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July 29, 1985

United States Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Mr. George W. Knighton, Chief
Licensing Branch 3
Office of Nuclear Reactor Regulation

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Initial Test Program/Question Response

Gentlemen:

Attached are the Duquesne Light Company (DLC) responses to 12 questions posed during a meeting with the reviewers on December 19, 1984. These questions provide a more precise definition of remaining concerns resulting from NRC evaluation of the original responses provided by DLC in February, April, and July, 1984.

DUQUESNE LIGHT COMPANY

By _____
J. J. Carey
Vice President

GLB/wjs
Attachment

cc: Mr. B. K. Singh, Project Manager (w/a)
Mr. G. Walton, NRC Resident Inspector (w/a)

SUBSCRIBED AND SWORN TO BEFORE ME THIS
24th DAY OF July, 1985.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

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COMMONWEALTH OF PENNSYLVANIA)
) SS:
COUNTY OF ALLEGHENY)

On this 24th day of July, 1985, before me, a Notary Public in and for said Commonwealth and County, personally appeared J. J. Carey, who being duly sworn, deposed and said that (1) he is Vice President of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge.

Anita Elaine Reiter
Notary Public
ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

Question 640.9 FSAR Subsection 14.2.12.6.4 (Shutdown from Outside the Control Room and Verification of the Potential for Cold Shutdown) should include test initiation with the turbine generator in operation, or further technical justification should be provided for not performing this test in accordance with R.G. 1.68.2, Initial Startup Test Program to Demonstrate Remote Shutdown Capability for Water Cooled Nuclear Power Plants.

Response: Refer to revised position of Regulatory Guide 1.68.2 in FSAR Table 1.8-1. During the test, the only action necessary with regard to the turbine is the reactor trip which is initiated at the switchgear and results in a turbine trip signal. Under actual conditions, the trip would occur prior to evacuating the control room and no further actions regarding the turbine are necessary. Therefore, the purposes specified in the Regulatory Guide (demonstration of design, procedures, procedural familiarity and sufficient numbers of personnel) are in no way dependent on actual operation of the turbine.

Question 640.14 FSAR Subsection 14.2.12 test abstracts should include specific sources of acceptance criteria.

Response: Section 50.34 of 10CFR Part 50 requires, in part, that the applicant include "plans for preoperational testing and initial operations" in the FSAR. Chapter 14 of Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants," provides a method acceptable to the NRC staff pertaining to initial test programs to be included in the FSAR for the NRC to perform its safety evaluations for operating licenses. As stated in our February 1984 response to this question, FSAR Subsection 14.2.12 is in full compliance with Regulatory Guide 1.70 which requests only a summary of acceptance criteria. Test descriptions provide "traceability" to the following acceptance criteria sources: control logic, design specifications, technical specifications, and core design predictions.

The only requirement in the SRP acceptance criteria related to FSAR content is 10CFR50.34 discussed earlier. The SRP cites additional guidance (Regulatory Guide 1.68) which describes a basis acceptable to the NRC staff that may be used to implement 10CFR50.34 and other cited requirements. In regard to information to be provided in the FSAR, Regulatory Guide 1.68 gives little guidance, but it does point out that acceptance criteria which account for uncertainties used in transient and accident analyses should be included as part of each test procedure and approved test procedures for satisfying FSAR test commitments should be made available to NRC staff personnel from the Office of Inspection and Enforcement approximately 60 days prior to expected use. It also points out that these individuals will determine "whether test procedures contain appropriate acceptance criteria." As stated in our February 1984 response, specific acceptance criteria are contained in the detailed test procedures which are available to the NRC as outlined in FSAR 14.2.11.2.

In accordance with procedures which govern preparation of test procedures at BVPS-2, appropriate FSAR information and other sources are considered when developing test procedures and acceptance criteria. Each acceptance criterion in the procedure normally contains a specific reference to the source of that criterion. Duplicating this type of information in the FSAR is inappropriate and would create unnecessary difficulties in making necessary procedure changes during implementation of the test program.

