manager of QA/NS and shall be independent of operations. Nuclear Quelear Oversight

Nuclear The Manager of QA/NS reports directly to the Chief Executive Officer and has versions the responsibility to set Corporate Policy for both the areas of Quality Assurance and Nuclear Safety. Policy is promulgated through a central policy committee directed by the Manager of QA/NS. The Manager of QA/NS has the responsibility for the performance of periodic audits of each nuclear station and corporate department to determine that QA/NS policy is being carried out. Quality Assurance and Nuclear Safe

Offsite Review and Investigative Function

Director of Safeti Review The Superintendent of the Offsite Review and Investigative Function shall: (1) provide directions for the review and investigative function and appoint a senior participant to provide appropriate direction, (2) select each participant for this function, (3) select a complement of more than one participant who collectively possess background and qualifications in the subject matter under review to provide comprehensive interdisciplinary review coverage under this function, (4) independently review and approve the findings and recommendations developed by personnel performing the review

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ADMINISTRATIVE CONTROLS

OFFSITE (Continued)

Site

Nuclear Oversight

and investigative function, (5) approve and report in a timely manner all findings of non-compliance with NRC vequirements to the Station Manager, Vice President, PWR Operations, Manager of QA/NS, General Manager Quality Programs and Assessment, and the Senior Vice President - Nuclear Operations. During periods when the Superintenedent of Offsite Review and Investigative Function is unavailable, he shall designate this responsibility to an established alternate, who satisfies the formal training and experience for the Superintendent of the Offsite Review and Investigative Function. The responsibilities of the personnel performing this function are stated below. The Offsite Review and Investigative Function shall review:

Director of Safety S

Director of Sofety Review

Chief Nuclear

officer

The safety evaluations for: (1) changes to procedures, equipment, or systems as described in the safety analysis report, 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. Proposed changes to the Quality Assurance Program description shall be reviewed and approved by the Manager; of QA/NS;

Nuclear

- Proposed changes to procedures, equipment or systems which involve an unreviewed safety question as defined in 10 CFR 50.59;
- 3) Proposed tests or experiments which involve an unreviewed safety question as defined in 10 CFR 50.59;
- Proposed changes in Technical Specifications or this Operating License;
- Noncompliance with Codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures, or instructions having nuclear safety significance;
- Significant operating abnormalities or deviation from normal and expected performance of plant equipment that affect nuclear safety as referred to it by the Onsite Review and Investigative Function;
- 7) All REPORTABLE EVENTS;
- All recognized indications of an unanticipated deficiency in some aspect of design or operation of safety-related structures, systems, or components;
- 9) All changes to the Generating Stations Emergency Plan prior to implementation of such change; and

(Site)

Justima Engineering

10) All items referred by the Technical Staff Supervisor, Station

Manager, Wice President PWR Operations and General Manager

Quality Programs and Assessment. Or Nuclear Oversight Manager.

b. Station Audit Function

Site Quality Veritication Director The station audit function shall be the responsibility of the General Manager Quality Programs and Assessment independent of PWR operations. Such responsibility is delegated to the Nuclea Quality Programs Manager.

The Nuclear Quality Programs Manager, or designated corporate staff or supervision approved by the General Manager Quality Programs and Assessment shall approve the audit agenda and checklists, the findings and the report of each audit. Audits shall be performed in accordance with the Company Quality Assurance Program and Procedures. Audits shall be performed to assure that safety-related functions are covered within the period designated below:

- The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 12 months;
- The adherence to procedure, training, and qualification of the station staff at least once per 12 months;
- 3) The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems, or methods of operation that affect nuclear safety at least once per 6 months;
- 4) The performance of activities required by the Operational Quality Assurance Program to meet the criteria of Appendix B, 10 CFR Part 50, at least once per 24 months;
- 5) The Facility Emergency Plan and implementing procedures at least once per 12 months;
- 6) The Facility Security Plan and implementing procedures at least once per 12 months;
- 7) Onsite and offsite reviews:
- 8) The Facility Fire Protection programmatic controls including the implementing procedures at least once per 24 months by qualified QA personnel;
- 9) The fire protection equipment and program implementation at least once per 12 months utilizing 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;

- 10) The Radiological Environmental Monitoring Program and the results thereof at least once per 12 months:
- The OFFSITE DOSE CALCULATION MANUAL and implementing procedures 11) at least once per 24 months;
- The PROCESS CONTROL PROGRAM and implementing procedures for solidification of radioactive wastes at least once per 24 months; and
- 13) The performance of activities required by the Company Quality Assurance Program for effluent and environmental monitoring at least once per 12 months.

