UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 27 1979

Docket Nos: 50-329
50-330

APPLICANT: Consumers Power Company

FACILITY: Midland Plant, Units 1 & 2

SUBJECT: SUMMARY OF JANUARY 17, 1979 MEETING ON PSAR CHANGES AND REGULATORY GUIDES ON QUALITY ASSURANCE

On January 17, 1979, the NRC staff met in Bethesda, Maryland with Consumers Power Company (CPCO), Bechtel Associates, and the Babcock & Wilcox (B&W) Company. Attendees are listed in Enclosure 1. The purpose of the meeting was to discuss (1) changes to the Midland Plant designs which have occurred since construction permits issuance and (2) conformance to certain regulatory guides on quality assurance during the operations phase.

Changes From PSAR

The staff stated that the applicants response to request 031.11 in FSAR Amendment 15 (Enclosure 2 hereto) failed to comply with Section 1.3.2 of Revison 2 to Regulatory Guide 1.70 and was unacceptable. The staff further stated that, although the request was made by the Instrumentation and Control Systems Branch, the request is intended to apply to all areas of the design. The staff emphasized the administrative and schedular significance of this information to the review process. CPCO will revise the response in February 1979.

CPCO stated that reviews were conducted to assure that commitments in the PSAR were addressed in the FSAR. Enclosure 3 illustrates results of the review by B&W for its scope of supply in FSAR Chapter [illegible]. Results for balance-of-plant scope in Chapter [illegible] are illustrated by Enclosure 4. A few of the items noted also represent design changes since the PSAR.

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ENCLOSURE 1

ATTENDEES

D. Hood	NRC
M. Gerding	Bechtel
J. Pastor	CPCO
B. Belke	NRC
J. Howard	B&W
M. Rothwell	Bechtel
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D. Hoffman	CPCO
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T. Buczwinski	CPCO
O. Chopra	NRC
H. Daniels	NRC
S. Eschback	B&W
R. Reed	B&W

Question [illegible] (1.2.2)

Section 1.3.2 of your FSAR does not satisfy the intent of provision [illegible] Regulatory Guide 1.70. Your FSAR states that due to extensive reformatting and the additional information provided in the FSAR, cross-reference of changes is not considered appropriate and is therefore not included." We do not agree that this information should be omitted.

The purpose of this section is to identify all significant changes from the original design which we approved during the construction permit review. We require that your FSAR describe all significant changes from the construction permit design and identify the FSAR location where the revised design is described. The description should include the basis for the change.

This section should also provide assurance that the Midland units have not been constructed to any safety criteria that are less conservative than those to which you committed and which we approved during the review for the construction permits.

Amend your FSAR to reflect these requirements.

Response

A cross-reference of changes that occurred from the PSAR to the FSAR is not considered appropriate because extensive reformatting and a significant amount of new information is provided in the FSAR. Information is provided in the FSAR on the requirements and formats of Regulatory Guide 1.70, Rev. 2 as modified by the letter on FSAR format and content from R.S. Boyd to S.H. Howe, dated June 2, 1976.

A comparison of the PSAR to the current FSAR would require a significant amount of engineering effort and has no overall effect on plant safety. Hence, it is CPCo's position that the necessary information is available for staff review in the FSAR and a comparison or cross-referencing of the PSAR to the FSAR is unnecessary and will not be done.

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Enclosure 3

The CPCo PSAR has been searched to identify B&W commitments. The CPCo FSAR has been searched for fulfillment of those commitments. This memo reports the findings of the search as well as pointing out several areas of possible FSAR deficiencies.

I. FSAR Deficiencies (TMI-2 Related)

1. Reactor trip switch (RTS) environmental qualification is not addressed, however, seismic is addressed.

2. Section 7.2.2.2.2 references sections 7.1.2.17 which does not exist. Should reference section 3.11.

3. Section 7.2.2.2.3 references section 7.1.2.16 which does not exist.

4. Section 7.2.1.1 defines the reactor trip switch and cable from the NI/RPS to the CRDCS as part of the NI/RPS. The cable is in the users scope and the RTS should be treated separately.

5. Section 7.2.1.1 includes sensors in the NI/RPS scope. Pump monitors and ECCAS RB pressure sensors are in the users scope.

