

THE CINCINNATI GAS & ELECTRIC COMPANY



E. A. BORGMANN
VICE PRESIDENT

United States Nuclear Regulatory Commission
Office Of Inspection and Enforcement
Washington, D.C. 20555

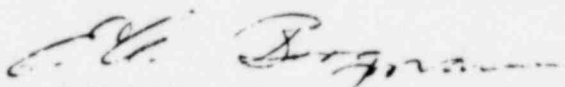
ATTN: Director, Division of Reactor Construction Inspection

RE: WM. H. ZIMMER NUCLEAR POWER STATION - UNIT 1
NRC IE BULLETIN 79-15
DEEP DRAFT PUMP DEFICIENCIES
W.O. 57300, JOB E-5590, FILE # 956, DOCKET # 50-358

Gentlemen:

The attached document is furnished in response to IE Bulletin 79-15.
We believe this information provides a complete response to NRC IE Bulletin 79-15.

Very truly yours,
THE CINCINNATI GAS & ELECTRIC COMPANY


E.A. BORGMANN, SENIOR VICE PRESIDENT

FJS/kjd

cc: U.S. Regulatory Commission ✓
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RESPONSES TO
IE BULLETIN 79-15

ITEM 1

The number of deep draft pumps similar to those shown in Figures 1 and 2 utilized in safety related applications in each facility.

RESPONSE TO ITEM 1

Wm. H. Zimmer has five (5) deep draft pumps of the type specified in IE Bulletin 79-15.

ITEM 2

Manufacturer, model, capacity and plant application.

RESPONSE TO ITEM 2

Ingersoll Rand is the manufacturer of all ECCS pumps at Wm. H. Zimmer Power Station - Unit 1.

Residual Heat Removal pumps "A", "B", and "C" are model number 27APKD-4 with a capacity of 5050 gpm @ 292ftTDH.

Low Pressure Core Spray pump is model number 27APKD-5 with a capacity of 4750 gpm @ 690ftTDH.

High Pressure Core Spray pump is model number 12x18KD-9 with a capacity of 5142 gpm @ 662ftTDH.

ITEM 3

Overall dimensions of pump.

Residual Heat Removal pumps "A", "B", and "C" have the following overall dimensions: 34" dia. x 206 1/4" long.

Low Pressure Core Spray pump has the following overall dimensions: 34" dia. x 260 1/4" long.

High Pressure Core Spray pump has the following overall dimensions: 48" dia. x 282.88" long.

ITEM 4

Summary of start-up, testing and routine maintenance history.

RESPONSE TO ITEM 4

All pumps were "bumped" initially to verify correct rotation. Flow testing of RHR-B and RHR-C along with HPCS has been completed. Flow testing of RHR-A and LPCS will be accomplished as soon as scheduling permits. On pump shutdown costdown time

is recorded. Degrading coastdown time is an indication of bearing failure--coastdown times of pumps have remained constant.

During the construction and startup period routine maintenance has consisted of: general inspection of cleanliness, check purge charge pressure; check of glands and seals, bearing lubrication level, lubrication; check for oil leaks, check all inspection openings; check of strip heaters and heat lamps, meggering of windings, check of all electrical connections for cleanliness and operability.

ITEM 5

Operational problems and major repair efforts.

RESPONSE TO ITEM 5

No operational problems or major repair efforts have been experienced at Wm. H. Zimmer. RHR-A, LPCS and the HPCS pumps were all disassembled and inspected. No loose or broken parts were discovered. Inspections were prompted by Commonwealth Edison problems and concern over whether or not pumps had been properly stored prior to installations. All pumps have been re-assembled, installed and run without problem.

ITEM 6

The longest interval that each pump has been available for operation without corrective maintenance. Identify the number of cycles of operation during this interval, the duration of each cycle and the operating mode (s) recirculation, rated flow, etc.). Identify the longest continuous operation at or near rated flow conditions for each pump and the status of the pump operability at the end of the run.

RESPONSE TO ITEM 6

NOTE: None of the ECCS pumps was required to be shutdown for corrective maintenance.

RHR-A: Longest interval the pump was available for operation; 18 mo.
Total number of cycles: 7
Duration of cycle at rated flow: 21 min., 35 min., 34 min., 5 hr. 31 min., 50 min., 5 min., and 20 min.
Longest continuous operation at or near rated flow: 5 hr. 31 min., operable at end of run.

RHR-B: Longest interval the pump was available for operation: 18 mo.
Total number of cycles: 35
Duration of cycle at rated flow: 24 min., 38 min., 7 hr. 3 min., 16 min., 15 hr. 41 min., 35 min., 4 min., 19 min., 6 hr. 3 min., 2 hr. 3 min., 1 hr. 20 min., 1 min., 7 min., 3 min., 1 hr. 40 min., 4 hr. 4 min., 74 hrs. 41 min., 19 min., 1 hr., 11 min., 55 min.,

17 min., 57 min., 1 hr. 34 min., 19 min., 4 hr.
43 min., 1 hr. 34 min., 2 hr. 59 min., 1 hr. 10 min.,
15 min., 1 hr. 3 min., 48 min., 47 min., 1 hr. 45 min.
Longest continuous operation at or near rated flow;
74 hr. 41 min., operable at end of run.

RHR-C: Longest interval the pump was available for operation; 18 mo.
Total number of cycles: 14
Duration of cycle at rated flow: 35 min., 4 min.,
17 min., 2 min., 26 min., 1 min., 1 hr. 1 hr. 7 min.,
17 min., 50 min., 25 min., 1 hr. 52 min., 55 min.,
35 min.
Longest continuous operation at or near rated flow:
1 hr. 52 min., operable at end of run.

LPCS: Longest interval the pump was available for operation: 23 mo.
Total number of cycles: 16
Duration of cycle at rated flow; 19 min., 8 min.,
49 min., 1 hr. 15 min., 1 hr. 25 min., 15 min.,
12 min., 20 min., 11 min., 31 min., 18 min.,
2 hr. 5 min., 40 min., 1 hr. 1 min., 35 min.,
35 min.
Longest continuous operation at or near rated flow;
1 hr. 25 min., operable at end of run.

HPCS: Longest interval the pump was available for operation:
22 mo.
Total number of cycles: 25
Duration of cycle at rated flow: 10 min., 52 min.,
1 hr. 10 min., 4 min., 1 hr. 29 min., 52 min., 3 min.,
6 min., 15 min., 1 min., 47 min., 20 min., 3 min.,
25 min., 1 min., 1 min., 1 hr. 10 min., 12 min.,
1 hr. 55 min., 30 min., 33 min., 8 min., 17 min.,
1 hr. 11 min.
Longest continuous operation at or near rated flow:
1 hr. 55 min. operable at end of run.