Since: (1) the regulations do not require this amount of detail, (2) the guidance documents that provide an acceptable method for satisfying the regulations do not request this information, (3) the FSAR and other appropriate sources are considered when developing test procedures and are specifically referenced in the procedures, (4) the approved test procedures which contain the requested information are made available to the NRC, and (5) inclusion in the FSAR will result in unnecessary difficulties during test program implementation, DLC concludes that no additional safety would result from revising the FSAR and that it would be unwise to do so.

Question 640.16 FSAR Table 1.10-1 should be revised to provide specific reference to where the testing and training requirements of NUREG-0737, Item I.G.1, are addressed.

Response: As previously stated, the training objectives required by NUREG-0737, Item I.G.1 (see FSAR Table 1.10-1) will be satisfied and operator training will be provided on a simulator which adequately represents BVPS-2 performance with regard to natural circulation.

Test data which could be used to update existing simulator training will be obtained using the approved guidelines of the revised Westinghouse Low Power Test Program (W NS-EPR-2465 dated July 8, 1981) as indicated below:

1. During Hot Functional Testing with the Reactor Coolant Pumps supplying heat input to the secondary side, a loss of AC power will be simulated to the Auxiliary Feed pumps, controls and area ventilation. This will demonstrate that the plant can be stabalized utilizing manual control and the steam driven Auxiliary Feedwater Pump. Informational data will be taken for simulator update as necessary, with no acceptance criteria applied.

2. The existing Initial Startup Test, (Section 14.2.12.8.13), "Pressurizer Heater and Spray Capability" test will be revised to include a section with one RCP in operation (not to be in loops with Pressurizer surge line or spray line). Pressure will be reduced by turning off Pressurizer heaters and noting depressurization rate. The heaters will then be re-established and pressure further reduced by use of auxiliary spray. The effects of changes in charging flow and steam flow on margin to saturation temperature will be observed. Test data will be recorded and will be available for simulator update as necessary, with no acceptance criteria applied.

3. BVPS-2 does not plan to conduct this Natural Circulation Test since results of testing previously performed at North Anna-2 are sufficient to demonstrate the adequacy of BVPS-2 design features related to natural circulation. BVPS-1 has experienced loss of AC power and has satisfactorly demonstrated Natural Circulation during this transient.

4. The existing Initial Startup Test (Section 14.2.12.6.5), "Verification of Plant Performance Following Turbine Trip Coincident with Loss of Offsite Power at Load" is satisfactory for obtaining the necessary plant conditions. Using this test, the plant will be brought to stable conditions using batteries and emergency diesels.

5. Previously addressed; see FSAR Table 1.10-1, Item I.G.1.

Question 640.18 FSAR Subsection 14.2.12 test abstracts should be modified to demonstrate that capacities of pressurizer PORVs and main steam line atmospheric dump valves are consistent with the accident analysis assumptions for both minimum and maximum valve capacities.

Response: In regard to the pressurizer PORVs, Table 5.4-20 of the FSAR describes a capacity of 210,000 lb/hr. The accident analysis assumed a flow at least equal to the safety valve maximum capacity (345,000 lb/hr. from Table 5.4-20). Therefore, since the accident analysis assumes a flow which is roughly 164% of the PORV capacity, sufficient margin exists to preclude the need for a test.

In regard to the atmospheric steam dump valves (steam generator PORVs), FSAR 15.1.4 indicates a flow of 225 lb/sec. at 1,000 PSIA (810,000 lb/hr.) was assumed in the accident analysis. Using the 26,200 lb/hr. at 100 PSIA minimum flow rate specified in FSAR 10.3.2 which was used to size these valves, it has been calculated that expected flow at 1,000 PSIA is roughly 270,000 lb/hr. Since this is only 1/3 of the flow assumed in the accident analysis, sufficient margin exists to preclude the need for a test.