6. IE to IE electrical isolation is presently in the users scope. Section 7 should reflect this. NSS and BOP isolation will be revised in later FSAR amendment.

II. Commitments

Commitments were found in sections 7.1.1.2 and 7.1.2.3.9 of the PSAR. They all related to equipment qualification either by testing or FMEA. They are quoted below for information.

1. Section 7.1.1.2

A) Line 3 - "prototype and final equipment will be subjected to qualification tests as required by the subject standard." (IEEE-279)

B) Line 4 - "The tests will establish the adequacy of equipment performance in both normal and accident environments."

2. Section 7.1.2.3.9

A) Line 6 - "A system fault test analysis will be made considering the modes of failure and determining their effects on the system vital functions."

B) Testing Line 5 - "The equipment manufacturer is required to provide qualification test data to verify the performance requirements of the equipment."

C) Testing Last PARA - "Instrumentation and control items that must survive part or all of the LOCA environment are subject to these qualification test verification procedures and requirements."

III. Fulfillment of Commitments

Due to the differences in organization and style between the PSAR and FSAR, it is difficult to relate specific sections. The FSAR was searched for sections relating to qualification. These sections are listed below.

1. ECCAS

   A. FMEA - 7.3.2.3.1 (4.2), 7.3.2.3.14 (SE7)

   B. QUAL - 7.3.2.2.1 (3.8), 7.3.2.3.1 (4.4), 7.3.2.3.14 (SE8), Appendix 3A page 121, 3.11.2.2, and 3.11.3

   C. Seismic - 7.3.2.2.1 (3.8), 7.3.2.3.5, 7.3.2.3.14 (SE6), and 3.10.2.2

2. NI/RPS

   A. FMEA - 7.2.2.1, 7.2.2.2.1 (4.2)

   B. QUAL - 7.2.2.2.1 (4.1), Appendix 3A page 121, 3.11.2.2, and 3.11.3

   C. Seismic - 7.2.2.2.4, 3.10.2.2

3. CRDCS

   A. FMEA - Appendix 7A

   B. QUAL - 3.11.2.2, 3.11.3

   C. Seismic - 3.10.2.2

4. RTS

   A. FMEA - [illegible] 7.2.1.1 [illegible]

   B. Environmental - not addressed

   C. Seismic - 3.10.4.2

Enclosure 4

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PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.1.1.2	The protection systems are designed to meet the requirements of the IEEE Std proposed Standard for Nuclear Power Plant Protection Systems (IEEE Std 279, Revision 10). Prototype and final equipment will be subject to qualification tests as required by the subject standard.	The protection systems are designed to the issued IEEE Std 279-1971, which supersedes the proposed standard.	FSAR Subsection 7.1.2.4.a, 7.2.1.2.1, 7.2.2.2.1, 7.3.2.2.1, 7.3.2.3.1, 7.3.3.3.1, 7.3.3.4.1
7.1.1.2	The reactor protection and engineered safeguards systems are designed to meet the design criteria specified in Subsection 7.1.1.2 of the PSAR, and the functional requirements listed in Subsection 7.1.1.3.	The design criteria of PSAR Subsection 7.1.1.2 are incorporated in the FSAR except for PSAR Subsection 7.1.1.2.4b. All ESFAS subsystems comply except RAS and RBSAS whose sensor channels are energize-to-trip. This design reduces the possibility of spurious RB spray actuation while still complying with IEEE Std 279-1971. The functional requirements of PSAR Subsection 7.1.1.3 are incorporated in the FSAR. In addition, the FSAR states that RB isolation valves will be operated upon detection of a low RCS pressure.	FSAR Subsections 7.2.1.1, 7.2.2.2, 7.3.2.1, 7.3.2.3, 7.3.3.4, 7.3.3.2
7.1.1.2.7	Manual testing facilities shall be built into the protection systems to provide for: a. Preoperational testing to ensure that the protection systems can fulfill their required functions b. Online testing to prove operability and to demonstrate reliability	The PSAR commitment for manual testing facilities is incorporated into the FSAR and is described in detail in the discussions of compliance with IEEE Std 279-1971, Section 4.10.	FSAR Subsections 7.2.2.2.1, 7.3.2.3.1, 7.3.3.4.1

