

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

REGION V

Report No. 50-397/80-11

Docket No. 50-397

License No. CPPR-93

Licensee: Washington Public Power Supply System

P. O. Box 968

Richland, Washington 99352

Facility Name: Washington Nuclear Project Unit 2 (WNP-2)

Meeting at: NRC Region V, San Francisco

Meeting conducted: August 12, 1980

Report By: *A. D. Toth*  
for A. D. Toth, Resident Inspector WNP-2

8/21/80  
Date Signed

Approved By: *R. H. Engelken*  
R. H. Engelken, Director

8/21/80  
Date Signed

Summary:

Management Meeting August 12, 1980 (Report No. 50-397/80-11)

This was a special corporate management meeting to present to R. L. Ferguson, newly appointed Managing Director of the Supply System effective August 1, 1980, the results of NRC Region V evaluation of licensee performance for the period of April 1979 through July 1980. This review encompassed data presented in a similar meeting of May 20, 1980 and included review of subsequent inspection and investigation findings. Specific areas of NRC concern were discussed, as well as planned NRC actions regarding WPPSS restart of work which had been subject of NRC immediate action letters.

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## DETAILS

### 1. Meeting Attendees

#### Washington Public Power Supply System

R. L. Ferguson, Managing Director  
D. L. Renberger, Assistant Director, Technology  
F. D. McElwee, Assistant Director, Projects  
M. W. Hultgren, Manager of Projects  
W. C. Bibb, Project Manager - WNP-2  
M. E. Witherspoon, Division Manager, Quality Assurance

#### Nuclear Regulatory Commission - Region V

R. H. Engelken, Director  
G. S. Spencer, Chief, Reactor Construction & Engineering Support Branch  
R. C. Haynes, Chief, Reactor Projects Section, Construction  
R. T. Dodds, Chief, Engineering Support Section, Construction  
J. L. Crews, Chief, Reactor Operations Branch  
D. M. Sternberg, Chief, Reactor Projects Section 1, Operations  
A. D. Toth, Resident Reactor Inspector, WNP-2  
T. W. Bishop, Resident Reactor Inspector, WNP-3/5  
J. H. Hanchett, Public Affairs

#### Washington State Senate

Senator T. Bottiger, Chairman, Senate Energy and Utilities Committee  
Senator S. Gould, Ranking Republican, Senate Energy and Utilities Committee  
C. Eschels, Senior Research Analyst, Senate Energy and Utilities Committee

#### Energy Facility Site Evaluation Council

F. Hahn, Chairman, Monitoring Committee  
G. Hansen, Staff Engineer

#### Bonneville Power Administration

J. R. Lewis, Project Engineer - WNP-2

### 2. NRC Position Statement

The NRC Regional Director described the Inspection and Enforcement mission and the potential impact on the issuance of a WNP-2 operating licensee. He noted that over the past two years NRC has repeatedly expressed concerns

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over the ineffectiveness in the implementation of the WPPSS quality assurance program and inadequate control of contractor activities. He stated that the November 21, 1979 NRC Stop Work letter and the June 17, 1980 Notice of Violation, Civil Penalty, and 10 CFR 50.54(f) letters set forth the NRC position on these matters and the required corrective actions. The Director emphasized the need for strong management attention by WPPSS to these problems.

### 3. General Areas of NRC Concern

The following items were identified as specific and general problem areas which appear to exist for the WNP-2 project:

- a) Contractors with significant quality deficiencies had been allowed to perform quality class 1 work.
- b) Excessive time required to correct identified deficiencies.
- c) Large inspection backlogs for completed work.
- d) Poor site records control.
- e) Multitude of site contractors having independent quality assurance programs.
- f) Assignment of quality assurance staff with lead responsibility for contractor work compliance.
- g) Overly complex and over-committed procedural requirements.
- h) Inadequate indoctrination of personnel.
- i) Inadequate pre-planning and preparation.
- j) Inadequate feedback of problems to first-line personnel.

