



Donald C. Shelton  
Vice President - Nuclear  
Davis-Besse

300 Madison Avenue  
Toledo, OH 43652-0001  
(419) 249-2300

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Subject: Containment Hydrogen Purge System Use During Plant Operation

Gentlemen:

This letter provides an updated status regarding venting of Containment for pressure control during power operation at the Davis-Besse Nuclear Power Station (DBNPS), Unit 1 (previously addressed in Toledo Edison (TE) letter Serial Number 1525, dated August 1, 1988). The information contained herein was discussed with Mr. P. M. Byron, Nuclear Regulatory Commission (NRC) Senior Resident Inspector, DBNPS, and Mr. A. H. Hsia, NRC/Office of Nuclear Reactor Regulation (NRR) Backup Project Manager, DBNPS, on August 29, 1990, and August 30, 1990, respectively.

The DBNPS Technical Specification 3/4.6.1.4 (Containment Systems, Internal Pressure) limits primary Containment internal pressure, as a function of differential pressure with the Shield Building, to between +25 inches and -14 inches water gauge (W.G.) during Operational Modes 1, 2, 3 and 4. These limits ensure the Containment will not exceed its design pressure of 40 psig during Loss of Coolant Accident conditions or its design negative pressure differential with respect to the annulus atmosphere of 0.5 psi.

During power operation the week of August 27, 1990, the internal pressure differential between the Containment and the annulus atmospheres reached 17 inches W.G. This increase was investigated and determined to be the result of both an increase in the temperature of Service Water supplied to the Containment Air Coolers and an increase in outside ambient temperature. Both conditions slightly reduced the normal heat transfer rate from containment. The decrease in heat transfer caused Containment temperature to be elevated such that it affected Containment pressure. Additionally, the variation in the barometric pressure outside the Containment may also have affected the differential pressure between Containment and the annulus. While the Containment temperature and the Containment-to-annulus pressure differential remained well within the bounds of the Technical Specifications, the pressure

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Operating Companies:  
Cleveland Electric Illuminating  
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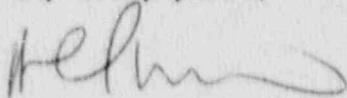
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increase was viewed as undesirable. Therefore, a vent path was proposed through the Containment Hydrogen Purge (CHP) System piping to a temporary filtration unit (as described in letter Serial Number 1525) to reduce the pressure differential between the Containment and the annulus. In letter Serial Number 1525, Toledo Edison stated that the CHP system would be used to reduce the differential pressure between the Containment and the annulus during plant heatup and power ascension. The current proposal was reviewed in light of the information contained in letter Serial Number 1525 and NRC Branch Technical Position (BTP) CSB 6-4. It was determined that the justification provided in Attachment 1 to letter Serial Number 1525 was applicable for power operation as well as plant heatup and power ascension. That is, the radiological dose calculations performed for the evaluation in letter Serial Number 1525 were performed utilizing source terms applicable to full power conditions, and, therefore, justified the use of the CHP System in the configuration described therein during power operation.

Based on the above, Toledo Edison believes that the use of the CHP System during power operation (as well as during plant heatup and power ascension during Modes 1 through 4 as described in letter Serial Number 1525) is justified. It is Toledo Edison's intent to utilize the CHP System during Mode 1 power operation for those periods of increasing Containment pressure differential with the annulus when such increases can be attributed solely to increased service water and/or outside ambient air temperature and their effect on Containment temperature, changes in barometric pressure, or in accordance with the conditions stated in letter Serial Number 1525.

Should you have any questions or require further information, please contact Mr. R. W. Schrauder, Manager - Nuclear Licensing, at (419) 249-2366.

Very truly yours,



RMC/mmb

cc: P. M. Byron, DB-1 NRC Senior Resident Inspector  
A. B. Davis, Regional Administrator, NRC Region III  
A. H. Hsia, NRC/NRR DB-1 Backup Project Manager  
M. D. Lynch, NRC/NRR DB-1 Senior Project Manager  
Utility Radiological Safety Board