All findings of noncompliance with NRC requirements and recommendations and results of each audit shall be reported to the Station Manager. Manager of QA/NS, the Vice President, PWR Operations, General Manager < Site Quality Programs and Assessment, the Senior Vice President - Nuclear Operations, and the Chief Operating Officer,

to stop work, Nuclear Authority - Aucleur Oversight Nuclear

The Manager of QA/NS reports to the Chief Executive Officer. The Nuclear Oversight Manager of QA/NS has the authority to order unit shutdown or request any other action which he deems necessary to avoid unsafe plant conditions.

The General Manager Quality Programs and Assessment reports to the Site Quality Verification City Senior Vice President - Nuclear Operations. The General Manager -Quality Programs and Assessment has the authority to recommend unit shutdown or request any other action which he deems necessary to avoid unsafe plant conditions. All such disagreements shall be reported immediately to the Manager of QA/NS and the Chief Operating Officer. Significant safety or quality issues requiring escalated action, will

be directed through the Nuclear Oversight Manager to the Chief Nuclear Officer.

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Director

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d. Records

- Reviews, audits, and recommendations shall be documented and distributed as covered in Specification 6.5.1a. and 6.5.1b.; and
- Copies of documentation, reports, and correspondence shall be kept on file at the station.

e. Procedures

Written administrative procedures shall be prepared and maintained for the offsite reviews and investigative functions described in Specification 6.5.la. and for the audit functions described in Specification 6.5.lb. Those procedures shall cover the following:

- 1) Content and method of submission of presentations to the Superintendent of the Offsite Review and Investigative Function, Director of Safety Review
- 2) Use of committees and consultants.
- 3) Review and approval,
- 4) Detailed listing of items to be reviewed.
- 5) Method of: (1) appointing personnel, (2) performing reviews, investigations, (3) reporting findings and recommendations of reviews and investigations, (4) approving reports, and (5) distributing reports, and
- Determining satisfactory completion of action required based on approved findings and recommendations reported by personnel performing the review and investigative function.

f. Personnel



The persons, including consultants, performing the Offsite Review and Investigative Function, in addition to the Superintendent of the Offsite Review and Investigative Function, shall have expertise in one or more of the following disciplines as appropriate for the subject or subjects being reviewed and investigated:

- a) Nuclear power plant technology,
- b) Reactor operations,
- c) Utility operations,
- d) Power plant design,
- e) Reactor engineering,
- f) Radiological safety.
- g) Reactor safety analysis,

h) Instrumentation and control,

i) Metallurgy, and

- Any other appropriate disciplines required by unique characteristics of the facility.
- 2) Individuals performing the Offsite Review and Investigative Function shall possess a minimum formal training and experience as listed below for each discipline.
 - a) Nuclear Power Plant Technology

Engineering graduate or equivalent with 5 years experience in the nuclear power field design and/or operation.

b) Reactor Operations

Engineering graduate or equivalent with 5 years experience in nuclear power plant operations.

c) Utility Operations

Engineering graduate or equivalent with at least 5 years of experience in utility operation and/or engineering.

d) Power Plant Design

Engineering graduate or equivalent with at least 5 years of experience in power plant design and/or operation.

e) Reactor Engineering

Engineering graduate or equivalent. In addition, at least 5 years of experience in nuclear plant engineering, operation, and/or graduate work in nuclear engineering or equivalent in reactor physics is required.

f) Radiological Safety

Engineering graduate or equivalent with at least 5 years of experience in radiation control and safety.

g) Reactor Safety Analysis

Engineering graduate or equivalent with at least 5 years of experience in nuclear engineering.

