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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Response to Request for Additional Information Concerning
WCAP-14535; RAI Dated July 24, 1996

Attached is our response to an NRC staff request for additional information provided by letter dated July 24, 1996, following a meeting between Duquesne Light Company and NRC staff on July 17, 1996. This response concerns the maintenance history and frequency of pump motor overhauls for the types of pumps proposed to be covered by WCAP-14535, "Topical Report on Reactor Coolant Pump Flywheel Inspection Elimination."

Currently a reactor coolant pump flywheel inspection would be required during the Beaver Valley Power Station Unit No. 2 sixth refueling outage scheduled to begin on August 30, 1996. Therefore, NRC approval is requested by this date.

Please direct questions regarding this submittal to Mr. Roy K. Brosi at (412) 393-5210.

Sincerely,

Sushil C. Jain

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c: w/enclosure:
Mr. L. W. Rossbach, Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator
Mr. D. S. Brinkman, Sr. Project Manager (3 copies)
Ms. Diane Jackson, Westinghouse Electric Corporation

Response to NRC Request for Additional Information on WCAP-14535 RAI Dated July 24, 1996

On July 17, 1996, a meeting with the NRC staff was held to provide information concerning the costs of reactor coolant pump (RCP) motor flywheel inspections, and the frequency of RCP motor disassembly for maintenance. Duquesne Light Company (DLC) personnel discussed actions performed at the Beaver Valley Power Station. The applicability of the responses to the industry as a whole could not be addressed; accordingly, a survey of the flywheel group was conducted. The results of this survey are discussed below along with an alternative flywheel inspection.

Survey responses were received for 35 of the 57 plants which are covered by WCAP-14535. The results show a wide range of responses to the question of how often RCP motors are disassembled for maintenance, but most are disassembled on an average frequency of about every 8 years. The other two questions concerned the cost and exposure involved with flywheel inspections now being done per Regulatory Guide 1.14 (dollars and man-rem). For inspections with the flywheel in place (not removed from the motor shaft), the average cost and exposure are $5,300 and 0.34 man-rem, respectively. For the flywheel removed from the motor shaft, the average cost and exposure are $28,100 and 0.88 man-rem, respectively.

WCAP-14535 presents a strong technical case for the elimination of RCP flywheel inspections. This elimination would not affect the frequency of RCP motor maintenance, but would significantly reduce the risk of RCP motor flywheel failure, since the only credible mechanism for flywheel damage is from removal, handling and reassembly, as discussed in WCAP-14535. This potential for damage during handling was also discussed at the meeting, and in response to the concerns raised by the staff concerning flywheel integrity following RCP motor maintenance, the following is proposed.

An alternative inspection patterned after Code Case N481 for RCP casings which integrates inspections into normal maintenance activities is recommended. Inspections using visual, liquid penetrant or ultrasonic techniques would be performed on the bore and keyway region whenever the flywheel is removed from the shaft for RCP maintenance. This is in concert with the conclusion of the technical assessment that only the bore and keyway regions need to be inspected, not 100% of the flywheel volume, as presently required by the regulatory guide.

Therefore, the following will be incorporated in DLC's maintenance program:

Upon disassembly (removal of the flywheel from the shaft of the RCP motor) for normal maintenance activities, the bore and keyway region of the RCP motor flywheel shall be inspected by visual, surface or ultrasonic techniques.