April 5, 1995

Duke Power Company
ATTN: Mr. J. W. Hampton
Vice President
Oconee Site
P. O. Box 1439
Seneca, SC 29679

SUBJECT: MEETING SUMMARY - OCONEE NUCLEAR STATION

Gentlemen:

This letter refers to the meeting conducted at the NRC Region II offices in Atlanta, Georgia on February 24, 1994. This meeting was held at the NRC's request, to discuss Oconee Nuclear Plant Service Water related issues. Mr. A. F. Gibson provided opening remarks for the NRC while Mr. J. M. Davis provided opening remarks for Duke Power Company. A summary of the meeting topics and the ensuing discussion on these topics is provided in Enclosure 1. The personnel present or participating by telephone are listed in Enclosure 2. At the conclusion of the meeting, Mr. A. F. Gibson indicated the meeting had been beneficial to the NRC. The licensee, from their perspective, also concurred with that observation.

Sincerely,

(Original signed by C. A. Casto for)

Albert F. Gibson, Director
Division of Reactor Safety

Docket Nos. 50-269, 50-270, 50-287
License Nos. DPR-38, DPR-47, DPR-55

Enclosures: As stated

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SERVICE WATER-RELATED ISSUES

Follow-up to the February 6, 1995, meeting on Condenser Circulating Water (CCW)/High Pressure Service Water (HPSW) Modification/Procedures (URI 93-13-03)

The licensee confirmed that the CCW system supplying the suction source for the Low Pressure Service Water (LPSW) pumps would be upgraded to QA-1 by a combination of on-site certification and replacement. CCW pump bearing lubrication and motor oil cooling would be provided from LPSW. The LPSW cooling water lines will be stainless steel, seismically mounted and single active failure proof. This modification will eliminate the need for HPSW. QA 1 control circuitry will be installed to auto restart select CCW pumps 2-5 minutes after loadshed. This will totally eliminate the need for the first siphon and correct the LPSW pumps' inadequate Net Positive Suction Head (NPSH) problem. The first unit will be modified during the 1996 refuel outage and continue with each succeeding refuel outage. Also, the licensee indicated that the procedures associated with the CCW pumps would be upgraded to "A" (safety-related) no later than December 1996. Where feasible, the procedures would be upgraded earlier. The NRC staff agreed that this provided acceptable correction to a number of the issues involved in this unresolved item.

The licensee inquired by what mechanism the modification should be submitted to the NRC for their review. The NRC agreed that the modification would probably be evaluated by NRR. However, regional staff would evaluate it if NRR deferred. The best mechanism appeared to be a licensing submittal to NRR.

The licensee also mentioned their effort ongoing on the classification of certain support safety systems (called QA-5). After the licensee discussion NRC senior personnel asked if this resolved this item. NRC staff indicated that certain regulatory aspects remained for internal assessment. This included the classification of select support systems performing safety functions but presently not safety related. (Also, partially tied to this unresolved item is the required water inventory for Auxiliary Feedwater (AFW). This area is discussed separately under its own topic.)

Operability of LPSW/Emergency Condenser Cooling Water (ECCW) with the CCW Unit Cross-Connect Valves Closed (URI 93-13-04)

The licensee explained that the cross-connect valves had been reopened and the electrical circuit single failure that would render all of one unit's CCW/ECCW inoperable had been rectified.

HPSW Out of Service Rendering LPSW Inoperable (URI 94-39-02)

The licensee discussed that organizationally in the past, they did not have the appropriate sensitivity to HPSW operation. The licensee discussed the recently issued SLC on HPSW as providing the appropriate sensitivity. The licensee also indicated that the SLC would be revised to address the Unit 1 main feeder buses as was pointed out as a deficiency in the latest SWS inspection report. The licensee also indicated that LER 94-04 would be revised to include removal of the Unit 1 main feeder bus from service without recognizing its safety significance to the LPSW pumps. Subsequently, NRC senior personnel directed the staff to submit the regulatory aspects of this issue to an enforcement pre-panel for appropriate review and potential disposition.

