

ATTACHMENT A

INTERIM REPORT

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
LICENSE NO. CPPR-93  
DOCKET NO. 50-397  
10CFR50.55(e) REPORTABLE CONDITION NO. 175  
REVERIFICATION OF WBG RAGIOGRAPHS

DESCRIPTION OF DEFECT OR NONCOMPLIANCE

During a review of previously accepted radiographs for a sample of 110 welds performed by the Mechanical Contractor, it was determined that radiographs for sixteen (16) of the welds contained ASME Code rejectable defects. The rejects were of two basic categories: 1) defects within the weld metal which exceeded Code allowables; and 2) film density readings which exceeded Code allowables.

SAFETY IMPLICATION

Weld defects could have caused weld failure leading to failure of the safety system. Typical systems where defects have been detected are residual heat removal and main steam.

APPROACH TO RESOLUTION

A larger sample of welds was scheduled by the Construction Management organization. This sample would review 1000 welds and associated radiographs. Radiographs would be first reviewed for film quality requirements and if the film was satisfactory, it would be reviewed for weld defects. If the film was determined to be unsatisfactory for density, geometric unsharpness or other filming technique reasons the weld area would be re-radiographed prior to review for weld defects. Welds identified as having defects would be documented on a Nonconformance Report, dispositioned by the Architect Engineer, and reworked, as necessary, by the Systems Completion Contractor.

The 1000 sample of welds was performed and the results were reported in reference 2. Based on the data reported in reference 2 and the overall reject rate for both film technique and quality, it was determined that a 100% review of the mechanical contractor radiographs for ASME Code Class 1, 2, and 3, and AWS Quality Class 1 welds would be performed.

STATUS OF RESOLUTION

The following is a status as of May 13, 1982 of radiographs re-reviewed.

	<u>Quantity</u>	<u>Results (%)</u>
Total welds on review	2431	
Remaining welds to review	5	.02
Reject film & Technique quality	263	10.8*
Reject weld quality	80	3.2
Accepted welds	2083	85.8
Accepted reshots	183	
<b>Total Accepted Welds</b>	<b>2266</b>	

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STATUS OF RESOLUTION (CONT.)

To date, the original approach to resolution included a mechanism to evaluate the significance of the findings after a reasonable quantity of welds had been re-radiographed upon rejection for film quality requirements (\*) with the intent of discontinuing documentation of minor film quality deviations. The results have been analyzed and the Project has determined that we will no longer re-radiograph welds due to film quality (density, technique, geometric unsharpness, etc.). As of April 7, 1982, 1373 welds were re-reviewed. Of those welds, 254 have been rejected for film quality. Of the 254 welds, 155 have been re-radiographed, which represents 668 separate views. All 668 views have been accepted for weld quality after re-radiography. The remaining welds (99) rejected for film quality deviations are to be re-radiographed, reviewed, and approved in accordance with the applicable Code. Based on the above statistics, we anticipate that all of the remaining welds (views) requiring re-radiography will also reveal acceptable weld quality. Also, we have amended the radiography re-review program as follows:

- a. Bechtel Level II radiographic interpreters will discontinue documenting minor film quality deviations for the balance of the radiographic reverification review.
- b. Original radiographs will be considered acceptable for meeting film quality requirements if it is determined by the Level II radiographic interpreter that:
  1. The radiographs are readily interpretable.
  2. The penetrameter(s) represent areas of essentially uniform density.
  3. The essential penetrameter hole is discernable and the required radiographic sensitivity has been achieved.
- c. If discontinuity indications are not easily discernable and as such can not be evaluated adequately, that area will be reradiographed and re-evaluated before acceptance of weld quality.
- d. The program will continue to be monitored by a Bechtel NDE Level III.

The following is our justification for discontinuation of the review for film quality:

- a. The re-radiography results of the 155 welds demonstrates that the minor film quality discrepancies detected in the original radiographs do not adversely affect the margin of safety for the systems. The 100% acceptance of the weld quality of the re-radiographed views indicates that the original radiographs were of adequate sensitivity and did not mask, miss, or cause any significant change in the appearance of indications. Additionally, the essential penetrameter hole was easily discernable on the original radiographs. This is objective evidence that the required Code sensitivity has been met and it further supports the verification that applicable Code required weld integrity has been obtained.

- b. Later ASME Code editions have incorporated relaxed radiographic density requirements, i.e., 1) the elimination of the greater than +30% of penetrameter density requirement; 2) allow the use of film strip comparators which base densities on general areas rather than areas pinpointed by a densitometer; 3) statements such as, "each penetrameter shall represent an area of essentially uniform radiographic density," clearly established that it is not the intent of the ASME Code to require absolute limitations of a radiograph's quality criteria, where minor judgement differences would not affect the meaningful interpretability of the radiographs.
- c. The statistical sample provides an extremely high confidence level with respect to the fact that the original radiographs detected and accurately represented the discontinuities associated with circumferential pipe welds.
- d. All ASME Code related radiographs had previously been reviewed and approved by the client and Authorized Nuclear Inspector (ANI). The ANI will be issuing a Certificate of Code Compliance based on his review of the original radiographs.

#### PROJECT COMPLETION OF CORRECTIVE ACTION

The scheduled date for completion of the radiography review is June 1, 1982.

The filming of new radiographs and repair of defective welds will be performed in conjunction with the priority established by the Turnover Schedule. Welds to be repaired will be identified on the Master Work List and repairs performed prior to System Turnover.