GPU Nuclear

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March 27, 1984

Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Crutchfield:

Subject: Oyster Creek Nuclear Generating Station
Docket No. 50-219
Isolation Condenser Vent Installation

In your letter of January 17, 1984, GPUNC was requested to provide additional information to justify delaying the installation of vents on the Isolation Condensers until the next refueling outage (Cycle 11).

On December 24, 1981, GPUNC requested deferment of 17 NRC required modifications. This submittal presented an overall outage plan for the Cycle 10 Refueling Outage at the Oyster Creek Nuclear Generating Station. The assessments of the safety impact of these deferments were individually prepared for each deferment requested and were included as an enclosure with the December 24, 1981 submittal.

On July 30, 1982, the NRC responded to GPUNC's December 24, 1981 request for deferment of 17 NRC required modifications. With respect to Item No. 13, the RCS Vent on the Isolation Condensers, NUREG 0737 II.B.1, the NRC proposed to address this requested deferment as a separate issue pursuant to a revision to 10 CFR 50.44 as indicated in Generic Letters 82-05 and 82-10 dated March 17, 1982 and May 5, 1982, respectively.

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GPUNC then submittted an exemption request on August 2, 1982 which endorsed the BWR Owner's Group analysis and included a schedular exemption relative to installing vents on the Isolation Condensers which would defer the performance of this modification until the Cycle 11 Refueling Outage. GPUNC followed this exemption request with a site specific evaluation based on the BWR Owner's Group analysis on December 15, 1982. This submittal included an overall assessment of the safety impact of deferring this installation until the Cycle 11 outage and concluded that this deferral would not reduce the plant's overall margin of safety.

At this point in time, as the Cycle 10 Refueling Outage was about to commence, GPUNC submitted on December 29, 1982 another request for NRC review and approval of the deferments requested on December 24, 1981 which were not included in the NRC response of July 30, 1982. It was stated in this submittal that, based on the absence of any response from the NRC on these 6 items, including the vent installation on the Isolation Condensers, the outage plan did not include provisions for these modifications. This submittal also restated the conclusion that the deferment of these items did not constitute a significant safety concern.

On January 17, 1983 the NRC responded to the GPUNC request for review of deferment items which were not addressed in the previous NRC response of July 30, 1982. In this response dated January 17, 1983, the NRC stated that review of the NUREG 0737 TMI Action Plan is continuing and to date no formal decision has been made. The NRC further stated that the current staff position on item II.B.1, Reactor Coolant System Vents, is that the requirements of 10CFR50.44, Standards for Combustible Gas Control System are appropriate in order to conform with these Action Plan items. The NRC also stated, in this latest response, that final staff action on these NUREG 0737 TMI Action Plan Issues was anticipated to be forthcoming in the near future.

An NRC Safety Evaluation (SE), based in part on the Technical Evaluation Report (TER) prepared for NRC by Lawrence Livermore National Laboratory, concluded that the five safety-grade power operated relief valves that are part of the automatic depressurization system (ADS) at Oyster Creek, meet the specific regulatory requirement for high point vents for the reactor vessel head in an acceptable manner. The SE and TER were forwarded to GPUNC by your letter dated September 2, 1983. In addition, the staff concluded in the SE that the only remaining open item relative to the vent system at Oyster Creek was the requirement to provide a detailed design description of the proposed modifications to the isolation condenser vents, addressing each of the requirements of NUREG 0737 item II.B.1.

By your letter of January 17, 1984, it was requested that GPUNC provide additional information to justify delaying the installation of vents on the Isolation Condensers until the next refueling outage (Cycle 11). It was

determined by NRC, at this point, that the justifications provided in GPUNC letters dated August 2, 1982 and December 15, 1982 were insufficient for the staff to determine the risk implications of delaying installation until the next refueling outage. This latest correspondence did not address the exemption requested on August 2, 1982 relative to Dedicated Hydrogen Penetrations per 10CFR50.44(C)(3)(ii).

Attached to this letter is the information you requested. These additional justifications, in conjunction with the previous submittals regarding the subject modification; specifically, our letters of December 24, 1981, August 2, 1982, December 15, 1982 and December 29, 1982; provide the basis for our request to defer this modification until the Cycle 11 refueling outage.