Question 640.19 Discrepancies exist between the classification of certain test abstracts in FSAR Subsection 14.2.12 and FSAR Figure 14.2-3. The following test abstracts should be classified as stated:

Section Number	Description	Test Type
14.2.12.16.2	Reactor Coolant System Sampling for Core Load	IST
14.2.12.17.1	Turbine Plant Sampling System	SOV
14.2.12.31.2	Plant Operation Following Loss of FW Heater	IST
14.2.12.54.1	Normal AC Power Distribution System	SOV
14.2.12.63.1	Engineered Safety Features Equipment HVAC	IST
14.2.12.68.1	Auxiliary and Waste Handling Building HVAC	SOV
14.2.12.69.2	Miscellaneous Secondary Plant HVAC Systems	SOV
14.2.12.70.1	Condensate Polishing Building HVAC Systems	SOV

Response: The above inconsistencies were corrected in FSAR Amendment 9.

Question 640.20 FSAR Subsection 14.2.12 test abstracts should be modified to ensure that the accumulator isolation valves can open under the maximum differential pressure conditions of zero RCS pressure and maximum expected accumulator precharge pressure or technical justification to R.G. 1.79, "Preoperational Testing of Emergency Core Cooling System for Pressurized Water Reactors," should be provided in FSAR Table 1.8-1.

Response: R.G. 1.79 clearly states the purpose for the subject test to be "to insure that inadvertant valve closures do not prevent operation of the core flooding system if required." The February, 1984, response to this question explains that administrative controls and technical specification requirements provide assurance that accumulator isolation valves will never be required to change position in performance of a safety function. These controls include power removal upon opening the valve. Alarms which reflash at regular intervals are provided to alert the operator when a valve is not fully open. Technical specifications require periodic verification of valve position, periodic verification of power removal, and plant shutdown if any valve is not opened.

Therefore, the "inadvertant valve closures" which are the source of concern for this test are eliminated unless multiple failures are postulated. These failures would include combinations of the following:

1. Failure to open the valve per technical specifications and operating procedures.

2. Failure of the power removal circuit or failure to remove valve power once the valve is open.

3. Failure of one or more operators to heed the alarm indicating a valve which is not fully open or failure of the alarm.

4. Failure of one or more operators to heed reflash of the alarm.

5. Incorrect verification of valve position on a periodic basis in violation of technical specifications.

Since combinations of these failures would be required to allow an inadvertant accumulator isolation valve closure to occur and not be noticed and corrected, the situation would be highly unlikely. Protecting or testing for multiple failures is over and above standard "single failure" philosophy and is not considered necessary. It should be noted that R.G. 1.79 was issued in 1975. This occurred prior to the initiation of the currently used "power removal techniques" found in the industry today.

Question 640.23 FSAR Subsection 14.2.12.6.5 (Verification of Plant Performance Following Turbine Trip Coincident with Loss-of-Offsite Power at Load) should be modified to secure appropriate sections of the Safeguards Area Ventilation System which are AC powered to simulate loss of AC conditions during the 2-hour turbine-driven auxiliary feedwater pump test. Also, acceptance criteria (2) should be rewritten as it currently is unclear.

Response: Acceptance criterion 2 of 14.2.12.6.5 will be revised as shown on the attached page, 14.2-46. FSAR Section 14.2.12.32.2 (attached page 14.2-94) will be revised to include the loss of ventilation condition.

6. The primary demineralized water storage tank makeup water and chemical feed systems will be tested to verify that they will function in accordance with the control logic and design specifications.

Acceptance Criteria

1. The motor-driven auxiliary feedwater pumps, valves, and the primary demineralized water storage tank makeup water and chemical feed systems function in accordance with the design specifications and the control logic.

2. The motor-driven auxiliary feedwater pumps remain within design limits, and the pump room ambient conditions do not exceed environmental qualification limits for safety-related equipment in the room.

