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

April 18, 1980

Docket No.: 50-334

Mr. C. N. Dunn, Vice President
Operations Division
Duquesne Light Company
435 Sixth Avenue
Pittsburgh, Pennsylvania 15219

Dear Mr. Dunn:

Enclosed for your information is the staff's evaluation of the status of actions you have taken to satisfy the TMI Lessons Learned Category "A" items on Beaver Valley. This evaluation is based on your submitted documentation and the discussions between our staffs at a meeting on March 7, 1980. The enclosed evaluation is not complete since not all short term Lessons Learned requirements are complete. You have committed to have all items complete before returning to power in July of 1980. If for any reason, all items cannot be completed prior to plant startup, the NRC should be notified as soon as possible.

This evaluation does not address the Technical Specifications necessary to ensure the limiting conditions for operation and the long-term operability surveillance requirements for the systems modified during the Category "A" review. You should be considering the proposal of such Technical Specifications. We will be in communication with you on this item in the near future.

Should you have any questions regarding this status report, please contact us.

Sincerely,

for A. Schwencer, Chief
Operating Reactors Branch No. 1
Division of Operating Reactors

Enclosures:
1. Evaluation of Compliance with Category "A" Lessons Learned Requirements
2. OIE Followup Items
3. Attendance List, Site Visit March 7, 1980

cc: See Page 2

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Enclosure 1

STATUS OF LICENSEE'S COMPLIANCE WITH CATEGORY "A" ITEMS OF NRC RECOMMENDATIONS RESULTING FROM TMI-2 LESSONS LEARNED

DUQUESNE LIGHT COMPANY
BEAVER VALLEY
UNIT NO. 1

DOCKET NO. 50-334

Date: April 18, 1980

I. INTRODUCTION

By letters dated October 22[1], November 20[2], December 17[3], January 24[4], February 8[5], 29[6], March 31[7], 1980, Duquesne Light Company (licensee) submitted commitments and documentation of actions taken at Beaver Valley 1 Nuclear Plant to implement our requirements resulting from TMI-2 Lessons Learned. To expedite our review of the licensee's actions, members of the staff met with the licensee on March 7, 1980. This report is an evaluation of the status of the licensee's efforts to implement each Category "A" item which was to have been completed by January 1, 1980 or before returning the unit to power.

II. EVALUATION

Each of the Category "A" requirements applicable to PWRs is identified below. The staff's requirements are set forth in Reference 8; the acceptance criteria is documented in Reference 9. The numbered designation of each item is consistent with the identifications used in NUREG-0578. Lessons Learned items 2.1.7(a), and 2.1.9 are being reviewed separately and are not addressed in this report.

2.1.1 EMERGENCY POWER SUPPLY PRESSURIZER HEATERS

The Westinghouse Owner's Group analysis has determined that the minimum requirements to maintain subcooling, in a three loop plant with a pressurizer volume of 1400 cubic feet is 125 kw of heater capacity. Four groups of Pressurizer Back Up Heaters are normally powered from the Class IE electrical buses. A total of 485 kw in 2 groups of 270 and 215 kw can be connected to each of the two diesel generators via manual control from the control board or shutdown panel.

The above paragraph addresses Part 1 of the position, pressurizer heater power supply. Parts 2, 3 and 4 have not yet been addressed by the licensee.

The licensee had not satisifed the short term Lessons Learned requirements for pressurizer heaters at the time of this report.

PRESSURIZER RELIEF AND BLOCK VALVES AND PRESSURIZER LEVEL INDICATORS

Two power-operated relief valves (PORV's) for the pressurizer are pneumatically operated from the instrument air system upon actuation of solenoid control valves. These solenoids are powered from a station battery that is independent from the power source for the associated PORV Block Valve.

The air system for the Power Operated Relief Valve is supplied by the containment air compressors which are capable of being powered by the Diesel Generators. A nitrogen system has been provided as a back-up to the air system for the PORV's. In addition a diesel driven air compressor can be manually connected to supply air to the station air system.

The above two paragraphs address a portion of Part 1 of the Lessons Learned position, power supply for pressurizer relief and block valves and pressurizer level indicators. Additional clarification for Part 1 will be required before returning the unit to power. Parts 2, 3 and 4 of this position had not been addressed by the licensee at the time of this report.

The licensee had not satisfied all short term Lessons Learned requirements of emergency power supplies for the pressurizer power-operated relief valves/block valves and pressurizer level indicators at the time of this report.

2.1.2 PERFORMANCE TESTING FOR POWER OPERATED RELIEF AND SAFETY VALVES

The licensee is participating in the EPRI sponsored testing program and therefore complies with the Category "A" requirement for this issue.

2.1.3.a DIRECT INDICATION OF POWER-OPERATED RELIEF VALVES AND SAFETY VALVES FOR PWRs

The licensee will provide direct indication of the PORVs and the safety valves by attaching acoustical monitors to each valve which will indicate and alarm open position in the control room.