If you have any questions on this information, please contact Mr. J. R. Thorpe at (201) 299-2272.

Very truly yours,

P. B. Fiedler
Vice President and Director
Oyster Creek

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cc: Dr. Thomas E. Murley, Administrator
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NRC Resident Inspector
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Response to NRC Request for Additional Information

Item 1: Since the present outage is scheduled to extend through April 1984, explain why the isolation condenser vents cannot or should not be installed at this time.

Response: As discussed above, installation of isolation condenser vents to the torus was one of the modifications which was proposed by GPUN for deferral to the Cycle 11 refueling outage. Based on further communications with the NRC staff discussed above, GPUN reasonably assumed that this deferral was acceptable to the NRC staff. In order to complete the engineering for work which was planned for conclusion during the current outage, engineering work for deferred modifications, including the isolation condenser vents, was placed on hold. This was necessary because of the large volume of engineering work required to support the outage.

Even though the current outage has been extended, we do not have the capability to install new isolation condenser vents within the currently projected outage schedule. Portions of the engineering remain to be completed and additional equipment, including Class IE electrical switches, remain to be procured. We have planned to resume the engineering and procurement activities on a schedule consistent with installation of this modification during the Cycle 11 refueling outage.

In addition, the level of modification work associated with the current outage does not permit significant additional work to be added to the outage work scope without delaying restart of the plant. It should be noted that the extension of the present outage has been caused by additional work scope which was developed during the outage and thus does not represent an opportunity to add still more work. Some of the additional work scope was in response to NRC requirements, such as post-accident sampling and masonry block wall modifications which GPUN had earlier proposed to defer. Other portions of the added work scope resulted from plant conditions found during the outage such as corrosion inside the torus, errors or problems with certain electrical circuits, additional inspections required to verify the condition of the recirculation piping, etc. It is unrealistic to add more work to this outage, particularly this late in the outage schedule.

Item 2: Provide a risk assessment to demonstrate that operation during the next cycle without the isolation condenser vents will not subject the public's health and safety to unreasonable risk.

Response: The high points in the isolation condenser steam supply lines to each loop are vented continuously to the main steam header downstream of the main steam isolation valves. This is done to prevent the accumulation of noncondensible gases in the steam lines during startup and normal plant operation. These vents are automatically shut off when the isolation condenser is placed into service or the main steam isolation valves are closed. GPUNC is proposing that the installation of the new 3/4 inch vent line to the torus be delayed until the next refueling outage. The advantage of being able to vent the isolation condensers to the torus is that under certain postulated accident conditions continued venting of the isolation condensers could be accomplished without resulting in increased release of radioactivity to the environment. GPUN believes that any increase of risk to the public health and safety associated with operating for another cycle, without this additional vent flowpath, is negligible for the following reasons:

1. Use of the current isolation condenser vents to the main steam line could result in a significant additional release of radioactivity to the environment only for low probability accident conditions in which substantial core damage occurs.

2. Continued venting of the isolation condensers is important only for accident sequences in which the isolation condenser is or might be needed to remove heat from the primary system.

3. The Probabilistic Risk Analysis for Oyster Creek indicates that over 80% of the total risk of core damage comes from sequences involving failure to SCRAM. These sequences do not take credit for operation of the isolation condensers so, for these sequences, the vent path is not an issue.

4. For most other accident sequences in which isolation condenser operation might be desirable, the main steam system would remain intact. In addition, if significant radioactivity were present due to core damage, the reactor would be isolated and the steam and condensate systems would be in a static condition. Plateout of iodines and particulates would be experienced in the vent line and on the large surface area of the 24 inch main steam lines. Only noble gas would be available to be released to the environment. Under these conditions the actual release of radioactivity to the environment resulting from venting the isolation condensers throught the 3/4" lines into the intact main steam piping would be minimal.

5. Even if an accident sequence is postulated where the isolation condensers would normally be used for heat removal but where venting of the isolation condensers would result in significant release of radioactivity, an alternate automatic heat removal path is available. The reactor could, if necessary, be depressurized by the automatic depressurization system and the core spray system could be utilized to cool the core. Under these conditions one of four redundant containment spray heat exchangers would provide the heat sink for the primary system. Venting of the isolation condensers to insure their viability as heat sink thus would not be required.