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Central Files

July 25, 1980

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

Subject: Dresden Station Unit 3
Response to IE Bulletin
80-17
NRC Docket No. 50-249

Reference (a): J. G. Keppler letter to C. Reed dated
July 3, 1980

Dear Mr. Keppler:

This letter provides Commonwealth Edison's additional response for Dresden Unit 3 to Items 2 and 3 of IE Bulletin 80-17, which was transmitted by Reference (a).

The scram tests and inspections of Items 2 and 3 of the bulletin were performed on July 19 and 20, 1980 and the details of these tests are contained in the Attachment to this letter. As a result of the first (manual) scram test, modifications to the Scram Discharge Volume (SDV) vent lines were made. These modifications were discussed with both NRC Region III and I&E Headquarters personnel at the time they were made.

Please address any questions concerning this matter.

Very truly yours,

Robert F. Janecek

Robert F. Janecek
Nuclear Licensing Administrator
Boiling Water Reactors

cc: Director, Division of
Reactor Operations Inspection

SUBSCRIBED and SWORN to
before me this 25TH, day
of July, 1980

Notary Public

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ATTACHMENT

DRESDEN STATION RESPONSE
NRC IE BULLETIN 80-17

Item 2: Special Operating Procedure 80-7-42 was written as required in Item 2 for Unit 3. On July 19, 1980, a manual scram was performed to gather data. On July 20, 1980, an automatic scram from IRM upscale was performed for the same purpose. The results of both scrams are delineated below.

a. Twenty-nine control rod scram insertion times were obtained utilizing a multi-pen recorder. This was the maximum number of rods that could be timed in this manner. From this information, an all-rod insert time can be estimated from the slowest of these rods. there was no feasible way to determine the actual all-rod insert time.

TIMES: 4.15 sec. - Manual Scram
4.62 sec. - Automatic Scram

The times listed above are comparable to those found during hot scram timing surveillances. Computer scans of control rod notch positions verified all rods were inserted past 06. A visual check was also done to verify this at the time of testing. A videotape machine was employed to tape the full core display during both scrams. However, due to the inability to clearly identify the numerical position of each control rod, this method proved to be less informative than expected.

b. Voltage was measured across the scram solenoids while the scram signal was pesent. The voltages for all four groups of both channels were found to be zero. Also, the group lights on the 903-5 panel went out, which is a positive indication of loss of voltage.

c. An operator was stationed at the backup scram solenoids during both scrams. The valves operated correctly and air was vented as designed in both tests.

d. The time to fill the scram instrument volume to the various alarm points are as follows:

Manual		Automatic
0 sec.	Reactor Scram	0 sec.
31.4 sec.	SIV 3 gal. not drained alarm	29.3 sec.
32.1 sec.	SIV 25 gal. rod block alarm	29.9 sec.
31.4 sec.	SIV 50 gal. scram alarm	29.2 sec.

The above data appears inconsistent but was expected due to the experience at Quad Cities Station.

e.; f. Stroke times of the vent and drain were obtained prior to the test scrams. These times were as follows:

	Opening	Closing	Scram Closing Time
3-302-22	Less than 1 sec.	1.5 sec.	4.9 sec.
3-302-21A	Less than 1 sec.	1.4 sec.	4.9 sec.
3-302-21B	Less than 1 sec.	1.6 sec.	5.1 sec.

g. A water sample was taken after the manual scram and analyzed for total suspended solids - 6.54 ppm.

h. Time to drain the SDV to a repeatable level is as follows:

Manual		Automatic
0	SDV vent/drain valves open	0
:10 sec.	SIV 25 gal. rod block alarm reset	:14 sec.
:23 sec.	SIV 50 gal. scram alarm reset	:23 sec.
1:39 sec.	SIV 25 gal. rod block alarm trip	:30 sec.
2:16 sec.	SIV 50 gal. scram alarm trip	2:08 min.
8:14 min.	SIV 25 gal. rod block alarm reset	7:49 min.
8:16 min.	SIV 50 gal. scram alarm reset	7:42 min.

The preceding information was discussed with G.E., and they considered the results to be normal. Additionally, a two-rod scram test was performed to verify the proper sequential operation of the scram instrument volume (SIV) level switches. Two rods, one discharging to each SDV, were individually scrammed and left in that condition until all the SIV alarms annunciated. This test was repeated twice and both times the sequential operation was correct.

i. Refer to the attached chronological list of significant events for the exact functions performed and results observed in attempting to monitor the SDV and associated piping for residual water. Briefly, however, the following results were obtained:

Manual		Automatic
0	SDV vent/drain valves open	0
12:15 min.	East SDV headers drained	16:36 min.
t *	West SDV headers drained	40.36 min.

*1 hr. 8 min. t 1 hr. 38 min.