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.1.1.4	The operating environment for equipment will be maintained in accordance with Subsection 7.1.1.4 of the PSAR.	1. The maximum operating RB temperature is 120F as described in the PSAR and in FSAR Table 3.11-2. 2. The continuous operation environment design for RPS instrumentation inside RB will be provided by amendment. 3. Engineered safety features actuation system (ESFAS) equipment inside the RB is designed to operate under an accident environment of a steam/air mixture of 100% relative humidity, 277.7F, and 70 psig as described in FSAR Table 3.11-3. 4. Several seismic Category I redundant ventilation or cooling systems have been added to the plant design since the PSAR review. The operation of these systems limits auxiliary building ESF equipment room temperatures to less than 104F (see FSAR Tables 3.11-2 and 3.11-3 for specific areas and temperatures). Therefore, instrumentation in these areas is designed to operate continuously at a temperature of 104F or greater, rather than 120F as indicated in the PSAR. Instrumentation in these areas is also designed to operate at 100% relative humidity rather than 90% relative humidity as indicated in the PSAR. Instrumentation outside these areas is designed to operate at at least 104F and 100% relative humidity rather than 120F and 90% relative humidity as indicated in the PSAR.	FSAR Subsection 3.11

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.1.1.4 (Continued)		The temperature in these areas is not expected to exceed 104F as indicated in FSAR Tables 3.11-2 and 3.11-3.	
		5. The protective equipment in the control room will operate in an ambient temperature of at least 80F rather than 110F as indicated in the PSAR. The control room HVAC systems maintain the ambient temperature less than 80F.	
		6. The discussion of the auxiliary building areasd described in item 4 above also applies to the cable spreading rooms.	
7.1.2.2.1	When active and passive (check valves) engineered safeguards valves are used redundantly, the active valve will be equipped with two OR control elements, each driven by one of the engineered safeguards channels.	When an active valve is used redundantly with a passive valve (check valve), the active valve will receive only one channel of actuation. The check valve provides redundancy of the isolation function. This design reduces the potential for a loss of independence between redundant channels.	FSAR Subsection 7.3.3.2.1, Fig. 7.3-8
7.1.2.3.9	A system fault analysis will be made considering the modes of failure and determining their effect on the system's vital functions. Acceptance testing and periodic testing will be designed to ensure quality and reliability of the completed systems.	Failure modes and effects analysis are provided in the FSAR. Plant technical specifications require periodic testing to ensure reliability. FSAR Sections 3.10 and 3.11 indicate the acceptance (qualification) tests or analyses for the protection systems.	BAW-10003, FSAR Table 7.3-5 T/S 3/4.3.1 FSAR Subsections 7.2.2.1, 3.10, 3.11

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
	The RB radiation monitors and the reactor coolant pressure transmitters and associated cabling will be designed to perform the required function during the reactor building design basis accident.	Equipment seismic and environmental qualifications which ensure ESF operation are discussed in the FSAR.	FSAR Subsection 7.1, Table 3.11-1, 3.11-4, 3.10
7.1.2.2.2	An engineered safeguards actuation system will be provided to perform the following: 1. On detection of a high reactor building pressure, close RB isolation valves, start RB spray pumps, open RB spray valves, and start RB recirculate air cooling units. 2. On detection of high RB radiation close all RB penetrations open to the RB atmosphere. (Type II). 3. On detection of a low BWST level shift LPI and RB spray pumps suction to the recirculation mode of operation.	The PSAR commitments are incorporated in the FSAR as follows: 1. RBIS-I closes RB isolation valves, RBSAS starts the RB spray pumps and opens the RB spray valves, and RBCAS starts the RB recirculate air cooling units. All actuate at 4 psig except RBSAS at 30 psig. 2. RBIS-II closes RB penetrations open to the RB atmosphere upon detection of high RB radiation. 3. RAS shifts the LPI and RB spray pumps into the recirculation mode of operation upon detection of low BWST level.	FSAR Subsection 7.3.3.2
7.1.2.2.3	Auto close main steam and main feedwater isolation valves after a main steam line rupture.	MSLIS automatically closes the main steam and main feedwater isolation valves after a main steam or main feed line rupture.	FSAR Subsection 7.3.3.2
7.1.2.2.4	Auto start auxiliary feedwater system after a main steam line rupture or loss of main feedwater.	AFWAS performs the function indicated in the PSAR.	FSAR Subsection 7.3.3.2

