



May 13, 1980

2300
Fax to
Don Beckman
Resident
REFER TO OUR FILE

7-420-1334

William T. Russell
Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC 20555

Reg I

Re: NRC Staff testimony

Dear Bill:

This letter supplements that of May 5, 1980 and covers the two remaining issues we have discussed: problems with the low head safety injection system and Duquesne's NRC compliance history. A copy of this letter will be forwarded to you by telefax.

Additional definitions and questions -- turbine spindle cracking

- stators
- outer disks
- "intergranular" stress corrosion cracking

1) Describe the turbine cracking observed at Yankee-Row on February 15, 1980.

2) Describe the turbine cracking at Shippingport in 1974.

3) Describe the allegations made by anonymous letter referred to by J.P. Knight in a memorandum to S.A. Vargu on January 16, 1980, and the NRC response.

✓ Definitions - low head safety injection system

✓ - ECOS (Emergency core cooling system)

- NPSH (Net positive suction head)

✓ - RS (Recirculation spray)

- NPSH (Net positive suction head) 7,

✓ - LOCA (Loss of coolant accident)

✓ - pressure flash

✓ - steam water vapor pressure

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- cold water injection ✓
- pump cavitation ✓
- 1) What function does the low head safety injection system play during a loss of coolant accident? ✓
- 2) How does the Stone and Webster LHSI design operate?
- 3) What factors peculiar to the Stone and Webster design result in pump cavitation during a LOCA?
- 4) Why is pump cavitation undesirable, what causes it and what prevents it?
- 5) What fixes are available to cure the LHSI cavitation problem?
- 6) Which has Duquesne - S/W selected?
- 7) What remains to be completed at Beaver Valley with regard to the LHSI problem? When will it be completed?
- 8) Describe "critical path" analysis. Is the LHSI problem on the Beaver Valley I restart critical path?
- 9) Describe the LHSI pump shaft alignment problems experienced at Beaver Valley.

Definitions - Regulatory functions and compliance

- NRC - Office of Nuclear Reactor Regulation
- Quality assurance ✓
- "Defense in Depth" ✓
- NRC inspection functions
- Office of Inspection and Enforcement
- Responsibility of licensee for design and testing ✓
- selective inspections
- licensee reporting requirements (LERs, etc.)
- deficiencies, infractions, violations
- abnormal events, reportable occurrences, unusual events
- 1) What is Beaver Valley's inspection history?
- 2) What is Beaver Valley's enforcement history?

3) Based upon national experience, who is Power Valley's available *likely* ~~referred~~?

Again, if there are additional depositions or examinations you believe ought to be included, please let me know. Plan to meet with each witness on May 20 at a minimum, and may request telephone conferences before that date, time permitting.

Very truly yours,

John A. Levin
Assistant Counsel