

Duke Power Company  
Oconee Unit 3

Report No: 50-287/76-15

Report Date: September 27, 1976

Occurrence Date: September 11, 1976

Facility: Oconee Unit 3, Seneca, South Carolina

Identification of Occurrence: Incorrect "thermal power best" valve resulting from erroneous data input to Core Thermal Power Analysis Program

Conditions Prior to Occurrence: Unit at 53% full power

Description of Occurrence:

On September 11, 1976, it was discovered that on September 10, 1976, a data value had been incorrectly input into the Core Thermal Power Analysis (CTPA) program on the Oconee Unit 3 computer. As a result, for approximately 26 hours, the "thermal power best" computer point, a determination of the reactor power calculated from primary and secondary system heat balances, indicated a power level of 44% full power rather than the correct value of 53% full power. Upon discovery of this error the computer program was corrected and the power range out of core detectors which had previously been calibrated to the incorrect reactor power calculation, were recalibrated to the corrected "thermal power best" value.

Apparent Cause of Occurrence:

This incident resulted from the incorrect storage of a data value within the CTPA program. The technician involved, needing a computer location in which to store a numerical constant, placed the constant in a location occupied by a zero, thinking such to be an unused computer memory location. The zero stored in that location however, was normally used by the program for calculation of Reactor Coolant pressure. Therefore, changing this data value resulted in an incorrect pressure calculation and in a 10% error in the "thermal power best" determination.

Analysis of Occurrence:

This incident resulted in the operation of the unit for a period of approximately 26 hours during which the out-of-core detectors were indicating a power level approximately 10% below the actual power. During this time, however, no safety limits were exceeded because the unit was operating at a reduced power level in preparation for a refueling outage. It is concluded therefore, that the health and safety of the public was not affected by this occurrence.

Corrective Action:

It is felt that this occurrence is an isolated incident. However, efforts are underway to evaluate the present controls for computer software and to implement, as determined necessary, appropriate formal administrative policies.

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