It should be noted that prior to the automatic scram test, the two SDV vent lines were cut downstream of the isolation valves and are open to the Reactor Building atmosphere -

per discussion with the NRC.

j. A scram was not required to determine the scram reset delay times. The procedure to acquire the needed data was to manually close the individual scram relays while monitoring the voltage across the reset contacts. The period of time in which the voltage was zero represents the reset time required.

Channel A, Groups 1 & 4 - 19 sec.
Channel A, Groups 2 & 3 - 18 sec.
Channel B, Groups 1 & 4 - 19 sec.
Channel B, Groups 2 & 3 - 19 sec.

k. All data acquired has been reviewed and, except for Item i, is as expected. Item i is presently under investigation by both CECo. and GE.

Item 3: Following the scram tests, the SDV vent and drain valves were verified to be functional, the vent lines were verified to be open by performing a dynamic air test, and ultrasonic tests verified that no siginificant amount of water remained in the SDV piping.

Dresden Unit 3 Manual Scram Per IE Bulletin 80-17

Chronological List of Significant Events

Date: July 19, 1980

Reactor Parameters: Reactor Pressure - 920 psig.

Reactor Water Temperature - 525°F

Reactor Water Level - 40 in.

96 of 177 control rods fully withdrawn

Time*	Time from Scram (min.)		Description
033507	-	-	Reactor manual scram initiated.
(0336)	1	-	Scram discharge volume (SDV) vent/drain valves c/s to ISOLATE position to assure valves do not automatically open when scram signal reset. SDV hi level scram bypass switch to BYPASS.
033652	1:45	-	Scram signal reset.
	Time from vent/drain valve opening (min.)		
040145	-	-	SDV vent/drain valves manually opened via c/s.
040155	:10	-	Scram Instrument Volume (SIV) 25 gal. rod block alarm reset.
040208	:23	-	SIV 50 gal. scram alarm reset.
040324	1:39	-	SIV 25 gal. rod block alarm trip.
040421	2:16	-	SIV 50 gal. scram alarm trip.
040959	8:14	-	SIV 25 gal. rod block alarm reset.
041001	8:16	-	SIV 50 gal. scram alarm reset.
(0411)	9:15	-	OAD notified to UT SDV for residual water.

* All times are computer times except as indicated by (), which are watch times.

Time*	Time from vent/drain valve opening (min.)	Description
(0414)	12:15 -	East SDV 4 in. headers reported drained.
(0420)	18:15 -	West SDV 4 in. headers reported approx. 80% full.
(0458)	56:15 -	Manually exercised ball check valve on west SDV vent line, noting some effort required to open valve and air inrush following opening: 8 in. header reported approx. 50% full; 4 in. headers reported approx. 100% full and SIV not drained alarm annunciated after vacuum breaker excerise.
(0510)	68:15 - (1 hr. 8 min.)	West SDV 4 in. headers reported still not drained.
(0540)	98:15 - (1 hr. 38 min.)	West SDV 4 in. headers reported drained.

*All times are computer times except as indicated by (), which are watch times

Dresden Unit 3 Automatic Scram Per IE Bulletin 80-17

Chronological List of Significant Events

Date: July 20, 1980

Reactor Parameters: Reactor pressure - 922 psig

Reactor temperature - 525.2°F

Reactor water level - 40 in.

90 of 177 control rods fully withdrawn

Time*	Time from scram (min.)		Description
023809	-	-	Reactor automatic scram initiated.
(0239)	1	-	Scram discharge volume (SDV) vent/drain valves c/s to ISOLATE position to assure valves do not automatically open when scram signal reset; SDV hi level scram bypass switch to BYPASS.
024143	3:34	-	Scram signal reset.
(0242)	3:51	-	OAD notified to UT SDV to determine amount of water.
(0247)	8:51	-	OAD reported SDV's full.
	Time from vent/drain vlv. opeing (min.)		
025124	-	-	SDV vent/drain valves manually opened via c/s; OAD continuoulsy monitoring water in SDV's.
025138	:14	-	Scram Instrument Volume (SIV) 25 gal. rod block alarm reset.
025147	:23	-	SIV 50 gal. scram alarm reset.
025254	:30	-	SIV 25 gal. rod block alarm trip.
025332	2:08	-	SIV 50 gal. scram alarm trip.

*All times are computer times except as indicated by (), which are watch times.

Time*	Time from vent/drain vlv. opening (min.)		
025906	7:42	-	SIV 50 gal. scram alarm reset.
025913	7:49	-	SIV 25 gal. rod block alarm reset.
(0300)	8:36	-	Both east and west SDV 4 in. headers reported 75% full.
(0304)	12:36	-	Manually exercised ball check valve on west SDV vent line noting some effort required to open valve and some water discharge from valve; no significant air inrush noted.
(0308)	16:36	-	East SDV 4 in. headers reported drained; west SDV 4 in. headers reported 100% full.
(0332)	40:36	-	West SDV 4 in. headers reported drained.

*All times are computer times except as indicated by (), which are watch times.