

BROWN & ROOT, INC. CPSES JOB 35-1195	NUMBER	REVISION	ISSUE DATE	PAGE
	CP-QAP-12.1	3	MAY 20 1982	1 of 10
TITLE: INSPECTION CRITERIA AND DOCUMENTATION REQUIREMENTS PRIOR TO RELEASE FOR PRESSURE TESTING	ORIGINATOR: <u><i>D. L. Jander</i></u>			<u>5-20-82</u> DATE
	REVIEWED BY: <u><i>J. M. L.</i></u>			<u>5-20-82</u> DATE
	APPROVED BY: <u><i>A. J. Rudy</i></u> Site QA Manager			<u>5/20/82</u> DATE

1.0 REFERENCES

- 1-A CP-SAP-3, "Custody Transfer of Station Components"
- 1-B CP-CPM-12.2, "Work Activities on Systems Released to TUGCO"
- 1-C CP-SAP-6, "Control of Work on Station Components after Release from Construction to TUGCO"
- 1-D CP-CPM-6.9I, "Pressure Testing"
- 1-E CP-QAP-18.2, "Quality Assurance Review of ASME III Documentation"
- 1-F QI-QAP-11.1-26, "ASME Pipe Fabrication and Installation Inspections"
- 1-G QI-QP-11.8-12, "Pressure Testing of Instrumentation Tubing and Fittings"
- 1-H QI-QAP-2.1-5, "Training and Certification of Inspection Personnel"
- 1-I QI-QAP-16.1-2, "Documenting Base Metal Repairs, Minimum Wall Violations, and Arc Strike Repairs"
- 1-J QI-QAP-18.05, "Inspection Reports"

VOID

2.0 GENERAL

2.1 PURPOSE

The purpose of this procedure is to establish requirements for:

FOIA-85-59

FOR INFORMATION ONLY



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	2 of 10

- a. System/subsystem walkdown by Completion Quality Engineering prior to release to TUGCO for Pretest Activities;
- b. Control of the system/subsystem after release;
- c. System/subsystem walkdown prior to release for insulation, release for penetration sealing, and pressure test;
- d. Documentation review by the Quality Engineering Review Group; and
- e. Verification and approval of the Pressure Test Data Package.

2.2 SCOPE

The scope of this procedure applies to all ASME Section III piping and components released to TUGCO for pretest and pressure testing in accordance with CP-SAP-3 (Reference 1-A).

2.3 RESPONSIBILITY

2.3.1 Quality Engineering Supervisor

The Quality Engineering Supervisor shall be responsible for the overall implementation of this procedure.

2.3.2 Completions Quality Engineering

The Completions Quality Engineering group shall be responsible for coordinating ASME related activities prior to release for insulation, release for penetration sealing and pressure testing.

All inspection personnel performing inspections included in this procedure and Reference 1-B shall be trained, qualified and certified in accordance with Reference 1-D.

3.0 PROCEDURE

3.1 RELEASE FOR PRETEST ACTIVITIES

Release of a system for pretest activities shall be accomplished in the following manner. Upon notification of an upcoming turnover by TUGCO Completions the B&R Completions Quality Engineering Group shall perform a



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	3 of 10

walkdown of the system and check the system for completeness. Any incomplete items shall be noted on the Turnover Construction Deficiency List. In addition a documentation review of all flanged connections shall be performed by Completions QE to determine actual stage of installation, i.e. temporary or permanent. Temporary connections shall be noted on the Turnover Construction Deficiency List. This does not apply to systems released prior to the issue date of this procedure.

3.2 CONTROL DURING PRETEST RELEASE

After a system has been released for pretest any work by B&R construction shall be accomplished in accordance with CP-CPM-12.2 (Reference 1-B). Any work by TUGCO Startup shall be in accordance with CP-SAP-6 (Reference 1-C).

Any Startup Work Permit shall be routed to the Completions Quality Engineering Group for review of the documents and provide applicable QC inspection attributes, hold points, etc. as deemed necessary for the scope of work. If applicable, the SWP shall be routed to Site ANI for review and hold point issuance. Upon completion of all operations described on the SWP TUGCO Startup shall forward it to the Quality Engineering Supervisor or designee for final review, to assure proper documentation by the appropriate Construction and Quality Control personnel.

Disassembly of flanges for flushing/hydro shall require a Flushing/Hydro Disassembly List (Attachment 3) to be initiated by TUGCO Startup. A copy of this list shall be submitted to B&R Completions Quality Engineering Group prior to disassembly. Upon completion of all work the original list shall be signed and submitted to B&R Completions Quality Engineering Group. The Completions Quality Engineering group shall assure that final flange travelers are initiated and worked.

3.3 NOTIFICATION OF PRESSURE TEST

Releasing a system/subsystem for pressure testing shall be accomplished in the following manner: TUGCO Startup shall notify the B&R Completions Quality Engineering Group of a pressure test by forwarding the Pressure Test Data Package in accordance with Reference 1-D.



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	4 of 10

3.4 WALKDOWN AND DOCUMENTATION REVIEW PRIOR TO PRESSURE TEST

Completions Quality Engineering shall perform a walkdown of the ASME system/subsystem to determine the status of items within the test boundaries and document all unsatisfactory items in accordance with paragraph 3.5 (Inspection Criteria). Unsatisfactory items shall be documented on NDER's, FDR's or NCR's and placed on a QC Punchlist (Attachment 2). A copy of the punchlist shall be forwarded to Startup Test Engineering for rework of the deficiencies and a copy forwarded to Quality Engineering Review for information.