- h) Instrumentation and Control

 Engineering graduate or equivalent with at least 5 years of experience in instrumentation and control design and/or operation.
- i) Metallurgy Engineering graduate or equivalent with at least 5 years of experience in the metallurgical field.
- 3) The Superintendent of the Offsite Review and Investigative—Function shall have experience and training which satisfy ANSI N18.1-1971 requirements for plant managers.

ONSITE

6.5.2 The Onsite Review and Investigative Function shall be supervised by the Station Manager.

Onsite Review and Investigative Function Systems Engineering The Station Manager shall: (1) provide directions for the Onsite Review and Investigative function and appoint the Technical Staff Supervisor. or other comparably qualified individual as the senior participant to provide appropriate directions: (2) approve participants for this function; (3) assure that at least two participants who collectively possess background and qualifications in the subject matter under review are selected to provide comprehensive interdisciplinary review coverage under this function; (4) independently review and approve the findings and recommendations developed by personnel performing the Onsite Review and Investigative Function; (5) report all findings of noncompliance with NRC requirements, and provide recommendations; and (6) submit to the Offsite Review and Investigative Function for concurrence in a timely manner, those items described in Specification 6.5.1a which have been approved by the Onsite Review and Investigative Function.

Responsibility

The Onsite Review and Investigative Function shall be responsible for conducting the following:

- Review of all applicable Plant Administrative Procedures recommended in Appendix A of Reg Guide 1.33, Revision 2, February 1978 and changes thereto;
- 2) Review of Emergency Operating Procedures required to implement the requirements of NUREG-0737 and Supplement 1 to NUREG-0737 as stated in Section 7.1 of Generic Letter No. 82-33 and changes thereto;

- Review of all proposed tests and experiments that affect nuclear safety;
- Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety;
- 5) Review of proposed changes to the Fire Protection Program;
- 6) Review of the Station Security Plan and submittal of recommended changes to the station Security Plan in accordance with station procedures;
- Review of Emergency Plan and identification of recommended changes;
- 8) Review of changes to the PROCESS CONTROL PROGRAM and the OFFSITE DOSE CALCULATION MANUAL;
- 9) Review of all proposed changes to the Technical Specifications or Operating License, and any proposed change which involves an unreviewed safety question that is to be submitted to the Commission for approval;
- 10) Review of investigation results for all violations of the Technical Specifications, including the preparation and forwarding of reports covering evaluations and recommendation to prevent recurrence;
- 11) Review of investigation results for all REPORTABLE EVENTS and other significant operating abnormalities including the preparation and forwarding of reports covering evaluations and recommendation to prevent recurrence;
- 12) Review of investigation results for any accidental, unplanned, or uncontrolled radioactive release including the preparation and forwarding of reports covering evaluations and recommendations to prevent recurrence;
- Review of Unit operations to detect potential hazards to nuclear safety;
- 14) Performance of special reviews and investigations and reports thereon as requested by the Superintendent of the Offsite Review and lovestigative Function. Director of Safety Review

c. Authori's

The Onsite Raview and Investigative Function shall:

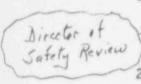
 Advise the Station Manager on all matters related to Nuclear Safety;

- Recommend to the Station Manager the disposition of items considered under Specification 6.5.2.b.1) through 9) prior to their implementation;
- 3) Include among its review conclusions for each item considered under Specifications 6.5.2.b.1) through 4), a determination of whether or not the item involves an unreviewed safety question.

