U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 50-397/81-10

Docket No. 50-397 License No. CPPR-93 Safeguards Group

Licensee: Washington Public Power Supply System

P. O. Box 968

Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2 Site, Benton County, Washington

Inspection conducted: May 1-31, 1981

Inspectors: R T Dodds for — 7/6/31
A. D. Toth — Date Signed
Senior Resident Inspector

Date Signed

7/6/31
Date Signed

Approved By: R. T. Dodds — Date Signed
R. T. Dodds, Chief
Reactor Projects Section 2
Reactor Construction Projects Branch

Summary:

Inspection during the period of May 1-31, 1981 (Report No. 50-397/81-10)

Areas Inspected: Routine, unannounced inspection of licensee and contractor activities to re-evaluate and improve detailed work methods. The inspection involved 164 inspector-hours on-site by the resident inspector, and 31 hours by a regional office inspection supervisor.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Washington Public Power Supply System (WPPSS)

W. C. Bibb, Project Manager
C. S. Carlisle, Deputy Program Director
*M. A. Clinton, Project Engineering Management Specialist, Systems Turnover
C. L. Fies, Management Specialist
J. Garvin, Quality Assurance Engineering and Systems Manager
R. B. Glasscock, Quality Assurance Director
P. W. Harness, Field Engineering Manager
L. T. Harrold, Engineering Division Manager
B. A. Holmberg, Deputy Project Manager, Engineering
R. T. Johnson, Project Quality Assurance Manager
W. G. Keltner, Assistant Construction Manager
R. G. Matlock, Program Director
D. M. McCorkle, Team Leader #1. RCSW
A. M. Bastry, Deputy Project Manager, Systems Turnover
*R. E. Spence, Quality Assurance Records Supervisor
J. G. Tellefson, Management Specialist
D. C. Timmons, Director Contract 215 Engineering
*G. I. Wells, Deputy Project Manager, Construction

Burns and Roe, Inc. (B&R)

L. Good, Field Engineering Manager
J. B. Mahoney, Resident Group Supervisor, Piping and Pipe Supports
R. E. Powe, Audit Supervisor
*D. L. Smedley, Quality Assurance Engineer
H. R. Tuthill, Assistant Quality Assurance Manager

Wright-Schuchart-Harbor/Boecon Corp./General Energy Resources, Inc. (WBG)

K. Bishop, Office Engineering Manager
M. H. Brenner, Manager, Quality Assurance
R. Clouse, Project Construction Manager
R. J. D'Amato, Deputy Project Manager, Reactor Outside
G. Schroder, Quality Assurance Supervisor
R. T. Scott, Project General Manager
R. Walters, Engineering Supervisor, Reactor Outside
P. Webster, Procurement Quality Manager
S. Y. Young, Corporate Audit Manager

Bechtel Power Corporation

D. K. Cosgrove, Quality Assurance Engineer
E. E. Felton, Construction Manager
C. D. Headrick, Project Quality Control Manager
*M. J. Jacobson, Project Quality Assurance Manager

*D. R. Johnson, Quality Control Manager
P. E. Lindstrom, Project Field Engineering Manager
T. W. Mangelsdorf, Project Manager

Johnson Controls Incorporated (JCI)

T. Bastyr, Project Manager

The following NRC Region V management personnel were also on-site:

R. T. Dodds, Chief of Reactor Projects Section #2, Reactor Construction Projects Branch (May 28-31)
R. C. Haynes, Deputy Director (May 20-21)

*Denotes principal personnel present at the monthly summary management meeting. Also, the WPPSS QA Manager met weekly with the resident inspector to discuss status of licensee activities and NRC findings. In addition to the persons identified above, the inspector also routinely interviewed construction, engineering, and quality assurance staffs of the licensee, engineer, and the contractors' on-site organizations.

2. Project Personnel

Within the Burns & Roe site organization, Mr. A. I. Cygelman assumed the position of Engineering Manager. Within the mechanical contractor's organization (WBG), Mr. R. Clouse has resumed his former position of Construction Manager, coordinating construction functions between the three recently assigned Deputy Project Managers. Mr. K. Bishop has been assigned as Office Engineering Manager. Mr. V. Williams has been assigned as Quality Control Supervisor.

3. General

The resident inspector was on-site May 1, 4-8, 11-16, 18-22, and 26-31, 1981. During this period, the inspector continued examination of daily activities of the licensee, the architect-engineer, and the mechanical contractor, concerning efforts to re-evaluate and improve detailed work methods. Attendance at meetings, examination of correspondence, and interview of personnel at all organizational levels was involved. The inspector sought to ascertain the scope, criteria, personnel, data base, conclusions, and corrective actions involved in the implementation of the commitments in the WPPSS July 17, 1980 reply to the NRC 10 CFR 50.54 (f) inquiry.

The Region V Deputy Director was on-site May 20-21 to discuss the WPPSS phase-two preliminary plan for reverification of completed safety-related work. A draft of this plan had been provided to the Regional Office by WPPSS management for information and comment earlier in May.

The resident inspector's supervisor, Chief of Project Section #2, was on-site May 28-31 to review the activities of the resident inspector, and review status of the licensee evaluation efforts relative to restart of safety-related work by the mechanical contractor. This supervisor assisted in the review of licensee actions on those NRC inspection findings which are documented in IE Investigation Report Number 50-397/80-08. (This supervisor had been the NRC team leader for the investigation documented in that inspection report.)

4. Bechtel Transition Activities

In its role as systems completion contractor, Bechtel will be procuring supplies from the mechanical contractor WBG. During this period, the inspector inquired into the readiness of WBG to interface with Bechtel in this regard. Neither Bechtel, WPPSS, nor WBG could assure that required WBG control procedures were in place. Subsequently, WBG issued a Quality Assurance Instruction which briefly describes how release of materials to Bechtel is to be accomplished.

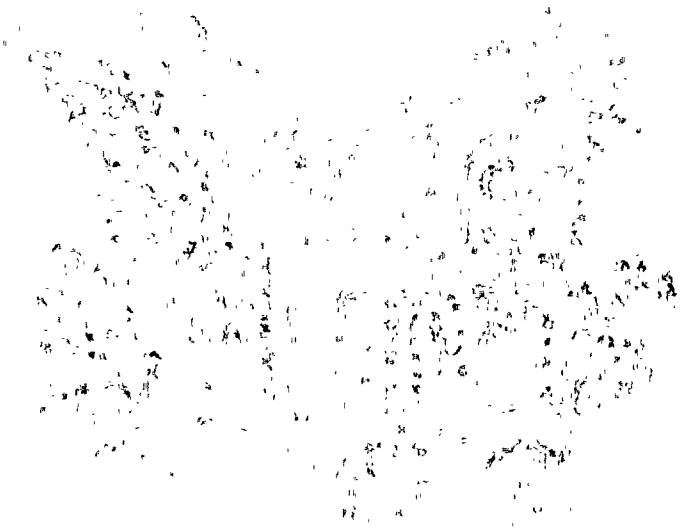
In its role as construction manager, Bechtel has been required by WPPSS to use the WPPSS project interface control procedures (Project Management Instructions). Accordingly, these are being reviewed and revised to include the Bechtel functions and the new interfaces. During this revision phase, the instructions are also being evaluated for incorporations of performance indicators and performance standards.

5. WNP-2 Quality Awareness Program

WPPSS has instituted a quality awareness program, with a stated objective to create and maintain a sensitivity toward quality and its relation to project completion. The WPPSS employee newsletter (Newsline May 18, 1981) has advertised that a "Hotline" is available for concerned site personnel when they don't believe their own in house management has been responsive to their problem. Additionally, professionally developed posters have been posted on-site in the contractor work areas. Permanent weather/tamper resistant poster display cabinets are scheduled for erection throughout the site to advertise the hotline, and encourage quality awareness amongst craft and professional personnel. The hotline program includes provision for callers to remain ananymous or to be notified of the results of followup investigation of their concern. The inspector interviewed the hotline coordinator, examined the message phone, and verified the stated posting at the main entrance of the office of the mechanical contractor. The coordinator stated that further similar measures are planned in the future. The inspector considers these actions as positive steps to prevent future deliberate or inadvertant suppression of quality problems.

6. Functioning Of The WPPSS Task Forces

Task Force II continues to function as generally described in the licensee July 17, 1980 reply to the NRC 10 CFR 50.54 (f) inquiry. Task Force II activities are predominantly confined to reviews to assure that contractor



work methods are adequate for assuring compliance with conditions of the construction permit.

Hardware reinspection activities and record reviews have not yet started; however, some planning activities are underway and a preliminary reinspection approach has been drafted. The WPPSS management provided a copy of this draft to the NRC Region V office this month for information and comment. During a site visit on May 21, 1981 an NRC Regional Office management representative provided recommendations to WPPSS management relative to this draft. It was agreed that WPPSS would formally submit the general plan in conjunction with updating of the particular commitments delineated in the July 17, 1980 WPPSS reply to the NRC 10 CFR 50.54(f) inquiry.

Task Force III activities involve review and strengthening of management systems, including those of the contractors. This also includes dissemination of lessons learned at WNP-2 to the other WPPSS projects. The inspector was advised this period that the site QA managers at the different sites are exchanging copies of future reports to NRC of 10 CFR 50.55(e) items.

7. Limited Work Restart Authorizations

The inspector examined work restart authorizations issued to the site contractors in May. For each such authorization he verified that it was reviewed by the project QA organization, and the RCSW as appropriate to its scope. He ascertained that the particular work released was commensurate with the status of the WPPSS evaluations of detailed work methods and corrective action plans, as described in the WPPSS July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry. The following work release items were reviewed (WPPSS records of the circumstances of these releases will be available on-site for future examination by NRC inspectors.):

a. Mechanical Contractor (215) - receiving inspection. (ref. WNP2WBG-215-F-81-1286, and F-81-4503)

b. Mechanical Contractor (215) - removal of one skin-plate and concrete for inspection of sacrificial shield wall internal structure. (ref. WNP2WBG-215-F-81-1306, PED-215-CS-A347, and NCR-6685)

c. Mechanical Contractor (215) - removal of ASTM-A588 material from the sacrificial shield wall to determine the NDT properties. (ref. WNP2WBG-215-F-81-1243)

8. Restart of Work by the Mechanical Contractor

The mechanical contractor has been working on non-safety related (Quality Class II) systems and structures since the end of the labor dispute in November 1980. However, there has been no Quality Class I installation

work since June 1980, except for the one repair girth weld on the sacrificial shield wall, as specifically approved by NRC in January 1981.

In May 1981, the work restart reviews have been essentially completed for remaining weld repairs on the sacrificial shield wall, installation of pipe supports, and installation of piping. The inspector interviewed the WBG Project General Manager and examined the level V work schedule. This provides detailed planning of work, and shows that only four two-man crews are scheduled to perform work on safety-related hangers during the first weeks following WBG receipt of the WPPSS restart release. This appears consistant with the WPPSS independent review team recommendation for a slow restart effort. Although the WBG training program is in the process of major change at this point (based upon experience the past few months) the program content, approach, and resources appear sufficient to support this initial limited effort.

9. <u>WPPSS Reevaluation of Detailed Work Methods and Corrective Action Plans for Restart of Work on Mechanical System Hangers, Piping, and Sacrificial Shield Wall</u>

The mechanical contractor (WBG) and the Supply System (WPPSS) have been engaged in review and improvement of detailed work methods and establishment/implementation of corrective action plans since August 1980. This effort has reached culmination at the end of May 1981, for most aspects of the scope of work under this contractor (see paragraph 8, above). This status is represented by the following:

The contractor has completed his deficiency trending reviews and modified his procedures accordingly.