Further discussion with the licensee ensued on whether DPC would maintain Lake Keowee above the level where HPSW is not needed until the CCW upgrade is accomplished (once the CCW upgrade is accomplished HPSW is not needed for CCW operability no matter what the lake level). The licensee indicated that significant resources were being expended to operate both Keowee hydro-electric units which would significantly effect lake level and that operating flexibility with the lake was nothing they wished to restrict.

The NRC staff then initiated a discussion as to the lack of seismic qualification of the HPSW system. The licensee stated that they felt confident that the system could withstand an earthquake (based upon their walkdowns and engineering judgement as to the system's seismic ruggedness) and that an earthquake is not postulated to occur at the time of a Loss of Coolant Accident. Therefore, the LPSW system would not be required for plant shutdown since the Safe Shutdown Facility (SSF) could maintain the facility in a safe shutdown condition. The NRC staff reminded the licensee that being able to withstand an earthquake is a qualification standard for safety systems and the SSF was not credited for earthquake mitigation. The discussion ceased after NRC senior personnel indicated that not having a seismically qualified HPSW system was an acceptable risk since there was such a low probability of this situation arising before the CCW QA-1 upgrade occurred.

The NRC staff moved the discussion into the lack of single failure capability associated with the HPSW system and especially the ramifications associated with an altitude valve failure. The licensee responded that work on the altitude valve would be expeditiously upgraded to "A."

Net Positive Suction Head for Low Pressure Service Water Pumps (VIO-93-25-03A)

The licensee indicated the low probability of the scenario on which the calculation indicating the inadequate NPSH was based. Furthermore, the licensee indicated that the vendor input and their experience with operating these pumps justified running the pumps for 30 minutes without adequate NPSH. Also, this hypothetical situation would be eliminated when the modification the CCW pumps was implemented. After some discussion and clarification, it was concluded that the regulatory issue

was the justification used to conclude that pump operation was acceptable with inadequate NPSH. The NRC staff indicated that the NRC has never accepted such a situation without adequate testing to confirm analysis in the area. Further discussion ascertained that the calculation assumptions associated with the inadequate NPSH were consistent with the licensee's licensing basis, and it was decided to issue a no response letter to the licensee indicating that the violation existed, but the CCW modification provided adequate corrective action.

Identified Conditions Adverse to Quality (VIO 94-31-01 & Cover Letter)

The licensee discussed some of the specific examples of this violation. NRC staff indicated that although correction of the specific examples was necessary there was a much broader and more important issue identified by this violation. The NRC staff indicated that those licensee actions necessary to improve the adequacy and timeliness of corrective actions should be provided in the response to inspection report 94-31 (This had already been requested in the cover letter to the inspection report). The licensee acknowledged the meaning of this violation.

Emergency Operating Procedure Actions for Spent Fuel Pool High Radiation (URI 94-31-06)

The licensee indicated that a facility modification would be implemented (scheduled completion date appeared to be December 31, 1995) to allow a fire hose from a pumper unit to be used to makeup to the spent fuel pool as an enhancement to the licensee's response to this situation. The connection would be at a location remote from the potential radiation hazard thus reducing the radiation levels to the personnel. The NRC Division Director inquired of the staff whether this would resolve the matter. The NRC staff responded that the modification if proceduralized would eliminate the weakness within licensee's emergency response capability but were not sure whether this fully resolved the matter (whether it was a violation or not).

Also, this unresolved item was identified while reviewing a broader concern on the adequacy of engineering evaluations. The licensee recognized the ramifications of this unresolved item and responded that engineering supervision was more sensitive as to whether "outside" personnel should review some of Oconee's calculations on occasion.

Condenser Circulating Water First Siphon Testing (VIO 93-31-04)

The licensee indicated that testing would be performed in the Spring of 1995 to test the siphon with appropriate acceptance criteria. Also discussed was the underwater CCW pump seal which is not specifically tested when water level is above the seal. The licensee indicated the seal would be tested before the seal would be uncovered (when water level entered the siphon flow regime). The licensee also stated that they felt that the violation met the Non-Cited Violation (NCV) category. The NRC staff responded that potential credit could not be given (nor would it have been fair) since the licensee essentially denied the

violation at the exit. To issue an NCV would have denied the licensee's right of appeal. NRC indicated that the licensee's rational for a NCV should accompany their docketed response and would be appropriately considered.