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.1.2.3.1	The equipment manufacturer is required to provide qualification test data to verify the performance requirements of the equipment. Adherence to the equipment specifications and qualification test data is ensured through monitoring and inspection of the manufacturer's work.	Test data for protection system equipment is summarized in the FSAR in Sections 3.10 and 3.11.	BAW-10003, FSAR Subsection 3.11.3, Section 3.10, Table 3.11-4
7.1.2.4	Trip setpoints or abnormal conditions for the initiation of reactor protection and engineering safeguard systems will be as specified in Subsection 7.1.2.4 of the PSAR.		FSAR Tables 7.2-1, 7.2-3, 7.3-1, 7.3-2, 16 2
✓ 7.1.3.3 [SFAS + RPS]	Valid preoperational testing of the ~~analog~~ sensing element associated with the protection systems will be accomplished through the actual manipulation of the measured variable and comparison of the results against a standard. Routine preoperational tests of analog sensing elements will be performed by the substitution of a calibrating signal for the sensor.	Simulated test signals will be utilized to verify proper setpoint adjustments, correct operation of indicators and alarms, and proper logic operation in all operating modes.	FSAR Subsections 14A.1.52, 14A.1.53, 14A.1.55
7.1.3.3	The sensors will be calibrated during shutdowns, for refueling, or whenever the true status of any measured variable cannot be assessed because of lack of agreement among the redundant measurements.	Plant technical specifications (Tables 4.3-1 and 4.3-2) indicate channel calibration (includes sensor) to be performed at least every 18 months. Plant operation may continue with a channel inoperable within the requirements of the technical specification limiting conditions of operation.	Tables 4.3-1 and 4.3-2
7.1.3.4	Each channel of the protection system will be supplied from one of the four preferred a-c buses described in 8.2.2.8. The operator can initiate a reactor trip independent of the automatic protection action.	These design features are incorporated in the plant design.	FSAR Subsections 7.2.1.1.9, 7.2.2.2.1, 7.2.1.1.1, 7.2.3.1.1, 7.3.3.1

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.1.3.2	Start HPI at 1,500 psig low RCS pressure and start LPI at 200 psig low RCS pressure.	ECCAS actuates HPI and LPI at 1,500 psig low RCS pressure. The present design simplifies the actuation system and allows starting of the LPI sooner than in the PSAR design.	FSAR Subsection 7.3.2.1
7.1.3.5	Operational tests on RPS and ESFAS channels are performed by substituting an analog test signal for the variable. The test signal is manually injected into the instrument channel at the input of the first active channel element in the protection system cabinets.	An operational test on the protection system channels will be performed as indicated in the PSAR and are discussed in FSAR Appendix 3A, RG 1.118, response Section C.7.	Appendix 3A, RG 1.118, FSAR Chapter 16, technical specifications
✓ 7.1.3.6	To ensure that failures in the control system cannot produce a failure in the protection system, signals which go to control from shared sensors and amplifiers are isolated by means of isolation amplifiers. The resulting systems meet the requirements for separation of protection and control and for single failure specified in IEEE Std 279, Rev 10, and the AIF Interpretation of the AEC General Design Criteria 20, 21, and 22.	The AFW SG level control system has been added to the plant design since the PSAR. The SG level transmitter inputs to ESFAS are also used to control the SG level through the safety grade AFW SG level control system. The output to the AFW SG level control system is isolated from the protection system. The isolation device, the protection system, and the AFW SG level control system are all safety grade systems. The system meets the requirements of IEEE Std 279-1971.	FSAR Subsections 7.3.2.3.1, 7.2.2.2.1, 7.3.3.3.4.1, 7.4.2.1, Table 7.1-2
7.2.1.1	The regulating system will limit power transients as follows: a. Between 20 and 90% power - ramp changes of 10%/min and step changes of 10%. b. Between 15 and 20%, and between 90 and 100% ramp changes of 3%/min.		FSAR Subsection 7.7.1.2