14.2.12.32.2 Turbine-Driven Auxiliary Feedwater Pump Test (PO)

Test Objectives

To verify proper operation and controls of the turbine-driven auxiliary feedwater pump.

Prerequisites

1. The applicable general prerequisites, as listed in Section 14.2.12.1.1, are met.

2. The plant is at normal operating pressure and no load T temperature during hot functional testing.

Test Methods

1. The turbine-driven auxiliary feedwater pump will be tested to verify that the pump functions in accordance with the design specifications and the control logic.

2. The associated steam inlet valves will be tested to verify the valves function in accordance with the control logic.

3. The Turbine-driven auxiliary feedwater pump response time to an automatic start signal will be recorded followed by an endurance test of at least 48 hours with the pump in recirculation. Following this endurance run, the pumps will be shut down, cooled down, and then manually cold quick start and operated for at least 2 hours with Motor-driven auxiliary feedwater pumps and the pump room ventilation secured.

Acceptance Criteria

1. Pump operating parameters are in accordance with design specifications.

4 The turbine-driven auxiliary feedwater pump will be verified to cold quick start automatically and operate for at least 1/2 hour or until the plant stabilizes, with loss of all offsite power.

4. With the motor-driven auxiliary feedwater pumps secured, the turbine-driven auxiliary feedwater pump will be verified to cold, quick start automatically and operate for at least 2 hours with loss of all offsite power.

Acceptance Criteria

1. The ability of the plant to sustain a turbine trip coincident with loss-of-offsite power at load has been demonstrated.

2. The turbine-driven auxiliary feedwater pump automatically quick starts, and remains within design limits with respect to bearing/bearing oil temperatures and vibration. Pump room ambient conditions (temperature, humidity) do not exceed environmental qualification limits for safety-related equipment in the room.

14.2.12.6.6 Load Swing Test (IST)

Test Objectives

To verify the proper transient response of the plant and the automatic control systems during step and ramp load changes at various plant power levels.

Prerequisites

1. Required plant control systems are in the automatic control mode.

2. The plant is in operational mode 1 with reactor power level established as required.

Test Methods

1. Design step and ramp load changes will be applied at each power level (approximately 30, 75, and 100 percent) during power ascension testing.

2. The primary and secondary plant parameters will be monitored as required to verify the proper response of the plant and its automatic control systems.

Acceptance Criteria

Plant parameters remain within design specifications throughout the application of each load change, and the automatic control systems re-establish stable operation at each new power level.

Question 640.25 (1) FSAR Question 410.24 does not necessarily address flooding caused by automatic and/or manual fire protection (water) systems. Provide assurance that adequate drainage is provided to preclude flooding.

(2) FSAR Subsection 14.2.12.50.2 (Wet Pipe and Deluge Sprinkler System Test) should be modified to verify that nozzles serving indoor facilities are air-flow tested and that these tests overlap the water flow tests.

Response: (1) The analyses described in response to Question 410.24 include spurious actuation of automatic fire suppression systems. Spurious actuation of manual systems is not considered credible because of their seismic design. Deliberate actuation of a manual system would only be in response to a fire, in which case the entire fire area is assumed to be destroyed by the fire itself with no adverse impact to plant safety.

(2) The following test method will be added to FSAR Section 14.2.12.50.2:

7. Nozzles serving indoor facilities will be air-flow tested. These tests will overlap the water flow tests.

Question 640.26 (2) FSAR Question 430.11 deals with the Class 1E ac system. Demonstrate that Class 1E dc loads necessary for safety shutdown are operable at minimum dc voltage.

Response: The response to Question 430.11 includes all Class 1E loads. Letter No. 2NRC-4-140 dated September 7, 1984, specifically identifies a schedule for analysis of dc loads.

Question 640.26 (3) FSAR Subsection 14.2.12 has yet to be modified to add full load testing of vital bus inverters.