### 4. Enforcement History

The Region V staff discussed the enforcement history and apparent trends for WNP-2. Inspection finding versus manhour statistics indicated that it has recently taken less effort for NRC inspectors to identify problem areas on this project as compared to other projects in Region V. (See Attachments 1 and 2). A review of NRC inspection findings show uncorrected or repeat items and cases where procedures which were to control work were not in place prior to start of the work. (See Attachment 3). A review of events associated with the sacrificial shield wall and pipe-whip restraint problems since 1975 show that several opportunities were presented wherein WPPSS could have identified and corrected the significant quality assurance program deficiencies which were recently found to exist. (See Attachment 4).

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5. Recent Investigation/Inspection Results

In early 1980, a Washington State Senate Investigating Committee interviewed various WNP-2 project personnel regarding project cost matters. Various statements obtained appeared to relate to construction quality matters and these were verbally conveyed to NRC headquarters personnel. No written allegations were submitted by WNP-2 personnel in this regard. The NRC considered first 38, then an additional 7 items as areas of concern. A Region V inspector-investigator-supervisor team then spent 780 man-hours on-site, and in the vicinity of the site, conducting further interviews and inspecting hardware and records. The NRC Director of the Office of Inspector and Auditor attended interviews on several days to assess the potential for any criminal activity. The period of interest for the investigation into work/records was 1978 to present, relating to on-site mechanical contractor activities. A total of 12 apparent items of noncompliance, 7 unresolved items and 21 open items requiring followup action were identified by the investigation team (see attachment). The results of the investigation reinforced the earlier conclusions described in the NRC June 17, 1980 10 CFR 50.54(f) letter, regarding need for management action.

6. Work Restart Program

The Region V staff discussed the events and requirements for restart of site construction activities, the need for adequate procedures, preparation of personnel, and completion of other prerequisites was noted. Relative to NRC imposed constraints, the following actions are anticipated:

- 1) Region V November 21, 1979 Immediate Action Letter regarding sacrificial shield wall: WPPSS plans to submit data to NRR to supplement the WPPSS/NRC August 6, 1980 meeting presentation. Following the NRR review, Region V will issue a letter acknowledging the satisfactory completion of this condition (i.e. comprehensive corrective action plan) stipulated in the IAL.
- 2) NRC July 18, 1980 letter regarding contract #215: The NRC Senior Resident Inspector at WNP-2 will examine the results of the WPPSS re-evaluation of detailed work methods and associated corrective action plans for contract #215. Following this review, Region V will issue a letter lifting the work restart constraint.
- 3) NRC June 17, 1980 letter regarding 10 CFR 50.54(f): The NRC resident inspector and Regional Office based inspectors will routinely review the implementation of the commitments described in the above letter. The results of these reviews will be documented in monthly inspection reports. The resident inspector at WNP-1/4 was transferred to the WNP-2 specifically to provide close followup of these activities. The inspector is not, however, part of the WPPSS review/approval chain.