Director of Safety Review

Provide prompt notification to the Vice President PWR Operations and the Superintendent of the Offsite Review and Investigative Function of disagreement between the Onsite Review and Investigative Function and the Station Manager. The Station Manager shall follow the recommendations of the Onsite Review and Investigative Function or select a course of action that is more conservative regarding safe operation of the facility.

d. Records



- Reports, reviews, investigations, and recommendations prepared and performed for Specification 6.5.2b shall be documented and forwarded to the Superintendent of the Offsite Review and Investigative Function, unless otherwise specified.
 - Copies of all records and documentation shall be kept on file at the station.

e. Procedures

Written administrative procedures shall be prepared and maintained for conduct of the Onsite Review and Investigative Function. These procedures shall include the following:

- (Site)
- 1) Content and method of submission and presentation to the Station Manager, Vice President, PWR Operations, and the Superintendent of the Offsite Rev ew and Investigative Function,
- 2) Use of committees.
- 3) Review and approval,
- 4) Detailed listing of items to be reviewed,
- Procedures for administration of the quality control activities, and
- 6) Assignment of responsibilities.

f. Personnel

 The personnel, including consultants, performing the Onsite Review and Investigative Function, in addition to the Station Manager, shall have expertise in one or more of the following

disciplines as appropriate for the subject or subjects being reviewed and investigated:

- a) Nuclear power plant technology,
- b) Reactor operations.
- c) Reactor engineering,
- d) Chemistry
- e) Radiological controls,
- f) Instrumentation and control, and
- g) Mechanical and electrical systems.
- Personnel performing the Onsite Review and Investigative Function shall meet minimum acceptable levels as described in ANSI N18.1-1971, Sections 4.2 and 4.4.

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 Section 50.73 to 10 CFR Part 50, and
 - b. Each REPORTABLE EVENT shall be reviewed the Onsite Review and Investigative Function and the results of this review shall be submitted to the Offsite Review and Investigative Function and the Site Vice President, PWR 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 Vice President PWR Operations and the Offsite Review and Investigative Function shall be notified within 24 hours;
- b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the Onsite Review and Investigative Function. 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;
- d. Critical operation of the Unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES AND PROGRAMS

- 6.8.1 Written procedures-shall be established, implemented, and maintained covering the activities referenced below:
 - a. The applicable procedures recommended in Appendix A, of Regulatory Guide 1.33, Revision 2, February 1978,
 - b. The emergency operating procedures required to implement the requirements of NUREG-0737 and Supplement 1 to NUREG-0737 as stated in Section 7.1 of Generic Letter No. 82-33;
 - c. Station Security Plan implementation,
 - d. Generating Station Emergency Response Plan implementation,
 - e. PROCESS CONTROL PROGRAM implementation,
 - f. OFFSITE DOSE CALCULATION MANUAL implementation, and
 - g. Fire Protection Program implementation.

6.8.2 Technical Review and Control

Procedures required by Specification 6.8.1 and other procedures which affect nuclear safety, as determined by the Station Manager, and changes thereto, other than editorial or typographical changes, shall be reviewed as follows prior to implementation except as noted in Specification 6.8.3:

- a. Each procedure or procedure change shall be independently reviewed by a qualified individual knowledgeable in the area affected other than the individual who prepared the procedure or procedure change. This review shall include a determination of whether or not additional cross-disciplinary reviews are necessary. If deemed necessary, the reviews shall be performed by the qualified review personnel of the appropriate discipline(s).
- b. Individuals performing these reviews shall meet the applicable experience requirements of ANSI N18.1-1971, Sections 4.2 and 4.4, and be approved by the Station Manager.
- c. Applicable Administrative Procedures recommended by Regulatory Guide 1.33, Plant Emergency Operating Procedures, and changes thereto shall be submitted to the Onsite Review and Investigative Function for review and approval prior to implementation in accordance with Specification 6.5.2.
- d. Review of the procedure or procedure change will include a determination of whether or not an unreviewed safety question is involved. This determination will be based on the review of a written safety evaluation prepared by a qualified individual, or documentation that a safety evaluation is not required. Onsite Review, Offsite Review and Commission approval of items involving unreviewed safety questions shall be obtained prior to Station approval for implementation.
- The Department Head approval authority shall be as specified in station procedures.

