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May 1, 1991

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Gentlemen:

Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Emergency Response Capability - Conformance to  
Regulatory Guide 1.97, Revision 3

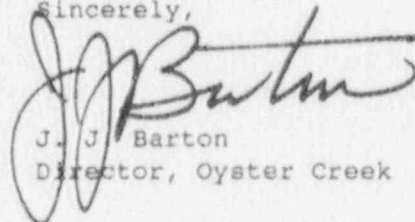
On February 19, 1991 your letter entitled, Emergency Response Capability - Conformance to Regulatory Guide (RG) 1.97, Revision 3, transmitted the NRC staff's Safety Evaluation (SE). As discussed in the SE, the Staff found the instrumentation provided by GPU Nuclear for meeting the recommendations of RG 1.97, Revision 3, acceptable except for the variables neutron flux, reactor coolant level, reactor coolant system pressure, containment isolation valve position indication, and primary system safety relief valve position indication. The Staff also found unacceptable the GPUN's position on equipment identification in the control room for certain RG 1.97 variables.

The Staff requested that GPU Nuclear respond within 45 days of receipt of the February 19, 1991 letter indicating our intent to comply with the Staff's positions and advise the Staff of an implementation schedule regarding each of the Staff's positions. On March 26, 1991 in our phone conversation with Mr. Alexander W. Dromerick, NRC Senior Project Manager for Oyster Creek Nuclear Generating Station, we requested a three week extension for our response.

The attached are our responses to the six (6) issues identified in the Staff's SER.

If you have any questions concerning our responses please contact Mr. Michael Laggart, Manager, Corporate Nuclear Licensing at (201) 316-7968.

Sincerely,



J. J. Barton  
Director, Oyster Creek

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PDR ADOCK 05000219  
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JJB/YN/plp  
Attachment

cc: Administrator, Region 1  
NRC Resident Inspector  
Mr. Alex Dromerick, Jr.  
YN:C3212082

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(A) Neutron Flux Monitoring

NRC Concern

It is the Staff's position that information on neutron flux is valuable to the operator in the evaluation of reactivity control. It is also the Staff's position that the licensee shall install and have operational neutron flux monitoring instrumentation which fully conforms to the Category 1 criteria, of 10 CFR 50.49, RG 1.97, and RG 1.100. The Staff finds acceptable the existing neutron flux instrumentation for interim operation until implementation of a fully qualified indicating system is completed.

GPUN Response

GPUN plans to install a wide range neutron monitoring system available from General Electric. However, as we indicated in our letter dated April 5, 1990, an NRC approval of the GE Licensing Topical Report (NEDO 31439) on the wide range neutron monitoring system is essential prior to a GPUN commitment for installation and its schedule.

(B) Reactor Coolant Level

NRC Concern

It is the Staff's position that information on the reactor coolant level is valuable to the operator in monitoring the accomplishment of accident mitigation and long term surveillance of the core cooling system. It is also the Staff's position that the licensee should provide redundant Class 1E power sources for the reactor coolant level instrumentation.

GPUN Response

The power supply concern will be addressed by providing redundant Class 1E power sources for the reactor coolant level instrumentation. The schedule for this modification will be provided in the Oyster Creek Integrated Schedule.

(C) Recording of Reactor Coolant System Pressure

NRC Concern

It is the Staff's position that information on the reactor coolant system pressure is valuable to the operator in monitoring the accomplishment of accident mitigation and long term surveillance of the reactor coolant system integrity. It is also the Staff's position that the licensee should provide recording of the reactor coolant system pressure in accordance with RG 1.97.

GPUN Response

Currently, the only RG 1.97 Category 1 reactor pressure strip chart recorders are narrow range. Wide range reactor pressure recorders which meet RG 1.97 Category 1 criteria are currently scheduled to be installed during the next refueling outage (14R).

(D) Containment Isolation Valve Position Indication

NRC Concern

It is the Staff's position that information on the status of containment isolation valve position is valuable to the operator in evaluation of the accomplishment of isolation of the containment. It is also the Staff's position that the licensee should provide separate Class 1E power sources for the containment isolation valve position instrumentation.

GPUN Response

Based on the specific Oyster Creek configuration, we are still evaluating the NRC staff position referenced above. We will provide the results of the evaluation within sixty (60) days.

