



## Duquesne Light

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United States Nuclear Regulatory Commission  
Region I  
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. 50-412/82-02

REFERENCES: (a) 2DLC-4650, dated 5/26/82  
(b) Inspection 50-412/82-02, dated 4/21/82

Gentlemen:

Beaver Valley Power Station Unit No. 2 committed to submit either a further interim response or final response on violation 82-02-02 thirty (30) days from the initial report as described in Reference (a). This is the final response to violation 82-02-02 originally cited in Reference (b).

### RESPONSE

#### ASME Section III Pipe Support Attachment Welds (Trunnion Type)

The Stop Work order regarding the welding of this type of attachment weld described in the referenced letter is still in effect. The ultrasonic examination program is continuing, with the following results as of June 17, 1982:

|                                                                                              |    |
|----------------------------------------------------------------------------------------------|----|
| Welds Examined:                                                                              | 86 |
| Welds Analyzed:                                                                              | 86 |
| Welds Accepted to Original Engineering Criteria:                                             | 72 |
| Welds Prevented from Being Fully Evaluated Owing to Restriction on UT Coverage at this time: | 1  |
| Welds Subject to Further Evaluation                                                          | 13 |

There may be a slight delay caused by the need for scaffolding and/or the removal of other restraints. As of this date, eleven (11) of these attachments have not been subject to UT examination. When work recommences on this type of configuration, 100% QC verification of the fit-up attribute will be required.

#### ASME Section III Fit-up Inspection Plan

As discussed with the NRC inspectors at the time of inspection #82-02, the

current approved ASME Section III Weld Data Sheet does not allow for the recording of an unsatisfactory condition when the WDS fit-up is presented for inspection, thus, being unable to establish any trend of the conditions relative to this attribute. In view of this, BVPS #2 is instituting a method of reporting unsatisfactory fit-up conditions if and when they occur.

BVPS #2 intends to issue controlled log books to the appropriate QC Inspectors with instructions for their application. These log books will be subject to review, thus, the trend of performance regarding the fit-up attribute can be established, and appropriate adjustments to the fit-up inspection program implemented. At a later date BVPS #2 may utilize some amended WDS or inspection report.

BVPS #2's review of the records described in the referenced letter has indicated that the following inspection percentage is appropriate at this stage:

ASME Section III - Pipe Butt Welds

|         | <u>WSS</u> | <u>QC</u> |
|---------|------------|-----------|
| Class 1 | 100        | 100       |
| Class 2 | 100        | 50        |
| Class 3 | 60         | 60        |

The above program will give 100% verification of the fit-up attribute by WSS and QC. As previously described, Classes 1 and 2 are subject to 100% radiography.

Attachment Welds (Non-Trunnion), ASME Section III, Classes 1, 2, and 3

BVPS #2 intends to perform 100% QC verification of the fit-up for this type of weld. This will require a slight change in the present sequence of inspections/installation. QC is required to verify the Material Certification of the various lugs and attachments for this type of configuration welded to the Pressure Boundary. These items will be tack welded in place prior to heat number verification, thus, QC can verify the material and fit-up condition at the same time. The WSS may reduce their coverage of this fit-up condition in view of its relative simplicity.

Fit-up Inspection (Other Than ASME Section III) - Cat. I and Seismic

BVPS #2 has formed a group of QC Inspectors to increase the verification of the fit-up attribute pipe supports (ANSI B31.1). This group, as formed, will perform weld fit-up inspections on a minimum of 40% of the pipe supports over a three-month period. The object of this group is not only to verify the fit-up conditions, but to establish certain facts for review at the completion of the exercise. Included in the information required will be the simplicity of the configuration, the visibility of the fit-up condition at the weld completion stage, the number of unsatisfactory conditions offered, and the amount of fit-ups that exceed the nominal fit-up gap, but fall within the allowable gap, which requires the weld size to be increased. These results will be reviewed, and the amount of QC fit-up verification required will be adjusted dependent upon the results of this review. The findings will be presented to the Resident NRC Inspector prior to making any adjustment for the long-term program.

### Program Changes

The following changes will be applied to the pipe support, electrical cable tray and conduit support, HVAC support, and AWS welding installation and verification program:

- a) The dimension of the fit-up gap will be hard marked adjacent to the weld to indicate nominal size or "excess nominal" size (within the allowable tolerance that requires increased weld size), unless it is known that the weld gap will be visible after completion of the weld. Previously, all that was applied was a temporary indication of "excess nominal" size only.
- b) BVPS #2 inspection plans will emphasize that a reported satisfactory condition without comment means that the gap is nominal or less than nominal size at the final weld inspection stage.

