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Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450
November 2, 1973

Mr. James G. Keppler, Regional Director
Directorate of Regulatory Operations-Region III
U. S. Atomic Energy Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

13-4

**SUBJECT: INSPECTION OF BERGEN-PATERSON HYDRAULIC SHOCK SUPPRESSORS
AT DRESDEN NUCLEAR POWER STATION UNIT #3, AEC DKT 50-249.**

- References:
- 1) Directorate of Regulatory Operations Bulletin 73-4.
 - 2) Letter from Mr. D. J. Skovholt to Mr. J. S. Abel dated October 1, 1973.
 - 3) Notification of Region III of AEC Regulatory Operations Telephone: Mr. F. Maura, 1725 hours on October 29, 1973.

Dear Mr. Keppler:

This letter is to report information concerning the station's second inspection of Bergen-Paterson hydraulic shock suppressors on Unit #3. The unit was shutdown on October 27, 77 days after the initial snubber outage, to perform a second inspection as required by Directorate of Regulatory Operations Bulletin 73-4. The attached list contains piston rod extensions and fluid level indicator positions found during this inspection.

The inspection revealed that 41 Bergen-Paterson snubbers on Unit #3 were operable, and exhibited overall integrity. There were two snubbers in the drywell (I.D.#26 and 27) that had no oil level indication on the snubber accumulator. They were removed from the drywell for inspection and repair. The subsequent disassembly of these two snubbers revealed such a low oil level that it is questionable that they were operable. Seven of the operable snubbers had low oil level indication on the snubber accumulator, but the oil level was not low enough to consider them inoperable. Three of these seven (I.D.#9, 12, and 25) had significantly lower oil level than the others and were removed from the drywell for more thorough inspection and testing. It is believed that the low oil level in the other four snubbers (I.D.#13, 28, T7 and T15) resulted from improper filling during the initial inspection and overhaul, since no fluid leaks were evident. The oil level in these four snubbers was increased prior to resuming power operation.

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Snubbers #25, 26, and 27 were disassembled, repaired and tested satisfactorily prior to returning them to their original locations. Inspection of snubber #25 revealed that the bleed screw "O"-ring and most of the "O"-rings on the manifold assembly were brittle and broken. In addition, the head seal was flattened and broken.

Inspection of snubber #26 revealed that the head seal was flattened, that the manifold "O"-ring was broken, and that most of the seals in the manifold assembly were brittle, but intact. The oil level indicator was broken during disassembly which necessitated replacement of the indicator piston and the accumulator cylinder. In addition, the piston rod cylinder, the piston rings and the accumulator spring were replaced.

Inspection of snubber #27 revealed a faulty head seal, brittle seals in the manifold assembly, with some broken, and a small scratch on the piston rod cylinder. It could not be determined whether the broken "O"-rings in the three snubbers that were overhauled were broken during disassembly or were actually broken during routine operation.

Since no oil leakage was discovered in the examination of snubber #9, it was filled with oil, tested satisfactorily, and returned to the drywell. Inspection of snubber #12 revealed a damaged "O"-ring on the bleed screw. Following replacement of the bleed screw "O"-ring, the snubber was filled with oil, tested satisfactorily, and returned to its original location.

All seals removed were untreated polyurethane and all new seals installed were ethylene-propylene, with the exception of the accumulator seal and the piston rod packing washer, which were untreated polyurethane.

Eleven Grinnell snubbers, located in the turbine and isolation condenser pipeways, were inspected to supplement the above described inspection. All were operable, but one of the Grinnell snubbers had low oil indication. It was filled with oil and will be repaired or replaced at a later date due to its non-safety related function.

A permanent program for the modification and periodic reinspection of hydraulic shock suppressors has not yet been established. This program is being developed through the efforts described in our letter of October 15, 1973 concerning the Unit #2 inspection.

Sincerely,

W. P. Worden

W. P. Worden
Superintendent

WPW:do

cc: O'Leary
AEC Corr./IV

SNUBBERS IN DRYWELL

<u>Station I.D.</u>	<u>Piston Rod Position (in.)</u>	<u>Fluid Level Indicated Position (in.)</u>
1	3.00	3.50
2	3.00	3.00
3	3.00	3.00
4	3.00	2.00
5	3.00	2.50
6	3.00	2.50
7	3.25	3.50
8	3.00	3.00
9	4.50	6.00 (low)
10	3.50	3.00
11	3.50	4.00
12	4.50	6.00 (low)
13	3.75	4.50 (low)
14	3.50	3.50
15	4.00	3.50
16	3.00	3.50
17	2.25	2.00
18	3.00	2.50
19	3.25	3.00
20	3.25	2.75
21	2.00	2.00
22	4.50	3.75
23	2.50	2.00
24	2.75	1.75
25	3.50	6.00 (low)
26	1.50	Not Visible (Inoperable)
27	3.50	Not Visible (Inoperable)
28	2.25	3.25 (low)
29	2.25	1.25
30	2.50	1.50
31	3.25	3.00

SNUBBERS ON TORUS

<u>Station I.D.</u>	<u>Piston Rod Position (in.)</u>	<u>Fluid Level Indicated Position (in.)</u>
2	3.25	3.50
3	3.25	3.75
4	3.25	3.75
5	3.25	3.25
7	3.00	4.25 (low)
8	3.25	3.75
9	3.50	3.75
10	3.25	3.25
12	3.00	3.00
13	3.25	3.00
15	3.25	4.00 (low)
16	3.25	3.50