Calculation Revision Control (VIO 93-25-12A)

The licensee indicated that an automated method of cross indexing calculations would be developed. The licensee further indicated that the scope and schedule of the endeavor would be provided in future correspondence. Matters of this nature would also be discussed in a future meeting on Oconee improvement efforts in the area of engineering in the Spring/Summer 1995.

Waterhammer Analysis of Low Pressure Service Water System (VIO 93-25-04A)

The licensee provided a copy of the latest calculation on Unit 3. Calculations for Units 1 & 2 were being completed consistent with the schedule discussed in their recent letter on the matter. The licensee summarized the Unit 3 calculation by stating that a flow orifice was not needed and that the present two-phase flow acted as a cushion in an accident condition. The NRC confirmed that the appropriate DPC liaison was G. Swindlehurst at corporate engineering.

Status of Design Basis Document Review With Respect to Testing, the Quality Standards Manual (QSM) and Procedures (IFI 94-31-07)

The licensee indicated that very little had been identified to date with respect to testing and procedures. The present completion date (6/1/95) for the testing and procedures appeared to be achievable. The QSM effort had expanded into the QA-5 management initiative. Therefore, completion dates and final resolution in this area were presently unknown.

Status of Tornado Recovery Drill including Auxiliary Service Water System Initiation (IFI 93-25-06C)

The licensee indicated the drill would occur in 1995. The NRC reminded the licensee of recent problems associated with manning the SSF and that any lessons learned from that situation should be factored into this drill.

Auxiliary Feedwater Inventory Technical Specification

The licensee indicated that TSs did not require changing and any additional inventory would be in the SLC. Furthermore, the licensee indicated the NRC had looked at this area numerous times and concluded that diversity of water supply was acceptable. NRC staff indicated that the elimination of the second siphon from the licensing basis of the facility changed the required AFW inventory. The licensee responded

that this matter had just been reviewed in a recent TIA (after second siphon removal) and concluded that the TS was satisfactory. The licensee further stated that their position on this matter could be provided for review. NRC determined that this had been reviewed by NRR.

Status of Loss of Lake Analysis (VIO 93-25-03E & F)

The licensee indicated that the analysis was on schedule for completion in June 1995. Also, the licensee indicated that the LPSW pumps would not necessarily recirculate back to the CCW crossover piping at the suction of the LPSW pumps. Consequently, the licensee indicated that preliminary results indicated that makeup water would not be necessary for weeks. There was discussion that a definitive timeframe for makeup to the impounded structure would need to be determined if the timeframe was found to be less than 30 days.

Additional Information & Actions needed for GL 89-13 (DEV 93-25-01 & Cover Letter to 94-31)

The licensee acknowledged the weakness in their latest submittal and indicated that it would be rectified in a future submittal. Also, the licensee indicated that there were better ways of dealing with the CCW, HPSW & SSF systems instead of benchmarking a hydraulic flow model. Therefore, the new submittal would address what DPC considers a better, more cost efficient method. The licensee indicated that modifications to the diesel generator (DG) heat exchangers would be unnecessary and trending temperatures during DG runs should suffice. The licensee indicated that a large part of the actions that will be taken under the new submittal will be done by September 1, 1995.

Preparations for taking Reactor Building Cooling Units Air Flow Measurements (IFI 93-25-05)

The licensee indicated that a best effort attempt to obtain the "total" air flow would be made at the next refuel outage (U3C15). NRC requested the results of the test be provided to the NRC resident staff to be forwarded to the region for review.

Status of Belzona Qualification Efforts (VIO 93-25-03C)

The licensee indicated that qualification efforts continue with completion projected at 5/12/95. If qualification is achieved, NRC requested that the documentation be provided to the NRC resident staff to be forwarded to the region for review.

Further Revision to Calculation OSC-2346 (IFI 94-31-03)

The licensee indicated that Rev. 6 to the calculation has been issued. NRC requested a copy of the revised calculation be provided to the NRC resident staff to be forwarded to the region for review.

