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NRC



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June 7, 1983

U. S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Attn: Acting Regional Administrator
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Reference: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
IE Bulletin 83-03

Gentlemen:

We have reviewed IE Bulletin 83-03, "Check Valve Failures in Raw Water Cooling Systems of Diesel Generators". Attached is the information requested by Action Items 1, 2, 3, and 4 of the Bulletin. The remaining information required by Action Item 5 will be submitted at a future date in accordance with the requirements of the Bulletin.

Please note that we intend to perform the valve integrity verification procedures at the frequencies listed in Table 1, which are more limiting than the requirements of the IST program listed in Attachment 2.

Our estimate of the manpower expended in conducting the review and preparing this response is 170 manhours.

If you have any questions concerning this response, please contact my office.

Very truly yours,

J. J. Carey
Vice President, Nuclear

cc: Mr. W. M. Troskoski, Resident Inspector
U. S. Nuclear Regulatory Commission
Beaver Valley Power Station
Shippingport, PA 15077

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COMMONWEALTH OF PENNSYLVANIA)
COUNTY OF BEAVER) SS:

On this 7th day of June, 1983, before me, Sheila M. Fattore, a Notary Public in and for said Commonwealth and County, personally appeared J. J. Carey, who being duly sworn, deposed, and said that (1) he is Vice President of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge, information and belief.

Sheila M. Fattore

SHEILA M. FATTORE, NOTARY PUBLIC
SHIPPINGPORT BORO, BEAVER COUNTY
MY COMMISSION EXPIRES SEPT. 16, 1985
Member, Pennsylvania Association of Notaries

ATTACHMENT 1

Response to IE Bulletin 83-03

Item 1

Licensees are requested to review the plant Pump and Valve In-Service Test (IST) program required by Section XI of the ASME Boiler and Pressure Vessel Code and modify it if necessary to include check valves in the flow path of cooling water for the diesel generators from the intake to the discharge. Those portions of the cooling water system which do not directly supply the diesel may be excluded from this review. For example, if the cooling water to the diesel is supplied by the normally operating service water system, the loop of piping to the diesel from the service water piping and back must be considered, but not the complete service water system. For those cooling water systems which come into operation only upon demand for diesel cooling, all portions of the system which are required to change state must be reviewed.

Response

The Pump and Valve In-Service (IST) Program has been reviewed to determine if it includes all the check valves in the flow path of cooling water to the diesel generators cooling system heat exchangers. Nine valves are considered applicable to this bulletin, seven of which are already part of the IST Program. The other two valves have been added to the program. Table 1 lists all nine of these check valves. The check valves in the auxiliary river water system are not considered applicable to this bulletin since this system is not the normal flowpath for cooling water to the diesel generators cooling water heat exchangers.

Item 2

For the valves described in (1) above, licensees are requested to examine the IST program and modify it if necessary to include verification procedures that confirm the integrity of the valve internals. This may be accomplished by using both a forward flow and a back flow test or by valve disassembly and inspection. Other equally effective means of assuring integrity of the valves may be used. A reasonable schedule for the test of these valves shall also be included in the IST program.

Response

The IST Program has been modified (Attachment 2) to include verification procedures that confirm the integrity of the valve internals as listed in Table 1. Three of the check valves will be tested by performing forward and reverse flow tests. The remaining six will be disassembled and inspected to confirm the integrity of the valve internals. The IST Program modifications include the frequency schedule for testing.

Item 3

Licensees are requested to perform initial valve integrity verification procedures for the valves identified in (1) above using the methods described in (2) above, to be completed by the end of the next refueling outage commencing after April 1, 1983.

Response

The initial valve integrity verification will be performed for the check valves listed in Table 1 during the third refueling outage, scheduled to begin June 11, 1983, with the exception of valves [RW-110, 111, 112 and 113]. These four valves will be replaced as part of Design Change Package 369 and will be installed at the first scheduled outage after January, 1984 which accommodates the required work. Since these valves are scheduled for replacement and were just installed in 1980, they will not be checked during this outage.

Item 4

Licensees are requested to submit a report to the NRC within 90 days of the date of this bulletin, which lists the valves identified in (1) above and describes the valve integrity verification procedure methods and schedule identified in (2) above. This report should include the history of any known previous failures of these valves at your plant.

Response

Table 1 lists the check valves applicable to Item 1 and describes the valve integrity verification procedure methods and a schedule for testing in accordance with Item 2.

Previous failures of these valves have occurred and are documented in LER 80-27. The LER reported that during maintenance of a diesel generator cooling water heat exchanger, the internals of a river water flapper-type check valve were discovered in the cooler. The valve failure was caused by a combination of corrosion of the carbon-steel valve and valve flutter. In September, 1980, similar valves of this type were replaced with stainless steel valves.

Item 5

Licensees are requested to submit a report to the NRC within 90 days of completion of the results of the initial valve integrity verification procedure performed in accordance with (3) above. For those valves which are found to have undergone either partial or complete disassembly of valve internals, a description of the failure mode should be included.

Response

The results of the initial valve integrity verification procedures to be performed during the third refueling outage will be reported within 90 days of completion of the results.

