



Duquesne Light

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December 6, 1979

United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
Attn: Boyce H. Grier, Regional Director
Region I
631 Park Avenue
King of Prussia, Pennsylvania 19406

Reference: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334
Response to IE Bulletin 79-02 Revision 2

Gentlemen:

We have reviewed the referenced revision to IE Bulletin 79-02.

The Beaver Valley Power Station is presently in a cold shutdown mode and will remain in this mode until mid 1980.

We shall complete the inspections and analyses required to comply with this bulletin prior to returning the unit to power.

The following information is provided in response to Items 1 through 8 of the referenced bulletin.

Bulletin Item 8

"Maintain documentation of any sampling inspection of anchor bolts required by Item 4 on site and available for NRC inspection."

Response

The testing and inspection procedures and documentation of the testing and inspection performed to date are available for NRC inspection at the Beaver Valley Unit 1 site.

Bulletin Item 8

"All holders of operating licenses for power reactor facilities are requested to complete Items 5, 6 and 7 within 30 days of the date of issuance of Revision No. 2."

Item# 27

C/27

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Response

The response is provided with each item below.

Bulletin Item 5a

"Provide a list of the systems involved with the number of supports, type of anchor bolt, line size and whether these supports are accessible during normal plant operation."

A review of Beaver Valley Unit 1 has shown the following supports to be attached to concrete block walls using concrete expansion anchor bolts. The following are listed by line size, system, line number, support number, anchor type and accessibility during normal plant operation.

<u>Line Size & System</u>	<u>Hanger</u>	<u>Bolt Type</u>	<u>Accessibility</u>
3"-CH-7	H-63	R.H.S.D.	A
3"-CH-80	H-49	R.H.S.D.	I
3"-WR-57	H-157	R.H.S.D.	A
4"-SI-75	H-67	R.H.S.D.	A
4"-SI-75	H-68	R.H.S.D.	A
6"-WR-43	H-140	R.H.S.D.	A
3"-WR-44	H-161A	R.H.S.D.	A
24"-WR-20	H-61	R.H.S.D.	A
6"-WR-55	H-139	R.H.S.D.	A
6"-WR-55	H-73	R.H.S.D.	A
6"-WR-55	H-86	R.H.S.D.	A
6"-WR-55	H-84	R.H.S.D.	A
6"-WR-181	H-89	R.H.S.D.	A
6"-WR-182	H-82	R.H.S.D.	A

CH = Charging & Volume Control System

SI = Safety Injection System

WR = River Water System

R.H.S.D. = Philips Red Head Self-drilling Anchor Bolt

I = Inaccessible during operation

A = Accessible during operation

Bulletin Item 5b

"Describe in detail any design consideration used to account for this type of installation."

Response

The concrete block walls on which the above are installed are 24 inches thick solid or concrete filled masonry block walls reinforced horizontally. These walls were designed as concrete walls for Earthquake loads but not for piping loads.

Bulletin Item 5c

"Provide a detailed evaluation of the capability of the supports, including the anchor bolts and block wall to meet the design loads. The evaluation must describe how the allowable loads on anchor bolts in concrete block walls are determined and also what analytical methods were used to determine the integrity of the block walls under the imposed loads. Also describe the acceptance criteria, including the numerical values, used to perform this evaluation. Review the deficiencies identified in the Information Notice on the pipe supports and walls at Trojan to determine if a similar situation exists at your facility with regard to supports using anchor bolts in concrete block walls."

Response

All the hangers (including anchor bolts) listed above and the supporting block walls will be evaluated. The block walls will be evaluated using the elastic working stress methods, considering the applied piping loads acting in combination with other applicable loads including earthquake loads. The allowable anchor bolt loads shall be determined by extrapolating the bolt manufacturer's recommended ultimate values to the required compressive strength for the concrete block used in the walls and applying the appropriate factor of safety.

Information Notice 79-28 has been reviewed and the concrete block walls in question are double thickness block walls which are tied together using reinforcing steel.

Bulletin Item 5d

"Describe the results of testing of anchor bolts in concrete block walls and your plans and schedule for any further action."

Response

To date, no testing of anchor bolts in concrete block wall has been performed. It is our intent to conduct the testing of these anchors to the allowable design loads described above consistent with existing testing and inspection procedures. This testing will be conducted within the schedule described in response to Item 7 on the following page.

Bulletin Item 6

"Determine the extent that pipe supports with expansion anchor bolts used structural steel shapes instead of base plates. The systems and lines reviewed must be consistent with the criteria of IE Bulletin No. 79-02, Revision 1. If expansion bolts were used as described above, verify that the anchor bolts and structural steel shapes in these supports were included in the actions performed for the Bulletin."

Response

All structural steel shapes used in lieu of baseplates and the associated expansion anchor bolts already are included in our program for inspection, testing and analysis. There are approximately 73 such structural shapes from a total of approximately 1560 baseplates identified for compliance with the Bulletin.

Bulletin Item 7

"Provide a schedule that details the completion dates for IE Bulletin No. 79-02, Revision 2, Items 1, 2 and 4."

Response

Beaver Valley Power Station Unit 1 will begin an extended outage for refueling on December 1, 1979. Duquesne Light Company is committed to complete all analyses, inspections and corrective actions prior to the plant start-up after the completion of the refueling outage.

The schedule for completion of Items 1, 2 and 4 of the Bulletin is as follows:

Item 1 (Flexibility Analysis) - March 1, 1980

Item 2 (Concrete Expansion Anchor Bolt Factor of Safety) - Verification will be complete with completion of flexibility analysis - March 1, 1980

Item 4 (Field Testing and Inspections) - Prior to Station returning to power

Bulletin Item 8

Also describe any instances not previously reported in which you did not meet the revised sections of Items 2 and 4.

Response

We shall meet the revised sections of Items 2 and 4. The minimum factors of safety as specified in the Bulletin shall be met. An acceptance level of greater than 95 percent has been demonstrated on approximately one third (1/3) the total plates identified for compliance with this Bulletin. All physically accessible anchors for those plates were tested. We intend to test at least one bolt per plate of the remaining baseplates which are physically and radiologically accessible. Failure of a designated test bolt will result in testing of all bolts on that plate.

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An inspection to verify the parameters identified in the Bulletin for piping 2 1/2 inches in diameter and smaller will be conducted on a sampling of ten percent of the baseplates on each system. This will require inspecting approximately 100 baseplates of a total of approximately 950 baseplates.

Bulletin Items 1 and 3

These items have been submitted in our July response to this bulletin.

Very truly yours,



C. N. Dunn
Vice President, Operations

cc: United States Nuclear Regulatory Commission
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