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.2.1.2	The regulating system is designed to meet the safety considerations listed in Subsection 7.2.1.2 of the PSAR.		FSAR Subsection 7.2.1.1.1
✓ 7.2.3.4	Loss of Load The combined actions of the control system and the turbine bypass valve permit a 40% load reduction or a turbine trip from 40% load without atmospheric dump or safety valve action. The controls will limit steam dump to the condenser when the condenser vacuum is inadequate, in which case the atmosphere dump or safety valves may operate.	The combined actions of the control system and the turbine bypass to the condenser permit 25% (rather than 40%) electrical load rejection without atmospheric dump or safety valve operation, and without tripping the reactor. No safety limits are exceeded as discussed in the accident analysis.	FSAR Subsections 7.7.1.2, 15.2.2
7.3.1.1	The nuclear instrumentation is designed to meet the requirements specified in Subsection 7.3.1.1 of the PSAR.		FSAR Subsection 7.8.1
7.3.2.1	The quantity and types of process instrumentation provided will ensure safe and orderly operation of all systems and processes over the full operating range of the unit.	Instrumentation is provided to ensure safe and orderly operation of all systems during normal plant operation. These systems not required for safety are discussed in FSAR Section 7.7.	FSAR Section 7.7, FSAR Figures 5.1-1 and 5.1-2
7.3.2.1A	A study is being carried out by B&W to determine the source strengths of the various isotopes to allow an evaluation of the required sensitivity of this monitor for detecting rapid fuel failures.	Study completed.	B&W Report [illegible], 8/69, FSAR Subsection 9.3.6
[illegible].2.1	A xenon oscillation threshold power versus core life curve will be developed from analyses performed during the design of the reactor.		[illegible] Safety Evaluation, Supplement [illegible], Page [illegible]

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.3.3.2.2	The incore monitoring detectors will be continuously compensated for detector burnup, control rod position, fuel burnup, etc, by calculations derived from experimental programs.		FSAR Subsection 7.8.2.2.1
7.3.3.3	The application of this system for detection of xenon oscillation and its minimum sensitivity is being examined through the analysis of experimental data. The analysis should be completed by the end of 1968.		NRC Safety Evaluation, Supplement 2, Page 2-3
7.5.1	The radiation monitoring system is designed to meet the requirements specified in Subsection 7.5.1 of the PSAR.	The design requirements of FSAR Subsection 7.5.1 are met in the design discussed in the FSAR Section 11.5.	FSAR Section 11.5
7.5.2.1	The absence of heavy particulate and halogen isotopes will be demonstrated by laboratory analysis of fixed integrating filters.	This commitment is contained in the FSAR.	FSAR Subsection 11.5.2.4, Table 11.[illegible]
7.5.2.2	Supplementing the continuous monitoring, samples are taken from coolant systems for laboratory verification that the gross activity levels are within permissable limits.	This commitment is repeated in the FSAR.	FSAR Subsection 11.5.2.[illegible] Table 11.[illegible]
7.5.3.1	Each channel of the radiation monitoring system shall have a down scale alarm set below the natural counting rate so that any loss of this natural signal will cause annunciation.	The alarm described is provided.	FSAR Subsection 11.5.2
	Personnel radiation protection and health physics practices will be provided as specified in Subsection [illegible] of the PSAR.		FSAR Subsection [illegible]