TABLE 1
Valve Integrity Verification Methods

Valve No. (UFGAR Fig. No.)	Forward Flow Test	Frequency	Reverse Flow Test	Frequency
1RW-106 (9.9-1A)	OST 1.30.2	Monthly	Disassemble and In- spect in conjunction with the ISI hydro on buried River Water lines	40 months
1RW-107 (9.9-1A)	OST 1.30.3	Monthly	Disassemble and In- spect in conjunction with the ISI hydro on buried River Water lines	40 months
1RW-110* (9.9-1A)	OST 1.36.1	Monthly	Disassemble & Inspect Per CMP 1-75-186	5 yrs.
1RW-111* (9.9-1A)	OST 1.36.1	Monthly	Disassemble & Inspect Per CMP 1-75-186	5 yrs.
1RW-112* (9.9-1A)	OST 1.36.2	Monthly	Disassemble & Inspect Per CMP 1-75-186	5 yrs.
1RW-113* (9.9-1A)	OST 1.36.2	Monthly	Disassemble & Inspect Per CMP 1-75-186	5 yrs.
1RW-57* (9.9-1B)	OST 1.30.2	Monthly	OST 1.30.3 and 6	Monthly
1RW-58* (9.9-1B)	OST 1.30.3	Monthly	OST 1.30.2 and 6	Monthly
1RW-59* (9.9-1B)	OST 1.30.6	Monthly	OST 1.30.2 and 3	Monthly

* Valves previously in the IST Program

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Valve Mark Number	Class	Valve Category					Type	NSA	Drawing Number	Drawing Coordinates	Test Requirement	Relief Request	Testing and Tracking
		A	B	C	D	E							
1RW57	3			X			VCI15C		RM127B	F-2	Q		OST 1.30.2 - Monthly Test and Backseat per OST 1.30.3
1RW58	3			X			VCI15C		RM127B	F-3	Q		OST 1.30.3 - Monthly Test and Backseat per OST 1.30.2
1RW59	3			X			VCI15C		RM127B	F-4	Q		OST 1.30.5 - Monthly Test and Backseat per OST 1.30.2
1RW60	3		X			X	WF15A	LS	RM127B	E-4	Q		OST 1.47.3A (Unit 2 Supply)
1RW61							WF15A	S	RM127B	E-2			NSR - OST 1.1.9 - Refueling stroke
1RW98	3		X			X	VBS15C	LS	RM127B	D-3	Q		OST 1.47.3A (Unit 2 Supply)
1RW101A	2			X			RV		RM127B	D-1	ST		Tested per independent laboratory
1RW101B	2			X			RV		RM127B	E-1	ST		Tested per independent laboratory
1RW101C	2			X			RV		RM127B	F-1	ST		Tested per independent laboratory
1RW101D	2			X			RV		RM127B	F-1	ST		Tested per independent laboratory
1RW102A	3			X			RV		RM127B	B-3	ST		Tested per independent laboratory
1RW102A1	3		X				MOV	S	RM127B	F-2	Q		OST 1.47.3A - Quarterly stroke and time
1RW102A2	3		X				MOV	O	RM127B	F-2	Q		OST 1.47.3A - Quarterly stroke and time
1RW102B	3			X			RV		RM127B	B-3	ST		Tested per independent laboratory
1RW102B1	3		X				MOV	S	RM127B	F-3	Q		OST 1.47.3A - Quarterly stroke and time
1RW102B2	3		X				MOV	S	RM127B	F-3	Q		OST 1.47.3A - Quarterly stroke and time
1RW102C	3			X			RV		RM127B	C-3	ST		Tested per independent laboratory
1RW102C1	3		X				MOV	S	RM127B	F-4	Q		OST 1.47.3A - Quarterly stroke and time
1RW102C2	3		X				MOV	S	RM127B	F-4	Q		OST 1.47.3A - Quarterly stroke and time
1RW103A	3		X				MOV	S	RM127A	D-4	Q		OST 1.30.4 - Monthly stroke and time

Valve Mark Number	Class	Valve Category					Type	NSA	Drawing Number	Drawing Coordinates	Test Requirement	Relief Request	Testing and Tracking
		A	B	C	D	E							
1RW221	3			X			VCI15C		RM247	E-3	Q		OST 1.30.1A - Monthly Stroke
1RW222	3			X			VCI15C		RM247	E-4	Q		OST 1.30.1B - Monthly Stroke
1RW275	N					X	VGW15A	LO	RM127C	E-3			Locked or sealed valve log
1RW276	N					X	VGW15A	LO	RM127C	E-4			Locked or sealed valve log
1RW277	3			X			VCW15A		RM247	E-3	Q		OST 1.30.1A - Monthly stroke
1RW278	3			X			VCW15A		RM247	E-4	Q		OST 1.30.1B - Monthly stroke
1RW481	3					X	VGW15A	LO	RM127B	F-2			Locked or sealed valve log
1RW482	3					X	VGW15A	LO	RM127B	F-3			Locked or sealed valve log
1RW483	3					X	VGW15A	LO	RM127B	F-4			Locked or sealed valve log
1RW484	3						VGW15A	LO	RM127B	F-5			NSR - Locked or sealed valve log
1RW485	3						VGW15A	LO	RM127B	F-5			NSR - Locked or sealed valve log
1RW486	3			X			VCW60A		RM127B	F-2			OST 1.30.2 - Monthly stroke and
													Backseat per OST 1.30.3
1RW487	3			X			VCW60A		RM127B	F-3			OST 1.30.3 - Monthly stroke and
													Backseat per OST 1.30.2
1RW488	3			X			VCW60A		RM127B	F-4			OST 1.30.6 - Monthly stroke and
													Backseat per OST 1.30.2

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