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October 22, 1979

IPN-79-75

Director, Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Darrell G. Eisenhut, Acting Director
Division of Operating Reactors

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286

Reference: Letter Darrell G. Eisenhut (NRC) to All Operating Nuclear Power Plants dated September 13, 1979

Dear Sir:

This letter is in response to the reference letter titled "Followup Action Resulting from the NRC Staff Review Regarding the Three Mile Island Unit 2 Accident." The Authority has already taken steps to start implementation of actions contained in NUREG-0578, as modified and/or supplemented by items (a) through (f) of the referenced letter.

The Authority recognizes the importance of efforts to apply knowledge gained from the Three Mile Island accident and has tried to comply with the implementation schedule of Attachment 6 of the referenced letter, wherever possible.

Attachment 1 to this letter provides the Authority's implementation commitments and schedules. In certain cases, where substantial engineering effort is required or the work is being done generically by the Westinghouse PWR Owners' group, of which the Authority is a member, installation schedules have not yet been proposed. The Authority will advise the Commission as soon as schedules have been established.

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If you have any questions regarding Authority efforts in this area, please do not hesitate to contact us.

Very truly yours,

Paul J. Early
Assistant Chief Engineer-
Projects

ATTACHMENT 1

THREE MILE ISLAND LESSONS LEARNED

COMMITMENTS

Section 2.1.1 - Emergency Power Supply Requirements for the Pressurizer Heaters, Power - Operated Relief Valves and Block Valves, and Pressurizer Level Indicators in PWR's.

A confirmatory review will be conducted of the emergency power supply for the minimum number of pressurizer heaters required to maintain natural circulation conditions in the event of loss of offsite power. A review will also be conducted of the emergency power supplies to the control and motive power systems for the power-operated relief valves and associated block valves and to the pressurizer level indication instrument channels. A report describing the systems at Indian Point 3 including modifications if any, to comply with NUREG-0578 is scheduled to be submitted by January 1, 1980.

Section 2.1.2 - Performance Testing for PWR Relief and Safety Valves.

The Authority is a member of the Westinghouse PWR Owner's Group. As a member of this group, the Authority is working with Westinghouse, the other PWR owners and the Electric Power Research Institute (EPRI) to develop a program for qualification of relief and code safety valves under expected operating and transient conditions. The program description and schedule will be submitted by the date specified, January 1, 1980.

Section 2.1.3.a - Direct Indication of Power-Operated Relief Valve and Safety Valve Position for PWR's.

A confirmatory review will be conducted of the positive indication in the control room of the power operated relief valves and their associated block valves. A report describing the system at Indian Point 3 Plant will be submitted by January 1, 1980. The Authority is presently investigating various methods to monitor the pressurizer code safety valve position. Vendors have been contacted and will be submitting proposals on valve position indication systems for the Authority's consideration. A schedule for implementation will be submitted following complete review of these proposals.

Section 2.1.3.b - Instrumentation for Detection of Inadequate Core Cooling in PWR's.

The Westinghouse PWR Owner's Group is performing calculations associated with the definitions and identification of inadequate core cooling conditions in accordance with NUREG-0578 Section 2.1.9. This work is being reviewed by the Bulletins and Order Task Force of the NRC. The schedule by which this work will be performed is being determined by the Bulletins and Order Task Force. The results of the program will provide guidelines which can be implemented into plant specific procedures and identify existing plant instrumentation which can be utilized in assessing the approach to and existence of inadequate core cooling.

The program as described in the preceding paragraph, will be utilized to provide the basis for any new instrumentation or controls which may be required in assessing the approach to and existence of inadequate core cooling. A description of any new instrumentation or controls, their functional design requirements and a schedule for installation will be provided consistent with the analysis of Section 2.1.9.

The Authority is in the preliminary design stages of a saturation alarm system. A description of the new instrumentation system, a design schedule and installation schedule will be pursued consistent with the requirements of Section 2.1.3.b of NUREG-0578; however, the actual completion of the installation will be governed by component lead time, equipment and unit availability.

Section 2.1.4 - Containment Isolation Provisions for PWR's.

The following actions will be performed and are scheduled to be completed by January 1, 1980 as required by NUREG-0578.

1. A confirmatory review of the containment isolation system to check compliance with SRP 6.2.4 regarding diversity of parameters sensed for the initiation of containment isolation.

2. Each system penetrating containment shall be reviewed as to the applicability of the current classification (essential or non-essential) and justification for that classification provided.

3. A review of the containment isolation signal reset logic will be conducted. A valve by valve review will be conducted to determine the exact degree of

compliance. Modifications if necessary, to control circuits and/or operating procedures, will be implemented consistent with component lead time, equipment and unit availability.