- f. Written records of reviews performed in accordance with this specification shall be prepared and maintained in accordance with Specification 6.10.
- g. Editorial and Typographical changes shall be made in accordance with station procedures.
- 6.8.3 Temporary changes to procedures of Specification 6.8.1 above, may be made provided:
 - a. The intent of the original procedure is not altered;
 - The change is approved by two members of the plant management staff, at least one of whom holds a Senior Operator license on the Unit affected; and
 - c. The change is documented, reviewed and approved in accordance with Specification 6.8.2 within 14 days of implementation.
- 6.8.4 The following programs shall be established, implemented, and maintained:
 - a. Reactor Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the recirculation portion of the Containment Spray System, Safety Injection System, Chemical and Volume Control System, and RHR System. The program shall include the following:

- Preventive maintenance and periodic visual inspection requirements, and
- Integreated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring

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

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

c. Secondary Water Chemistry

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

 Identification of a sampling schedule for the critical variables and control points for these variables,

- Identification of the procedures used to measure the values of the critical variables,
- 3) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage,
- 4) Procedures for the recording and management of data,
- Procedures defining corrective action for all off-control point chemistry conditions, and
- A procedure identifying: (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective action.

d. Post-accident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

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

e. Radioactive Effluent Controls Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by station procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

- Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM,
- 2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402,
- 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM,

- 4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,
- 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,
- Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,
- 7) Limitations on the dose rate resulting from radioactive materials released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY shall be limited to the following:
 - a) For noble gases: less than or equal to a dose rate of 500 mrem/yr to the whole body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and
 - b) For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: less than or equal to a dose rate of 1500 mrem/yr to any organ,
- 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,
- 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, and
- 10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

f. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:

 Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,

- 2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and
- Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

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 of the NRC Regional Office 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 Final Safety Analysis Report 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.
- 5.9.1.3 Startup Reports shall be submitted within: (1) 90 days following completion of the Startup Test Program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of Startup Test Program, and resumption or commencement of commercial operation) supplementary reports shall be submitted at least every 3 months until all three events have been completed.

ANNUAL REPORTS

6.9.1.4 Annual Reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

REPORTING REQUIREMENTS (Continued)

- 6.9.1.5 Reports required on an annual basis shall include:
 - a. Tabulation on an annual basis of the number of station, utility, and other personnel (including contractors) receiving exposures greater than 100 mrems/yr and their associated man-rem exposure according to work and job functions,* e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignments to various duty functions may be estimated based on pocket dosimeter, TLD, or film badge measurements. Small exposures totalling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources should be assigned to specific major work functions.
 - The results of specific activity analysis in which the primary coolant exceeded the limits of Specification 3.4.8. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

^{*}This tabulation supplements the requirements of \$20.407 of 10 CFR Part 20.

REPORTING REQUIREMENTS (Continued)

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.6 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT**

6.9.1.7 The Semiannual Radioactive Effluent Release Report covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

MONTHLY OPERATING REPORT

6.9.1.8 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or RCS safety valves, shall be submitted on a monthly basis to the Director, Office of Resource Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Administrator of the NRC Regional Office, no later than the 15th of each month following the calendar month covered by the report.

OPERATING LIMITS REPORT

6.9.1.9 Operating limits shall be established and documented in the OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle. The analytical methods used to determine the operating limits shall be those previously reviewed and approved by the NRC in Topical Reports: 1) WCAP 9272-P-A "Westinghouse Reload Safety Evaluations Methodology" dated July 1985, 2) WCAP-8385 "Power Distribution Control and Load Following Procedures" dated September 1974, 3) NFSR-0016 "Benchmark of PWR Nuclear Design Methods" dated July 1983, and/or 4) NFSR-0081 "Benchmark of PWR Nuclear Design Methods Using the PHOENIX-F and ANC Computer Codes" dated July 1990. The operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met. The OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

^{*}A single submittal may be made for a multi-unit station.

**A single submittal may be made for a multi-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.

CRITICALITY ANALYSIS OF BYRON AND BRAIDWOOD STATION FUEL STORAGE RACKS

6.9.1.10 Fuel enrichment limits for storage shall be established and documented in the CRITICALITY ANALYSIS OF BYRON AND BRAIDWOOD STATION FUEL STORAGE RACKS. The analytical methods used to determine the maximum fuel enrichments shall be those previously reviewed and approved by the NRC in "CRITICALITY ANALYSIS OF BYRON AND BRAIDWOOD STATION FUEL STORAGE RACKS." The fuel enrichment limits for storage shall be determined so that all applicable limits (e.g., subcriticality) of the safety analysis are met.