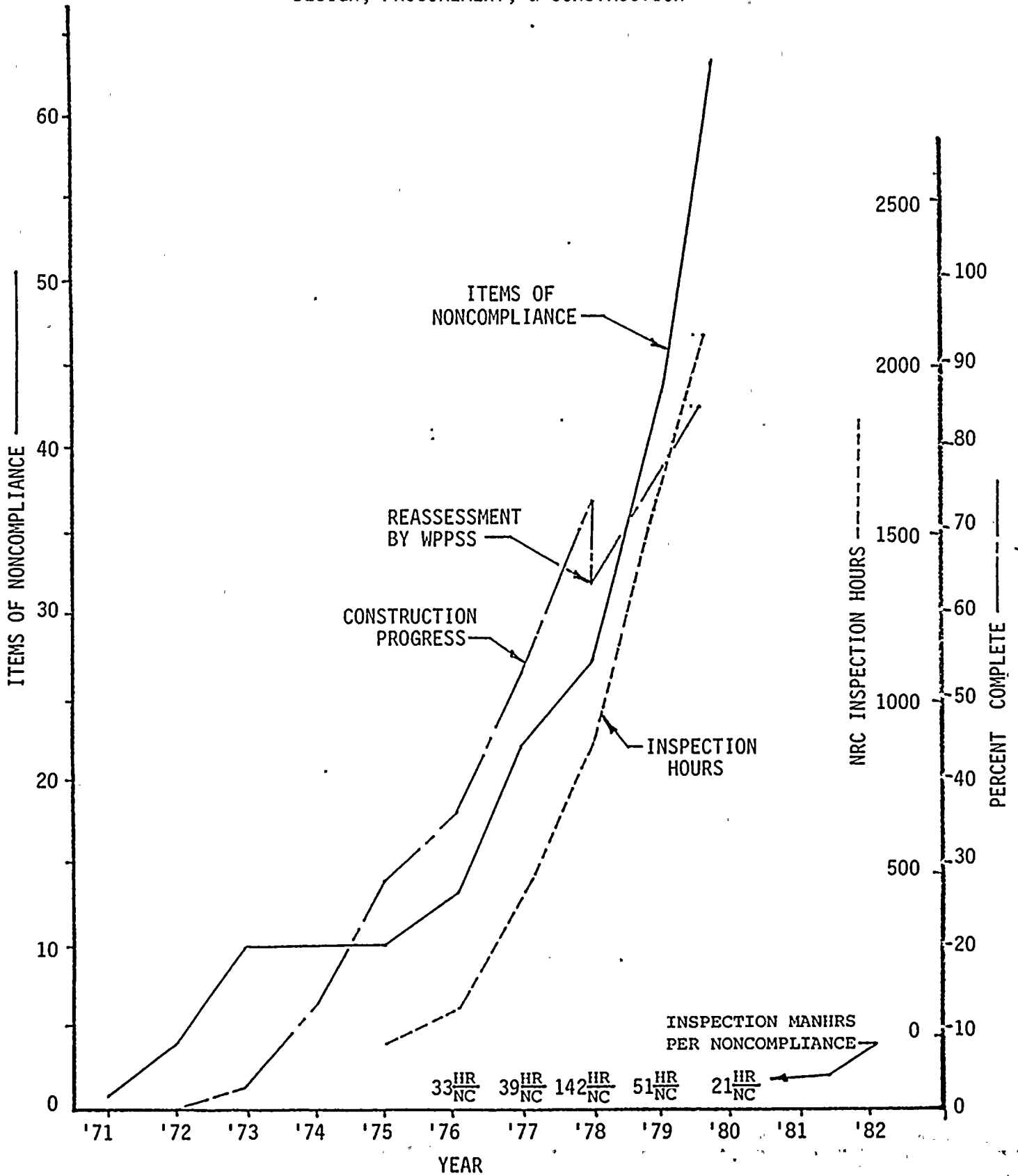
With regard to WPPSS plans submitted in response to the NRC letter, the NRC staff cautioned that the described reviews be more than paper reviews, and include meaningful hardware inspections.

7. Conclusion

The NRC Regional Director expressed the view that WPPSS can recover from the problems discussed at the meeting, although close management attention will be required. The WPPSS Managing Director noted that he will be personally involved in this matter and will keep the Region V office informed. He indicated that WPPSS will particularly re-evaluate how WPPSS does business with its contractors.