(E) Safety Valve Position Indication

NRC Concern

It is the Staff's position that information on the status of the primary system safety relief valve position is valuable to the operator in monitoring the main steam system boundary integrity. It is also the Staff's position that the licensee should provide Category 2 primary system safety relief valve position instrumentation.

GPUN Concern

As a result of Recommendation 2.1.3.a described in NUREG 0578, valve

position indicating devices (acoustic monitors) were installed on the Electromatic Relief Valves (EMRV) and the Code safety valves at Oyster Creek in 1980. Each valve has a primary device (acoustic monitor) and a backup device (thermocouple). A control room alarm is provided for the acoustic monitors while thermocouple indication of tailpipe temperature is provided at a local panel on the 23 foot elevation in the Reactor Building. These devices provide a means for direct indication of valve position.

The addition of the acoustic monitors to all safety valves was required by NUREG-0737, Item II.D.3, in order to provide direct indication of safety valve position to the operator in the control room. The basic requirement was to provide the operator with unambiguous indication of whether the valve was open or closed so that the operator could take appropriate actions.

All safety valves at Oyster Creek are spring-loaded and do not have any mechanism for remote operator control of the valve's position from the control room. This means that if a safety valve has inadvertently opened or is stuck open, the operator cannot take any direct action to close the valve. The derived benefit is information only.

The control room alarm response procedure alerts the operator to an open safety valve based on the acoustic monitors. The procedure does not direct the operator to take any action other than to confirm that the valve did open based on increasing drywell pressure or an increase in safety valve discharge thermocouple reading.

In addition, NUREG-0737 required plants to develop symptom-based Emergency Operating Procedures (EOPs) to provide better operator guidance in coping with transients and accidents. Oyster Creek has implemented symptom-based EOPs based on the BWR Owners Group Generic Emergency Procedure Guidelines.

After developing the symptom-based EOPs, it was determined that safety valve position indication is no longer necessary based on the manner in which the EOPs direct the operator's actions. The EOPs instruct the operator to respond to plant parameters without the need to diagnose the event. The operator takes actions to control reactor vessel and containment conditions to bring these parameters under control. The operator's actions in response to a loss of reactor vessel water inventory are the same regardless of the source of the inventory loss.

The discharge of steam to the drywell from the opening of a safety valve or any other primary system leakage path would be immediately evident to the operator by a rapid increase in drywell pressure and atmospheric temperature. The high drywell pressure condition is an entry point into both the reactor pressure vessel (RPV) control and containment control

procedures. The RPV control procedure directs the operator to control RPV water level and pressure and confirm reactor shutdown. The containment control pressure gives the operator guidance for controlling drywell pressure and temperature and torus pressure, temperature and water level. The presence of the safety valve acoustic monitor alarm does not alter the operator actions in controlling the changes in plant parameters during an event.

In summary, with the development and implementation of symptom-based emergency operating procedures, the operators response is governed by changes in plant parameters (symptoms) and not by what caused those parameters to change. Consequently, operator response to a stuck open safety valve is not affected or dependent on the operability of the valve acoustic monitors or thermocouples. Thus, operability of safety valve position indication is not necessary for transient or accident mitigation and Technical Specifications for safety valve position indication should not require a plant shutdown or necessitate power reduction in order to ensure compliance. Therefore, we believe that Category 3 classification for the safety valve position indication is adequate at Oyster Creek Nuclear Generating Station.

In order to be consistent with the requirements of NUREG-0737, Item II.D.3, the Oyster Creek Technical Specification Change Request No. 183 proposed to require that all safety valve position indication instrumentation be operable prior to startup following each cold shutdown.

(F) Instruments Identification in the Control Room

NRC Concern

It is the Staff's position that, at a minimum, identification of the Type A and the Category 1 RG 1.97 instrumentation is necessary to help the operator easily discern that this instrumentation is intended for use under accident conditions. It is also the Staff's position that the licensee should provide identification in the control room of the Type A and the Category 1 RG 1.97 instrumentation.

GPUN Response

GPUN plans to provide identification of the Type A and the Category 1 RG 1.97 instrumentation during the forthcoming operating cycle 13. However, we continue to maintain that the operators should utilize all of the instruments which are available to determine plant conditions rather than relying heavily on RG 1.97 instruments. This approach is consistent with the symptom-based approach of the emergency operating procedures for Oyster Creek. It is not possible to determine, in advance, all specific failure modes of instruments under all possible conditions. Specifically calling out RG 1.97 instrumentation on the control panels could, under certain circumstances, mislead the operators.