Status of Revision to Abnormal Procedure AP/1/A/1700/13, "Loss of Condenser Circulating Water Intake Canal/Dam Failure" (IFI 93-25-06B)

The licensee indicated that the procedure has been recently issued. NRC requested a copy of the procedure be provided to the NRC resident staff to be forwarded to the region for review.

Hydraulic Model Controls (IFI 94-31-02)

The licensee stated the final method to be used to ensure inservice test (IST) results of the LPSW pumps do not invalidate the hydraulic model are still under review with resolution by October 12, 1995.

SSF Auxiliary Service Water (ASW) Reverse Flow Testing and Line Flushing (VIO 93-25-08B)

The licensee indicated that the last set of lines to be flushed is scheduled for the upcoming Unit 3 refuel outage.

Inadequacy in Siphon Calculation (VIO 93-25-03D)

The licensee indicated the calculations have now been revised/superseded.

Failure to Include Instrument Error in ECCW Flow Test (VIO 93-25-08A)

The licensee stated that all the affected procedures have yet to be revised but were in progress.

Circulating Cooling Water System Rotameters (VIO 94-31-01D)

The licensee indicated that the PM frequency for the rotameters was being changed to quarterly. Also, the shift turnover/rounds sheets had been revised to provide direction on how to read the rotameters and how to determine their material condition.

Status of Actions to Establish Administrative Controls for Lake Keowee (IFI 93-25-15)

The licensee indicated that the calculation had been recently completed. NRC requested a copy of the calculation be provided to the NRC resident staff to be forwarded to the region for review.

Station Blackout High Pressure Service Water Test Actions in Response to Leaking HPSW Pump Discharge Check Valves (DEV 93-25-10)

The licensee indicated that the procedure would be appropriately revised to address leaking check valves by May 1, 1995. NRC requested a copy of the revised test procedure be provided to the NRC resident staff to be forwarded to the region for review.

Inservice Testing Comprehensiveness (VIO 94-31-08)

The licensee indicated that their IST program (not just relief requests) had been approved by the NRC. Therefore, omissions in the scope of the IST as it relates to tornado mitigation should have been identified at that time. NRC staff indicated that it is very unusual for NRC to approve IST programs versus relief requests. Also, if this is DPC's position, their submittal is inconsistent since the ASW pump, an exclusive tornado mitigation device, is included in the IST submittal. NRC indicated that the licensee rationale for why this is not a violation should be provided in the docketed response to this item.

With regard to specific equipment, NRC staff inquired as to when testing of the check valves from the ASW pump to the High Pressure Injection (HPI) pump motors coolers would be accomplished. The licensee responded that the testing would be accomplished at the next refueling outage. As for the Main Turbine Oil Bypass Valve, the staff emphasized that DPC should evaluate why their present design calculations credited operation of a nonsafety related device. The licensee responded that it was highly unlikely that the initial conditions of the calculation in question would ever occur and that the bypass valve was rarely used. The licensee concluded that crediting the valve's operation was acceptable. Again, the NRC staff emphasized the philosophical error. The licensee indicated they would review the situation with the NRC commitments in mind. At the end, NRC determined that a safety issue did not exist at this time, since all the equipment except the check valves from the ASW pump to the HPI pump motors coolers are tested, just at a different frequency than specified by the ASME code.

A number of other IFIs, VIOs and URIs associated with Inspection Reports 93-25 and 94-31 were confirmed as closed.

LIST OF ATTENDEES

U. S. NUCLEAR REGULATORY COMMISSION

H. Berkow, NRR Project Directorate II-2 Director
A. Gibson, Region II Division of Reactor Safety Director
P. Harmon, Oconee Senior Resident Inspector
T. Peebles, Region II Operations Branch Chief
W. Poertner, Oconee Resident Inspector
W. Rogers, Region II Team Leader
L. Wiens, Oconee NRR Project Manager
*W. LaFave, NRR Technical Reviewer

*Attended via teleconference

DUKE POWER COMPANY - OCONEE NUCLEAR STATION

L. Azzarello, Mechanical Engineering
J. Burchfield, Regulatory Compliance Manager
D. Coyle, System Engineering Manager
J. Davis, Engineering Manager
W. Foster, Safety Assurance Manager

Enclosure 2