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May 4, 1983

United States Nuclear Regulatory Commission
Region 1
631 Park Avenue
King of Prussia, PA 19406

ATTENTION: Mr. Richard W. Starostecki
Division of Project and Resident Programs

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
USNRC IE Inspection Report No. 50-412/83-01

Gentlemen:

This is in response to the item of Violation 83-01-01 and Unresolved Items 83-01-03, -04, and -05 cited in Inspection Report No. 50-412/83-01 and listed in the attachment to your letter to Mr. E. J. Woolever dated February 10, 1983.

NRC Violation 83-01-01:

10CFR50, Part 50.55a requires that pressure vessels which are part of the reactor coolant pressure boundary shall meet the requirements for Class 1 components of the ASME Code Section III (Summer 1972 Addenda).

The ASME Code Section III, requires that welding be accomplished in accordance with the welding procedure qualification requirements of the ASME Code Section IX.

The ASME Code Section IX defines a change in base material from one P number to another P number to be an essential variable requiring requalification of the welding procedure.

Contrary to the above, on January 3, 1983, the inspector observed two steam generator nozzles for which weld procedure SPBV-300G used for welding stainless steel (P8) together with stainless steel welding materials had been used to weld to a previously deposited inconel (P43) base material without requalification of the welding procedure.

Response:

Design documents supplied by the NSSS vendor for approval which were reviewed, approved, and controlled by Stone & Webster Engineering Corp. (SWEC) project procedures indicated that the six welds connecting the reactor coolant hot and cold leg piping to the six steam generator nozzles

were to be stainless steel/stainless steel joints. Based on that information, the appropriate weld procedure was used. Weld metal indications were subsequently discovered on the three cold leg nozzle welds during liquid penetrant (LP) weld inspection. During discussions with NSSS vendors site personnel, they indicated that an inconel band that was not detailed on SWEC approved NSSS vendor drawings or design documents existed on both the hot and cold leg steam generator nozzles. The inconel band was at the junction of the stainless steel nozzle joint buildup covering the stainless steel to nozzle fusion line. Weld metal had been deposited over the inconel band and the observed LP indications were in this area.

The stainless steel (P8) weld procedure used for joining the reactor coolant piping to the steam generator nozzles, while appropriate for welding the stainless steel pipe to the stainless safe end, had not been qualified in accordance with ASME Code Sections III and IX for welding to inconel (P43) material. The following actions are planned to correct this infraction and prevent future occurrences:

1. The three SG cold leg nozzles with LP indications are being etched to determine the extent of the overlap condition and will be reworked to remove the overlapping material. These joints will be rewelded in accordance with ASME III requirements.

2. The three SG hot leg nozzles will be etched to determine if an overlap condition exists and, if so, will be reworked to ASME III requirements.

3. The drawings for the SG nozzles will be revised and reissued by the NSSS vendor showing the inconel band.

4. The NSSS vendor will review major NSSS component nozzles with safe-ends to determine if inconel has been used and if the appropriate design documents detail its application. All nozzles with inconel will be evaluated to determine if an overlap condition could exist and what measures are required for inconel containing nozzles. Drawings for nozzles containing inconel in the safe-ends will be reissued showing the location of inconel material to be considered in future welding activities.

Expected completion date for repair of the three SG cold leg nozzle welds and final acceptance is the end of December 1983. The results of the evaluation of all other NSSS nozzles and completion of any rework is expected by the end of 1984.

BVPS-2 has evaluated the inconel interface condition for reportability under the provisions of 10CFR50.55(e). It has been determined that the inconel interface conditions, which if had gone undetected, would not have adversly affected the safe operation of the plant. Therefore, this item is not reportable under the provisions of 10CFR50.55(e).