The CRITICALITY ANALYSIS OF BYRON AND BRAIDWOOD STATION FUEL STORAGE RACKS report shall be provided upon issuance of any changes, to the NRC Document Control Desk, with copies to the Regional Administrator and the Resident Inspector.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator of the NRC Regional Office within the time period specified for each report.

6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

- 6.10.1 The following records shall be retained for at least 5 years:
 - Records and logs of unit operation covering time interval at each power level;
 - Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety;
 - c. All REPORTABLE EVENTS;
 - Records of surveillance activities, inspections, and calibrations required by these Technical Specifications;
 - Records of changes made to the procedures required by Specification 6.8;
 - Records of radioactive shipments;
 - Records of sealed source and fission detector leak tests and results;
 and
 - Records of annual physical inventory of all sealed source material of record.
- 6.10.2 The following records shall be retained for the duration of the unit Operating License:
 - a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report;
 - Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories;

RECORD RETENTION (Continued)

- Records of radiation exposure for all individuals entering radiation control areas:
- Records of gaseous and liquid radioactive material released to the d. environs;
- Records of transient or operational cycles for those unit components identified in Table 5.7-1:
- Records of reactor tests and experiments:
- Records of training and qualification for current members of the a. unit staff:
- Records of in-service inspections performed pursuant to these Technical h. Specifications:
- Records of Quality Assurance activities required by the QA Program;
- Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59;
- Records of meetings and results of reviews and audits performed by the Offsite Review and Investigative Function and the Onsite Review and Investigative Function:
- Records of the service lives of all hydraulic and mechanical snubbers 1. required by Specification 3.7.8 including the date at which the service life commences and associated installation and maintenance records;
- Records of secondary water sampling and water quality; m.
- Records of analysis required by the Radiological Environmental n. Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed, and
- Records of reviews performed for changes made to the OFFSITE DOSE 0. CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

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 Pursuant to Paragraph 20.203(c)(5) of 10 CFR Part 20, in lieu of the "control device" or "alarm signal" required by paragraph 20.203(c), each high radiation area, as defined in 10 CFR Part 20, in which the intensity of radiation is equal to or less than 1000 mR/hr at 45 cm (18 in.) from the radiation source or from any surface which the radiation penetrates shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates equal to or less than 1000 mR/h, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas. 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 radiation monitoring device which continuously indicates the radiation dose rate in the area; or
 - b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them; or
 - c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified in the Radiation Work Permit.
- 6.12.2 In addition to the requirements of Specification 6.12.1, areas accessible to personnel with radiation levels greater than 1000 mR/h at 45 cm (18 in.) from the radiation source or from any surface which the radiation penetrates shall be provided with locked doors to prevent unauthorized entry, and the keys shall be maintained under the administrative control of the Shift Foreman on duty and/or health physics supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work areas and the maximum allowable stay time for individuals in that area. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area. During emergency situations which involve personnel injury or actions taken to prevent major equipment damage, continuous surveillance and radiation monitoring of the work area by a qualified individual may be substituted for the routine RWP procedure.

HIGH RADIATION AREA (Continued)

For individual high radiation areas accessible to personnel with radiation levels of greater than 1000 mR/h that are located within large areas, such as PWR containment, where no enclosure exists for purposes of locking, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded (by a more substantial obstacle than rope), conspicuously posted, and a flashing light shall be activated as a warning device.

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 Changes to the PCP:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.20. This documentation shall contain:
 - Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and,
 - A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.
- b. Shall become effective after review and acceptance by the Onsite Review and Investigative Function (Onsite Review) and the approval of the Station Manager.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 Changes to the ODCM:

- a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.20. This documentation shall contain:
 - Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and,
 - A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.105, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.
- b. Shall become effective after review and acceptance by the Onsite Review and Investigative Function and the approval of the Station Manager on the date specified by the Onsite Review and Investigative Function.

OFFSITE DOSE CALCULATION MANUAL (DDCM) (Continued)

Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Semiannual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made effective. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.