

Mr. Sander Levin  
Acting Site Director  
GPU Nuclear, Inc.  
Oyster Creek Nuclear Generating Station  
P. O. Box 388  
Forked River, NJ 08731

July 21, 2000

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION (NOED) FOR GPU NUCLEAR, INC., REGARDING OYSTER CREEK NUCLEAR GENERATING STATION (OYSTER CREEK) "A" ELECTROMATIC RELIEF VALVE (EMRV) ACOUSTIC MONITORS (TAC NO. MA9523) - NOED NO. 00-6-007

Dear Mr. Levin:

By letter dated July 19, 2000, as supplemented July 20, 2000, you requested that the NRC exercise discretion not to enforce compliance with the actions required in Technical Specification (TS) Section 3.13, Table 3.13.1 (relief valve position indication primary detectors) as it applies to the "A" EMRV acoustic monitors. TS 3.13.A.3 requires that with the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels Operable requirements of Table 3.13.1, either restore the inoperable channel(s) to the OPERABLE status within 48 hours, or place the reactor in the SHUTDOWN CONDITION within the next 24 hours. Additionally, TS 3.13.A.2 requires that with the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.13.1, either restore the inoperable channel(s) to the OPERABLE status within 7 days, or place the reactor in the SHUTDOWN CONDITION within the next 24 hours. You requested that the NRC exercise discretion from these requirements as they apply to the "A" EMRV position indication primary detectors. Your letters documented information previously discussed with the NRC in telephone conferences on July 19, 2000, at 11:30 a.m. and 1:45 p.m.

The principal NRC staff members who participated in that telephone conference included, among others, Ms. E. Adensam, Project Director, Mr. T. Colburn, Senior Project Manager, Mr. W. Jensen, Senior Reactor Engineer, Mr. G. Thomas, Reactor Engineer, all from NRC Headquarters; Mr. R. Crlenjak, Acting Division Director, Mr. S. Morris, Acting Branch Chief, Mr. N. Perry, Acting Branch Chief, Mr. A. Della Greca, Senior Reactor Inspector, and Mr. T. Shedlosky, Senior Reactor Analyst, all from Region I; and Ms. L. Dudes and Mr. T. Hipschman, the Oyster Creek Senior Resident Inspector and Resident Inspector, respectively.

You stated that as of 7:15 p.m. on July 17, 2000, Oyster Creek was not in compliance with the requirements of TS 3.13.A.3 for relief valve position indication (primary detectors) for the "A" EMRV which would require restoration of the inoperable channels to OPERABLE status within 48 hours (7:15 p.m. on July 19, 2000), or place the reactor in a SHUTDOWN CONDITION within the next 24 hours.

You requested that a NOED be issued pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.c. of the "General Statement of Policy and Procedures for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, and be effective until a proposed exigent license amendment can be processed and approved. This letter documents our telephone conversations on July 19, 2000, 11:30 a.m. and 1:45 p.m. We orally issued this NOED at approximately 2:00 p.m. on July 19, 2000.

NRC Inspection Manual, Part 9900, Notice of Enforcement Discretion, Section C.4 requires that the request for NOED address the following 11 items, as appropriate. In your letters dated July 19, and July 20, 2000, you provided the information.

1. The TSs or other license conditions that will be violated.

TS 3.13.A.3 requires that with the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels Operable requirements of Table 3.13.1, either restore the inoperable channel(s) to the OPERABLE status within 48 hours, or place the reactor in the SHUTDOWN CONDITION within the next 24 hours. Additionally, TS 3.13.A.2 requires that with the number of OPERABLE accident monitoring instrumentation channels less than the Total Number of Channels shown in Table 3.13.1, either restore the inoperable channel(s) to the OPERABLE status within 7 days, or place the reactor in the SHUTDOWN CONDITION within the next 24 hours. You requested that the NRC exercise discretion from these requirements as they apply to the "A" EMRV position indication primary detectors.

2. The circumstances surrounding the situation, including root causes, the need for prompt action, and identification of any relevant historical events.

On March 29, 2000, the primary "A" EMRV acoustic monitor failed its surveillance test and was declared inoperable. The backup acoustic monitor was placed in service. On July 17, 2000, the "A" EMRV backup acoustic monitor failed its surveillance test and was declared inoperable by Oyster Creek control room personnel at 7:15 p.m. TS 3.13.A.3 allows 48 hours to return the "A" EMRV acoustic monitor to OPERABLE status or the reactor shall be placed in the SHUTDOWN CONDITION within the next 24 hours. Your investigation of the cause of the acoustic monitor failure determined the problem to be with acoustic monitor system components inside containment which would require a plant shutdown and containment entry to repair. The problem appears to be due to a loss of accelerometer resonant frequency. Troubleshooting confirmed that this was not a problem with the control room electronics and is similar to the cause of the March 29, 2000 failure. Vendor support helped determine the cause of the primary acoustic monitor failure to be either the accelerometer, the intervening cable or the connection of the intervening cable, and the cause of the backup acoustic monitor failure to be a bad connection of the cable or slow degradation of the line driver. These components are all located in the drywell. You requested enforcement discretion from the requirements of TSs 3.13.A.2 and 3 and Table 3.13.1 Item 1 (primary detectors) as they apply to the "A" EMRV to allow continued operation of the plant in this degraded condition.

