



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
789 ROOSEVELT ROAD  
GLEN ELLYN, ILLINOIS 60137

March 17, 1977

POOR  
ORIGINAL

Docket No. 50-346

MEMORANDUM FOR: K. V. Seyfrit, Chief, Reactor Technical Assistance Branch  
Office of Inspection and Enforcement, Headquarters

THRU: *CK* G. Fioralli, Chief, Reactor Operations and Nuclear Support  
Branch

FROM: R. C. Knop, Chief, Reactor Projects Section 1

SUBJECT: DAVIS-BESSE UNIT 1 VIBRATION TESTING (F30273H1)

During the past several months, two meetings involving NNR, I&E, and TECO have been conducted relative to the proposed fix of the Davis-Besse Core internals. Unfortunately, the subject of post fuel loading vibration monitoring of the core barrel and monitoring of loose parts were not discussed.

On March 10, 1977, we were informed by the licensee that the power ascension test for the Loose Parts Monitor was being cancelled and a surveillance test was being substituted.

On March 14, 1977, an inspector reviewed the status of the loose part monitor capabilities. The following was determined:

1. No calibration of the installed monitors involving known impact forces has been done. The licensee is now considering doing some testing.
2. Adjustment of filters for each accelerometer threshold under simulated and/or operating conditions has not been done.
3. The equipment was operating during the hot functional testing, but no correlation was made with the B&W data nor is there any data available at the site to make a correlation now. It appears that there is a nominal 9 Hz spike in the data during the early stages of hot functional testing at warm conditions of 385°F and 1500 psig. This 9 Hz signal became less pronounced on the lower vessel accelerometers and was not defined by the upper vessel detectors during hot conditions of 530°F and 2170 psig. However, the sensitivity of a 9 Hz movement on a 0-512 Hz scale is so small that the 9 Hz spike is close to the D.C. roll off.

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4. The cancelled power ascension test of the loose parts monitor was to be conducted during various pump and valve configurations to establish a baseline spectra. The surveillance test to be substituted in place of the power ascension test would merely call for turning on the machine and reviewing the data for differences between takes.
5. The licensee does not currently intend to do any vibration monitoring other than that which can be detected by the installed loose parts monitor.

Because there is no assurance possible that the licensee is able to obtain 20 mils  $\pm$  5 clearance between each side of the J lugs and of the core barrel blocks, the region feels it is necessary to closely monitor vibration data of the reactor vessel during the post fuel loading period.

It is the recommendation of Region III that the licensee should:

1. Perform sufficient calibration, reflex tests, filter gain adjustments, etc., on the loose parts monitor (LPM) to assure that it is functioning as intended prior to core loading.
2. Perform a formal test program to adequately establish base line data for the LPM during post fuel loading.
3. Provide his rationale on any supplemental testing required to prove that the core barrel fix agreed to during the March 10, 1977 NRR meeting is doing the job. This would include an analysis of how he will determine that core barrel damage, by impacting with it's subsequent cold working, is not taking place.

It is requested that your office determine an official I&E position relative to this matter and provide any required coordination with NRR.

Since the licensee indicates he will be ready to load fuel on or near March 25, 1977, we request that this matter be given priority consideration.

Should you have any further questions, please feel free to contact R. J. Cook, or myself.

*RC Knop*

R. C. Knop, Chief  
Reactor Projects Section 1

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