The WPPSS RCSW task force has reviewed the contractors procedures and deficiency reviews and issued its four volume summary report.

The WPPSS/BRI Project Quality Assurance (PQA) organization has reviewed the RCSW report and independently probed specific items and generated actions requiring resolution.

The WPPSS Independent Review Team has completed its review of the RCSW report and the PQA report and has independently probed specific items and generated action items requiring resolution.

The above evaluation results have been provided to the WNP-2 Program Director and his immediate staff for consideration and disposition, and the consequent corrective action plans and work restart constraints have been defined in a work release conditional memorandum to the WNP-2 Program Director.

The WNP-2 Project Manager withheld authorization of associated Quality Class I WBG work restart, pending NRC review of the above reevaluation results and corrective action plans.

The corrective action plans and resolution of the principal NRC findings were finalized and provided to NRC about May 28, 1981.

Separate WPPSS activities have resulted in achievement of corrective action plans for most of the forty findings delineated in NRC investigation report 50-397/80-08 (June 1980 period). Corrective action information was in many cases not presented to the NRC inspectors until May 30-31, 1981.

The licensee has also identified data relative to disposition of several questions presented by the resident inspector on April 29, 1981. Final items were presented to the inspector for consideration about May 28, 1981.

The licensee requested early review of the above results, based upon the intimate involvement of the NRC resident inspector during the formulative stages of the information.

The in-process compilation of the above information and the review actions in-progress have been available to the NRC Senior Resident Inspector in an open and cooperative manner through the August 1980 to May 1981 period.

To respond to the licensee schedule goals, NRC regional office management visited the WNP-2 site May 28-31 to provide a timely overview of the above results and assistance and coordination with the resident inspector.

The resident inspector and the regional office management concluded that the licensee reevaluations and corrective plan development were in accordance with the commitments of the licensee as stated in the July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry. They also concurred with the licensee's conclusion that the corrective actions taken, and implementation of those planned, provide reasonable assurance that the future work by the mechanical contractor would be controlled in an adequate manner to assure substantial compliance with the construction permit. Confirming documentation was delivered to the licensee on May 31, 1981.

10. Adquacy of WBG Work Procedures

Various site personnel commented to the inspector, or in the review records reviewed by the inspector, regarding the workability of the revised WBG procedures. The tone of such comments were initially generally negative, concluding that the work procedures were very difficult to use. There were some positive comments regarding the comprehensiveness of the procedures and the confidence in that applicable code/standards/specification requirements were now included. The negative comments were particularly considered

by the inspector in view of the licensee's commitments for detailed work methods improvements.

The procedures under discussion had been subject to various WBG and WPPSS studies to improve them, including:(a) reduction of redundancy between procedures,(b) increasing cross references for flow path continuity, (c) incorporation of applicable codes/standards/specification requirements, (d) incorporation of requirements to prevent recurrence of implemenation problems experienced in the past, and (e) syntax clarifications. Also, attempts were made to include requirements which would facilitate review/ acceptance of previously installed work which may have been governed by overly restrictive requirements. Some of these objectives were in conflict, and resulted in procedures which were apparently thorough, but complicated. This was coupled with a training program which required that each person would be trained to each applicable procedure in a formal classroom environment, and be required to pass an examination relative to the procedures, prior to being assigned to work. For some personnel, such individual training was required for twenty or more procedures. The results included a general consensus that the procedures were "complex" and "unworkable". Eventually this message reached both WBG and WPPSS management, who appeared to understand the issue and the difficulties involved. This management supported further efforts to address the situation, while effecting further changes to incorporate resolutions to reviewers comments. Such efforts included trial walk thru of the procedures by quality control inspectors, and incorporation of experience compiled during use of the procedures in Quality Class II work already underway.

However, as late as mid May 1981 this situation had not yet been resolved. During the inspector's routine review of site correspondence files he identified a WBG letter WBGWNP2-215-81-4903 (dated May 11,1981) which reiterated concerns on this matter. In the context of other subjects, the WBG Project General Manager stated that the procedures "are unworkable, create deficiencies, and are oftentimes referred to as an over commitment (that can't be met)". Because of the imminent WPPSS request for NRC concurrence for work restart authorization, this summarizing comment was of particular concern to WPPSS and to the inspector. Subsequent interview of this manager revealed that he did not know of any specific procedural steps which would clearly create deficiencies, but rather was referring to his perception of the natural consequence of complex instructions. He identified his followup letter WBGWNP2-215-81-4947 (dated May 21, 1981) which discusses the revised WBG training program which will involve highlighting of critical items, counseling, provision of procedure reading rooms in the work areas, and general policy to permit crafts to take the time to review procedures in these reading rooms. This followup correspondence indicates that these measures should "make the procedures understandable, thus simplifying complex procedural requirements." It also emphasizes the intent "toward retention of critical requirements" by the participant. A related WBG

Project General Manager internal memorandum (PGM-260 dated May 15, 1981) particularly instructs the training coordinator relative to this approach.

A secondary issue was also directed to the attention of the inspector. This involved documented management statements that the new procedures could only be used for new work, and could not be used to disposition partially completed work. Since the majority of work remaining involves pipe supports which are partially complete, the inspector investigated the validity of these remarks. He interviewed WBG field engineers who were compiling work packages for new and partially complete pipe supports, and reviewed the in preparation work packages for two typical supports. It became clear that the difficulties arose when attempts were made to develope the required "clean work package" for the construction crews; WBG walk downs of the partially complete supports in most cases revealed discrepant as built conditions. The new procedures simply did not provide the WBG Field Engineers the flexibility to disposition the matters within the limits of construction tolerances provided in the procedures. However, this apparently did not impose impracticalities in performing subsequent physical work, once the resolution of the existing discrepancies was agreed with the architect-engineer (Burns & Roe).

The inspector considers that comments by various involved individuals were insufficiently specific to conclude that the procedural complexities will necessarily be detrimental to accomplishment of work in accordance with applicable requirements. Such comments characteristically ignored the off-setting improvements described above. The inspector finds the allegations inherent in some of the comments to be unsubstantiated, and unsupportable in view of specific corrective measures being taken by WBG management.

11. Pipe Hanger Design Changes

The inspector examined WBG work packages for pipe supports which had previously been partially complete. On Quality Class I erection drawing number RHR-958N the inspector identified a signed, dated, and stamped design change notation by a Burns & Roe field engineer. The change involved acceptance of an anchor bolt with 7-½ inch embed depth on plate-detail #8. The licensee representative subsequently demonstrated to the inspector that the engineer had taken the proper action to recalculate the effect of the reduced bolt depth against the original design calculation record #8.16.8A4.

The licensee identified that the practice of making direct notations on the hanger drawings was covered by a draft procedure WNP-2-017.1, which had not yet been approved on May 21, 1981. The licensee engineering representative notified the Burns & Roe Resident Group Supervisor, who immediately issued Memorandum #F-81-4639 instructing the field engineer to cease implementation of the draft procedure pending its approval and

completion of proper training. He also instructed the field engineer to review the work that he had performed under the draft procedure to assure acceptability. The immediate cease and desist type action by the licensee appeared to be sufficient.

The use of the unapproved procedure for handling the minor changes did not appear consistant with the quality assurance program requirements, however the inspector could identify no adverse impact from the actions taken. However, the inspector identified the field engineer's review of his own prior work as an unacceptable mode of verification. Additionally, at the exit meeting on May 22, 1981 the WPPSS representative incorrectly notified the inspector that Quality Class I items had not been involved in such changes to date. In response to the inspector's concerns, the Burns & Roe Resident Group Supervisor issued an informal May 27, 1981 memorandum to B & R quality assurance organization. This document identified all hanger drawings modified under the unapproved procedure, and the supervisor's intent to review each of 22 Quality Class I hanger drawings in this group for structural adequacy.

The inspector noted that the draft procedure provided a mechanism for achieving rapid minor field changes, by by-passing the formal Project Engineering Directive (PED) system defined in Burns & Roe procedure WNP-2-017 (it confines the use of PED's to major changes only). The WPPSS RCSW task force committed to review this new procedure for compatibility with the WBG nonconformance control, as-built, and document control procedures prior to work restart. The committed actions resolved the inspector's concerns.

12. Control of General Deficiency Corrective Actions

During the August 1980 to April 1981 period the mechanical contractor (WBG) has performed extensive compilations and trend analysis of the various documented deficiencies associated with his contract. This included first line inspection reports, internal nonconformance reports, internal elevated corrective action reports, licensee issued corrective action reports, internal audit findings, external audit findings, and NRC inspection findings. Grouping of the various deficiency documents revealed general questions regarding the adequacy of installed work, such that corrective actions required would involve specific reinspection or document review actions for entire groups of hardware. The contractor developed seven Special Requirements Checklists (SRC) and a governing procedure QAI-002, to assure performance of the reinspection/review actions for each item. The controls include placing the applicable SRC into each work package, to be accomplished before the work package can be considered complete for turnover to the licensee. Accomplishment of these SRC's was also conditional for preparation of ASME partial form N-5 certifications for turnover to the Bechtel systems completion function.

The licensee issued memorandum WNP2WBG-215-F-81-1285 dated May 21, 1981 to prohibit revision or deletion of the seven specific SRC's unless concurred with by the owner. This action was to assure that any changes

involving commitments to NRC are identified and opportunity provided for WPPSS notification to NRC.

The licensee is also in the process of compiling all commitments established for the project (all contractors), so as to provide these to Bechtel, for use during future Construction Manager functions. The licensee representatives advised that the commitment tracking function will then be assigned to Bechtel. The data compilation will include the data associated with the SRC's, and commitment control constraints will involve WPPSS concurrences. The licensee advised that the SRC's may be further refined for integration with the systems turnover function to be administered by Bechtel after June 1, 1981. At this time the in-place corrective action plan controls described above appear to be adequate to support restart of work by the mechanical contractor. The subsequent Bechtel quality assurance program implementation will be subject to NRC routine inspection activities.

13. AWS Welding Code Deviations

During routine inspection activities the inspector identified that the engineer (Burns & Roe) had obtained an interpretation from an individual on an AWS committee, apparently utilizing this as a basis for action. The interpretation took the form of a teletype, and included the usual AWS disclaimer; i.e. AWS is not an enforcement agency, and the owner is free to deviate from the code unless otherwise prohibited by law or an applicable regulatory body. The inspector challenged any such deviations as being deviations from FSAR commitments, and requested the licensee to identify all such cases and controls to assure that such deviations do not occur without commensurate FSAR considerations.

The licensee identified two letters (November 10, 1976 and January 11, 1979) and three teletypes (September 10, 1980, November 6, 1980, and January 12, 1981) from the AWS committees, along with an evaluation of each. Four of these appeared to be simple interpretations, and not deviations from the code. The January 11, 1979 item involved use of weld electrode smaller than shown in the AWS D1.1-79 paragraph 4.28.11.2, for welding of studs. There was no deviation from specified weld size on design drawings. Work involved the fuel pool liner and downcomer bracing embeds.

Existing Burns & Roe procedure WNP-2-012 includes provisions to assure review of design changes relative to FSAR commitments. There appeared to be no consequence from the one questionable case noted above, and neither it nor the other cases appeared sufficiently significant to involve an FSAR deviation or item of noncompliance.

14. Licensee Action On Previous NRC Inspection Findings

The WPPSS QA organization has continued assignment of personnel with full time duties for followup on previous and current NRC inspection findings.

These individuals are addressing each issue with the responsible contractor. For each item, the QA engineer prepares a checklist for evaluation of the contractors' corrective action scope, actions to preclude recurrence, and detailed verification checkpoints. After verification of implementation of the corrective actions, the QA engineer compiles supporting data and maintains the material for review by the NRC inspector.

