

DUKE POWER COMPANY

P.O. BOX 33189  
CHARLOTTE, N.C. 28242

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HAL B. TUCKER  
VICE PRESIDENT  
NUCLEAR PRODUCTION

TELEPHONE  
(704) 373-4531

84 OCT 15, 1984

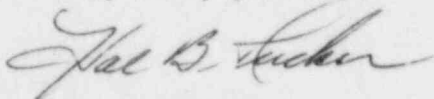
Mr. James P. O'Reilly, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Re: Oconee Nuclear Station  
Docket No. 50-270

Dear Mr. O'Reilly:

Please find attached a special report concerning the inadvertent discharge of a batch of powdex resin to the chemical treatment pond instead of the powdex backwash tank at Oconee Nuclear Station, Unit 2. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 3.9.4.C and describes an incident which is considered to be of no significance with respect to its effect on the health and safety of the public.

Very truly yours,



Hal B. Tucker

MAH:slb

Attachment

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

INPO Records Center  
Suite 1500  
100 Circle 75 Parkway  
Atlanta, Georgia 30339

J. C. Bryant  
NRC Resident Inspector  
Oconee Nuclear Station

Helen Nicolaras  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

American Nuclear Insurers  
c/o Dottie Sherman, ANI Library  
The Exchange, Suite 245  
270 Farmington Avenue  
Farmington, CT 06032

M & M Nuclear Consultants  
1221 Avenue of the Americas  
New York, New York 10020

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## Introduction

On 9/6/84 at approximately 1430 hours, while Unit 2 was operating at 100% full power (PF), a batch of powdex resin from Powdex cells 2D and 2E was transferred from the plant to the #1 chemical treatment pond (CTP) instead of to the powdex backwash tank. The inadvertent discharge of powdex resin to the #1 CTP was the result of the misalignment of valves CTP 5 and CTP 6. The 2D cell of powdex resin had a radionuclide inventory ratio of  $4.02 \times 10^{-4}$  and the 2E cell had a radionuclide inventory ratio of  $1.00 \times 10^{-3}$ . The 2E cell radionuclide inventory was greater than 0.01% of the CTP radionuclide inventory limit allowed by Technical Specification 3.9.4.C.

The immediate corrective action was to properly position valves CTP 5 and CTP 6 so the backwash was directed to the powdex backwash tank. The powdex backwash process was completed before the resin transfer to the #1 CTP could be stopped. The positions of valves CTP 5 and CTP 6 were identified to have not been in the proper positions. The health and safety of the public were not affected by this incident.

## Description of Occurrence

On September 6, 1984 at approximately 1430 hours, the Powdex backwash was started to transfer used powdex resin from 2D and 2E cells to the Powdex Backwash Tank (PBT) located at the Chemical Treatment Ponds (CTP). Prior to beginning the backwash, it had been verified that valves CTP 5 and 6 were properly positioned as required by Procedure.

After the verification of the valves position, the Powdex backwash was began. By listening to the PBT, it would be determined if any powdex resin is being transferred into the PBT. The powdex resin was discovered discharging into #1 CTP. Valves CTP 5 and CTP 6 were repositioned to the correct positions for transferring the powdex resin to the PBT. By the time the valves were repositioned, the powdex backwash process was complete. Very little powdex resin was transferred to the PBT.

Technical Specification (TS) 3.9.4.C was established to ensure that the average radionuclide inventory per batch of used powdex resin transferred to the CTP's over the previous 13 week period would not exceed 0.01% of the pond radionuclide inventory limit. For this incident, no transfers had been made in the previous 13 week period such that the radionuclide inventory in the powdex resin discharged into #1 CTP was the 13 week average. An analysis of the powdex resin batch was completed approximately 30 minutes after the incident and it was determined from the results that Technical Specification 3.9.4.C had been exceeded for I-132, Cs-134, and Cs-137.

### Cause of Occurrence

The apparent cause of this incident was the misalignment of valves CTP 5 and CTP 6. Prior to start of the powdex backwash, the valves positions were verified by observing the handwheels being turned towards the direction for proper valve positions. The only valve position indication available was an arrow on the handwheels indicating that turning the handwheel towards the counterclockwise direction would open the valve. There was no actual valve position indication on the geared valve operators located in the pit where the valves were or above ground where the handwheel operators were located on reach rods. The absence of valve position indicators was a contributing cause of the incident. However, the mispositioned valves were the direct result of personnel errors.

A review of four previous incidents show no violation of Technical Specifications, however, indicate a recurring problem with valve position indication.

### Analysis of Occurrence

The analysis of the radionuclide activity in the powdex resin from the 2E cell which was the highest activity discharged to the #1 CTP indicated a radionuclide inventory ratio of  $1.00 \times 10^{-3}$ . This ratio compared the resin activity for each isotope to the CTP inventory limit for each isotope. Three of the isotopes measured exceeded the limit set in Technical Specification 3.9.4.C. The limit is set at 0.01% of the pond inventory limit for each batch.

Since no previous powdex resin batches have been discharged in the previous thirteen weeks, the total pond inventory limit was substantially larger than the amount of radionuclide levels discharged to the #1 CTP. All of the discharge powdex resin was contained in the #1 CTP.

Therefore the health and safety of the public were not affected by this incident.

### Corrective Actions

Immediate corrective action to reposition CTP 5 and CTP 6 valves terminated the backwash discharge to #1 CTP. The radionuclide sample of the powdex resin batch was analyzed to determine the amount present and to determine if the limit was exceeded. Action was taken to install temporary position indication on the valve operators in the pit. Also, the need to install above ground valve position indications is being evaluated. The responsible personnel were counselled and given appropriate disciplinary action.

Training has been in the process as of September 1, 1984 on the use of position indicators or other methods, such as stem position or travel when available, to confirm the position of a valve operated.