



A Centerior Energy Company

EDISON PLAZA
300 MADISON AVENUE
TOLEDO, OHIO 43652-0001

Docket Number 50-346

License Number NPF-3

March 7, 1994

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

NP 33-93-10
AB-94-0010

Subject: Voluntary Report on Pressurizer Code Safety Valve Setpoint Drift

Gentlemen:

During the Seventh Refueling Outage (7RFO) in the Fall of 1991 and the Eighth Refueling Outage (8RFO) in the Spring of 1993 at Davis-Besse Nuclear Power Station (DBNPS), the two installed Pressurizer Code Safety Valves were removed from service and delivered to an off-site laboratory for testing in accordance with the requirements of Section XI of the American Society of Mechanical Engineers (ASME) Code. The two sets of valves were tested in April 1992 and December 1993. In each case, one of the two valves' as found initial lift setpoint exceeded the maximum setpoint of 2525 psig as specified in Technical Specification (TS) 3.4.3. In both cases, these occurrences were evaluated and were determined to not be subject to the reporting requirements of 10CFR50.72 or 10CFR50.73. Since these events are of potential interest to the industry in view of ongoing efforts to address relief valve setpoint drift, this information is being submitted as a Voluntary Report.

During the 7RFO, conducted at DBNPS between August 31, 1991 and November 7, 1991 the two installed Pressurizer Code Safety Valves were removed and replaced with pretested spares. The removed valves were delivered to an offsite laboratory for testing. At the laboratory, as found testing was conducted on April 21, 1992 in accordance with ANSI/ASME OM-1-1981. During the testing, both valves exhibited acceptable lift setpoints within the + 3% of nameplate setpoint established for the as found condition by ANSI/ASME OM-1-1981; however, the initial lift setpoint of one valve exceeded the maximum allowable lift setpoint of 2525 psig specified in TS 3.4.3. The results of the as found testing are summarized below.

Valve Serial Number	Nameplate Setpoint	Initial Lift Pressure	Percent Deviation From Nameplate Setpoint
N54891-00-0001	2500 psig	2536 psig	+ 1.44%
N56264-00-0005	2500 psig	2451 psig	- 1.96%

146 9403160189 940307
PDR ADDCK 05000346
S PDR

Good 1/0

The two safety valves were refurbished and their setpoints adjusted to within the $\pm 1\%$ as left tolerance specified by the ASME Code. The valves were satisfactorily tested at the laboratory prior to return to DBNPS for installation during the 8RFO.

Similarly, during the 8RFO conducted at DBNPS between March 1, 1993 and April 30, 1993, the two installed Pressurizer Code Safety Valves were removed and delivered to the off-site laboratory for testing in accordance with ANSI/ASME OM-1-1981. As found testing was conducted on December 6 and 7, 1993. Again, both valves exhibited acceptable lift setpoints within the $\pm 3\%$ of nameplate setpoint established for the as found condition; however, the initial lift setpoint of one valve exceeded the TS maximum allowable value. The results of the as found testing are summarized below.

Valve Serial Number	Nameplate Setpoint	Initial Lift Pressure	Percent Deviation From Nameplate Setpoint
N59303-00-0001	2500 psig	2528 psig	+ 1.12%
N54891-00-0002	2500 psig	2441 psig	- 2.36%

The two safety valves were refurbished and their setpoints adjusted as necessary. The valves have been satisfactorily retested and will be reinstalled at DBNPS during the Ninth Refueling Outage, currently scheduled for the Fall of 1994.

The Pressurizer Code Safety Valves at DBNPS are manufactured by Crosby Valve and Gage Company, Type HB-86-BPE. The function of the Pressurizer Code Safety Valves is to prevent the Reactor Coolant System (RCS) from being pressurized above its Safety Limit of 2750 psig. An analysis performed as a result of the occurrences described above concluded that a single safety valve with a lift setpoint less than or equal to 2525 psig is sufficient to mitigate all overpressure events and therefore, the as found lift setpoints do not represent a safety concern for DBNPS.

The apparent cause of the valve test failures was determined to be setpoint drift, a recognized industry concern. As was stated above, the Pressurizer Code Safety Valves were refurbished as necessary and their lift setpoints were returned to within the $\pm 1\%$ as left tolerance band prior to return to DBNPS for reinstallation. In addition, Toledo Edison (TE) is considering two additional, long term corrective actions. The first involves a modification to the valve internals which will improve valve performance by precluding valve seating misalignment. The second long term corrective action being considered involves re-evaluation of the requirements for RCS overpressure protection by the Babcock and Wilcox Owners' Group (BWOG). This BWOG study is expected to justify expanded safety valve lift tolerance bands and to potentially provide a basis for future TS allowable lift setpoint changes. The BWOG initiative is in progress and is expected to be completed by June 1994.

Docket Number 50-346

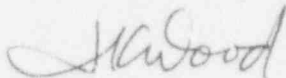
License Number NPF-3

NP 33-93-10

Page 3

If you have any questions or require additional information, please contact
Mr. William T. O'Connor, Manager - Regulatory Affairs, at (419) 249-2366.

Very truly yours,



J. K. Wood
Plant Manager

NKP/eld

cc: J. B. Martin, Regional Administrator, NRC Region III
S. Stasek, DB-1 NRC Senior Resident Inspector
R. J. Stransky, NRC Project Manager
USNRC Document Control Desk
Utility Radiological Safety Board