4. A report describing the above investigation at Indian Point 3 Plant is scheduled to be submitted by January 1, 1980.

<u>Section 2.1.5.a - Dedicated Penetrations for External Recombiners or Post-Accident Purge Systems.</u>

A confirmatory review will be conducted of the systems at Indian Point 3 Plant to check compliance with NUREG-0578. A report is scheduled to be submitted by January 1, 1980.

<u>Section 2.1.5.c - Capability to Install Hydrogen Recombiners at Each Light Water Nuclear Power Plant.</u>

A confirmatory review of the existing hydrogen recombiner system will be conducted. The procedures and basis for recombiner operation along with shielding requirements will be reviewed consistent with the requirements of Section 2.1.5.c of NUREG-0578. A report is scheduled to be submitted by January 1, 1980.

<u>Section 2.1.6.a Intergrity of Systems Outside Containment Likely to Contain Radioactive Materials (Engineered Safety Systems and Auxiliary Systems) for PWR's.</u>

The Authority in conjunction with the Westinghouse PWR Owners Group has assigned Westinghouse the task of identifying the post-accident function of systems involved in the transfer of fluids from the containment to systems external to the containment to define which systems will require a periodic leak testing program. Upon completion of this review a report will be submitted by January 1, 1980.

<u>Section 2.1.6.b - Design Review of Plant Shielding and Environmental Qualification of Equipment for Spaces Systems Which May be Used in Post-Accident Operations.</u>

The following actions have been planned to comply with NUREG-0578.

1. Identification and field verification of reactor coolant recirculation paths and operating and sampling stations under normal and emergency conditions.

2. A design review to identify safety equipment which may be unduly degraded by the radiation fields during post-accident operations of these systems.

3. Determination of radiation fields resulting from circulation of reactor coolant following a release equivalent to that described in Regulatory Guide 1.4.

4. Determination of dose rates based on accident source terms at operating and sampling stations and approaches which are to be used by plant personnel during accident conditions.

5. Identification of modifications necessary for personnel to accomplish essential functions and to upgrade safety equipment, which may be degraded due to an adverse environment.

6. A report summarizing the above will be submitted by January 1, 1980. Implementation of modifications will be dependent on component lead time, equipment and unit availability.

<u>Section 2.1.7.a - Automatic Initiation of the Auxiliary</u>

<u>Feedwater System for PWR's.</u>

A confirmatory review will be conducted of the initiation logic design, operational and administrative procedures of the Auxiliary Feedwater System to check compliance with NUREG-0578. A report summarizing the above is scheduled to be submitted by January 1, 1980.

<u>Section 2.1.7.b - Auxiliary Feedwater Flow Indication to</u>

<u>Steam Generators for PWR's.</u>

A confirmatory review of the Auxiliary Feedwater flow indication to steam generators in the control room will be conducted. The emergency power supply to the auxiliary feedwater flow instrument channels will also be reviewed for compliance with the Auxiliary Systems Branch Technical Position 10-1 of the Standard Review Plan, Section 10.4.9. A report summarizing the above is scheduled to be submitted by January 1, 1980.

Section 2.1.8.a - Improved Post-Accident Sampling Capability.

The Authority's program to implement the captioned NRC postition calls for engineering review to be completed by April 1, 1980. Any plant modifications indicated will be examined at that time, and a schedule for implementation proposed. Procedures will be developed for post-accident sampling after engineering review and implementation of necessary modifications.

Section 2.1.8.b - Increased Range of Radiation Monitors.

The review, design and installation of the high range radiation monitors is being pursued consistent with the requirements of Section 2.1.8.b of NUREG-0578.

Section 2.1.8.c - Improved In-Plant Iodine Instrumentation.

Improved method of determining airborne iodine concentration including equipment, personnel training and procedures will be implemented consistent with the requirements of Section 2.1.8.c. of NUREG-0578. A report will be submitted by January 1, 1980.

Section 2.1.9 - Analysis of Design and Off-Normal Transients and Accidents.

Transient and Accident Analysis

Analysis of small break loss-of-coolant accidents, symptoms of inadequate core cooling, required action to restore core cooling, and analysis of transient and accident scenarios including operator actions not previously analyzed are being performed on a generic basis by the Westinghouse PWR Owners Group. The small break analyses have been completed and are reported in WCAP-9600, which was submitted to the Bulletins and Orders Task Force by The Owners Group on June 29, 1979. The work required to address the other two areas, inadequate core cooling and the transient and accident scenarios, is being performed in conjunction with the Bulletins and Order Task Force. The definition of requirements and schedules for submittal of program results are being established with the B&O task force. The results of these programs will provide the bases for the adequacy of existing instrumentation or define the requirements for additional instrumentation or controls in accordance with Item 2.1.3.b.

