



Duke Power

Catawba Nuclear Station
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U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Duke Energy Corporation
Catawba Nuclear Stations, Unit 2
Docket No. 50-414
Cathodic Protection System
Special Report

This Special Report is being issued as a result of failure to meet the acceptance criteria of the Cathodic Protection System bi-monthly surveillance within the required time period of ten (10) days. Reference Remedial Action (b) of Catawba Nuclear Station Selected Licensee Commitments 16.8-5.

On 5/31/00, the bimonthly surveillance for the Cathodic Protection System associated with the Diesel Generator (D/G) Piping was initiated. The first stage of testing requires that all test stations read more negative than $-.850$ Volts. If this is not met on the individual test stations, a second level of testing is required on the test stations that did not pass. All passed the first level of testing except for Test Stations (TS) 39 and 40, which are located near the Unit 2 D/G Fuel Oil pad. The equipment was declared "INOPERABLE" at 00:47 on 5/31/00 when Rectifier #3 was deenergized in order to perform the second level of testing on TS39 and 40. The equipment was required to be declared "OPERABLE" by 6/10/00 at 00:47.

The second stage of testing verifies proper protection by deenergizing the associated rectifier and ensuring the polarization decay voltage shift at the test stations in question is greater than 100 mV after a period of 24 hours. On 6/1/00, after 24 hours from deenergizing Rectifier #3, it was found that TS40 successfully passed the second level of testing, but TS39 did not. This unsuccessful test on TS39 resulted in the requirement to generate this Special Report.

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It had been previously identified that the Anode Wells and/or Test Stations in this area were slowly deteriorating. Problem Investigation Process (PIP) C-99-02764 had been initiated on 7/6/99 when several test stations failed to pass the first level of testing, and TS40 did not pass subsequent tests. Interim action was taken at that time to raise the rectifier tap settings to provide more voltage to the anode wells. A Special Report, as required by SLC 16.8-5, was prepared at that time to document the corrective actions up to that point.

It was recognized that further action was needed. Thus, on 7/20/99, a survey of the cathodic protection in this area was performed. The survey concluded that the two anode wells in this area (8 and 9) were not providing sufficient protection, possibly indicating that they were slowly reaching the end of their service life. It was decided that these should be replaced with pre-packaged type anodes. Minor Modification # CE-10648 was approved on 12/8/99 for the replacement of Anode Wells 8 and 9, along with Test Stations 37, 38, and 39. The modification had been scheduled for the week of 7/17/00, when this latest failure of TS39 to meet the surveillance requirements of test procedure IP/O/B/3550/001 occurred on 6/1/00.

All test stations had been successfully passing the bimonthly surveillance test since the interim action to raise the rectifier voltage was taken on 7/20/99. Rectifier 3 (1RECT0003), which is the source of power for the anode wells in the area of the Unit 2 D/G piping remains in service and cathodic protection is still being provided to the piping.

As mentioned previously, TS39 is the only test station of the seven in this area that is not currently meeting the surveillance requirements. Therefore, protection is still being provided to the majority of the piping in this area. Since the test station consists of a buried reference electrode cell that can not be accessed for verification of proper operation, it is possible that the test station may be giving inaccurate indications of the actual protection. The minor modification will also replace the test station that is not passing the surveillance. The installation of the minor modification CE-10648 per Work Order 98217401 should completely restore all portions of the cathodic protection in this area to a satisfactory level upon completion no later than 8/18/00. Corrosion deterioration of piping is a long-term process and the current situation does not pose any immediate concern.

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One commitment is contained in this document: The commitment to complete installation of minor modification CE-10648 no later than 8/18/00. This commitment and the documentation of the apparent cause will be tracked via PIP C-00-02799. Any questions concerning this report may be directed to Tony Jackson at 803-831-3742.

Sincerely,



Gary R. Peterson

xc:

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