Response: FSAR 14.2.12.56.1 will revised as shown on the attached page 14.2-124.

7. The operation of the 125 V dc bus ground detectors will be verified.
8. Vital bus inverters will be full load tested using each power source to the inverter.

Acceptance Criteria

1. Battery charger and inverter outputs are in accordance with design parameters.
2. Loss of the preferred power supply is detected, and transfer to and from the standby power sources can be accomplished.
3. Each battery has adequate capacity to perform its design duty cycle.
4. Inverter output at full load is in accordance with design parameters.

14.2.12.56.2 Instrumentation, Annunciator Circuitry, and Emergency Lighting Supply Systems Test (SOV)

Test Objectives

To demonstrate the operation of 125 V dc instrumentation, annunciator circuitry, and the emergency lighting supply system.

Prerequisites

The applicable general prerequisites, as listed in Section 14.2.12.1.1, are met.

Test Methods

1. The emergency lighting supply system will be verified to function in accordance with the control logic and design specifications.
2. Proper operation of alarms panels will be verified.
3. Each 125 V dc switchboard breaker will be operated and the alarm indication will be verified.

Acceptance Criteria

1. The emergency lighting supply system functions in accordance with design specifications and the control logic.
2. The operation of the annunciator circuits is in accordance with design specifications, based upon 125 V dc control system alarms set points.

14.2.12.56.3 Non-Class 1E 125 V dc Operability Test (SOV)

Test Objective

To verify the performance of the non-Class 1E 125 V dc charging systems and the uninterruptible power supply.

Question 640.27 FSAR Subsection 14.2.12.55.1 (Emergency Diesel Generator System Test) should be modified to demonstrate proper operation during complete loss of load or technical justification should be provided for exception to R.G. 1.103, Periodic Testing of Diesel Generator Units used as Onsite Electric Power Systems at Nuclear Power Plants.

Response: A full load rejection test was performed by the vendor for the BVPS-2 diesel generators. Since the diesel auxiliary support systems used by the vendor do not affect results for this test, there is no need to repeat it during initial testing at BVPS-2. It should also be noted that the accident analyses never take credit for regaining a diesel generator once it is lost for any reason. Therefore, further consequences to the diesel need not be considered if it is appropriately isolated from other safety-related equipment.

Question 640.30 (1) Provide technical justification as to why FSAR Subsection 14.2.12.8.11 (Reactor Vessel Internals Inspection) has been deleted. This test is used to provide conformance with R.G. 1.20, Comprehensive Vibration Assessment Program, as stated in FSAR Table 1.8-1 and FSAR Subsection 3.9N.2.4 (1.a.3, 4.s, 5.p).

Response: FSAR 14.2.12.8.11 was erroneously deleted and will be replaced in the FSAR. This inspection is performed as part of a contractually required vendor inspection program and is not categorized as a preoperational test.

Question 640.30 (2) FSAR Subsection 14.2.12 test abstracts should be modified to address leak detection systems located outside of containment (1.j.7).

Response: The response to Question 640.30, Amendment 7, will be revised as shown on the attached pages, Q640.30-3 and Q640.30-3A. These systems are covered by the calibration program rather than the test program.

Q640.30 (2)

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1.j (7) and
1.j (20)

The instrumentation described consists of various sump level indicators, including indicators in radioactive sumps for safety-related equipment areas outside containment. These level indicators are checked for agreement with actual level in Section 14.2.12.10.2.

1.j (22)

The containment wide-range pressure indicators are tested (Section 14.2.12.14.1.)

The reactor water level monitors are checked to be in agreement with level glass indications while filling the reactor in Section 14.2.12.10.2.

High range radiation detectors are tested in Section 14.2.12.61.1.

The containment humidity monitors are non-safety related and are tested in Section 14.2.12.13.1.

Containment sump level indicators are checked in Section 14.2.12.10.2.