During the month of May, the licensee has temporarily assigned four more senior individuals to work at achieving resolution or action plans for previous NRC inspection findings. This intensive effort is oriented to expediting resolution of the outstanding problem backlog at WNP-2 as described in the WPPSS July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry and associated July 18, 1980 work restart review requirement. During this period, several items were identified to the resident inspector as having corrective actions completed to WPPSS satisfaction. The inspector's supervisor was onsite May 28-31 to assist in review of this data. These NRC personnel considered the following items, with the conclusions noted below:

a. (Closed) Noncompliance (397/80-08-02)

Failure to maintain records of surveys of a supplier of ASME Class 1 material. The records could not identify the reason for disqualifying the supplier, nor the disposition of material procured from the supplier, Puget Sound Pipe.

The WBG position on this matter is documented in a May 8, 1981 response summary number WBGWNP2-215-4896. To avoid a similar situation for future work, it describes initiation of procedures QAP-364 and 365, which improve control over approved vendor lists and source inspection/ surveillance. The WBG purchasing group has reviewed all quality procurement and receiving documents pertaining to Puget Sound Pipe and Supply Company since the inception of Contract 215. The comparison of purchase order items to received items and certified mill test reports showed that "the material has been received, inspected and accepted in accordance with the procurement document requirements".

The missing "survey report" was a memo of a telephone conversation between the WBG auditor and his management on September 11, 1978. A survey report was not prepared for the audit of Puget Sound. The reason Puget Sound had been removed as a Class 1 supplier was because one of their suppliers had not been certified. This supplier, Standard Fitting Company, was subsequently surveyed by WBG on October 26, 1978 and approved as an ASME supplier.

Apparently, this was done to qualify the material received from Puget Sound who had purchased the material from Standard Fitting Company. The WBG QAP for audits of suppliers was verified to have been revised to now require a written report within fifteen days of the post-audit briefing. This matter is resolved.

b. (Closed) Noncompliance (397/80-08-07)

Failure to properly document nonconforming construction activity. The WBG NDE level III examiner performed surveillances of the subcontractor's magnetic particle examinations, and failed to initiate the standard WBG inspection report upon observation of testing techniques which were contrary to procedures.

The licensee Quality Assurance Engineer examined WBG historic procedure files and interviewed the level III examiner who had been involved in WBG activities in 1979. The QAE determined that there had been no WBG procedure for surveillance of subcontractors, such as the NIX Testing (NDE) subcontractor. The WBG level III examiner was performing such surveillance, and originating his own surveillance reports as an apparent matter of good practice. Such reports were not continued subsequent to termination of his employment in 1980, nor prior to his 1979 assignment. Thus, there were only available surveillance reports for the year 1979. A WBG new level III examiner, the QAE and the NRC inspector examined those reports, and ascertained that there were no additional cases of discrepant conditions unreported.

The specific conditions previously noted by the NRC inspector have been documented on a WBG Inspection Report #6074 which was dispositioned May 15, 1981. This requires that the area subjected to the questionable practice shall be reexamined under the new magnetic particle examination procedure QAP-211. The IR-6074 will be placed in the work package for the applicable welds and listed on the computer control log.

The current WBG procedures specify subcontractor surveillance and include a job description for the level III which specifically calls for his attention to monitoring the NIX personnel performance. The WBG level III has also been designated for training to the new nonconformance control/documention procedure QAP-360, to assure that he will be knowledgeable in the proper documentation of discrepant conditions. This matter is closed.

c. (Closed) Followup Item (397/80-08-08)

The work procedure for large bore pipe fabrication (WP-57) provided for welding of temporary attachments, but did not include provisions to assure proper removal.

The WBG position on this matter is documented in an April 28, 1981 response summary number WBGWNP2-215-81-4864. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 27, 1981. These documents note that the work procedure WP-57 has been replaced by procedure WP-530. This references the general welding procedure GWS-2, which consolidates welding requirements and includes the control of

temporary attachments, including tracking, removal, and inspection. The contractor has implemented measures to review previous work to assure identification, removal, and inspection of temporary attachments. These measures include an accountabiliby review of work packages for forms #NF-286 and use of special requirements checklist No. 6, Revision 1, as described in item 397/80-08-09, below. This matter is resolved.

d. (Open) Noncompliance (397/80-08-09)

Failure to retain weld records for temporary attachment welds. Some records in three work packages showed that temporary attachments had been made, but the identification of welders and filler materials was not available.

The contractor's action on this item is summarized in document WBGWNP2-215-81-4684. The item is controlled by the contractor under a general corrective action report (CAR-178) which addresses the specific components identified by NRC and the plant wide generic consideration. The CAR required audit of all work packages to determine all cases where revision #2 of form NF-296 had been used; this review has been completed. No action was required for later work where revision #3 had been used, since this revision added the requirement for the necessary traceability information on material and personnel. The action plan calls for issuance of inspection reports where discrepancies are found, and defines corrective action to include acid etch (to verify removal of questionable deposited weld metal) and minimum wall thickness evaluation, in the event ancillary documentation is insufficient to establish the traceability data. Inspection reports #6118, #6119 and #6120 have been issued for the three NRC identified items.

The CAR-178 requires issuance of Special Requirements Checklist (SRC) #6 Revision 1 into each work package prior to release of piping restart. This calls for review of any penetrant or magnetic particle test reports in the work package, which would suggest a temporary attachment had been made and removed. It also calls for physical examination of the piping to ascertain any evidence of blended or rough areas that would indicate a prior temporary attachment. The control of the SRC is prescribed in approved procedure QAI-002, and any modification of it requires licensee approval.

WBG plans to document on inspection reports (IR's), the discrepancies identified through use of the special requirements checklist. Disposition of the findings would be subject to WBG engineering action, with possible referral to Burns & Roe. The original CAR-178 Corrective Action Plan (Attachment #1 to the CAR) included a requirement to disposition these anticipated IR's by performing an acid etch of the questionable area to verify that questionable weld material had been removed. However, this has been voided/superceded by Attachment #2.

For control of future work, the contractor has incorporated improved control and tracking of temporary attachment installation and removal, in piping and structural steel general welding procedures GWS-1 (revision 3) and GWS-2 (revision 6).

This matter remains unresolved pending review of identification/ disposition/ implementation of the corrective action plans for previous work.

e. (Close) Followup Item (397/80-08-12)

Quality control inspector acceptance of undersized fillet welds on a skewed joint pipe support demonstrated a need for improved training/ criteria.

The WBG position on this matter is documented in a May 15, 1981 response summary number WNP2-215-81-4936. This document notes that Burns & Roe has now issued clear criteria via specification change PED-215-H-A363, which has been incorporated into WBG procedure GWS-2. The PED is also to be incorporated into GWS-1. Both craft and inspection personnel are to be trained to the requirements of these procedures, under the training requirement of WP-157.

The GWS-2 procedure quite clearly details how to measure the fillet weld size of a skewed joint, and alerts that a groove weld is necessary for skew angles less than 60 or more than 135 degrees. All large-bore hanger packages vaulted prior to January 1981 are scheduled to be inspected in accordance with special requirements checklist #4, where the provisions of PED-A363 or GWS-1/2 will be applicable. For the specific discrepancies noted by the inspector, WBG issued inspection report 215-IR-7579 (dated May 27, 1981) to document the condition, and disposition the question by calling for increase of the weld size per PED-A363.

Upon inquiry by the inspector, the Burns & Roe responsible engineering supervisor issued memorandum F-81-4893 (dated May 29, 1981) to all hanger engineers, alerting them to the requirements of weld notations for all new hanger designs and reworks involving skewed joints. This action was to assure the proper specification of fillet versus groove welds on such design. This matter is resolved.

f. (Closed) Followup Item (397/80-08-13)

Potential 10 CFR 50.55(e) reportability of welding problems related to Pybus Steel.

On November 14, 1980 the licensee notified NRC that the welding problems may be reportable, and an interim report was issued December 15, 1980.

On March 27, 1981 the licensee notified NRC that subsequent nondestructive testing of all other steel beams with similar weld configurations showed the problem to be of limited extent and the matter deemed as nonreportable.

In an earlier report to NRC dated May 31, 1979 the licensee advised that two questionable heats of material had been removed from the WNP-2 site. Subsequent February 1980 investigation by the licensee identified that the mechanical contractor had not accomplished such removal. This situation prevailed until May 4, 1981 action was taken to move heat number W74206 material into WPPSS custody at the WPPSS on-site Warehouse. Also, beams #331H1-1 and 331H1-2 (which were the only Pybus supplied items fabricated from heat number T68057) were shipped offsite and repaired by Huico, via August 13, 1980 (Purchase order #215-18690Q). These beams were delivered to the site, but not yet formally receipt inspected, on April 1, 1981.

A structural analysis of Beam #321B1 was conducted by the Burns & Roe Structural Group Supervisor and documented on Calculation #8.01.207 dated September 4, 1980. Additionally, about three inches was cut from each end of the beam and destructively examined and defects correlated to ultrasonic testing methods. These methods were used for the ultrasonic examination of all Pybus beams with similar weld configurations, as described in the 10 CFR 50.55(e) report. (Reference memorandum EDM-DB-80-60 dated December 24, 1980).

The inspector considered the above documented licensee actions to be sufficient and appropriate to the circumstances. This matter is resolved.

g. (Closed) Unresolved Item (397/80-08-14)

Control and documentation of arc strikes on structural steel. The contractor could not locate documentation relative to arc strikes observed by the inspector.

The WBG position on this matter is documented in an April 28, 1981 response summary number WBGWNP2-215-81-4864. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 2, 1981. These documents note that the three arc strikes mentioned by the NRC inspector could not be identified without more specific designation of location; however, the contractor is confident that these will be found by the program discussed below. The contractor verified the 20 attachment welds identified by the NRC inspector, and found the required control forms NF-286 in a related work package which had not been reviewed by the inspector (RCIC-IC-1, Revision 0, Azimuth 142, elevation 541"). Existing structural steel is to be inspected in accordance with the special requirements checklist No. 6, Revision 1, and procedures have been revised to control future temporary attachments, as described in item 397/80-08-09, above.) This matter is resolved.

h. (Closed) Followup Item (397/80-08-15)

The licensee planned to evaluate the possible existance of nonconforming conditions in Quality Class I pipe spools procured from a vendor who had supplied some deficient Quality Class II spools.

The WBG position on this matter is documented in a May 29, 1981 Verification Checklist. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 18, 1981. These documents note that WBG performed a trend analysis on their existing inspection reports which relate to material from the vendor in question (An Inspection Report is written only when a problem is identified). The contractor examined 745 reports, of a total of 6500 Class I and Class II reports. There were 11 cases in which welding defects had been identified; of these, 1 involved lack of fusion on a Class I weld. At this time there are only 30 pipe spools not yet installed, few of these containing shop welds. Examination of these by the WBG Senior Welding Engineer did not identify any problems. A licensee surveillance report number 80-323 documents that in October 1980 the WPPSS NDE Level III engineer examined six of the sampling radiographs supplied by the vendor for MWR-974 and 975; and found no further evidence of lack of penetration. Based upon these reviews, the licensee concluded that there was insufficient basis to conclude that a general welding deficiency was involved, nor that it extended to Class I pipe spools (which call for more extensive NDE than Class II spools). This matter is resolved.

i. (Open) Unresolved Item (397/80-08-17)

Dispositioning of questionable filler metal and corrective action. Type E70-S2 material was received on-site and not identified as nonconforming, although the material had been shipped from a location contrary to specific conditions imposed by the approved vendor list.