In addition to the above-outlined program, the Owners Group is providing pre-test predictive analysis of the LOFT test program in accordance with the schedule established by the Bulletin and Order Task Force.

Containment Pressure Monitor.

A review of the existing containment pressure monitoring system design will be conducted to check compliance with Regulatory Guides 1.89 and 1.97. The implementation schedule will be dictated by component lead time, equipment and unit availability.

Containment Water Level Monitor.

A review of the containment water level monitoring system will be conducted to check compliance with the NUREG-0578. Implementation schedule of modifications, if required, will be dictated by component lead time, equipment and unit availability.

Containment Hydrogen Monitor.

A review to ascertain the extent of modifications required to provide continuous indication of hydrogen concentration in the control room will be undertaken. The implementation schedule will be dictated by the results of the review, component lead time, equipment and unit availability.

RCS Venting System.

The Authority is presently reviewing a preliminary design from Westinghouse for a reactor coolant head vent system. Upon acceptance, the Authority will proceed with detailed design and engineering for installation into the plant systems. Installation will be completed based on component lead time, equipment and unit availability.

Section 2.2.1.a - Shift Supervisor's Responsibilities.

A complete review of the existing administrative and management procedures is presently underway. If additional procedures or procedure revisions are required, they will be implemented consistent with the requirements of Section 2.2.1.a of NUREG-0578.

Section 2.2.1.b - Shift Technical Advisor.

The Authority plans to hire qualified technical personnel to work on shift as Surveillance Test Engineers to meet the requirements concerning operating experience assessment. The Shift Supervisor will be trained and qualified as necessary to satisfy the accident assessment function. However, as it is impossible to hire and/or train these people by January 1, 1980, the Authority plans to utilize plant Engineers to be on call at short time notice to be available at the plant during emergency. The Authority plans to meet the requirement of this NUREG position by January 1, 1981.

Section 2.2.1.c - Shift and Relief Turnover Procedures.

The Authority plans to review and revise plant procedures as necessary to assure that adequate coverage exists during shift and relief turnover.

Section 2.2.2.a - Control Room Access.

Administrative procedures will be written and/or revised to limit control room access and establish clear lines of authority and responsibility consistent with the requirements of Section 2.2.2.a of NUREG-0578.

Section 2.2.2.b - Onsite Technical Support Center.

An interim Technical Support Center will be established consistent with the schedule requirements of Section 2.2.2.b The upgraded Technical Support Center will be established consistent with the requirements of Section 2.2.2.b of NUREG-0578.

Section 2.2.2.c - Onsite Operational Support Center.

An operational Support Center will be established consistent with the requirements of Section 2.2.2.c of NUREG-0578.

Items Covered by Enclosures 7 and 8 to the September 13, 1979 NRC letter

Near Term Emergency Preparedness Improved Implementation

1) Upgrade Emergency Plan

The Emergency Plan for Indian Point No. 3 Nuclear Power Plant meets the requirements of Regulatory Guide 1.101, Revision 1. This plan is currently being upgraded to meet the requirements of the new NRC acceptance criteria for licensee emergency plans.

2) Short Term Actions Recommended by Lessons Learned Task Force

Section 2.1.8.a - Post-accident sampling design and shielding review is in progress.

Section 2.1.8.b - High range radiation monitors, specifications for the monitors are being written and monitors will be ordered.

Section 2.1.8.c - Improved inplant iodine instrumentation is addressed on Page 5.

3) Emergency Operation Center for Federal, State and Local Officials

The temporary emergency control center for Federal, State and Local officials exists for the Indian Point No. 3 Nuclear Power Plant. The Authority plans to review and take necessary steps to meet the long term requirement.

4) Improved Offsite Monitoring Capability

It is the Authority's position that the Indian Point No. 3 Nuclear Power Plant is already in compliance, but as per Memorandum of Understanding No. 28 with Consolidated Edison Co., additional TLDs and air sampling locations are being installed.

5) Adequancy of State/Local Plans

The State Plan is an approved NRC plan. The State Plan only has to be upgraded in some areas. The Authority has suggested action in upgrading local county plans.

6) Conduct of Test Exercises

It is the position of the Authority that the plant continue the present emergency plan testing as specified in Book 1 of the plan itself and any augmentation that will be necessary will be implemented within the 5 year time schedule.