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PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.5.5	Periodic calibration checks of the area radiation monitors and table radiation monitors are made to ensure that these instruments remain operational.	Commitments for periodic calibration checks are included in the FSAR for area radiation monitors and portable radiation monitors.	FSAR Subsections 12.5.2.2, 12.3.4.1.5
7.6.2	The information available in the control room will include the parameters listed in PSAR Subsection 7.6.2.	Information is available in the main control room for the parameters listed in PSAR Subsection 7.6.2.	FSAR Tables 7.5-1, 7.5-2, drawings listed in Table 1.7-9
7.5.2.3	The selection and number of points for area radiation monitors are coordinated with the plant access control so that operating personnel are not able to enter an unmonitored area in which they could be exposed to a dose in excess of the limits of 10 CFR 20.	The area radiation monitoring system is provided to supplment the personnel and area radiation survey provisions described in Section 12.5 to ensure compliance with the personnel radiation protection guidelines of 10 CFR 20, 10 CFR 50, 10 CFR 70, and Regulatory Guides 8.2, 8.8, and 8.12.	FSAR Subsection 12.3.4.1, Section 12.5
7.6.3	Visible and audible alarm units will be incorporated into the control room to warn the operator if unsafe conditions are approached by any system. Audible reactor building evacuation alarms are to be initiated from the radiation monitoring system or manually by the operator. Audible alarms will be sounded in appropriate areas throughout the plant if high radiation conditions are present.	Visible and audible alarms are provided at the areas indicated in PSAR Subsection 7.6.3.	FSAR Subsections 11.5.2, 12.3, 12.3.4.2.4.5, 7.7.1.5
7.6.5	The magnitude of a fire in the control room is limited by the factors listed in Subsection 7.6.5 of the PSAR.		Midland Fire Protection Evaluation Report, FSAR Subsection 9.5.1

PSAR Subsection	PSAR Commitment	FSAR Commitment Description	FSAR Reference
7.6.7	Special emphasis will be given to maintaining control integrity during accident conditions. The layout of the engineered safeguards section of the control board will be designed to minimize the time required for the operator to evaluate the system performance under accident conditions.	The control room ventilation system is designed to protect the control room operators and equipment from hazardous conditions which may result during accident conditions. Engineered safeguards control boards have been designed to minimize the the time required for the operator to evaluate system performance under accident conditions. This has been done by arranging controls and instrumentation by system and by flow of control or system operation. In addition, a status display is provided to allow the operator to quickly evaluate the performance of equipment which is automatically actuated by the protection system.	FSAR Subsections 9.4.1, 7.5.1.2, 12.3.2.2.5, drawings listed in Table 1.7-9

DRL Questions	Commitment	FSAR Commitment Description	FSAR Reference
7.1	The RPS and ESFAS will be designed to IEEE Std 279 effective 8/30/68.	The protection systems are designed to IEEE Std 279-197 which supersedes the 1968 revision.	FSAR Subsections 7.1.2.4.a, 7.2.1.2.1, 7.2.2.2.1, 7.3.2.2.1, 7.3.2.3.1, 7.3.3.3.1, 7.3.3.4.1
7.3	All safety and protection equipment will be monitored by quality programs which include the quality control methods and procedures in the response to DRL Question 7.3.	The quality control methods and procedures listed in the response to DRL Question 7.3 are included in the QA program in the FSAR.	FSAR Section 17
7.4	The primary coolant leakage detection system design criteria include the criteria listed in response to DRL Question 7.4.	The leakage detection system described in the FSAR differs in some respects from that described in the PSAR. However, the system is designed in compliance with RG 1.45. Differences are discussed below: 1. Reactor building atmosphere relative humidity detectors are not provided. Instead, RB air temperature and pressure monitors are used as an alarm to alert operator of potential problems. 2. RB sump level alarm described at 3 inches is not provided. A rate of change level alarm is provided to alarm increase of a 0.5-inch within 1 hour in conformance with RG 1.45. 3. RB area monitors at the discharge of the RB air coolers are not provided. However, RB gaseous and particulate monitors are provided in conformance with RG 1.45.	FSAR Subsection 5.2.5, Appendix 3A, RG 1.45