The contractor has not yet determined the cause or significance of the shipping location restraint. The inspector noted that continued deferral of the investigation of this 1978 question may reduce the ability to determine the cause of the shipping location constraint. At this time, the contractor has not identified the locations where the material has been installed.

The inspector interviewed the attendant and the QC inspector, and reviewed records at the WBG weld material dispersal station. He found that the heat number of the questionable material appears on the log of acceptable heat numbers, which is maintained for reference in that area. However, the requisitions at that area did not show any recent local stocking of the questionable material.

The inspector examined the central weld material storeroom records and ascertained that none of the material was stocked which could be issued

to the field. The facility had very recently been organized and inventoried and the storeroom clerk expressed confidence that the records were quite accurate. The inspector checked the material on the shelves, which were organized by material type and size; none of the questionable material was observed with other E70-S2 or other types of material.

The inspector concluded that this activity had little impact on future work activities. However, the matter remains unresolved relative to adequacy of past work.

j. (Closed) Followup Item (397/80-08-18)

Disposition of pipe in quarantine, heat numbers N12476 and N12477. It appears that 2800 feet are in storage, and 7493 feet are installed in the plant.

The contractor (WBG) has to this time not implemented a course of action to assess the actual condition of this pipe. This has apparently been due to difficulty in defining appropriate acceptance criteria (the piping was originally purchased to SA-105-GRB specifications which called for visual surface inspection only). Early decisions to perform liquid penetrant testing on the material in storage or in the plant were deferred by the contractor; current recommendations by the contractor include such testing. Some such testing has been accomplished, and is documented on WBG Inspection Report #5720, and WPPSS QA memorandum #QA2-81-225 dated April 7, 1981.

The contractor has established control over this issue via Nonconformance Report NCR-#215-6632, dated January 13, 1981. The NCR remains to be reviewed by Burns & Roe and a disposition defined. Corrective action report #1473 had been issued by WPPSS on September 5, 1980, but has been voided April 20, 1981 to avoid duplication with the WBG control documents.

The contractor has revised his deficiency reporting procedure (DAP-360 Paragraph 4.4.1 and QAP-369 Paragraph 4.9) to better assure that items such as this will be documented and entered into the formal system for control and action in the future. Both the contractor and the licensee have also established measures to assure that employee concerns are heard by appropriate management, in the event the formal systems fail to respond to the satisfaction of the employee. Additional measures to improve controls over voiding of contractor inspection reports is described in IE Inspection Report 50-397/80-06, relative to item 80-08-04.

This matter has been formally reported to the NRC as a 10 CFR 50.55(e) occurance (#144), in interim report #G02-81-82 dated April 21, 1981.

The licensee tracking system provides for submittal of a future final report to NRC. As a separate open item, this matter is considered closed. However, subsequent routine NRC inspection will be made in connection with issuance of the final 50.55(e) report.

k. (Closed) Follwoup Item (397/80-08-19)

Control and documentation of gouges and grinding on structural steel. The contractor could not locate documentation relative to defects observed by the inspector.

The WBG position on this matter is documented in an May 13, 1981 response summary number WBGWNP2-215-81-4197. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 14, 1981. These documents note that existing structural steel is to be inspected in accordance with the special requirements checklist No. 6, Revision 1, and procedures have been revised to control future temporary attachments, as described in item 397/80-08-09, above.) The specific items identified by the inspector would be subject to identification during the walkdown inspection, and repair in accordance with requirements of the new procedure GWS-1, as provided by the checklist. This matter is resolved.

l. (Open) Followup Item (397/80-08-20)

Potential failure of anchor-bolts of pipe-support base-plates. Anchor-bolt pull-out failures were identified by the contractor at pipe supports SW-218, RHR-937N, and RHR-965N. The pullout/spalling appears to arise from non-uniform bolt loading associated with non-uniform bearing surface contact or warpage during welding subsequent to bolt installation. The IE inspectors requested the licensee to further evaluate this matter relative to reporting under 10.CFR 50.55(e).

As of May 11, 1981 the licensee and the architect-engineer have not performed a formal evaluation to assure that the above NRC identified failed supports are the only supports damaged by the practice of welding to bolted-up base plates, (reference WPPSS memoranda F-81-4338 and QA2-81-317). The licensee has requested Burn & Roe to provide this evaluation by June 8, 1981.

The contractor (WBG) has prepared a special requirements checklist number 1 (revision 1) which calls for inspection of all Quality Class 1 (and all ASME) installations torqued prior to June 1,1980 (when work on the project was stopped). The checklist requires checking the base-plate for distortion, and re-torquing of all bolts. Except for the distortion check, there are no WBG instructions to check for uniform bearing contact, nor for re-torquing-sequence of multiple bolts. Burns & Roe had issued such instruction via PED-215-CS-4155 dated January 16, 1981; however, these instructions were not incorporated into the pipe support procedure WP-330 nor the anchor bolt procedure WP-281 as of May 31, 1981. Neither WBG nor the RCSW reviewers had identified this omission.

The Burns & Roe engineers have also issued an engineering directive PED-215-M-A281, dated May 7, 1981. This calls for WBG to establish a general bolting procedure. It does not reference the PED-215-CS-4155, nor include the information therein. However, the WPPSS Project Manager has identified that Burns & Roe and WBG shall resolve the implementation of the PED-A281 by July 1, 1981, as a condition of work release.

For new work, the new WBG work procedure WP-330 paragraph 4.8.2 includes requirements to loosen expansion anchors to prevent the anchor from restraining any warpage of the baseplate, when welding attachments to an installed baseplate. The bolting procedure resolution described above may impact the re-torquing requirements. This matter remains unresolved pending review of the engineer's evaluation and resulting corrective action plans.

m. (Open) Followup Item (397/80-08-21)

Handling of pipe minimum wall-thickness problems. Various workmanship practices resulted in localized thinning of pipe walls, and evaluations and controls over evaluations were incomplete. This matter has now been formally reported to NRC by the licensee under 10 CFR 50.55(e).

The WBG position on this matter is documented in a May 29, 1981 response summary number WBGWNP2-215-81-4972. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 30, 1981. These documents note that existing procedures have been revised to prescribe actions for future work, including issuance of procedure GWS-2 and WP-530. WBG Nonconformance Reports specific to the NRC identified matters (No. 5997, 5196, 5237, and 5256), and more general Burns & Roe Corrective Action Reports (Nos. 1448 and 1468), prescribe specific corrective actions in-progress and planned. Some of the specific testing and blending work cannot be accomplished until resumption of Quality Class 1 work. Also, Burns & Roe is currently evaluating the relationship of corrosion allowances and the method of providing the contractor quidance for evaluation/disposition of identified encroachments of minimum specified pipe wall thickness. The licensee quality assurance representative has assured the inspector that this guidance is imminent. The current controls and pending guidance appears adequate to control this matter for future work. The licensee has formally reported this item to NRC under 10.CFR 50.55(e); NRC inspectors will review the associated licensee actions in connection with the required final report (to be submitted). In addition, this item will be reviewed relative to completion of actions for the specific items identified in the inspection report 50-397/80-08.

n. (Open) Noncompliance (397/80-08-22)

Incorrect acceptance standards were used to evaluate liquid penetrant examination results. ASME Section VIII criteria were used instead of ASME Section III.

The WBG position on this matter is documented in a May 8, 1981 response summary number WBGWNP2-215-81-4896, which has not yet been accepted by WPPSS. The WPPSS interim evaluation is documented in NRC Findings/ Concerns Checklist dated May 31, 1981. These documents note that the contractor has examined all of the liquid penetrant NDE reports and identified those where improper procedures were followed (i.e. ASME Section VIII). The contractor has issued a Corrective Action Report CAR-207, which requires preparation of a corrective action plan for the incorrect previous work. For future work, the contractor has prepared, and the WPPSS task force has reviewed, separate NDE procedures - for Section III and Section VIII work. This matter reamins unresolved pending review of the corrective action plan/implementation for previous work.

o. (Closed) Followup Item (397/80-08-24)

Procedures did not clearly define traceability requirements, and several minor discrepancies were identified with respect to traceability of pipe support components.

The WBG position on this matter is documented in a May 30, 1981 response summary number WBGWNP2-215-81-4864. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 30, 1981. These documents note that action has been taken or is planned for each of the items identified by the NRC inspectors, For pipe spool SW-1048-2, the current work procedure WP-530 does not require traceability of material after installation; for CAS-4443-1 the questionable pipe pieces had been cut out and replaced with identifiable material April 11, 1980; for FPC-204 and FPC-167 the contractor has requested Burns & Roe (RFI-215-7102-FPC-R) for specific as-built review of the new configuration, and has documented the disposition traceability questions via inspection report No. 215-IR-5920; work procedure WP-432 now provides instruction for revising documents, prohibits white-it-out, and is part of routine employee indoctrination. The inspector had no further question regarding the specific items previously identified. For other previously installed items, the contractor has established special requirement checklists number 1 thru 7. These include verification of traceability and as-built condition for every Quality Class 1 and Seismic Category 1 piping and support work package prior to release to the customer. The inspector had no further question regarding the previously identified items.

The contractor has issued work procedures WP-330, WP-530, and WP-532, which include provisions for maintaining and verifying traceability and as-built configurations for piping and supports. The licensee has specified, and the contractor has implemented more definitive training programs to improve installation/inspection in accordance with the new procedures. Appropriate controls appear to be in place for assessment of prior work and performance of future work. This matter is resolved.

p. (Closed) Followup Item (397/80-08-25)

Control of certain heats (#N12476 & N12477) of pipe in the quarantine area as identified on WPPSS surveillance report M-246.

Followup surveillance by WPPSS QA Department has been documented on report #80-187 (dated August 19, 1980), and subsequent Corrective Action Report CAR-1473. The CAR has been voided in accordance with current procedures, due to redundancy with controlling nonconformance report NCR-6632. The NCR has been dispositioned by the Engineer to require some sectioning of samples and examination by the Burns & Roe Welding Engineers; it also calls for surface examination of 300 feet of installed piping.

This is the same material described in item 397/80-08-18 above, which has been formally reported to NRC. This item is considered closed at this time due to the routine actions in progress under the nonconformance control part of the licensee's quality assurance program, and the provisions for followup 10 CFR 50.55(e) reporting to NRC.

q. (Closed) Followup Item (397/80-08-26)

A heat number was missing from pipe spool number RHR-2018-1.

The contractor issued inspection report number 215-IR-5613 dated June 5, 1980 to control further action on this item. The IR requires that the questionable pipe spool be cut out and replaced with traceable material. The resident inspector ascertained that the IR was in the work package and flagged by a work hold tag. New work procedures, (including WP-530 for piping), incorporate detailed requirements to assure that traceability of material is maintained. The procedures include material heat number traceability as a specific item to be verified during the contractor's final walkdown inspection. This matter is resolved.

r. (Closed) Followup Item (397/80-08-27)

Unexplained presence of an installed pipe spool marked "scrap".

The contractor's evaluation memorandum WBGWNP2-215-81-4864 states that the marking of "scrap" on the installed spool was done by persons and reasons unknown. It states that investigation of related documentation shows no indication that the material has been dispositioned "scrap" for any reason. The contractor and WPPSS classified this as a non-problem.

