September 17, 2003

Mr. David A. Lochbaum
Union of Concerned Scientists
1707 H Street, NW, Suite 600
Washington, DC 20006-3919

Dear Mr. Lochbaum:

In your letter to me dated August 4, 2003, you stated that it was not clear from inspection report 50-346/2003-015, whether the preliminary YELLOW finding related to the containment sump at Davis-Besse accounted for the heightened chances of a medium-size loss of coolant accident (LOCA) at the plant caused by the damaged reactor vessel head.

The Phase 3 significant determination process (SDP) analysis for the containment sump issue, which resulted in a YELLOW finding, did not use the increased likelihood frequencies obtained for the medium and large LOCAs obtained in the evaluation of the RED finding due to the damaged reactor vessel head. As explained in IMC 0609, "Significance Determination Process," Appendix A, Section III, the manner in which concurrent multiple equipment or functional degradations are evaluated using the SDP is a function of their cause. If the concurrent multiple equipment or functional degradations resulted from a common cause (e.g., a single inadequate maintenance procedure that directly resulted in deficient maintenance being performed on multiple components), then a single inspection finding will be written and characterized for significance by the total increase in core damage frequency. The justification for existence of a common cause must be a stronger causal relationship than poor management or cross-cutting programs (e.g., an inadequate problem identification and resolution program is an inadequate basis to justify a common cause finding). If independent causes are determined to have resulted in multiple equipment or functional degradations, then separate inspection findings will be written and individually characterized for significance assuming none of the other independent findings existed. The SDP is designed this way to focus NRC inspection resources on licensee performance deficiencies. The SDP is not intended to be a process which determines integrated plant risk.

Because the causes of the deficiencies that led to the reactor pressure vessel head degradation were separate from the causes that resulted in the potential clogging of the containment emergency sump, the NRC staff concluded that separate performance deficiencies and significance determinations was appropriate.

Your letter also stated that it appeared that the medium-sized LOCA likelihood used in the RED finding was significantly different than that used for the containment sump issue. The initiating event frequencies are different; however, not a million times different as stated in your letter. The initiating event frequencies for the medium and large LOCAs used for the YELLOW sump finding are those identified in NUREG/CR-5750, “Rates of Initiating Events at U.S. Nuclear Power Plants,” which are 4E-5/reactor-year and 5E-6/reactor-year, respectively. These LOCA frequencies represent the nominal or “base case” frequencies used for the analysis. These values were not changed for the preliminary YELLOW finding for the reasons described above. Therefore, the actual difference between the likelihood of the medium LOCA for the RED and YELLOW findings was about 100 times different (4E-5 versus 3E-3). The values you mentioned in your letter (2.28E-9 and 5.13E-10) are a per hour frequency of the change in the core damage frequency for the medium and large LOCA, respectively. These values were then multiplied by 8760 hours (i.e., number of hours in a year) to yield the significance of the inspection finding on a per year basis.

Should you have any questions regarding our efforts, please contact Sonia Burgess of the regional staff at (630) 829-9752.

Sincerely,

/RA/

John A. Grobe, Chairman
Davis-Besse Oversight Panel

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John A. Grobe, Chairman
Davis-Besse Oversight Panel

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