Oyster Creek is currently operating at 100 percent power. Repair of the inoperable acoustic monitors would require shutdown to COLD SHUTDOWN and de-inerting the containment to allow containment entry to repair the acoustic monitor failed component(s). Because the failed components are located in the drywell, the definitive root cause cannot be determined until a drywell entry can be made.

3. The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. This evaluation should include at least a qualitative risk assessment derived from the licensee's probabilistic risk analysis.

The purpose of the acoustic monitor is to provide indication of a stuck open EMRV. You stated that the Oyster Creek EMRV valve position indicating system is indicated and alarmed on a control room panel. Backup methods are also available to determine valve position and are discussed in the off-normal operating procedures and are identified in the TSs as "backup indications." The EMRVs are DC powered, solenoid-initiated relief valves with demand opening/closing indication independent of the acoustic monitors. Procedures, which are part of the current operator training program, direct operators to observe various plant parameters for indications of a stuck open relief valve including reactor pressure vessel (RPV) pressure and level which both decrease and suppression pool temperature and level which both increase. Other indications are loss of generator megawatts, and indicated feedwater flow greater than indicated steam flow. Additionally, tailpipe temperatures provide an indication if an EMRV is open. Thus, numerous other indications are available to determine if an EMRV were to stick open.

NUREG-0783 requires that a postulated stuck open relief valve (SORV) transient be analyzed to verify that the maximum pool temperature remains below the quencher instability temperature. You stated that the SORV analysis assumes operator action to trip the reactor and initiate suppression pool cooling in accordance with off-normal procedures and TS requirements. The analysis assumes that operator action is as a result of suppression pool temperature and does not take credit for acoustic monitors. You also stated that the suppression pool temperature monitoring system supplies redundant safety grade temperature indication to the operators. This information is unaffected by the inoperable acoustic monitors, and the loss of the acoustic monitors does not adversely affect the SORV analysis.

Emergency operating procedures (EOPs) direct the control room operators to control RPV pressure below the EMRV lift pressure in order to preclude EMRV cycling which can lead to an SORV. You stated that the operator actions are unaffected by inoperable acoustic monitors.

You also indicated that the acoustic monitors provide operators one of several indications that the required number of EMRVs has been opened as required by EOPs for emergency depressurization. The EOPs do not specify the use of acoustic monitors.

You performed a qualitative risk assessment of operation without an operable "A" EMRV acoustic monitor. You have verified that the EMRV is closed, and that the inoperable acoustic monitors would not significantly degrade the operator's ability to detect an SORV due to alternate indications and operator training. Thus, the inoperable acoustic monitors do not represent a significant degradation in risk.

4. The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that no significant hazard consideration is involved.

You stated that the EMRV has been verified closed, alternate indications are available to operators to identify an SORV and operators have been trained to use those indications, the Improved Standard TS for boiling-water reactor 4 plants do not include requirements for acoustic monitors on relief valves and that, based on the above, the requested enforcement discretion will not be of potential detriment to the public health and safety, and does not involve a significant safety hazard.

You stated that the proposed enforcement discretion does not involve a significant increase in the probability or consequences of an accident previously evaluated because the acoustic monitor does not affect operation of the EMRVs. No failure of the acoustic monitoring system can affect the ability of these valves to perform their design functions. During an event when the EMRV operates as designed in response to an input signal, there are indications to the operator of solenoid operation. During an event when the EMRV malfunctions (failure to completely close), there are alternate indications available to the operator to indicate the malfunction of the valve (e.g. EMRV tailpipe temperatures, suppression pool temperature and level, reactor vessel level and pressure, decrease in generator loads, and steam flow/feed flow mismatch). Failure of the acoustic monitoring system to actuate in the event of an actual valve actuation does not affect the consequences of that event. Operation without this detection system will not significantly increase vulnerability to an undetected, open EMRV event. EMRV tail pipe temperature rise above normal levels is a true indication of EMRV actuation and a reliable indication of closure. The probability of a Stuck Open EMRV Event is not affected by the lack of position indication for the EMRV. The ability to detect the stuck open EMRV condition is adequately covered by the tail pipe temperature indication and secondary (e.g. RPV level, RPV pressure, and suppression pool temperature) indicators, and will not result in an increase in the probability or consequences of an accident previously evaluated. Operators will be able to determine that an SORV has occurred and procedures are in place to mitigate this condition that do not depend on the EMRV acoustic monitoring system for indication.

This proposal does not create the possibility of a new or different type of accident from any previously evaluated. The EMRV Acoustic Monitor performs no control or protective function. It only provides an indirect indication of valve position. Failure of this device will not cause an unanalyzed failure of an engineered safety feature. Because of the diverse and redundant indications available, the inoperability of the acoustic monitor system will not cause a new accident, nor will it cause the operator to commit errors to create the possibility of a new or different type of accident.