The inspector noted that applicable drawing RHR-667-8.12 shows as-built condition of the piping zone on December 8, 1977, and subsequent field

modification drawing revision December 20, 1978. A Stores Requisition dated October 11, 1978 supports that a pipe spool of the designated heat number #L24897 had been allocated and delivered for installation at the observed location (Isometric Drawing #RHR-667-8.12). A Metallurgical Test Report from U. S. Steel dated December 16, 1976 identifies this heat number as corresponding to the designated material specification. It is not clear whether this is the material installed or if pieces of the original installation were re-used in the modified configuration. The engineering decision to modify the configuration did not appear to involve questions of acceptability of the original material. The assurance of use of acceptable material did not appear to be compromised, although confidence in subsequent traceability has been undermined.

Current contractor procedures (WP-330 and WP-782) include requirements for QC verification of heat nember transfers, and for control of material to be returned to the warehouses. The procedures do not preclude re-use of parts in completed installations which are subsequently modified, However, the cutting/heat-number-transfer provisions appear to improve traceability controls. This matter is resolved.

s. (Open) Followup Item (397/80-08-28)

Traceability may have been lost for small-bore piping, heat number HA-0001. Stores requisitions show that 143 feet of material was issued, whereas laydown-yard records and physical inventory show that only 73 feet had been issued. The inference is that similar ASME Class II material (which identical heat number) may have been erroneously issued in lieu of the Class 1 material.

The WBG position on this matter is documented in a May 29, 1981 response summary number WBGWNP2-215-4972. To avoid a similar situation for future work, it describes changes to procedures to require:

> WP-786: Piping and fittings of different classification will be bought on different purchase orders.
>
> WP-782: Material of different classifications will be issued to the field on different store requisitions.
>
> WP-530: QC-inspectors will verify heat numbers at time of pipe joint cleanliness inspection at fit up.

The WBG position includes an inventory/records review which shows that only eleven feet of material is in question. This is disputed by the licensee site QA surveillance report number 667, dated May 22, 1981. The licensee "NRC Findings/Concerns Checklist" for this item, dated May 30, 1981, identifies that this matter is not yet resolved

to WPPSS satisfaction. However, the inspector considers that the actions to prevent recurrence have been addressed such as to not constitute a constraint to restart of work.

t. (Closed) Noncompliance (397-80-08-29)

Calculations were not provided to support deletion or redesign of support welds. Changes were made to supports shown on drawings MSLC-21, RHR-326, and RRC-3.

Calculations have been executed by Burns & Roe engineers for the three specific cases identified above, for the as-built conditions. These are identified as #8.16.2598 (dated April 15, 1981), #8.16.881 (dated February 3, 1981), and #8.16.2600 (dated April 13, 1981). In each case, the calculations show that the as-built condition is acceptable. A related calculation for support SGT-2 had also been reviewed, #8.16.2599 (dated April 23, 1981), and the weld found undersize. A redesign was forwarded to WBG for action. The calculations were made in accordance with criteria that allowed deviation from the original specification #215 stress limitations, but required compliance with the stress limitations of the applicable Code.

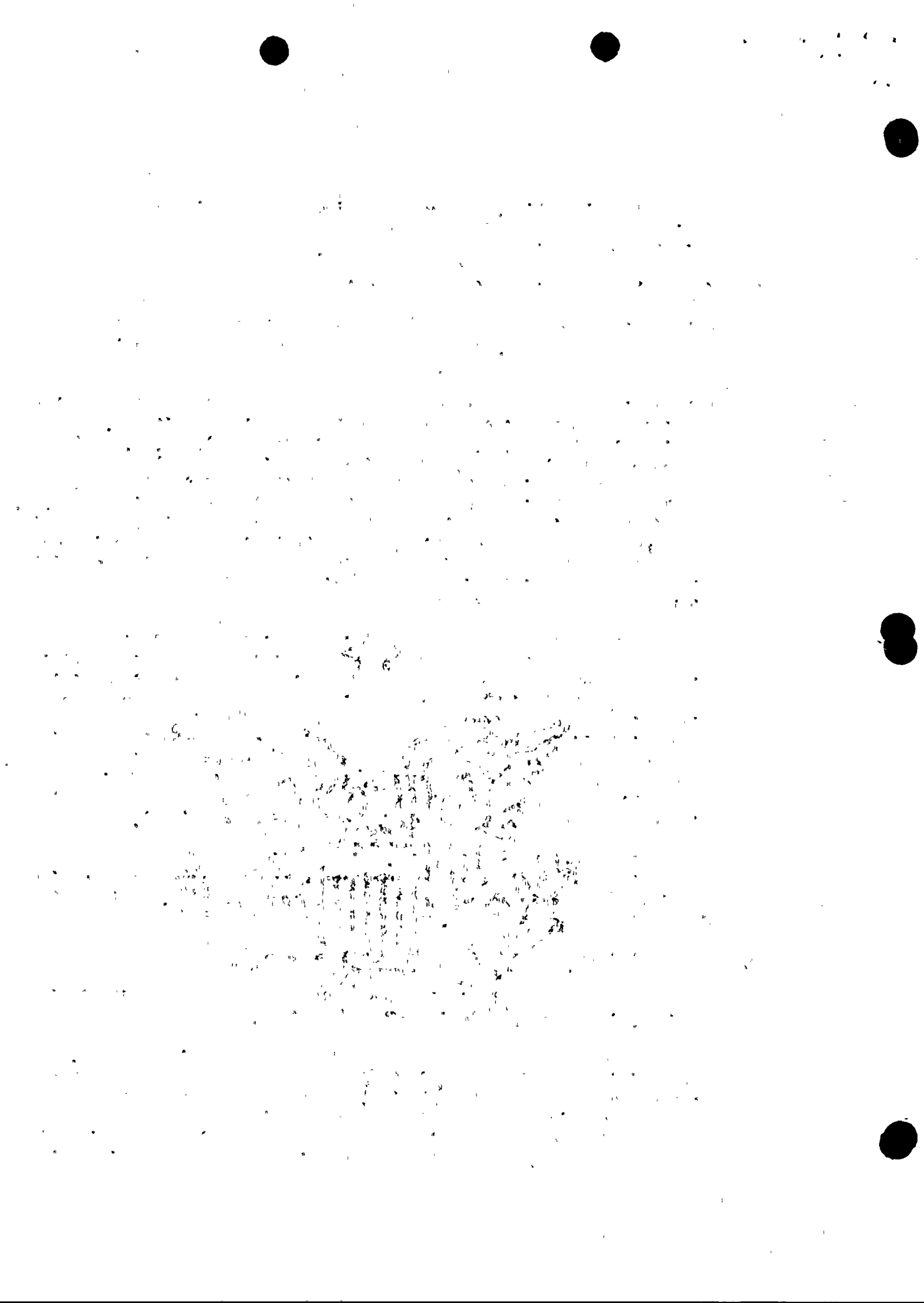
WBG has placed in question the as-built condition of all pipe support, and has returned all work packages to the field for as-built verification, WBG work procedure WP-330 has been issued with specific limits (paragraph 5.2.4) within which WBG field engineers may approve deviations within construction allowances. It also provides for the planned close field liaison with Burns & Roe engineers, whereby these engineers can review proposed changes and effect necessary calculations promptly. A Burns & Roe procedure WNP-2-017.1 is in preparation to define limits on red-line type changes which may be made by the Burns & Roe engineers without issuance of a formal design change document (PED).

The actions for the specific items in question, and the more general corrective action plans and provisions appear to assure construction of pipe supports in accordance with an adequate design. This matter is considered to be closed.

u. (Closed) Followup Item (397/80-08-30)

Work Package RRC-3 was missing one of two pages of EQA audit findings, and/or evidence of resolution of the findings.

The contractor (WBG) has been unable to locate the missing page. The WBG position on this matter is documented in a May 13, 1981 response summary number WBGWNP2-215-81-4197. The document notes that the RRC-3 support is one of all Quality Class 1 Large Bore Hangers which will be reinspected to special requirements checklists prescribed in procedure QAI-002. The contractor anticipates that such reinspection



will sufficiently identify any deficiencies which may have been noted on the missing page of EQA findings. For future work, the WBG new procedure WP-730 established improved controls of work packages, including daily reviews, to assure that relevant documents are not misplaced. This matter is closed.

v. (Closed) Followup Item (397/80-08-31)

Specification limitations on oversize fillet welds did not appear to be incorporated into contractor procedures.

The WBG position on this matter is documented in a May 15, 1981 response summary number WBGWNP2-215-81-4936. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 16, 1981. These documents note that engineering direction has been issued to the contractor (PED-215-H-191) and contractor work procedures revised accordingly (GWS-2). These conclude that oversize fillet welds are not unacceptable for pipe support steel, attachments to building-structural-steel or base-plates integral or non-integral with the building structure. Where pipe-support related welds to piping do not meet the criteria specified in the procedures, the procedures call for review by the Burns & Roe engineers on a case-by-case basis. This appears adequate for control of future work. For previous work, the contractor has issued special requirements checklists number 3 and number 4, which will reference the above requirements during reinspection of completed pipe supports. This matter is resolved.

w. (Closed Followup Item (397/80-08-32)

Cleanliness controls for piping installation appeared to require improvement. Caps on piping in storage were deteriorating and the inspector found fine debris in an installed pipe spool.

The WBG position on this matter is documented in an April 3, 1981 response summary number WBGWNP2-215-81-4794. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated April 8, 1981. These documents note that a WBG inspection report (IR-215-6517 dated February 3, 1981) was prepared for the specific conditions identified by the NRC inspector. This IR requires cleaning of the RWCU-812-3.7 pipe spool to the requirements of the new procedure WP-730. Current work package controls assure consideration of this IR when work resumes on this system. The contractor anticipates improved control over installed and in-storage piping as a result of improved training to the new procedures, augmented by performance monitoring, and implementation of the new procedure QAP-366 "Site Surveillence". Where installed piping system cleanliness may not have been controlled effectively in the past, the forthcoming system flushing operations will need to cope with any resultant debris. This matter is resolved.

x. (Closed) Followup Item (397/80-08-33)

Examination of radiographs revealed various small debris within welded piping systems. The systems flushing program will need to cope with this material.

The WBG position on this matter is documented in a May 13, 1981 response summary number WBGWNP2-215-81-4197. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 27, 1981. These documents note that cleanliness controls have been improved, as noted in item 397/80-08-32 above. The licensee has not required the contractor to take any measures relative to existing systems, and has not imposed flushing as a prerequisite to hydrotesting. As originally noted, this does not appear to conflict with regulatory requirements. Flushing operations are planned to be performed by the WPPSS startup group, following system turnover for preoperational testing. The licensee anticipates assessing the effectiveness of the flushing program, as a matter of routine, at that time. Such activities are also included in the NRC routine inspection program. This item is closed.

y. (Closed) Unresolved Item (397/80-08-34)

Use of WBG torque wrenches, during a period of questionable control of calibration/torque-multipliers, may have resulted in improper tightening of Velan valves in the pumphouses 1A and 1B.

The WBG position on this matter is documented in a May 15, 1981 response summary number WBGWNP2-215-81-4936. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 22, 1981. These documents note that the valve work was done under direction of the valve manufacturer representative, and under a WPPSS site work order FJB-507. At the time, WBG quality control was not involved, apparently due to mis-impression that the WPPSS quality organization was in control. Therefore, documentation was not readily available to identify torque wrenches used for the work. Ths contractor and licensee have now identified that a WPPSS wrench was used, which was subject to the WPPSS calibration program, but for which tool issue records were not available. The inspector had no further question relative to this specific valve. Also, measures have been taken to avoid the omission involved with the Velan valves, in that the WPPSS site work order form has now been revised to specifically invoke quality controls for Quality Class I work.

