

POST-OL AMOUNTS - REVIEW & SUMMARY

ROUTING AND TRANSMITTAL SLIP

Date 6/22/79

| TO: (Name, office symbol, room number, building, Agency/Post) | Initials | Date |
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| 1. Bill Porter | | |
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| Action | File | Note and Return |
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| Approval | For Clearance | Per Conversation |
| As Requested | For Correction | Prepare Reply |
| Circulate | For Your Information | See Me |
| Comment | Investigate | Signature |
| Coordination | Justify | |

REMARKS

Summary of Amendments

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

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| | Phone No. |

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SUMMARY OF POST-OL ACTIONS

Amendment 1 - 3/3/78

In the interest of minimizing delays, Technical Specification requirements were waived which permitted hydrotesting at a lower (180^{to}260°F) temperature. Hydrotesting was required to test new pressure boundaries which had not been hydrostatically tested.

Requirements for hydrotesting are set forth in Appendix G to 10 CFR 50. However, Appendix G does not address requirements with fuel in the vessel. Apparently this is addressed in SRP 5.3.2. Conformance with the Technical Specifications would have required delaying the tests until in operational 4 (hot shutdown).

Amendment 2 - 3/10/78

Response to Licensee having completed conditions stated in the license. Amendment deleted conditions stated in paragraphs 2.C.(3)b, 2.C.(3)1.1 and 2.C.(3)1.2. Revised license conditions 2.C.(3)1.3 and added paragraph G.12 to Attachment 2.

With the exception of 2.C.(3)b, the other conditions concerned fire protection. The implementation of fire protection measures were not required until start-up following the refueling outage. The criteria for implementing these measures should be addressed to determine whether TMI-2 received any special consideration by the NRC.

Amendment 3 - 3/24/78

Response to licensee for having complied to license conditions 2.C.(3),C, 2.C.(3).d and 2.C.(3).e. It revised paragraphs C.1, C.5 and F.2 of Attachment 2 to license and added paragraph I to Attachment 2.

Revision to paragraph C.1 deleted TP 120/5, 7, 8 and TP 230/3. IE indicated that purposes of these test procedures could be achieved at a later date as part of the Surveillance Requirements for the equipment involved except for TP 230/3. This later testing procedure was delayed because part of the ^CRY waste evaporator was being used in Unit 1. During this time the processing of radioactive waste for Unit 2 was being performed by Unit 1. Paragraph I was added to complete TP 230/2 before using the evaporator in Unit 2. The postponement of these TP's permitted entry into Mode 2 (start-up). It should be determined if this type of cross-connection is permitted by NRC regulations.

Paragraph C.5 to Attachment 2 provided an interim fix to prevent hydrogen cover gas being introduced into the RCS during a LOCA. Paragraph F.1 provided for a permanent fix.

Paragraph F.2 exempted the licensee from Technical Specifications for the Hydrogen Purge Air Cleanup, the Control Room Emergency Air Cleanup, and the Fuel Handling Building Air Cleanup Systems. Evidently, charcoal in certain filters could not be changed to meet RG 1.52, Revision 1. The exemption permitted operation until the first refueling. Need to determine if these systems played a negative role in the TMI-2 accident.

Amendment 4

In response to two occurrences where sodium hydroxide was inadvertently and unnecessarily injected into the RCS, the licensee requested and received approval to change the activation signals to the controlling value. In addition, the Amendment responded to a B&W finding that the incore nuclear detectors for

indicating quadrant tilt and axial imbalance possessed more uncertainty than initially assumed. The alarm set points were reduced.

Amendment 5 - 6/5/78

A change to the Technical Specifications which permitted testing of the control rod handling mechanism for loadings within its design specifications.

Amendment 6 - 8/17/78

The license was amended to permit the following:

1. Alternate procedures for containment air lock seal leak rate testing.
2. Plant operation with increased ultimate heat sink temperatures (85 to 95°F).
3. Removal of most orifice rod assemblies and addition to retainers on others.
4. Replacement of main steam safety valves.

With respect to the ultimate heat sink temperature, it appears that NRC approved the operating condition at the elevated temperature without sufficient margin for the operation of the control building air conditioning equipment (safety related). It appears that this limiting condition for operation should have been contingent upon upgrading the control building booster pumps to provide adequate flow for the cooling system.

With regard to removing the ORAs and addition of retainers, core flow had to be increased to compensate for increased flow bypass due to removal of ORAs and reduced core flow due to the addition of the retainers. Analyses for DNBR limits were completed. Amendment No. 8 permitted 3-pump operation, and ~~A~~ review of the limiting conditions for ^{this} operation for 3-pump operation included the effects of reduced core flow should be addressed. As the result of these changes, the operating margin

was reduced from 5 to 3 percent. The flow instrumentation accuracy is important to assure this operating margin. The staff approved the flow measurement system and its calibration based on Unit 1 uncertainty. There may be some question (e.g., installation, electronics, etc.) as to the validity of this basis for approval.

The replacement of the steam safety valves was the result of the failure of the valves to reseal during a previous transient. Evidently, these valves had not been used previously on steam conversion systems and were determined to be unacceptable. Need to determine if other operating plants were alerted to the potential shortcomings of these valves.

Amendment 7 - 9/5/78

This amendment deleted environmental conditions which had been met by the licensee.

Amendment 8 - 12/15/78

This amendment changed a Technical Specification requirement which prohibited reduced RCS flow with four pumps operating at a reduced power. This change permitted operation at reduced power levels with specified reduced reactor coolant system flow. It is not clear that the effects of Amendment 6 (reduced core flow) was taken into account of the ^NDABR limits to justify this change. B&W performed the analyses.