Further information on this system is needed to confirm that it meets all Lessons Learned requirements.

Implementation requirements were discussed in detail with the licensee at the March 7 meeting.

2.1.3.b INSTRUMENTATION FOR INADEQUATE CORE COOLING (SUBCOOLING METER)

The licensee is installing a saturation meter designed by Westinghouse, which has been accepted on other plants. Installation has not been completed and the requirements specified in reference 9 have not been addressed. Detailed requirements for installation and use of the subcooling meter were discussed with the licensee at the March 7 meeting.

2.1.4 CONTAINMENT ISOLATION

The licensee has identified all essential and non-essential systems. A basis for selection of each essential system was provided.

The remaining containment isolation criteria were discussed in detail with the licensee at the March 7 meeting. The licensee agreed to verify that the Lessons Learned requirements have been implemented prior to plant startup.

2.1.5.a DEDICATED H_2 CONTROL PENETRATION

Beaver Valley is equipped with a recombiner design that is single-failure proof for containment isolation purposes and single-failure proof for operation of the two external recombiners. The penetration is sized for the necessary flow requirements and all components in the system meet safety grade standards.

The hydrogen control system meets the Lessons Learned requirements.

2.1.5.c RECOMBINER PROCEDURES

Before going back into operation the licensee will submit detailed operating procedures for the use of the recombiners in response to OIE Bulletin 79-06A, which OIE will review. The shielding study and associated personnel limitations associated with the use of the recombiners is currently being performed by the licensee and will be submitted prior to returning the unit to power.

2.1.6.a INTEGRITY OF SYSTEMS OUTSIDE CONTAINMENT

Beaver Valley is developing a leakage reduction program and has committed to implementing the program prior to return to power. The following items must be completed and documented by the licensee and reviewed by the staff before returning to power:

1. Provide a summary description of the leakage reduction program, including administrative aspects;

2. Implement the program, including reducing leakage to as-low-as-practical levels;

3. Measure and report leak rates from all systems included in the program;

4. Provide a list of systems excluded from the program with appropriate justification (inability to use any of the excluded systems should not preclude any option for cooling the core nor prevent the use of any safety system);

5. Provide for periodic leak tests with every system being tested at least once per refueling cycle;

6. Provide for preventive maintenance.

2.1.6.b DESIGN REVIEW OF PLANT SHIELDING AND ENVIRONMENTAL QUALIFICATION

Beaver Valley has reviewed plant shielding, identified needed modifications and committed to completing the modifications by 1-1-81. The following items must be completed and documented by the licensee and reviewed by the staff prior to return to power:

1. Verify that the NRC-specified source terms were used;

2. Include as sources of radiation all systems that may contain highly contaminated fluids;

3. Make sure that all components of these systems, such as sample lines and field run piping are included;

4. Identify and determine doses in all vital areas;

5. Determine what modifications are needed to permit the needed access to vital areas without exceeding the dose criteria of General Design Criteria 19;

6. Evaluate the safety equipment to ensure that it is qualified for the radiation doses that might be received from the NRC-specified source terms.

2.1.7.b AUXILIARY FEEDWATER FLOW INDICATION TO STEAM GENERATORS

The licensee has not addressed position 2.1.7.b, Auxiliary Feedwater Flow Indication to Steam Generators, in sufficient detail to enable a reviewer to determine if requirements have been satisfied.

Prior to returning to power, additional information must be submitted for staff review.

2.1.8.a IMPROVED POST-ACCIDENT SAMPLING CAPABILITY

Beaver Valley has reviewed sampling and analysis capability; identified modifications needed to meet the requirements and committed to making these modifications prior to return to power. To complete the staff review the licensee must complete and document the following items:

1. Develop and implement methods for post-accident sampling;

2. Make provisions for sampling both reactor coolant and containment atmosphere;

3. Develop the capability for analyzing both samples for radioisotopic composition, analyzing the containment atmosphere sample for hydrogen concentration and analyzing the coolant sample for boron;

4. Provide controls to prevent overexposures in both sampling and analysis;

5. Ensure that both chemical and radiological analysis facilities will be functional after an accident;

6. Provide adequate procedures for both sampling and analyses.

2.1.8.b INCREASED RANGE OF RADIATION MONITORS

Beaver Valley is committed to having interim methods for monitoring high level releases. Before the staff review can be completed, the licensee must complete and document the following items:

1. Provide approved procedures for high level effluent monitoring;

2. Provide a written description of the interim methods;

3. Install the necessary equipment;

4. Develop methods for monitoring all potential release points (including auxiliary building vent, containment purge, main condenser air ejector and main steam line discharges);

5. Develop interim methods for noble gases that (a) cover the credible range of releases, (b) provide readings at least every 15 minutes and (c) have capability to function even if off-site power is lost;

6. Develop interim methods for particulates and iodines that (a) include provisions for background radiation control and (b) have capability to function even if off-site power is lost.