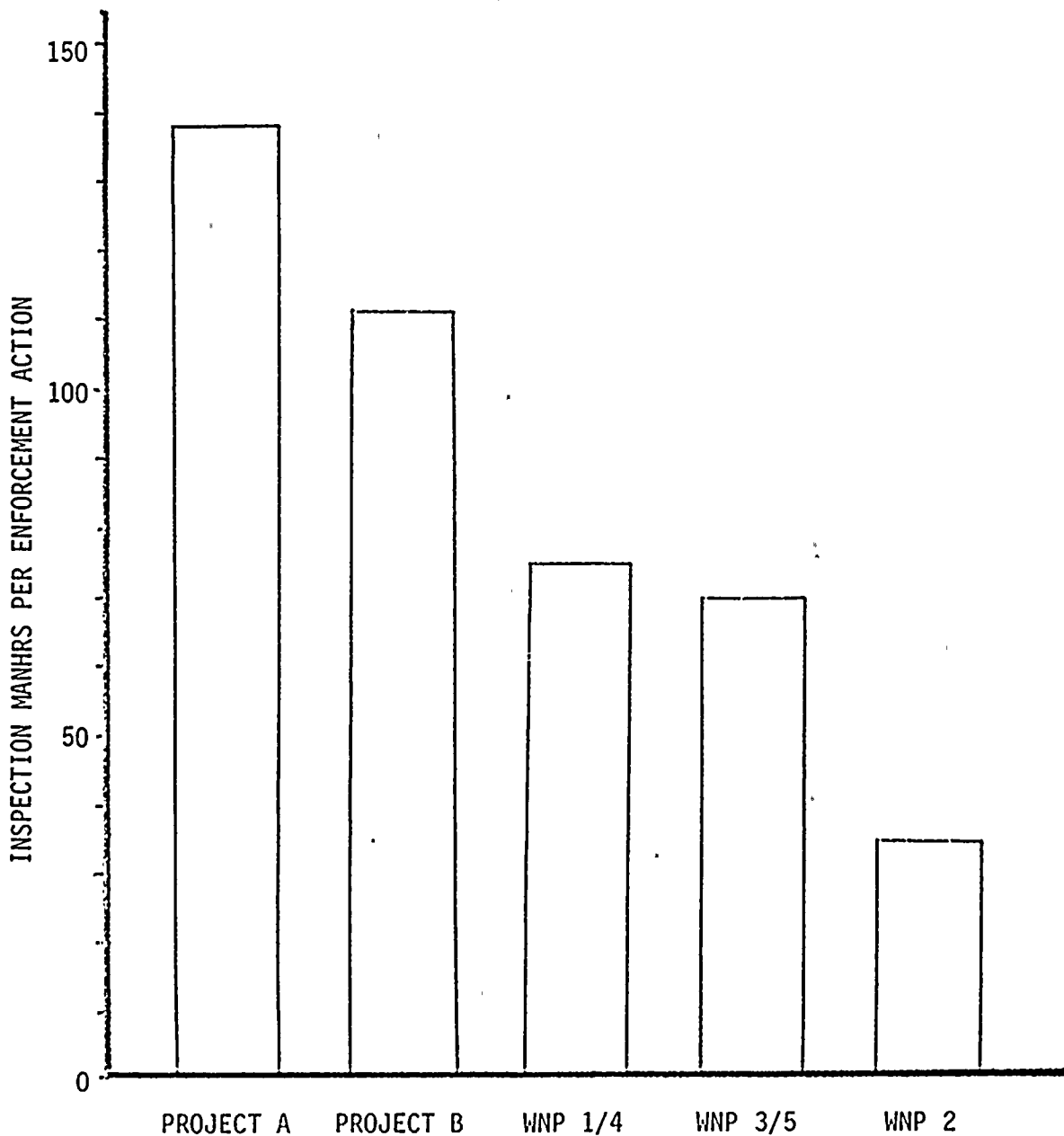
WNP-2 ENFORCEMENT HISTORY

DESIGN, PROCUREMENT, & CONSTRUCTION



NRC RV ENFORCEMENT ACTIVITY

DESIGN, PROCUREMENT, & CONSTRUCTION  
(AVG. OF 18 MOS. PRECEDING 7/80)



## WNP-2 ENFORCEMENT HISTORY

<u>ITEM</u>	<u>TYPE*</u>	<u>DESCRIPTION</u>	<u>REPEAT</u>
1	I	Failure to maintain cleanliness JCI	X
2	I	Failure to monitor weld preheat	
3	D	Failure to maintain inspection status	
4	D	Failure to properly code electrical cables	
5	I	Failure to properly install battery racks	
6	D	Failure to properly identify circuit breakers	
7	I	Failure to qualify PWHT procedure	
8	I	Failure to provide procedure for PWHT	
9	D	Failure to maintain records of PWHT	
10	I	Failure to PWHT per ASME Code	
11	I	Failure to maintain system cleanliness F/L	X
12	I	Failure to maintain system cleanliness JCI	X
13	I	Failure to provide class I-E equipment for RPS	
14	V	Failure to properly weld SSW	
15	I	Failure to maintain system cleanliness F/L & JCI	X
16	I	Failure to provide SSW UT procedure	
17	I	Failure to provide PWR UT procedure	
18	I	Failure to provide SSW Heat straightening procedure	
19	I	Failure to provide PWR heat straightening procedure	
20	I	Failure to provide SSW weld sequence procedure	