Post-accident monitoring instrumentation are verified in the system test to which the instrument belongs.

1.n.12

See revised Section 14.2.12.9.3, Amendment 7.

4.i

See revised Section 14.2.12.3.5, Amendment 7.

5.o

RCS leak rate test is performed during hot functional testing with the reactor at temperature and pressure (Section 14.2.12.8.12). Leak detection instrumentation is previously verified in various tests (see i.j.5).

5.s

Verification of proper calibration of the hotwell level control valves is done prior to fuel load in

640.30(2)

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Insert A

The leak detection systems described consist of safety-related sump level instruments for the containment and incore instrumentation, the recirculation spray pumps, the north and south safeguards areas, the rod control area, and the Auxiliary Building. These instruments provide indication and annunciation only and will not be specifically tested since they are regularly calibrated.

A small, unidentified operational leakage is detected by the Containment Leak Detection System, which is tested, as described in Section 14.2.12.10.3.

Insert B

The containment wide-range pressure indicators are tested as described in Section 14.2.12.14.1.

The reactor vessel water level and containment sump level monitors are safety-related and will not be tested since they provide indication only and are regularly calibrated.

High range radiation detectors are tested as described in Section 14.2.12.6.1.

The containment humidity and temperature monitors are non-safety related and are tested as described in Section 14.2.12.7.3.

PA.Q640.30-3A

Question 640.30 (3) FSAR Subsection 14.2.12.14.1 (Containment Leakage Monitoring System) should specify which atmospheric parameters are monitored (1.j.22).

Response: FSAR Section 14.2.12.14.1 will be revised as shown on the attached page 14.2-70a.

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Test Methods

1. The vacuum pumps and associated valves will be tested to verify that the equipment functions in accordance with the control logic and design specifications.

2. The containment air ejector will be verified that it can establish a vacuum in containment in accordance with design specifications.

Acceptance Criteria

The CVS is capable of establishing and maintaining a reduced pressure in accordance with design specifications.

14.2.12.14 Containment Leakage Monitor System

14.2.12.14.1 Containment Leakage Monitoring System Test (PO)

Test Objectives

To verify the capability of the containment leakage monitoring pressure instruments to measure containment atmospheric parameters during normal operation.

Prerequisites

1. The applicable general prerequisites, as listed in Section 14.2.12.1.1, are met.

2. Temporary instrumentation installed for Type A testing is available.

Test Methods

1. The operation of system wide-range pressure instruments used ~~to measure various containment atmospheric parameters~~ during both normal operation and periodic containment integrated leak rate testing will be verified.

2. A containment resistance temperature detector (RTD) location and accuracy will be verified using temporary instrumentation.

Acceptance Criteria

The operation of the containment leakage monitoring instruments is in accordance with design specifications.

Question 640.30 (4) FSAR Subsection 14.2.12.13.1 (Containment Vacuum System Test) or other appropriate test abstract should include testing of containment humidity monitors (1.j.22).

Response: FSAR Section 14.2.12.7.3 will be revised as shown on the attached page 14.2-50.

3. Loss of power will be initiated to activate the battery backup feature of computer memory.

Acceptance Criteria

1. Diagnostic tests for individual computer equipment operate in accordance with design specifications.

2. Automatic failover will not cause loss of computer functions.

3. Loss of power will cause no main memory loss for period of time specified in design specifications.

14.2.12.7.3 Verification of Performance Calculation (SOV)

Test Objectives

To verify that the computer generated performance calculations and nuclear steam supply system (NSSS) and balance of plant (BOP) programs are accurate at various power levels.

Prerequisites

The plant is in operational mode 1 with reactor power level established as required.

Test Methods

1. Computer input signals from process sensors will be verified correct at various power levels.

2. It will be verified that the computer will correctly perform and report computer calculations to obtain plant operating characteristics from the primary and secondary plants. The accuracy of plant operating characteristics will be verified. Parameters to be verified include containment humidity and temperature monitors.