This change does not involve a significant reduction in a margin of safety. Operating without the "A" EMRV position indication does not reduce the design or operating basis margin to safety. In the unlikely event that the "A" EMRV should cycle open and fail to fully close, sufficient backup indication is available to identify and mitigate the occurrence. Additionally, existing plant procedures provide sufficient guidance for detecting this condition and taking appropriate actions to mitigate an effect on continued safe operation. Monitoring of plant parameters would provide an early detection of any potential EMRV leakage. Thus, the proposed change does not involve a significant reduction in a margin of safety.

5. The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

This request involves plant events completely enveloped by the primary containment, and nothing in this request challenges the primary containment. Therefore, there can be no adverse impact on the external environment.

6. Any proposed compensatory measures.

Specific training on the Oyster Creek EMRV acoustic monitors and applicable procedures has been and will continue to be provided to appropriate personnel. Plant procedures have been preliminarily reviewed and no necessary revisions have been identified. The tailpiece and downcomer thermocouples for the "A" EMRV will be checked once per shift while the NOED is in effect. Pre-shift briefings will be conducted to alert operations personnel of the circumstances relating to the EMRV acoustic monitor and the NOED provisions.

7. The justification for the duration of the noncompliance.

The duration of the NOED is until the licensee's proposed TS change request which the licensee has committed to submit by July 21, 2000, can be approved or until the next unscheduled outage during which a COLD SHUTDOWN is achieved, not to exceed restart from the fall 2000 refueling outage. The justification for this duration is the small risk significance of operating without the acoustic monitors as compared to the risk associated with unnecessary transients as a result of complying with the current TS requirement to shut down the plant.

8. A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee, or its equivalent).

This proposed enforcement discretion has been reviewed and approved by the Oyster Creek Plant Review Group.

9. The request must specifically address how one of the NOED criteria for appropriate plant conditions specified in Section B is satisfied.

The request meets criterion 1a of Section B, Part 2.0, which states: "For an operating plant, the NOED is intended to (a) avoid undesirable transients as a result of forcing compliance with the license condition and, thus, minimize potential safety consequences and operational risks" of the NRC Inspection Manual Part 9900, "Guidance on Enforcement Discretion". Without the requested discretion, the Oyster Creek plant would have to shutdown, de-inert the drywell, replace two sensors, followed by a plant restart and drywell inerting. There is no increase in safety by replacing the sensors.

The exigent need for the discretion was a result of failed plant equipment. Realizing that the acoustic monitors could require a plant shutdown on short notice, Oyster Creek had previously installed spare monitors on all five EMRVs. It was believed that the redundancy of the components in the drywell would increase the reliability of the instrumentation to reasonable levels. This is the first time in Oyster Creek history that both sensors on one EMRV were inoperable and unable to be repaired.

10. If a follow-up license amendment is required, the NOED request must include marked-up TS pages showing the proposed TS changes. The actual license amendment request must follow within 48 hours.

The licensee supplied marked-up TS pages in its letters dated July 19 and 20, 2000. The licensee committed to provide a TS amendment request on July 21, 2000.

11. For NOEDs involving severe weather or other natural event..., acceptability of any increased radiological risk to the public and the overall public benefit.

There are no severe weather or other natural events associated with this NOED request.

The staff has evaluated the licensee's request. The staff has determined that the risks are small when compared with the risks associated with an unnecessary plant transient (shutdown and subsequent restart) which would be necessary to comply with the plant TS requirements. The staff has determined that an adequate safety basis exists for approval of the requested NOED and that adequate compensatory measures have been proposed by the licensee. The licensee has demonstrated that they have met criterion 1a in Section B of the NOED guidance in Part 9900 for issuance of this NOED and have addressed the criteria in Section C.4 as discussed above.

On the basis of the staff's evaluation of your request, we have concluded that a NOED is warranted because we are clearly satisfied that this action involves minimal or no safety impact, is consistent with the enforcement policy and staff guidance, and has no adverse impact on public health and safety. Therefore, it is our intention to exercise discretion not to enforce compliance with TS 3.13.A.2 and 3 and Table 3.13.1 as they relate to the "A" EMRV acoustic monitors at Oyster Creek for the period from July 19, 2000, at approximately 2:00 p.m. until the licensee's proposed TS change request to be submitted on July 21, 2000, can be evaluated or a shut down of the plant to COLD SHUTDOWN occurs, whichever is sooner. The staff plans to complete its review and issue the license amendment within 4 weeks of the date of this letter.

S. Levin

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As stated in the Enforcement Policy, action will be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

***/RA/***

Elinor G. Adensam, Director  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reaction Regulation

Docket No. 50-219

cc: See next page

S. Levin

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Sincerely,

**/RA/**

Elinor G. Adensam, Director  
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Docket No. 50-219

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