



Commonwealth Edison
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October 13, 1981

DJS Ltr. #81-816

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Mr. James G. Keppler, Director
 Directorate of Regulatory Operations - Region III
 U. S. Nuclear Regulatory Commission
 799 Roosevelt Road
 Glen Ellyn, IL 60137

SUBJECT: Dresden Unit II Containment Cooling Service Water System,
 Docket 50-237

Dear Mr. Keppler:

As requested in your Confirmatory Action Letter dated October 9, 1981, we wish to inform you that the Dresden Unit 2 Containment Cooling Service Water (CCSW) was declared operable on October 12, 1981. The following is a summary of the events that have occurred and the actions we took to restore the CCSW System to an operable condition.

On October 5, 1981, seismic restraint 1510-12 on CCSW Loop 2A was discovered to have been damaged to the extent that it could no longer be considered able to function as intended. CCSW Loop 2A was declared inoperable at 4 p.m. on October 5, 1981. EDS Nuclear, Inc., was given the task of analyzing the cause of the event and designing repairs for hanger 1510-12. A complete walkdown of CCSW Loop 2A revealed that hangers 1510-3, 5, 7, 8, 11, 17, and 36 also had been damaged to some extent and, except for 1510-36, required analysis by EDS, Inc., before further service. The Confirmatory Action Letter, required (i) the repair of the damaged hangers to meet I.E. Bulletin No. 79-14 seismic operability criteria, (ii) an evaluation of system operating dynamics and (iii) based on that evaluation, modification of equipment and/or procedures to prevent further damage on an interim basis. These actions were required prior to returning CCSW Loop 2A to an operable condition.

EDS Nuclear, Inc., performed analyses to support the above requirements, as follows:

- a. System analysis to determine the cause of the event;
- b. Piping stress analysis to the I.E. Bulletin No. 79-14 operability criteria;
- c. Evaluation of pipe supports and the design of any repairs to meet operability limits.

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The system analysis indicated that the event which led to the damage of the supports on CCSW Loop 2A was probably caused by a hydrodynamic load due to an air void or vacuum in the system during startup of the pump. The CCSW loop, as presently piped and valved, is not conducive to the retention of water within the pipe and consequently voids naturally occur when the system is shutdown. Since normal system operation has not previously caused this type of damage, the event can possibly be attributed to a condition in which the loop was inordinately drained and inadequately refilled before starting the system. Such a set of conditions could have existed during the recent (Spring of 1981) Unit 2 refueling outage, when the LPCI Heat Exchangers were retubed and the CCSW Loop piping was drained. Although actions were taken to refill the CCSW loop, the extent to which it was actually filled cannot be determined.

Actions to prevent a further recurrence of this type of event (on an interim basis) are hampered by the natural tendency of the CCSW loop to create the voids described above. A CCSW loop "keep-fill" system was given consideration but was not installed because of questions concerning flow requirements, proper source of water, and the feeling that there could be a more effective way to achieve the desired results based on additional evaluations. The actions taken to prevent a recurrence involved revising procedures (currently using temporary procedure changes) to maximize the amount of water retained in the system, to minimize pump discharge check valve slam when the pumps are shut off, and to throttle the pump discharge valves open from the partially closed position when the pumps are started (if no other pump in that loop is running). The procedures which were revised were DOS 1500-3, DOS 1500-4, DOS 1500-5, DOS 1500-6, DOP 1500-2, and DOP 1500-3. Further long-term modifications or procedure changes may be made after additional evaluations.

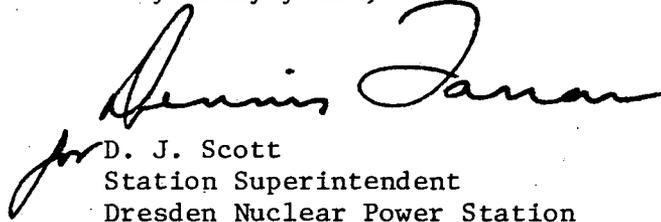
The required hanger repairs were made and analyses were performed to ensure operability of all hangers in question. This information is summarized below:

<u>Support</u>	<u>Action Taken</u>
1500-12	Relocated approximately 52 inches from its previous location and installed with different anchor bolts based on a design from EDS, Inc. The surrounding supports were evaluated to determine operability, based on the relocation of 1510-12, and it was determined that support 1510-13 required further design changes.
1510-13	Support was redesigned based on evaluation against operability criteria.
1510-17	Repaired per EDS design to meet operability criteria.
1510-36	Repaired cracked grouting.
1510-2	Evaluated against operability criteria and no action was required.
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Based on the above information, it was felt that the requirements contained in the Confirmatory Action Letter had been met and that CCSW Loop 2A could be returned to service.

Mr. Tom Tongue of your office was informed of these actions prior to declaring the system operable.

Very truly yours,


D. J. Scott
Station Superintendent
Dresden Nuclear Power Station

DJS/WEM/jrh

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