



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

May 16, 1985

DJS LTR: 85-449

James G. Keppler
Regional Administrator
Director of Inspection and Enforcement
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Sir:

This letter is in reference to Confirmatory Action Letter 85-04 regarding the Main Steam Line Snubber Monitoring System for Dresden Unit 2. Item 2 of this Confirmatory Action Letter requires a verbal notification to Region III within 2 working days followed by a written report and safety evaluation within 30 calendar days.

Three occurrences have been identified during this reporting period. They are:

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|---------------|--------------------------------------------------------------|
| Occurrence #1 | Notification made to J. Harrison by J. Brunner on 4/22/85. |
| Occurrence #2 | Notification made to J. Harrison by J. Achterberg on 5/1/85. |
| Occurrence #3 | Notification made to D. Danialson by J. Wujciga on 5/2/85. |

The written report and safety evaluation for each occurrence is attached.

Sincerely,

D. J. Scott
Station Manager
Dresden Nuclear Power Station

DJS:BAS:hjb
Attachment

cc: J. Almer
W. Pierce
B. Schroeder
J. Achterberg
J. Brunner
File/NRC
File/Numerical

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Written Report

Occurrence #1

Dresden Unit 2 was on-line and increasing power at 5 MWe per hour when the snubber instrumentation triggered. A review of the NSO and Shift Engineer logs found no evidence of other plant transients. The cause of the snubber trigger is believed to be caused by electromagnetic noise from a two-way radio in close proximity to the recording equipment. A radio, if used near the recording equipment, has been proven to spuriously trigger the instrumentation. This trigger occurred on April 19, 1985 at 22:28:27 hours.

A review of the chart paper for all six channels found the following:

When the two main steam lines (C & D) which have more than one instrumented snubber are compared it is noted that the loads are extreme (well beyond the committed shutdown level) on one snubber while the other snubber(s) show very little load (at or below the report levels). It was also noted that there was not a single pulse but three distinct pulses that rose from zero to peak in 0.02 seconds and fell from signal level to zero also in 0.02 seconds for each pulse. The first pulse was 0.80 seconds in duration followed by a 0.32 second pulse. The second pulse was 0.80 seconds in duration followed by a 7.0 second duration pulse. The displacement transformer recorder also had the same pulses although not as extreme as the strain gauge recorder.

The Station's conclusion was that the source of the pulses was caused by a two-way radio which was actuated in the vicinity of the recorder. To confirm that the cause of the event was a radio, the Technical Staff used a radio near but outside the test shack that contains the recording equipment. Although the test did not reproduce the exact amplitude of the previous trigger, the trigger waveform was reproduced.

There are many variables that would explain the difference in amplitude. The amplitude would be affected by radio signal strength or the geometry of the first radio to the recorder. To prevent or at least reduce the radio interference, a foil and metal screen has been placed over the windows of the instrument room.

Occurrence #2

Dresden Unit 2 was on-line and increasing power at 5 MWe per hour at the time of the snubber instrumentations trigger. A review of the NSO and Shift Engineer log found no evidence of other plant transients. The cause of the snubber trigger is believed to be caused by instrument failure at or near the strain gauge. A broken wire or loose wire connection is suspected.

A representative of Wyle Labs was called in to analyze the snubber instrument in question. His analysis was as follows:

Strain gauge #46 resistance is very erratic. It reads open for a short period of time, and will then go to very high resistance. The Vishay unit was checked by changing the gauge to another unit with the same results. Chart shows that the gauge is shorted at one moment and then open another. It would seem that a tab (wire connection) is probably lifted and making intermittent contact.

A meeting was held on May 2, 1985 between Isa Yin (NRC), G. Drake (Wyle), C. Beck (SNED-CECo.), and Dresden Station representatives. A detailed analysis was performed of the chart indications and the unit's operating transients. The conclusion points to an open contact in the strain gauge wiring. During the 62-day snubber inspection required by the Technical Specifications, an in-depth analysis will be made of the strain gauge to determine the point of failure in the wiring.

Occurrence #3

Dresden Unit 2 was at steady load and experiencing problems with the off-gas system. About 0400 hours a low vacuum alarm occurred. The NSO then reduced recirculation pumps to minimum speed. At 0457 the NSO received a 1/2 scram on channel B (low vacuum). At 0535 the NSO manually scrambled the unit due to high hotwell temperature.

When the scram occurred, the snubber instruments responded several times. The cause is believed to be the result of electrical interference from the operation of nearby equipment and valve actuations in the drywell.

A review of the chart found that even the inoperative channel, SNB #46, also responded which was disconnected from the strain gauge. This is probably a result of induced voltage into the recorder.

The safety significance of these three occurrences is minimal since there is no evidence of actual loads on the main steam line snubbers. Confirmation of this will be made by a visual inspection during the snubber inspections required by the Technical Specifications.