Amendment 9 - 2/23/79

This amendment incorporated Security Plan into the license.

Orders for Modification to License - 5/26/78 and 10/13/78

Both of these relate to performance of ECCS to small break at the pump discharge. The ^{order of} 5/26/78 limited power and required re-analyses of ECCS performance. Order of 10/13/78 superceded Order of 5/26/78 and permitted full power operation. Credit for operator action during the ^e within 10 minutes ^{after the event} was approved as an interim measure until a permanent fix is made. Need to evaluate consistency of staff approvals of operator actions to mitigate off-set operating conditions.

In addition, it may be of some significance that the staff did not perform any independent confirmatory calculations to support their approval of the vendor's analyses. Furthermore, it was the vendor who identified to the staff that a complete spectrum of breaks and locations had not been analyzed ^{in the first place.}

We further find acceptable the licensee's statements regarding conformance of all modifications with ASME Code and FSAR criteria.

Among the changes proposed by the licensee is a revision of the equation on page 2 3/4 7-1 of the Technical Specifications for determining reduced nuclear Overpower Trip Setpoint for inoperable safety valves. The proposed equation is essentially identical numerically to the original, and we do not find sufficient justification to make the proposed change.

Based on the above, we conclude that the proposed changes in the Technical Specifications covering the new main steam safety valves are acceptable, except as noted above, and that the facility operating license can be amended by changing the Technical Specifications as shown in the attachment to this license amendment.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR 50.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Original signed by
Steven A. Varga

H. Silver, Project Manager
Light Water Reactors Branch No. 4
Division of Project Management

Steven A. Varga, Chief
Light Water Reactors Branch No. 4
Division of Project Management

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STAFF SAFETY
EVALUATION

The original calculations for a rod bowing penalty had been performed with a B&W rod bow model that we found unacceptable. We have verified that the revised rod bow model as presented in the change request conforms with the NRC-approved rod bow equation for B&W plants. Therefore, we find this change acceptable.

The allowable values for channel functional test in Technical Specification Table 2.2-1 reasonably account for various instrument errors, and we therefore find these changes acceptable.

In summary, we have evaluated the proposed changes in Technical Specification Change Request No. 011, and having found them all acceptable, we conclude that the facility operating license can be amended by changing the Technical Specifications as shown in the attachment to this license amendment.

4. Main Steam Safety Valves

Introduction

By letter dated July 24, 1978 transmitting Technical Specification Change Request No. 015, Metropolitan Edison Company (Met Ed) requested amendment of Appendix A to Facility Operating License No. DPR-73 for Three Mile Island Nuclear Station, Unit 2 (TMI-2). The requested change would amend the Technical Specifications to permit replacement of the original 12 dual discharge port main steam safety valves with 20 somewhat smaller single discharge port valves.

Discussion

During a previous event at TMI-2, some of the original main steam safety valves failed to close at an appropriate pressure after actuation. Efforts to modify the valves to eliminate the problem were unsuccessful, and the licensee elected to replace the valves. These Technical Specifications changes are required to reflect this design change.

The new safety valves provide a relief capacity of 120 percent of the total secondary steam flow compared with 114 percent provided by the original valves. The licensee states that all system modifications conform with requirements of appropriate sections of the ASME Code and with criteria previously accepted in the Final Safety Analysis Report (FSAR).

Evaluation

We have evaluated the information provided by the licensee and find that since the relieving capacity of the new main steam safety valves exceeds that originally provided, the proposed change is in the conservative direction and is therefore acceptable.

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-320

METROPOLITAN EDISON COMPANY

JERSEY CENTRAL POWER & LIGHT COMPANY

PENNSYLVANIA ELECTRIC COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U.S. Nuclear Regulatory Commission (the Commission) has issued Amendment 6 to Facility Operating License No. DPP-73, issued to the Metropolitan Edison Company, Jersey Central Power & Light Company, and Pennsylvania Electric Company, for operation of the Three Mile Island Nuclear Station, Unit 2 (the facility), located in Dauphin County, Pennsylvania. The amendment is effective as of its date of issuance.

The license is amended by revising certain Technical Specifications to permit the following:

1. Alternate procedures for containment air lock seal leak rate testing
2. Plant operation with increased ultimate heat sink temperatures
3. Removal of most orifice rod assemblies and addition of retainers on the remaining orifice rod assemblies and on the burnable poison rod assemblies
4. Replacement of the main steam safety valves.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment.

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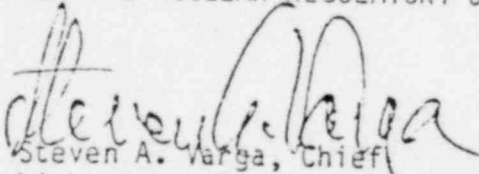
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The Commission has determined that the granting of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with this action.

For further details with respect to this action, see (1) Amendment No. 6, to Facility Operating License No. DPR-73, and (2) the Commission's related safety evaluation supporting Amendment No. 6 to Facility Operating License No. DPR-73. These items are available for public inspection at the Commission's Public Document Room, 1717 H street, N. W., Washington, D. C. and at the State Library of Pennsylvania, Commonwealth and Walnut Streets, Harrisburg, Pennsylvania 17126.

Dated at Bethesda, Maryland this 17th day of August 1978.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Light Water Reactors Branch 4
Division of Project Management