Response to Unresolved Item 83-01-03

After review of the steam generator weld problem described in NRC Infraction 83-01-01, the NRC identified three areas in the NSSS/BOP interface which, in its opinion, could have caused the problem. These three areas are:

1. Differences between similar components supplied for BVPS-1 and BVPS-2

2. Need for additional relevant details or data which could affect the installation or use of equipment

3. Identification of any detail in the Steam Generator Technical Manual which requires clarification or revision

In response to the NRC concern over use of outdated BVPS-1 data for BVPS-2, BVPS-2 project procedure 2BVM-22, "Instructions for Nuclear Steam System Interface," is the controlling document for the SWEC/NSSS interface.

The NSSS equipment is provided by WNES for BVPS-2 in accordance with Purchase Order No. 2BV-1, which states "The three loop NSSS furnished by Westinghouse...to be constructed at the Shippingport site near Shippingport, Pennsylvania (BVPS-2)." Also included in the original purchase order is the statement that "The technical features and services of BVPS-2 shall be the same as BVPS-1, as of August 1971, except as otherwise provided in the Contract,...". Thus, the intent of the BVPS-2 NSSS purchase order was to provide hardware and associated NSSS analyses, procedures, documentation, drawings, etc, which are specifically prepared by the NSSS vendor for BVPS-2, but utilizing the same design bases and hardware/software requirements as BVPS-1. As such, all NSSS hardware and software provided for BVPS-2 by WNES is treated as plant specific (BVPS-2 only) and is subject to the review, approval, and document control required by the appropriate SWEC procedures. No BVPS-1 documents are considered applicable to BVPS-2 as a separate entity. Any information in a BVPS-1 document must first be incorporated in a corresponding BVPS-2 document by the NSSS vendor and then reviewed by SWEC without regard to its BVPS-1 applicability. Therefore, a detailed list of differences need not be developed.

The other two NRC comments in this unresolved item address additional relevant details which could affect installation and use of NSSS equipment and whether the Steam Generator Technical Manual requires revision to add any missing details (other than Detail "A", Figure 1-1). In an effort to ensure that all relevant details have been considered either in the NSSS technical manuals or in other NSSS design documents reviewed and approved by SWEC, the NSSS vendor will be required to submit as-shipped, outlined drawings, which show the specific details of construction of the nozzles and the weld end prep for major NSSS safety related components. A precautionary note will be added to those drawings showing inconel material on a nozzle, which will caution welding outside the normal weld geometry.

Unresolved Item 83-01-04, Technical Manuals in General and Associated Information

The NRC requests assurance that other safety-related technical manuals or submittals by contractors contain important hardware details either directly or by reference. With regard to BOP hardware, SWEC requires all necessary hardware details via the equipment specification which is contractually enforced. Equipment technical manuals are submitted and approved by SWEC. Since SWEC prepares both the specification and also the documents utilizing the design details and since the hardware details required by SWEC are specified to the vendor at the start of procurement, the necessary information is identified early and is available for review. Any hardware details can be requested from a vendor, when required, as part of the normal contractual procedures.

Unresolved Item 83-01-05, WNES Technical Manual - Steam Generator Specific

WNES will be requested to revise and resubmit the Steam Generator Technical Manual to include any drawings which describe the affected portion of the steam generator nozzles.

DUQUESNE LIGHT COMPANY

BY E. J. Woolever
E. J. Woolever
Vice President

SDH/wjs

cc: Mr. G. Walton, NRC Resident Inspector
Ms. L. Lazo, NRC Project Manager

SUBSCRIBED AND SWORN TO BEFORE ME THIS
4th DAY OF May, 1983.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

COMMONWEALTH OF PENNSYLVANIA )
) SS:
COUNTY OF ALLEGHENY )

On this 4th day of May, 1983, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. J. Woolever, 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.

Anita Elaine Reiter
Notary Public

ANITA ELAINE REITER, NOTARY PUBLIC
ROBINSON TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES OCTOBER 20, 1986

bcc: P. RaySircar (3)
J. Sutton (S&W)
C. R. Bishop
C. E. Ewing
T. D. Jones
T. J. Lex (W)
R. J. Swiderski
J. F. Zagorski
NCD File
MCE