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## WNP-2 Enforcement History

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<u>ITEM</u>	<u>TYPE*</u>	<u>DESCRIPTION</u>	<u>REPEAT</u>
21	I	Insufficient SSW records identification of inspection personnel	
22	I	Insufficient SSW records-inconsistent information	
23	I	Insufficient PWR records - identification of inspection personnel	
24	I	Insufficient PWR records - inconsistent NDE reports	
25	I	Insufficient PWR records - incorrect inspection identification	
26	I	Insufficient PWR records - incorrect inspection identification	
27	I	Failure to qualify PWR inspection personnel	
28	I	Failure to qualify SSW inspection personnel	
29	I	Failure to control weld filler material	
30	I	Failure to repair per AWS	
31	I	Failure to properly UT PWRs	
32	I	Failure to properly inspect pipe supports	X
33	D	Failure to document weld inspection	

\*V = VIOLATION  
 I = INFRACTION  
 D = DEFICIENCY



11-11-11

WNP 2 SACRIFICIAL SHIELD WALL/PIPE WHIP RESTRAINT CHRONOLOGY

- 1975 CONTRACTOR GIVEN APPROVAL TO START FABRICATION OF SHIELD WALL
- 7/76 NRC INSPECTION OF SHIELD WALL SITE ERECTION ACTIVITIES  
NONCOMPLIANCE- LACK OF QUALITY PROCEDURES
- 7/76 STOP WORK ISSUED, SITE ACTIVITIES AUDITED BY CONTRACTOR/BURNS & ROE
- 8/76 CONTRACTORS SHOP ACTIVITIES AUDITED BY BURNS & ROE/WPPSS
- 6/78 CONTRACTOR CERTIFIES SACRIFICIAL SHIELD WALL COMPLETE
- 10/78 VOIDS DETECTED IN SHIELD WALL BY 215 CONTRACTOR
- 11/78 215 CONTRACTOR IDENTIFIES NUMEROUS DEFECTS, ASKS WPPSS TO  
RE-EVALUATE THE SHIELD WALL
- 2/79 WPPSS NOTIFIES NRC OF MAJOR WELD DEFECTS FOUND IN BRACKETS  
FABRICATED BY THE SHIELD WALL CONTRACTOR
- 3/79 BURNS & ROE ESTABLISHES PLAN TO ASSESS SHIELD WALL ADEQUACY
- 6/79 NRC RECEIVES ALLEGATIONS REGARDING SHIELD WALL AND REPAIRS,  
INSPECTORS IDENTIFY GAP BETWEEN RINGS, QUESTION RECORDS
- 7/79 WPPSS COMMITMENT TO NRC TO REVIEW ALL SHIELD WALL QUALITY RECORDS
- 7/79 215 CONTRACTOR INITIATES QUALITY REVIEW OF SHIELD WALL CONTRACTOR
- 10/79 WPPSS REPORTS TO NRC THAT SHIELD WALL IS NOT PROPERLY WELDED TOGETHER
- 10/79 NRC REVIEW OF BURNS & ROE EVALUATION ACTIVITY REVEALS THE  
EVALUATION IS BASED ON INCOMPLETE DATA (TYPICAL VS ACTUAL DEFECTS)
- 11/79 WPPSS NOTIFIES NRC OF RECORDS IRREGULARITIES IN PIPE WHIP RESTRAINT  
RECORD PACKAGES (SAME CONTRACTOR AS SHIELD WALL)
- 11/79 NRC ISSUES IMMEDIATE ACTION LETTERS, WORK STOP ON SACRIFICIAL  
SHIELD WALL AND PIPE WHIP RESTRAINTS
- 11/79-  
2/80 NRC INVESTIGATION OF SHIELD WALL/PIPE WHIP RESTRAINT CONTRACTOR'S  
PROGRAM AND RECORDS, 18 ITEMS OF NONCOMPLIANCE