The licensee has also examined previous maintenance logs for potential frequency of utilization of torque-multipliers on valves, identifying seven such past instances. Verifications of these items appears to be provided for by the Burns & Roe disposition of WBG nonconformance report No. 215-05470 (dated 19, 1980). This NCR identifies a general problem a lack of control of torque wrench calibration in the past. The disposition imposes PED-215-M-A281 (dated May 7, 1981), which requires development of a comprehensive program of bolting work and rework throughout the plant. This item is resolved.

z. (Closed) Unresolved Item (397/80-08-35)

Questionable control of temporary attachments, including a possible ladder inside pipe MS-528-7.10. A previous employee of WBG claimed that a ladder existed inside the pipe.

The WBG position on this matter is documented in a May 13, 1981 response summary sheet WBGWNP2-215-81-4197. The contractor took radiographs of the pipe section in question (reference NDE report #10165), and found no ladder. Since there are four similar lines, the licensee has established a further action plan to be implemented following work restart. This plan (reference memorandum F-81-2018) involves cutting of pipe caps from the four condensate mud legs and visually verifying absence of any such ladder. The licensee also anticipates obtaining some data relative to piping system cleanliness. This action plan appears quite responsive to the allegation.

The licensee issued an NRC Finding/Concern Checklist dated May 29, 1981, which identifies action on the two specific questionable temporary attachments identified by NRC. The initial WBG inspection report IR-2363 had been voided March 12, 1979 in view of the findings having been transferred to the WBG Form 302 Surface Defect Rework Record dated March 9, 1979. This record shows completion of blending and penetrant testing of the area of temporary attachments on June 8, 1979.

On June 3, 1981 WBG issued a new inspection report IR-08157 to require evaluation of the missing weld records. The contractor has established a Special Requirements Checklist #6 (revision 1) to include checks of other existing piping. The disposition of resultant findings are to involve the corrective action plans associated with NRC item 397/80-08-09.

The contractor's new work procedures GWS-1, GWS-2, and WP-730 include improved controls for temporary attachments and temporary material installed inside equipment. Additional controls relative to previously installed work, are described under item 397/80-08-09 above.

This item is resolved. Details of the corrective action plan implementation will be subject to general NRC followup of item 397/80-08-09.

aa. (Closed) Noncompliance (397/80-08-36)

Procedures and checklists were not established for review of weld repair records for structural steel.

The WBG position on this matter is documented in a May 13, 1981 response summary number WBGWNP2-215-81-4917. The WPPSS evaluation is documented in NRC Findings/Concerns Checklists dated May 15 and 29, 1981. These documents note that a contractor corrective action request (CAR-175)

has been issued to control review of the four work packages generated under the repair program. A WPPSS May 15, 1981 audit of WBG disclosed that the document review has been satisfactorily completed on two work packages and was 90%/40% complete on the other two packages. These reviews utilized WBG Form NF-480 checklists, which have been incorporated into new procedures WP-635 (civil/structural) and WP-115 (equipment); these will govern future routine documentation reviews. The checklists of these procedures are intended to assure that appropriate documents, such as weld repair records, have been included in the work packages. These procedures are being reviewed by the WPPSS RCSW task force. Additionally, procedures QAI-14 and QAI-15 have been issued, which include commensurate requirements for pipes and pipe supports.

bb. (Closed) Noncompliance (397/80-08-37)

The Project Quality Assurance Manager or his designee had not signed acceptance of rework on an installed pump. Pump LPCS-P-2 had been unbolted/aligned/rebolted.

The WBG position on this matter is documented in a May 13, 1981 response summary number WBGWNP2-215-81-4917. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 15, 1981, which includes reference to the WPPSS/NRC letter dated September 19, 1980. These documents note that WBG has reviewed the work package for the above specific item identified by the NRC. Additionally, all previously vaulted work packages are designated for review in accordance with the new procedures which have been developed for piping, hangers, structural and equipment categories (see item 80-08-36 above). The WBG work package control procedure WP-480 has been revised to prohibit return of a vaulted work package to the field, but to adopt an Addendum work package system to control subsequent work and reviews. Responding to a particular NRC observation, the new pipe support document review procedure QAI-014 includes a check point 4.11.1 "Does the work package follow a logical, chronological sequence?". The inspector examined the procedures noted above and ascertained that the described changes had been included. This matter is resolved.

cc. (Open) Followup Item (397/80-08-39)

Documentation problems were identified relating to structural welding, compliance to review procedures, reduction in related quality control commitments to the NRC, and backlogs of missing certificates of compliance. Particular problems are noted in NRC items 80-08-04, 08, 14, 36, and 37 above.

The WBG position on this matter is documented in a May 13, 1981 response summary nember WBGWNP2-215-81-4917. The WPPSS evaluation is documented in NRC Findings/Concerns Checklist dated May 21, 1981. These documents note that WBG has performed major revisions to work methods/procedures,

and has designated all Quality Class I work packages for review. These previous, and subsequent work packages, will be examined in accordance with the WBG procedures WBG-635 and QAP-367, which are in the final phases of review by the WPPSS RCSW task force. Training to the new procedures is incorporated into detailed work schedules, as is WPPSS performance auditing. This matter remains unresolved pending NRC inspection of the implementation of the new WBG program for work control and documentation review.

dd. (Closed) Noncompliance (297/80-08-40)

Failure to comply with procedure revision requirements. The WBG quality assurance manager issued a memorandum which modified requirements of a procedure regarding material traceability.

Current WBG procedures require transfer of markings prior to cutting, and witness of transfer by quality control inspectors (for ASME systems) for materials requiring traceability control.

WPPSS has issued a letter to all contractors (WNP2MCL-F-80-144 dated October 1, 1980) which advises that contractor procedure modifications require approvals as the original procedure, and such modifications shall not occur via interoffice memorandum. This policy is repeated within WBG in memoranda TBP-107 and TBP-038. Increased internal audit activity within WBG provides additional confidence of compliance, This matter is closed.

ee. (Open) Unresolved Item (397/79-16-04)

Sacrificial Shield Wall weld defect data. NRC inspectors questioned the completeness of the licensee's inspection data in IE Inspection Report No. 50-397/79-16 and subsequently in 50-397/81-05.

The inspector this period examined four randomly selected welds of the 98 "inaccessible" welds mentioned by the licensee in his April 29, 1981 letter to NRC. The inspector again questioned the welding engineers' interpretation of accessibility. Welds #W131-257 and #W131-239 were behind subsequently installed beams and scaffolding (#W131-239), which limited accesss through a 1-inch space between the SSW and a horizontal beam. A limited visual inspection could have been accomplished with lights, inspection mirrors or boroscope. Weld #WF103 was totally accessible, although it is possible that the heavy steel piping-shielding door may have been closed over it at the time of the WPPSS inspections. Weld #WF3-3 appeared to have been missed in the WPPSS reinspection effort, due to its position in a detail on the applicable weld map drawing.

The NRC acceptance letter to WPPSS dated February 25, 1981 did not recognize acceptability of inaccessible or partially inaccessible welds

on the exterior of the SSW. This letter requested WPPSS to identify, (by hardship exemption request), all weld defects not inside the SSW structure or not inside the SSW annulus, for which repairs would not be made. The March 24, 1981 WPPSS hardship request did not identify the 98 exterior surface welds which WPPSS has classified as inaccessible, although the defect repair tabulation of April 29, 1981 identifies the existance of this category. Based upon the inspector findings, the licensee reexamined the 98 welds deemed inaccessible and further reviewed the weld maps to identify any other welds which had been overlooked. The welding engineers documented this review by photographs of the field conditions, which the NRC inspector reviewed with the responsible field engineer. Of the 98 welds in question, the following circumstances were found:

66 are covered by weld pads or similar components integral with the SSW structure. The inspector considers that these welds are internal to the SSW structure.

10 had been previously cut out, and are nonexistant for repair.

39 have limited access due to close exterior welded steel structural beams. Of these, 26 involve contact interference or very close clearance with such structures. The other 13 involve clearances of about 1-inch from such structures, where sandblasting and examination would be difficult.

Following further discussion with the inspector, the licensee field engineer arranged for the WPPSS site NDE staff to use their available boroscope equipment to examine the 39 welds. The inspector observed some of this activity in-progress, as it was being monitored by the WPPSS NDE level III. This matter remains unresolved pending review of results, the licensee evaluation, and generation of the final repair tabulation.

ff. (Closed) Followup Item (397/80-04-11)

Requirements for washers for pipe-whip-restraint slotted holes do not appear consistent with AISC requirements regarding high strength bolting.

Burns & Roe engineering has issued technical direction dated April 21, 1980 (PED-215-CS-5193) which imposes paragraph 3.3.4.3 requirements for structural-plate or continuous bar washers. The current WBG work procedure WP-632 incorporates these requirements in section 4.3.7. All installed pipe-whip-restraints have been removed as part of the general PWR repair program, and reinstallation will be a function of the new procedures. This matter is resolved.

gg. (Open) Unresolved Item (397/80-10-02)

The certified load capacity data sheets required by ASME Section III - subsection NF-3141.2 (for pipe hangers) were not available.

Burns & Roe engineering has attempted to obtain these data sheets from the various vendors which provided pipe hangers to the WNP-2 project. The engineers have not in all cases been successful, and have identified that the vendors had revised their designs without updating previously submitted data sheets. Efforts are continuing to resolve this matter, and the Resident Group Supervisor stated that he planned to issue a Potential Reportable Deficiency notice for this item, for evaluation relative to 10 CFR 50.55(e).. (PRCN-021 was issued June 3, 1981).

The licensee has decided to proceed with further hanger installations on a risk basis, pending resolution of this matter. Major rework is not anticipated as a result of data sheet updates received to date, although some component derating may be involved. The engineer is considering providing information to the mechanical contractor, to define those cases where valid load capacity data sheets are (not) available. This matter remains unresolved pending review of provisions to assure that valid data sheets are incorporated into the records for each applicable pipe support.

hh. (Closed) Unresolved Item (397/80-10-03)

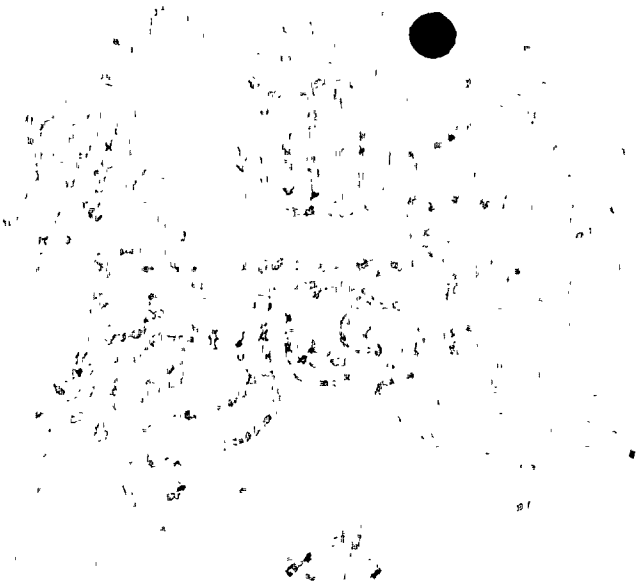
ASTM-A36 and ASTM-A193 Grade B7 bolts, and ASTM-A307 anchor-bolts, were used for pipe supports, whereas ASME Section III - NF (1973) provides only for ASTM-SA-325 bolts.

The Burns & Roe engineers have researched this item and have determined that the three specified materials are technically acceptable.

(1) The A36 material is allowed by the SA307 reference to A36 for non-threaded anchor-bolts/studs/threaded-rods, (and mutual cross reference in A36 for use of SA307 for headed bolts; A307 and A36 material are similar with exception of the A36 more stringent controls on chemistry and ductility).

