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DUKE POWER

September 28, 1995

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station
Dockets 50-413 and 50-414
Reply to Notice of Deviation
Inspection Report 50-413, 414/95-18

Attached is Duke Power Company's response to the one (1) Deviation cited in Inspection Report 50-413, 414/95-18, dated August 31, 1995. This violation was identified during the Residents' Monthly Inspection conducted July 9, 1995 through August 5, 1995.

If there are any questions concerning this response, please contact Kay Nicholson at (803) 831-3237.

Sincerely,

W. R. McCollum

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xc: S. D. Ebneter, Regional Administrator
R. E. Martin, ONRR
R. J. Freudenberger, SRI

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DUKE POWER COMPANY
CATAWBA NUCLEAR STATION
REPLY TO NOTICE OF DEVIATION
413, 414/95-18-02

Notice of Deviation

Final Safety Anaylsis Report Section 1.7.1.1, Regulatory Guides, specifies conformance to Regulatory guide 1.95, Protection of Nuclear Plant Control Room Operators Against an Accidental Release (Revision 1, 1/77).

- Regulatory Guide 1.95, paragraph C.4.c specifies the rehearsal of chlorine release emergency plan provisions to ensure donning of full face self-contained pressure demand type breathing apparatus on detection of high chlorine concentrations.

- Regulatory Guide 1.95, paragraph C.4.c specifies storage provisions and procedures for breathing apparatus such that operators can begin using the apparatus within two minutes after an alarm.

- Regulatory Guide 1.95, paragraph C.4.d specifies, in part, that air supply apparatus should meet the single failure criterion.

Contrary to the above, on August 2, 1995, it was identified that:

- rehearsals using the Control Room Habitability System to ensure the donning of full face breathing apparatus on detection of high chloring concentrations have not been conducted,

- storage provisions and procedures such that the operators can begin using the Control Room Habitability System within two minutes after an alarm were not implemented, and

- the Control Room Habitability System does not meet the single failure criterion in that a single pressure regulating valve supplies the entire system.

RESPONSE:

1. Reason for Deviation

This deviation resulted from failure to fully implement commitments made in Catawba Nuclear Station (CNS) Final Safety Anaylis Report (FSAR). Rehearsals using the control room habitability system were not fully implemented at CNS. Credit had been taken for annual respiratory fit tests given to all licensed operators. The requirement for rehearsals had not been identified for continuing training necessary for all licensed operators. The control room habitability system is included in the licensed operators Employee Training and Qualification System (ETQS). The ETQS tasks require each licensed operator to be able to explain the purpose of the system, how to perform a negative pressure test of a face piece and explain the importance of the test, walk-through and explain how the system is aligned for service, demonstrate how to swap banks as necessary, and notifications required when the system is used.

In addition, CNS was not meeting the requirements of RG 1.95 with respect to response time and single failure as stated in our FSAR. Upon a further detailed review of chlorine use and storage on site and the design of the Control Room Area Ventilation (VC) System, it has been determined that CNS has adequate technical justification to change the FSAR and not meet these paragraphs of the RG. It was determined that the VC/YC system is capable of maintaining control room habitability following receipt of the chlorine detection alarm without the use of breathing apparatus.

2. Corrective Actions Taken and Results Achieved

Representatives from System Engineering, Regulatory Compliance, Operations, Training, Radiation Protection, and Safety formed a working group to evaluate the adequacy of the present system to maintain control room habitability. The working group included in their evaluation: compliance with RG 1.95 as cited in this deviation, possible enhancements and/or alternatives to the system as well as the availability of various size face masks and eyeglass inserts.

At the request of the working group, an analysis was performed to determine the actual chlorine hazard to the control room operator. The analysis concluded that the control room chlorine concentration would stay below the OSHA permissible exposure limit (PEL) during a postulated chlorine accident. The accident which was modeled was the failure of a 150 pound chlorine bottle located at the CNS gas bottle house. The gas bottle house is the closest chlorine storage point to a VC intake. A toxic chemical dispersion model was used to calculate the chlorine concentration versus time at the Unit 1 VC intake, which is the closest VC intake to the gas bottle house. From this information, the chlorine concentration in the control room was then calculated. The control room concentration never reached a dangerous level due to the design of the VC System. The VC System has redundant chlorine detectors located at each of the outside air intakes and redundant isolation valves located downstream of the detectors. During a postulated chlorine accident, the concentration at the detectors would increase until the detector trips and closes the isolation valves, so that only a limited amount of chlorine could be introduced into the control room. There are also carbon filters in the VC System that filter 100% of the air from the outside intake and a portion of the recirculation air flow. These filters would remove a portion of the chlorine, but no credit was taken for these filters in the analysis. The maximum control room chlorine concentration which was calculated was 2.2 mg/m^3. As stated before, this is

below the OSHA PEL of 3 mg/m^3, so that no protective breathing apparatus is required. This analysis provides justification to revise the CNS FSAR to state that Catawba is not required to meet RG 1.95 paragraph C.4.c with respect to the 2 minute response following the chlorine alarm.

Based on the results of this analysis, the FSAR will also be revised to take exception to paragraph C.4.d which requires that air supply apparatus should meet single failure criterion. This approach is acceptable since based on the above analysis, the control room would never exceed the PEL and therefore, no protective breathing apparatus would be required. Although a system is not required, CNS will continue to maintain the current control room habitability system or an acceptable alternative.

3. **Corrective Action to be Taken to Avoid Future Deviations**

The CNS FSAR will be revised to incorporate changes based on the analysis described in Section 2 above.

The working group will continue to evaluate the control room habitability system for additional voluntary enhancements. This evaluation will be documented in Problem Investigation Process (PIP) 0-C95-1158, which will be made available to the NRC for future review.

4. **Completion Date of Corrective Actions**

The revised CNS FSAR will be submitted to the NRC as part of the next FSAR update schedule for 05/14/96.