WNP-2  
 REPORT NO. 50-397/80-08  
 NONCOMPLIANCE/UNRESOLVED/OPEN ITEMS LIST

<u>TRACK NO.</u>	<u>PARAGRAPH</u>	<u>ITEM</u>
01	3.a	Infraction - Organizational freedom of QA/QC
02	3.b(1)	Deficiency - Survey document of vendor not maintained
03	3.c	Unresolved - Acceptance criteria for receiving inspection of hangers
04	3.d	Open - Licensee to examine program for documenting inspection findings
05	3.e	Open - Work continued on a support FDR-385 after issuance of a NCR
06	3.g	Unresolved - Welds being cut out rather than repaired to preclude B/R review
07	4.b	Deficiency - Failure to document inspection findings relative to incorrect amperage settings for MT probes
08	4.c(1)	Open - WP-57 does not address the removal of temporary weld attachments
09	4.c(1)	Infraction - Failure to maintain records for temporary weld attachments
10	4.c(4)	Open - Form NF-286 contains note that temporary welding records will not necessarily form a part of permanent documentation
11	5.a(1)(a)	Infraction - Piping support clearances in excess of requirements
12	5.2(2)	Open - Inspectors to be instructed to request engineers review of fillet welds on curvature of pipe
13	5.b	Open - Licensee to consider reportability of welding problems related to Pybus steel
14	5.c	Unresolved - Control and documentation of arc strikes on structural steel
15	5.d	Open - Licensee to consider generic problem related to lack of penetration in pipe from Associated Pipe
16	5.e	Infraction - Failure to use filler metal specified in procedure
17	3.5(1)(b)	Unresolved - Dispositioning of questionable filler metal and corrective action
18	3.d(1)(b)	Open - Disposition of pipe in quarantine, heat numbers N12476 and N12477
19	5.e	Open - Inconsistency in purging procedure for socket welds
20	5.f	Open - Question of reportability of problems related to the anchoring of support base plates
21	6.a & b	Open - Handling of pipe minimum wall thickness problems

Noncompliance/Unresolved/Open Items List

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<u>TRACK NO.</u>	<u>PARAGRAPH</u>	<u>ITEM</u>
22	6.b(3)	Deficiency - Incorrect acceptance standards used to evaluate results of LP examinations
23	7.a	Open - WBG QAP-7 does not require owner approval of contractor procedures and revisions
24	7.b(6)	Open - Establishment of controls to coordinate hanger material identification
25	7.c	Open - Control of certain heats of pipe in quarantine as identified in surveillance report No. M-246
26	7.c	Open - Heat number is missing from pipe spool RHR-2018-1
27	7.g	Open - Pipe with an apparent legitimate heat number has been installed, but has the word "scrap" painted on it
28	7.h	Unresolved - Difference between stores requisition records and laydown inventory records
29	8.a, b & c	Infraction - Calculations were not provided to support deletion or redesign of support welds
30	8.a	Open - Page 1 of Engineering Quality Audit is missing from documentation package for support RCC-3
31	8.b	Open - Inspection/control of oversized support steel fillet welds
32	9.a	Open - Followup on cleanliness of pipe being installed
33	9.b	Open - Review of system flashing procedures during preoperational inspections since flushing not planned prior to hydrostatic tests
34	10.c	Unresolved - Calibration of torque wrenches and for tightening of Velan valves in pump house (NCR-5163)
35	10.g	Unresolved - Question relative to the satisfactory removal of a ladder that had been tack welded inside MS-528-7.10 pipe spool
36	11.a & 11.k(b)	Deficiency - Failure to provide a procedure and/or checklist for document review of work packages
37	11.a	Deficiency - Failure of QA Manager to review records of rework that was performed subsequent to the document package acceptance review
38	11.a	Infraction - Failure to perform weld inspection as required by procedure
39	11.a, h & k(6)	Open - General review of licensee's action to assure final document reviews are properly accomplished, including commitment to the NRC on document review
40	7.a	Infraction - Failure to comply with procedure revision requirements