BVPS #2 plans already require the "excess nominal" weld size to be recorded and a sketch to be included with or on the inspection report to identify such a weld from the records at a future date.

### Electrical Supports

A field study of weld configurations was performed in the main steam/cable vault. This area was selected on the basis that it gave a good representative sample of the various configurations required by the electrical discipline. The fit-up gap could be verified in the completed weld stage for 1,843 welds of the 1,894 (97%). From a review of QC records which included 1,060 welds for equipment and welds for 5,706 supports, unsatisfactory fit-up conditions were reported in 39 instances. BVPS #2 believes that all reported unsatisfactory conditions related to a particular type of configuration, which were attachment welds to embedded seals or plates, is significant. In view of this, QC will concentrate its effort on the following configurations:

- a) Weld configurations that do not allow for the verification of the fit-up attribute at the completed weld state.
- b) Welds-attachment to embedded seals or plates.

BVPS #2 intends to perform a minimum of 90% verifications of the fit-up attribute for this type of configuration over a period of three months. These results will be reviewed, and the amount of QC fit-up verification required will be adjusted, dependent upon the results of this review. The findings will be presented to the Resident NRC Inspector prior to making any adjustment for the long-term program.

### HVAC Supports

BVPS #2 has assigned additional QC inspectors to this activity to increase the amount of verification of the fit-up attribute. BVPS #2 intends to perform a similar approach to that described for the pipe supports and electrical supports. The details of this exercise will be finalized and the plan initiated prior to the first of July. The details will be made available to the NRC Resident Inspector.

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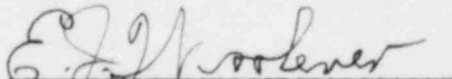
A review of documentation for 1,803 welds indicated that verification of the fit-up gap was possible at the final weld stage. There are certain types of attachment welds for supports where the gap condition cannot be established at the final weld stage. The investigation to date indicates that this type of weld has been performed in non-safety related areas, with the exception of eight (8) welds which are being subjected to an investigation. AWS welding applied to rebar is subject to a testing program on the basis of the number of welds performed by each welder involved in addition to inspection. QC verification has been applied on virtually all fit-ups, either at the final weld or fit-up stage, of welds governed by AWS.

The program changes previously described will be applied to AWS welding. BVPS #2 intends to perform a minimum of 90% verification of the fit-up attribute on weld configurations that do not allow for the verification of the fit-up attribute at the completed weld stage. Similarly, to the Electrical Program, this will be applied over a period of three months, and the program will be adjusted accordingly.

CONCLUSION

BVPS #2 believes that the actions described above taken in conjunction with Reference (a) dated May 26, 1982, satisfactorily responds to the intent of violation #82-02-02. BVPS #2 will keep the NRC Resident Inspector fully informed of the conclusions and findings, as the actions described progress. Craft orientation and QC inspector training has already commenced. The appropriate QC and construction procedures will be ammended prior to the tenth of July.

DUQUESNE LIGHT COMPANY

By   
E. J. Woolever  
Vice President

SDH/wjs

cc: Mr. G. Walton, NRC Resident Inspector  
Ms. E. Doolittle, Project Manager

SUBSCRIBED AND SWORN TO BEFORE ME

THIS 25 DAY OF JUNE, 1982.

  
Notary Public

ALAN B. BANAS, NOTARY PUBLIC  
ROBINSON TWP., ALLEGHENY COUNTY  
MY COMMISSION EXPIRES APRIL 12, 1986  
Member, Pennsylvania Association of Notaries

COMMONWEALTH OF PENNSYLVANIA )

) SS:

COUNTY OF ALLEGHENY )

On this 25 day of JUNE, 1982, before me,  
ALAN B. BANAS, a Notary Public in and for said Common-  
wealth 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, information and belief.



ALAN B. BANAS, NOTARY PUBLIC  
ROBINSON TWP., ALLEGHENY COUNTY  
MY COMMISSION EXPIRES APRIL 12, 1986  
Member: Pennsylvania Association of Notaries

SDH/wjs

bcc: E. F. Kurtz, Jr.  
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