The Quality Engineering Review Group shall verify that all documentation within the subject test boundary is complete and reviewed in accordance with reference 1-E. All documentation pertaining to the subject test boundary shall be statused on a Documentation Status Form (Attachment 1).

After Startup construction resolves all deficiencies noted on the QC Punchlist, the items shall be reinspected to verify acceptability. All items within the test boundaries shall be acceptable per paragraph 3.5 and Reference 1-E of this procedure. Unacceptable items shall be brought to the attention of Startup Test Engineering to be excluded from the test boundaries or identified as exceptions to be tested at a later date.

The Completions Quality Engineering Group shall verify that the test parameters are acceptable as stated on the Pressure Test Data Sheet. Quality Engineering Pretest Concurrence shall be signed and dated on the subject Pressure Test Data Sheet. The Pressure Test Data Package shall be forwarded to the ANI for review and pretest concurrence signoff on the Pressure Test Data Sheet.

NOTE: The documentation review may be incomplete at the time of pressure test, but final acceptance of the test shall not occur until the review is complete and acceptable. Any items which must be reworked as result of a documentation deficiency shall be retested as required.

3.5 INSPECTION CRITERIA PRIOR TO RELEASE FOR INSULATION, RELEASE FOR PENETRATION SEALING AND PRESSURE TEST

a. All items within the test boundary are complete and readily accessible.



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	5 of 10

- *b. All welds, joints and base metal repairs which require welding areas of high stress are accessible and clear of insulation. (Applies prior to pressure test only).
- c. Adequate lighting is available.
- d. All permanent relief valves are gagged, or removed and blanked.
- e. The size of all pipe socket welds shall be checked to the requirements of Reference 1-F.
- f. Valve location and orientation is in accordance with the design documents.
- g. Valves and pipe spools are properly identified.
- *h. Items show no visible sign of damage.
- *i. All items are free from arc strikes. If arc strikes are identified, they shall be handled in accordance with Reference 1-I.
- *j. Piping shall be installed within the following tolerances:
 1. Gradient (Unit 1 and common only): 3/16" per foot maximum (this applies to horizontal lines deviating from level only). Deviations from plumbness of vertical lines and horizontal departure from design will be controlled by the two-inch tolerance on location.
 2. Gradient (Unit 2): 1/16" per foot maximum (vertical and horizontal).
 3. Slope - Minimum slope shall be as designated on the drawings.
 4. Location - The following tolerances are permitted:
 1. Unit 1 and Common buildings - \pm 2 inches.
 2. Unit 2 Reactor Containment, Safeguard, Turbine buildings and Unit 2 yard piping - \pm 1/2".
 5. Clearance - A minimum of two inches of clearance shall be maintained, including pipe insulation with respect to other piping when one or both

BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	6 of 10

lines have an operating temperature of 200°F or greater. All other lines may be installed with a minimum of one-inch clearance, including with respect to other piping.

When location specified on the drawings result in clearances less than that specified above, Site Engineering shall be contacted for resolution.

For clearance of pipe (with an operating temperature of 200°F or greater) from hangers, walls, ceiling, hand rails, etc., other than pipe to pipe, a minimum of one inch shall be maintained, including pipe insulation. All other lines may be installed with a clearance only for insulation, however on a case by case basis it might be necessary to notch insulation to establish clearance which will require engineering approval.

When installed in blockouts, sleeves shall be installed so that, for lines with operating temperatures at or above 200°F, their centerlines are within 1/4 inch of piping centerlines. For lines with operating temperatures of less than 200°F, the sleeve inside diameter must be no less than 1/2 inch from pipe outside diameter.

NOTE: Astrisk denotes inspection criteria used for walkdown prior to insulation release and/or release of penetration sealing.

3.6 RELEASE FOR INSTALLING INSULATION

Completions Quality Engineering may release a system or any part of a system for insulation after completion of the applicable inspection requirements identified in paragraph 3.5. Completions Quality Engineering shall complete a Insulation Release Form, Attachment 4, mark applicable ISO drawing(s) identifying the boundaries released for insulation including areas of exception. A copy of the Insulation Installation Release Form and the marked up ISO's shall be forwarded to the Assistant General Superintendent Mechanical Piping.



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	7 of 10

ATTACHMENT 1

ISO. NO.	SPL/WLD	SU	FINISH	SU	TVRL. NO.	SU	EQT.	SU	HYDRO NO.	W.D. ATTACH.	SU	REMARKS
TYPICAL												STATUS BY _____ AS OF (DATE) _____



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	8 of 10

ATTACHMENT 2

Originator _____	QC Purchiser _____	CP - QAP-12.1 Rev. _____ Test # _____	Closeout 3/98 &	Item & Deficiency description																

TYPICAL



BROWN & ROOT, INC. CPSES	NUMBER	REVISION	ISSUE DATE	PAGE
JOB 35-1195	CP-QAP-12.1	3	MAY 20 1982	10 of 10

ATTACHMENT 4

INSULATION INSTALLATION RELEASE

DATE:

SYSTEM:

BOUNDARIES AND LOCATION:

ISO'S:

EXCEPTIONS:

Completions Quality Engineering releases the system or parts of the system described on this form and the attached marked up ISO's for insulation installation.

Completions Quality Engineer: _____
(Signature/Date)