2.1.8.c IMPROVED IN-PLANT IODINE MONITORING

At Beaver Valley, air monitoring is performed with portable air samplers which can be used to monitor all vital areas. The cartridges are removed from the samplers and counted with single channel analyzers. For improved ability to cope with noble gases, silver zeolite cartridges are provided. Beaver Valley is in compliance with these Lessons Learned requirements.

OIE will review the air monitoring procedures and verify that silver zeolite cartridges are available and the counting equipment is so located and controlled that air monitoring results can be obtained in 10 minutes or less.

2.1.9 RCS VENT SYSTEM DESIGN

The licensee has committed to install the RCS vent system in accordance with Lessons Learned requirements. Design of the vent system has not been submitted by the licensee for staff review.

2.2.1.a SHIFT SUPERVISOR RESPONSIBILITIES

The licensee informed the staff in the March 7 meeting that all requirements of this item were complete. A management directive has been issued by the vice president of Operations emplasizing the primary management responsibility of the shift supervisor.

OIE will review the management directive for compliance with position 1 of the Lessons Learned requirement on page 50 of reference 9. OIE will also review plant procedures to ensure compliance with positions 2, 3 and 4 of reference 9.

2.2.1.b SHIFT TECHNICAL ADVISOR

The licensee has committed to provide on shift, at all times that average temperature of the reactor coolant system is greater than 200°F, an On-Shift Technical Advisor The group of on-shift technical advisors shall have the responsibility for both accident assessment and an evaluation of operating experience. This review of operating experience will include a review of operating experiences at Beaver Valley as well as a review of abnormal operating experiences that occur at facilities of similar design which are brought to their attention through LERs, the Clearing House Reports or other means. The STAs will be capable of reporting to the control room within 10 minutes of being notified. They will act as advisor to the shift supervisor and will have no responsibility for manipulation of controls or have any other duties which could detract from their primary function.

The licensee is in compliance with Lessons Learned requirements for this item.

2.2.1.c SHIFT AND RELIEF TURNOVER PROCEDURE

The licensee has reviewed and revised, in accordance with the staff position the procedures for shift and relief turnover. Specific requirements of the Lessons Learned position were discussed during the March 7 meeting.

OIE will verify that plant procedures have been changed to incorporate positions 1, 2 and 3 of reference 9.

2.2.2.a CONTROL ROOM ACCESS

Administrative Procedures that establish the authority and responsibility of the person in charge of the Control Room to limit access and administrative procedures that establish a clear line of authority and responsibility in the Control Room in the event of an emergency have been developed and implemented.

OIE will review plant administrative procedures to confirm that positions 1 and 2 of reference 9 have been implemented.

2.2.2.b ONSITE TECHNICAL SUPPORT CENTER

The licensee has not addressed clarification items 1A through 1G of the October 30, 1979 staff letter. Prior to return to power a complete description of the interim onsite Technical Support Center must be provided.

2.2.2.c ONSITE OPERATIONAL SUPPORT CENTER

Additional information is necessary on the onsite operational support center, addressing communication with the control room and procedures for activation and manning of the center. This material must be submitted prior to returning to power.

REFERENCES

1. Letter, C. N. Dunn, to Director, NRR, Attn. D. G. Eisenhut, Acting Director, DOR, dated 10/22/79.

2. Letter, C. N. Dunn to H. R. Denton, Director, NRR, dated 11/30/79.

3. Letter, C. N. Dunn to Director NRR, Attn. A. Schwencer, Chief, ORB-1, dated 12/17/79.

4. Letter, C. N. Dunn to Director, NRR, Attn. D. G. Eisenhut, dated 1/24/80

5. Letter, C. N. Dunn to Director, NRR, Attn. A. Schwencer, Chief, ORB-1, dated 2/8/80.

6. Letter, C. N. Dunn to Director, NRR, Attn. D. G. Eisenhut, DOR, dated 2/29/79.

7. Letter, C. N. Dunn, to Director, NRR, Attn. D. G. Eisenhut, dated 3/31/80.

8. NUREG-0578.

9. Letter, Director, NRR, to DCL, dated 10/30/79, Subject: "Clarification of NUREG-0578 Requirements"

ENCLOSURE 2

ATTENDANCE LIST

LESSONS LEARNED MEETING MARCH 7, 1980

J. Carey	DLC
J. L. Hoapfinger	DLC
H. M. Siegel	DLC
J. S. Campbell	DLC
Charles A. Willis	NRC
Mel Fields	NRC
Janis Kerrigan	NRC
D. L. Wigginton	NRC
John F. Burdoin	NRC
Newton Anderson	NRC
John D. Sieber	DLC
T. Telford	NRC
J. Cehn	NRC