

Docket file

JAN 10 1977

POOR ORIGINAL

Docket No. 50-346

MEMORANDUM FOR: File No. 50-346

FROM: F. Cardile, Effluent Treatment Systems Branch, DSE

THRU: ~~CR~~ ^{K. Burke, Leader} Applications Section, Effluent Treatment Systems Branch, DSE

SUBJECT: DAVIS-BESSE, UNIT NO. 1, WASTE GAS SYSTEM HYDROGEN MONITORING

On October 21, 1976, in a memo from J. Collins, Chief, ETSB, to J. Stolz, Chief, LWR Branch No. 1, we indicated that the Davis-Besse, Unit No. 1, design was unacceptable since it did not provide redundant instrumentation for hydrogen control. On November 15, 1976, in a memo from L. Roc, Toledo Edison Co., to J. Stolz, Davis-Besse committed to provide a second oxygen monitor which would alarm locally and in the control room at the set points of 2% and 4% by volume of oxygen. This monitor is to be added by June 1977. This information was incorporated in Revision 23 of the Davis-Besse, Unit No. 1 FSAR. These monitors were to be located on the inlet header to the waste gas surge tank. This inlet header contains inputs from the reactor coolant drain tank, sample returns and the de-gasifier.

This solution was not acceptable for two reasons: (1) There was no way to detect possible compressor suction air inleakage since the compressor is downstream of the oxygen monitors, and (2) There was no way to detect potentially explosive mixtures in the line from the cover gas system to the waste gas tanks since this line was not monitored at all. These problem areas were pointed out in discussions with C. Doneck of Toledo Edison Co. In these discussions he indicated that the compressor controls work in such a way to shut off the compressor on low suction pressure. This would prevent inleakage of air into the compressor suction. On this basis, we conclude that the probability of air inleakage into the compressor suction is small. In Revision 26 to the Davis-Besse, Unit No. 1 FSAR, Davis-Besse provided a revised system design to provide for the redundant oxygen monitoring of the cover gas line. Based on this commitment, the problem area identified in (2) above has been acceptably resolved.

Based on these discussions are the commitments of Revision 23 and 26 of the FSAR, we conclude that the Davis-Besse, Unit No. 1, gaseous radwaste

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system has the capability to handle potentially explosive mixtures of hydrogen and oxygen, and, therefore, is acceptable.

signed by:

Frank Cardile
Effluent Treatment Systems Branch
Division of Site Safety and
Environmental Analysis

cc: J. Collins

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