	DRL Questions	Commitment	FSAR Commitment Description	FSAR Reference
#	7.7	Environmental testing which may be required for controls and instrumentation is indicated in response to DRL Question 7.7.	The environmental testing performed on safety-related controls and instrumentation is described in FSAR Section 3.11, Table 3.11-4.	FSAR Section 3.11, Table 3.11-4
	7.8	The protection system and engineered safety feature equipment and components will be differentiated from similar items not related to protection or safety by location and grouping, color codings, nameplates, individual equipment tags, or special alphabetical letter designations.	The FSAR commitment described is incorporated into the FSAR.	FSAR Subsection 8.3.1.3
	7.9	The design criteria for the reactor coolant deborating system is as described in response to DRL Question 7.9.	The reactor coolant deborating system is designed as described in the FSAR response to DRL Question 7.9.	FSAR Subsections 7.7.1.3, 9.3.4.2.3.4.d
	7.12	The data available from similar core configurations of comparable size will be evaluated to verify or disqualify the stated reliance on out-of-core (instrumentation) for safe and reliable spatial power indications from the core.		NRC Safety Evaluation, Supplement 2, 7/77, FSAR Section 7.8
*	7.10	The design bases for the system which transfers process steam from Unit 1 to Unit 2 include the requirement of separation between NSS systems as well as single-failure analysis.	The process steam transfer system (PSTS) is not required for safety. Interlocks prevent the cross-connection of the two NSSS units through the respective secondary systems. Because the PSTS is not required for safety, no single-failure analysis is provided.	FSAR Subsection 7.7.1.6, Section 10.3

DRL Questions	Commitment	FSAR Commitment Description	FSAR Reference
7.13	All of the radiation monitoring instruments used in protection systems will be designed to meet the protection systems standards requirements (IEEE Std 279, 10/68).	The radiation monitors used in the ESFAS system are designed to IEEE Std 279-1971 which supersedes the 1968 standard.	FSAR Subsection 7.1.2.2, Table 7.1-2
7.14	The bases for criteria used to determine the locations, range, types, and sensitivities of the area and process radiation monitoring systems are as stated in response to DRL Question 7.14.	The area and process radiation monitoring systems design criteria includes those listed in the response to DRL Question 7.14.	FSAR Subsection 12.3.4, Section 11.5
7.19	If it becomes necessary to suddenly evacuate the control room, the reactor can be brought to either hot or cold shutdown condition by operation of valves and equipment from either local breakers or local panels as described in response to DRL Question 7.19.	The capability to shut down the plant from outside the control room is provided. An auxiliary shutdown panel is not described in the FSAR aids the operator when shutdown is required from outside the control room.	FSAR Subsection 7.4.3.1
7.20	A diverse backup reactor trip to the low RCS pressure trip will be provided so that effective core cooling is ensured following a LOCA.	Both low RCS pressure and high containment pressure trip the reactor.	FSAR Subsection 7.2.1.1.1
7.17	The instrumentation and controls for engineered safeguards, the emergency electric power system, and the reactor protection system are designed to meet Class 1 seismic design criteria. Therefore, there will be no loss of function in these systems during or following the maximum earthquake.	The RPS, ECCAS, ESFAS, and emergency diesel generator controls are designed in accordance with IEEE Std 344.	FSAR Table 7.1-2

DRL Questions	Commitment	FSAR Commitment Description	FSAR Reference
Enclosure B - Identification of Problem Areas [PSAR Tab]			
11	In accordance with the requirements of IEEE Std 279, Sections 4.9 and 4.11, the RB protective instrumentation sensor outputs will have the capability of being checked during power operation. Provisions for testing and calibrating channels and the devices used to derive the final system output signal from the various channel signal will be located external to the RB or within the RB air room and will be accessible during power operation. The sensor signals shall have the signal offset from zero in such a manner to permit detection of shorted, or open circuits.	Outputs of protective instruments located inside the RB will be checked during power operation per IEEE Std 279-1971 by cross checking between channel indicators located on the system cabinets in the auxiliary building. Actuation logic will be tested during power operation at the system cabinets in the auxiliary building. It is not necessary to enter RB during power operation to test instruments. This testing will be done at refueling or plant shutdown.	FSAR Subsections 7.2.2.2.1, 7.3.2.3.1, 7.3.3.4.1, Chapter 16 technical specifications, Appendix 3A, (RG 1.118)
12	A R&D program discussed in response to Item 12 will be conducted to ensure the adequacy and feasibility of the measurement system used to detect radioactivity in the process steam.	This item is currently under discussion with the NRC.	CPCo Serial 4154
Enclosure A - Additional DRL Questions [PSAR Tab]			
7	The high pressurizer level alarm shall be designed and tested as per the criteria listed in PSAR Vol. III, Enclosure A, P 7.00-1.		