(2) The A307 bolts are acceptable substitutes for SA307 bolts, as identified in the ASME general provisions that ASME/ASTM equivalent materials may be used. Use of SA307 bolts is specifically identified in ASME Code Case 1644-5, which is included in paragraph 3.8.2.2.4.9 of the FSAR Amendment No. 9.

(3) The A193 material appears to be an acceptable substitute for SA193 as provided by the ASME equivalency provision noted in (2) above. Also, the SA-193 was specifically approved in the 1974 ASME Code, for component support bolting. However, this is a later Code



edition than identified in the WNP-2 FSAR. The responsible engineer stated that an FSAR change would be processed accordingly.

The engineer has issued clarificaion of the specification via PED-215-H-4543 (dated January 16, 1981) to recognize use and acceptability of the above materials. Specification 215 Section 15R has also been revised to provide pipe support assembly fabrication in accordance with MSS-SP-58, which recognizes the above materials, augmented by ASME requirements. This matter is resolved.

ii. (Closed) Followup Item (397/80-16-02)

Absence of methodology for documentation and tracking of WPPSS Task Force II staff findings and corrective actions.

The task force provided a procedure in the RCSW manual for initiating Corrective Action Reports under the existing WPPSS system. During April 1981 one Task Force team leader was assigned the task of checking the various RCSW letter books for staff memoranda which raised questions which may not have been answered. The inspector noted at least one memorandum for which management action has been initiated as a result of this review. For the mechanical contractor work-restart reviews, the documentation package shows obvious attention to this type item. Previous NRC interviews of RCSW staff showed that has not discouraged RCSW from initiating such memorandum where they see fit. Many of the RCSW reviewers are job shop personnel, with no tenure with the company, and appear to be quite forward in documenting any quality concerns that they may encounter. The inspector considers this matter to be closed.

jj. (Closed) Followup Item (397/80-16-03)

Questionable adequacy of specification change logs available for RCSW task force reviews of contractor work procedures.

This item is further discussed in IE Inspection Report number 50-397/81-08. The licensee had issued corrective action requests CAR-1475 and CAR-1486, which document the general deficiencies in design change control and associated corrective action plans. The engineering department plans were amplified in memoranda #F-80-5568 (dated October 31, 1980) and #F-80-6148 (dated November 25, 1980). The corrective actions include: review of prior contract change documents and conversion to the PED format; issuance of the Specification Change Log (SCL) with listings of PED's applicable to each paragraph and identification of unique or general character of each PED; issuance of a List of Effective Pages (LEP) for each specification; and routine update of the SCL and LEP. As part of the work restart of each contractor, the task force appears to have reviewed the status of the two CAR's and has ascertained that the contractor has a system in place for assuring proper incorporation

of PED's into his work. As the Burns & Roe engineering reviews continue, the results are translated into PED's which the contractors must implement under their document control systems. Where the RCSW task force has not yet completed its review, latest issues of the SCL and LEP are reviewed to assure that contractor procedure reviews are based upon the latest data. The inspector verified that the RCSW Team #1 staff was checking the SCL and LEP accordingly, for the review of the mechanical contractor procedures.

The Engineering Director assigned to WBG, and the RCSW team leader advised the inspector that as of the May 15, 1981 issue of the contractor 215 SCL, all historic changes had been identified and incorporated into the SCL; any future changes should be a result of new design decisions. The RCSW team leader stated that the May 9 issue of the SCL included the last large group of historic changes. He stated that resultant necessary changes to the contractor procedures have been identified and incorporated into the procedure revision punchlist. He showed the inspector a draft of a June 1, 1980 memoranda which will document this status, to include concurrence of the Burns & Roe engineering organization. The inspector had no further question relative to the mechanical contractor.

The adequacy of the RCSW reviews of some site contractors' procedures appears to have been somewhat compromised by the evolving SCL from Burns & Roe. For example, the RCSW review of the instrumentation contractor's procedures was based upon an issue of the SCL dated December 3, 1980. (However, it does not necessarily follow that the contractor had failed to implement the design changes when they had originally been issued.) Although this item has been a source of re-review and frustration for task force and contractor personnel, it does not appear to be sufficiently significant to represent any deviation from regulatory requirements. Nor does it involve departure from commitments in the licensee July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry. This matter is resolved.

kk. (Closed) Followup Item (397/80-16-04)

The WPPSS RCSW Task Force was not effectively performing review of contractor procedures for compliance with the SAR requirements. Contractor procedures were in some cases already reviewed and approved without this SAR review.

The Task Force has taken steps to clearly define how the SAR review would be performed and the point of responsibility. Some general details of the revised approach were described by WPPSS in a November 12, 1980 Management System Description. In conjunction with upgraded overall planning of Task Force actions, this item has been incorporated specifically into each work restart package. The inspector observed several cases where the contractors procedures were re-reviewed by the

RSCW teams, including SAR considerations. The current approach involves WPPSS Engineering Department review of the specifications, for compliance with the SAR, with the RCSW team procedure reviews in turn considering the specification requirements. This is a common review approach. The inspector considers this matter closed.

11. (Closed) Followup Item (397/80-16-05)

Consideration of previous NRC inspection findings relative to adequacy of current procedures for performing work. Contractor previously had not been given copies of NRC inspection reports, and the RCSW review teams did not have ready access to such data.

The revised restart plan described by the licensee in the November 12, 1980 Management System Description to NRC identified provisions to assure that each contractor considered not only previous NRC findings, but also trend data from all other types of deficiencies, such as non-conformance reports, corrective action reports, and internal and external audits. For the mechanical contractor work restart review effort, the WPPSS QA department has made special efforts to address currently open NRC items, with emphasis on the forty items of investigation report 397/80-08. Also, the RCSW review team has worked closely with the contractor to group both open and closed NRC items and identify where current procedures include measures to prevent recurrence of the situation identified previously by the NRC inspectors. The inspector considers this matter closed.

mm. (Closed) Followup Item (397/80-18-01)

Lack of operating procedures for the Task III Management Systems improvement function. This activity was described in general terms in the licensee's July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry. Measures to improve contractors management systems were further described in the licensee November 12, 1980 Management System description to NRC. The inspector noted that WPPSS has identified a group of "essential-elements", and has reviewed each principal on-site contractor's management system for inclusion of those elements.

A viable system does not appear to have been in place to date to identify and act on WNP-2 technical deficiencies which may be applicable to other WPPSS sites. One example probed by the inspector included deficient radiographs prepared by PDM, the root cause of which was attibuted to working in common with the WNP-1/4 project staff with limited personnel/facility resources. The recognition of the WNP-1/4 relationship and action to alert the WNP-1/4 project did not occur until specific inquiries were made by the NRC inspector. On the other hand, some general efforts have been made by WPPSS to compile lessons learned, from not only WNP-2, but also the other WPPSS projcets,

and disseminate this information. (See IE Inspection Report 50-397/81-05 paragraph 6.) A Lessons-Learned Bulletin had been initiated in December 1980, but in May 1981 WPPSS organizational changes made the future of that activity unclear. The inspector noted that no clear regulatory requirements were involved in this item, and considers the matter closed at this time.

nn. (Open) Followup Item (397/80-18-03)

Absence of reverification sampling and action level instructions. The reverification of completed work, described in the WPPSS July 17, 1980 reply to the NRC 10 CFR 50.54(f) inquiry has not yet commenced.

The Bechtel corporation has been designated as the new construction manager, and has been developing a plan of action for the reverification activities. This activity is planned to be closely coordinated with the systems turnover activity. The preliminary action plan was completed this period, and the licensee delivered a copy to the NRC Region V office for information and/or comment. On May 20, 1981 the Deputy Director of the Regional Office visited the site, at which time he discussed comments on the preliminary plan with the WPPSS and Bechtel site management. Development and initial implementation of this plan will continue to be identified as an NRC inspection followup matter.

oo. (Closed) Followup Item (397/80-18-04)

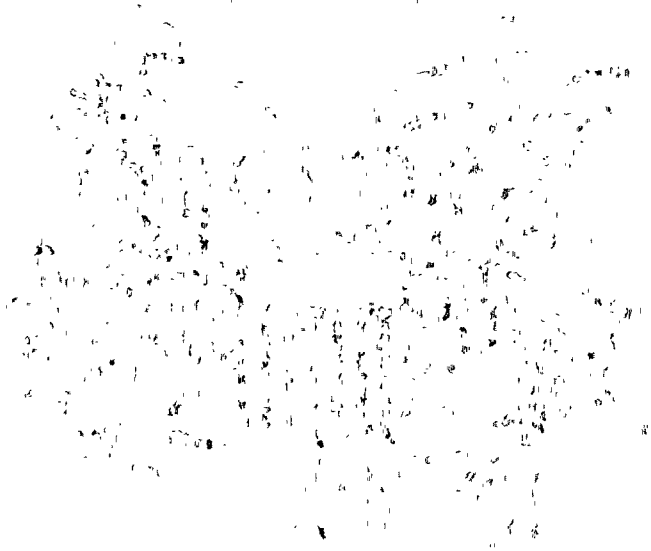
Confirmation that systems of controls are in place to support the Management Systems Description submitted to NRC via the WPPSS November 12, 1981 letter.

The RCSW task force and other elements of WPPSS have probed each principal site contractor, as discussed above, relative to item 397/80-18-01. Particular attention has been given to the mechanical contractor, for which intensive work restart reviews are reaching a culmination this month. The reviews indicate that the contractors all have in place work procedures which implement the key elements of the WPPSS management system. The inspector considers that this matter is closed.

pp. (Closed) Followup Item (397/80-19-01)

Irregularities in mechanical contractor weld records. An allegation of falsification of weld records was investigated by NRC in June 1980, (Investigation Report 50-397/80-08 paragraph 11.d). Insufficient evidence was found to support a falsification allegation.

Additional NRC attention was given to the records in question, through increasing sample sizes for the review, in reports 50-397/80-19 and 50-397/81-03. Some minor discrepancies were noted during the 81-03 review, and licensee commitments were obtained to perform a more detailed review of the records. NRC followup on that commitment will



be tracked under item 81-03-04. The NRC sampling activity is complete; the inspector considers that item 80-19-01 is closed.

qq. (Closed) Followup Item (397/80-22-01)

WBG procedure training did not insure personnel opportunity to review procedures prior to the classes/examinations.

The contractor took steps to assure that personnel had an opportunity to review the procedures in advance. Subsequent loss of control of information-only procedures was also addressed by recalling the advance copies after training. Imminent changes to the training program will, for some personnel, de-emphasize use of procedures during training, and will provide procedures in reading areas for subsequent review. Training will apparently be more customized to the particular type personnel being trained. This matter is closed.

rr. (Closed) Followup Item (397/81-01-01)

The WNP-2 project provisions for engineering personnel qualification did not include provisions to assure that employment resume's were verified for contractor and job-shop personnel.

The licensee has established a basic ordering agreement with eight job-shops which provide engineering personnel to contractors at the site. All site contractors must obtain engineering job-shop personnel via this ordering agreement, through the WPPSS Central Supports Contracts Department. The licensee representatives provided the inspector with a copy of a May 21, 1981 memorandum (M. Chunn/A. Sastry) which establishes the plan for WPPSS to meet its audit obligations for this aspect of the quality assurance program. This provides for WPPSS to maintain resume's and conduct a program of independent verification checks of Job- Shopper personnel on both a random and as requested basis.

The licensee has also issued letter WNPMCL-81-74 (dated April 6, 1981) to site contractors, requiring contractors to establish requirements for minimum education and experience levels for their Engineering personnel, and maintain this documented. Such documentation will be auditable by the project quality assurance organization.