Acceptance Criteria

The plant operating characteristics calculated by the computer are accurate and in accordance with design specifications and tolerances.

14.2.12.8 Reactor Coolant System

14.2.12.8.1 Cold Hydrostatic Test Of The Reactor Coolant System (PO)

Test Objectives

To verify the mechanical integrity and leak tightness of the reactor coolant system (RCS).

Prerequisites

Question 640.30 (5) FSAR Subsection 14.2.12 test abstracts should include testing of condenser hotwell level control system at power or technical justification should be taken to R.G. 1.68 (5.s).

Response: R.G. 1.68 applies to BWRs as well as PWRs. The condenser hotwell level control system at BVPS-2 serves no safety related function, is not power dependent, and is clearly not governed by the regulatory bases cited in R.G. 1.68 (10CFR50 appendices A and B). Testing performed on this system will be reasonable and prudent as determined by DLC, but is not appropriate for discussion in the FSAR.

Question 640.30 (6) FSAR Figure 14.2-3 should be modified to identify testing of gaseous and liquid radwaste systems at power (5.c.c).

Response: The respose to Question 640.30, Amendment 7, will be revised as shown on the attached page Q640.30-4. Since the performance of these systems is independent of plant power level, testing can be accomplished at any time.

Q640.30 (6)

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	Section 14.2.12.27.1.
5.v	See Section 14.2.12.33.1.
5.c.c	Verification of operation and design of liquid and gaseous radwaste systems is performed in Sections 14.2.12.21.1 and 14.2.12.23.1. ~~Required testing at power~~ is also performed in these tests.
5.g.g	BVPS-2 has no ATWS modifications.
5.i.i	Reactor coolant pump trip transients are tested in Section 14.2.12.8.16 in hot standby mode. Flow transients and control rod response will be measured and compared to Section 15.3. Greater than 30 percent reactor power is simulated to ensure proper plant response (i.e. reactor trip) to RCP trips.

These systems are non-safety-related and all components can be tested prior to fuel load. The waste gas holdup tanks will contain fresh charcoal beds THAT DO not requiring testing.

Question 640.31 FSAR Subsection 14.2.1.2 states that System Operability Verification (SOV) tests are performed as part of the Preoperational Test Phase. However, the following SOV tests are to be accomplished partially or completely during the Initial Startup Tests, or FSAR Subsections 14.2.1.2 and 14.2.1.3 should be rewritten to clarify the use of SOV tests during both the Preoperational and Initial Startup Test phases.

Section Number	Description
14.2.12.7.3	Verification of Performance Calculation
14.2.12.17.1	Turbine Plant Sampling System
14.2.12.28.2	Condensate Polishing System Capability
14.2.12.30.1	Feedwater Heater Drain System Test
14.2.12.33.1	Automatic S.G. Level Control Test
14.2.12.36.2	Turbine Overspeed Trip Test
14.2.12.38.1	Moisture Separation and Reheat Control System
14.2.12.39.1	Turbine Stretch Test
14.2.12.44.2	Cooling Tower Performance Test
14.2.12.57.1	Plant Communications Test
14.2.12.63.2	Fuel, Decontamination Building and Pipe Tunnel HVAC
14.2.12.71.1	Loose Parts Monitoring System Test

Response: Section 14.2.1.2, "Pre-operational Test Phase," will be revised to include the following:

> "Selected non-safety-related systems, structures and components are determined to be operational through the performance of System Operability Verification (SOV) Tests. In general, it is expected that the majority of testing identified during this phase will be completed before fuel loading. However, in some cases, it will be necessary to defer certain Pre-operational and System Operability Verification Testing until after fuel loading. In such cases, sufficient testing will be performed prior to fuel loading to provide reasonable assurance that the post loading tests will be successful."

Section 14.2.1.3 requires no changes.