This matter is resolved.

ss. (Closed) Unresolved Item (397/81-01-02)

Failure to establish performance indicators and standards described in the July 17, 1980 and November 12, 1980 WPPSS letters to NRC.

The licensee issued a "Reminder Regarding the Use of Performance Standards" to all site contractors on March 19, 1981 (WNP2MCL-F-81-0062). The

mechanical contractor's (WBG) responding action are described in internal memoranda SCY-298, PGM-229, EM-463,PCM-003, and other April-May 1981 data provided to WPPSS by the contractor. These actions include provision of full-time dedicated monitoring functions for Construction, Engineering, Projects, and General Operations departments of WBG; this will include weekly/bi-weekly summary reporting of performance indicators to the WBG project manager. The WBG project manager advised WPPSS management and the inspector that specific performance standards definition will be deferred pending receipt/evaluation of early data after restart of work, with such definition anticipated within a month. The licensee identified this item as a followup matter associated with their work restart release for WBG.

The WPPSS QA department issued an "Action Plan for Establishing Standards of Performance" at the WNP-2 site, via April 24, 1981 memorandum QA2-81-267. This action plan is keyed toward evaluation of existing Project Management Instructions and QA Instructions. With the transfer of Construction Manager responsibility to the Bechtel Corporation, the existing WPPSS PMI's are being revised to recognize this new interface. The WPPSS QA manager stated that the revisions will include performance indicators/standards arising from the above noted action plan implementation.

The establishment of performance indicators/standards was not a specific item in the review criteria initially used during the WPPSS reevaluation of detailed work methods. However, steps have now been taken by WPPSS to give some attention to this aspect of the corrective actions approach described to NRC. The inspector identified no items of noncompliance regarding this matter. Sufficient attention has been initiated on this item so that the inspector considers this potential deviation to be closed at this time.

tt. (Closed) Followup Item (397/81-01-03)

Implementation of paragraph 3.5.3 of the management system description described to NRC in WPPSS letter dated November 12, 1980. The orientation on the superintendent does not appear to be supported by documented policies of corrective actions/thresholds.

The licensee's NRC Inspection Open Item log dated February 12, 1981 documents the WPPSS/WBG position that management members retain a degree of unprescribed prerogative in administering disipline and corrective actions for performance deficiencies. The licensee identified no policies or guidelines in this regard. The inspector identified no regulatory requirement for such documentation. This matter is closed.

uu. (Open) Followup Item (397/81-01-04)

The licensee advised NRC that contractor document review criteria would be clarified, as part of management system improvements. Such action did not appear to have been taken on a schedule consistent with work releases.

The responsible WPPSS manager has issued instruction to the RCSW task force teams (F-81-1105 dated February 9, 1981) to ensure that the contractor(s) procedures reflect adequate controls to meet the above commitments. The inspector verified that this had been completed for WBG, as described under items 80-08-35 and 37, above. For the electrical and containment steel contractors, the RCSW team leaders have asserted that the commitment has been met. The RCSW teams had not apparently completed their reviews for the other contractors (e.g. instrumentation, heating and ventilation, fire protection). Future NRC inspections will consider further WPPSS implemention of the actions described.

vv. (Closed) Followup Item (397/81-01-05)

The licensee advised NRC that a traceability definition would be provided for use by the contractors, as part of management system improvements. Such action did not appear to have been taken on a schedule consistent with work releases.

Burns & Roe has provided clarified traceability requirements to the mechanical contractor. This was issued via PED-215-H-4116 dated October 10, 1980. It included references to applicable construction codes and standards and provided minimum requirements for materials and standard components not covered by referenced codes. For such non-code items, the PED allows that a stores requisition for a specific hanger may be sufficient if it lists the material and the material QC tag number.

For Quality Class 1 material, the licensee issued February 9, 1981 instructions (WNP2WBG-215-F-81-295) to the mechanical contractor. These require that verification of heat number transfer prior to material cut is essential. The contractor included applicable requirements for such verification by quality control inspectors, in the piping fabrication and installation work procedure WP-530 revision 3, and in the pipe support procedure WP-330 revision 2 (as relates to ASME Class 1 material only).

The Burns & Roe and mechanical contractor's deficiencies and uncertainty in this area are demonstrated by the WPPSS memorandum SQA-81-177, WPPSS Corrective Action Report CAR-1469, and WBG internal memoranda MHB-43, MHB-58, and PEM-178. These show related Engineer/contractor discussions dating to May 1979. For future work, the current Burns & Roe guidance appears to have clarified the situation. By May 22, 1981 letter (BRWP-F-81-411) Burns & Roe established intent to not provide to other contractors similar guidance on material traceability. The Burns & Roe position included the rationale that no other site contractor has identified that they have a problem meeting specification requirements on the subject of material traceability procedure requirements. The licensee representatives presented this to the NRC inspector as the current project position on this matter. No deviations from regulatory requirements were identified. This matter is resolved.

ww. (Open) Followup Item (397/81-01-06)

The licensee advised NRC that contractor QC supervisor overchecks would be established, as part of management system improvements. Such action did not appear to have been taken on a schedule consistent with work releases.

The mechanical contractor has prepared a work procedure WP-367, which prescribes a system of supervisor overchecks. More detailed instructions are in preparation to prescribe the mechanics and documentation of this performance function. Additionally, the WBG Project General Manager has established a monitoring function within each department, to gather and distill performance data. Performance indicators are also under development, as described under item 81-01-02, above.

Similar provisions have not yet been imposed and verified for the other site contractors. This matter remains unresolved pending review of the implementation, or decision to not implement, this aspect of the system described to NRC.

xx. (Closed) Unresolved Item (397/81-05-03)

Failure to establish performance indicators and standards described in the July 17, 1980 and November 12, 1980 WPPSS letters to NRC.

As discussed under item 81-01-02 above, steps have now been taken by WPPSS to give some attention to this aspect of the corrective actions approach described to NRC. The inspector identified no items of noncompliance regarding this matter. Sufficient attention has been initiated on this item such that the matter is resolved.

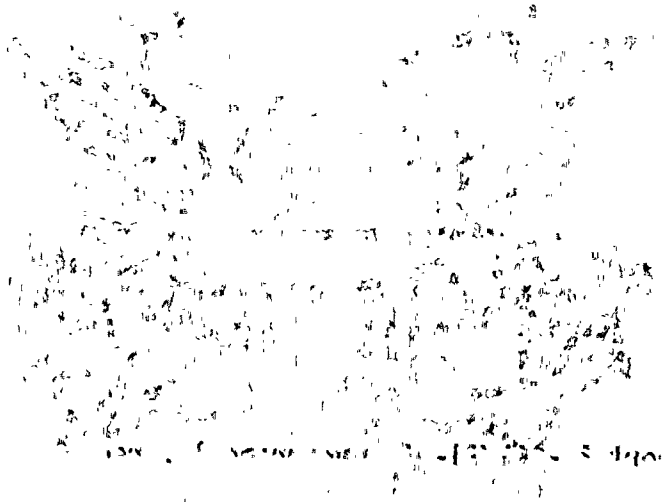
yy. (Closed) Noncompliance (397/81-05-05)

Failure to record results of nondestructive testing. During weld joint preparation for the SSW repair girth-welds, the NIX Company personnel failed to record certain magnetic particle indications.

The licensee position and corrective action on this matter is documented in a WPPSS letter to NRC dated May 19, 1981. The inspector verified that the applicable mechanical contractor procedure (QAP-211, which replaces QAP-14) has been revised as stated in the letter. Also, the subcontractor NIX has revised his applicable procedures for various nondestructive examination methods, to be consistent. The repair of the lack-of-penetration condition involved is discussed in IE Inspection Report 50-397/81-06, paragraph 13, regarding item 397/81-05-04. This matter is resolved.

zz. (Closed) Followup Item (397/81-05-06)

The licensee terminated employment of a job-shop construction-quality engineer, shortly after he had been involved in identification of a



quality discrepancy for which NRC issued a citation. The circumstances of the personnel action were such that other site quality control personnel could have perceived a degree of intimidation. The inspector sought licensee actions to counteract such perceptions.

The inspector interviewed the ex-employee, who expressed his feeling that his interaction with the NRC inspector had been a factor in his dismissal. The WNP-2 Program Director also met with this individual, to obtain his views. The Program Director reports that he interviewed various of the management staff involved, and he identified sufficient basis for the employment termination. The Construction Manager also reports that he met with the other Construction Quality personnel under his direction, to assure that there was no misunderstanding on this matter. Termination of the employee appeared to have been principally associated with personality conflicts, working relationships, and the contractual arrangements that provide for termination of job-shop personnel without any advance notice, (which makes removal an inherently easy solution to personnel matters). There was no evidence that technical competence of the individual was in question.

The inspector interviewed various site quality assurance and quality control personnel since February 1981, and has encountered no staff sensitivity to this matter. Additionally, the newly instituted WPPSS quality awareness program, discussed elsewhere in this report, promises to assure that employee concerns can be aired to senior WPPSS management, should any employee feel a need in this direction. The continued presence of the NRC resident inspector supports this openness. This matter is resolved.

aaa. <u>(Closed) Followup Item (397/81-06-01)</u>

Control of voided documents and information only copies of procedures in work areas. The licensee QA surevillance effort identified additional cases of insufficient control of engineering directions (PED's) in work packages; this is documented in Corrective Action Report CAR-1529. The contractor's auditors performed a thorough audit of all parts of the WBG organization and identified extensive use of information only issues of procedures. This is documented in WBG audit report number WBG-SP-2-81. The auditors attributed the situation to absence of sufficient controlled copies of the procedures to meet working needs.

Corrective actions included revision of procedures for control of documents in work packages, and WBG control of Burns & Roe issued field engineering directions. These are described in procedures numbered WP-148, 430 and 431. All information only copies of procedures have been collected by WBG Document Control, and increased numbers of controlled procedures issued, including establishment of several procedure areas within the permanent plant work areas (reference SCY-225 dated March 27, SCY-259 dated March 26, and SCY-320 dated April 28, 1981). The document control supervisor

stated that some "information only" copies of procedures will be issued in the future for special tasks purposes, but these will be issues with definite expiration/recall times. Current WBG training plans also call for establishing procedure reference libraries in the work areas, for crafts to visit to refer to applicable work procedures when necessary. The inspector considers this matter to be resolved.

bbb. (Open) Unresolved Item (397/81-09-01)

Definition of quality assurance controls for Quality Class II/Seismic Category I work. A meeting report indicated that WBG planned to delete all quality controls from any Quality Class II work.

The licensee representatives stated that the meeting report was oriented toward the previous project position that all Seismic Category 1 work of the mechanical contractor was controlled as Quality Class 1. This had apparently resulted in some unnecessarily restrictive requirements for some Quality Class II work. WPPSS plans to better define quality requirements for such work, but in the interim the existing WBG procedures still include inspection and quality controls commensurate with Quality Class I installations. The inspector had no further question on this matter, relative to restart of work by the mechanical contractor. However, this matter remains unresolved pending review of the anticipated program changes for all site contractors.

15. Management Meetings

The inspector and his supervisor met with the WNP-2 Program Director on May 31, 1981 to summarize the inspection findings relative to restart of work by the mechanical contractor. Attendees included the Deputy Program Director, an assistant to the Program Director, Project Manager, Quality Assurance Director, and a representative of the site quality assurance organization.

The resident inspector also met with licensee quality assurance and construction management personnel on June 5, 1981 to discuss the status of inspection findings. Attendees at this meeting are identified by notation (*) in Paragraph 1 of this report. The inspector also met weekly with the QA manager to discuss status of his inspection efforts.