

# WP 13-QA1006

Revision 10

## Quality Assurance Plant Inspections

Management Control Procedure

EFFECTIVE DATE: 03/16/11

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APPROVED FOR USE

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**CHANGE HISTORY SUMMARY**

<b>REVISION NUMBER</b>	<b>DATE ISSUED</b>	<b>DESCRIPTION OF CHANGES</b>
10	03/16/11	Deleted references related to WP 13-QA1005, WIPP Review of RTR Tapes (no longer performed by QAIS). (Introduction, References)  Added references to and steps to perform WP 04-AD3030, Pre-Job and Post-Job Reviews. (References, Prerequisite Actions, 1.1.9)  Added applicable JHA to the Baseline References.

## INTRODUCTION <sup>1</sup>

This procedure provides instructions for Quality Assurance Inspection Services (QAIS) to conduct and report quality-related inspections and tests (nondestructive examination/testing) for Washington TRU Solutions LLC (WTS) activities.

This procedure addresses the following requirements for all plant inspection and test processes performed by QAIS:

- Inspection/test planning
- Inspection/test hold and witness points
- In-process inspections/tests and monitoring
- Final inspections/tests
- In-service inspections/tests
- Inspection/test documentation

On-site plant inspections/tests are performed in accordance with this procedure and with approved implementing procedures as part of the site work planning process. This includes the identification of items and processes to be inspected and the parameters or characteristics to be evaluated.

Additional WTS inspection/test documents and processes include:

- WP 13-QA.06
- WP 13-QA1001
- WP 13-QA1002
- WP 13-QA1003
- WP 13-QA1004
- WP 13-QA3017
- WP 13-QA3019
- WP 13-QA3020
- WP 13-QA3021

Inspections/tests of quality-affecting items and processes shall be performed by personnel other than those who performed or directly supervised the work. Inspections/tests and the acceptance of items or services shall be conducted by qualified inspectors for all QAIS functions (e.g., installation, maintenance, operation, and testing of quality-affecting items, equipment, systems, or activities) using established acceptance and performance criteria. <sup>2</sup>

Performance of this procedure generates the following record(s), as applicable. Any records generated are handled in accordance with departmental Records Inventory and Disposition Schedules.

- EA13QA1006-1-0
- EA13QA1006-2-0

Record copies of completed Inspection Reports will be kept with the parent document. QAIS will retain the record copy of inspection/test reports not initiated by a parent document.

## REFERENCES

### BASELINE DOCUMENTS

- WP 13-1, Washington TRU Solutions LLC Quality Assurance Program Description
- JHA PROD-49, QAIS Field Inspections

### REFERENCED DOCUMENTS

- ANSI/ASQ Z1.4, *Sampling Procedures and Tables for Inspection by Attributes*
- WP 04-IM1000, Issues Management Processing of WIPP Forms
- WP 04-AD3030, Pre-Job and Post-Job Reviews
- WP 09-CN3005, Graded Approach to Application of QA Controls
- WP 10-AD3005, Control and Use of Maintenance Locks
- WP 10-WC3011, Work Control Process
- WP 13-QA.04, Quality Assurance Department Administrative Program
- WP 13-QA.06, Quality Assurance Department Qualification and Certification of Nondestructive Examination Personnel
- WP 13-QA1001, Liquid Penetrant Examination
- WP 13-QA1002, Visual Inspection
- WP 13-QA1003, Quality Assurance Receipt/Source Inspections
- WP 13-QA1004, Magnetic Particle Examination
- WP 13-QA3004, Nonconformance Report
- WP 13-QA3017, Visual Examination of O-Ring Seals
- WP 13-QA3019, Main Containment Seal Batch Test
- WP 13-QA3020, Fabrication Oversight
- WP 13-QA3021, Facility Restoration Oversight
- EA13QA04-5-0, Quality Assurance Screen

- EA13QA1006-1-0, Quality Assurance Inspection Report
- EA13QA1006-2-0, Quality Assurance Inspection Log
- Qualification Card QAI-01-3, Quality Assurance Plant Inspector Qualification Card

### PREREQUISITE ACTIONS <sup>3</sup>

- 1.0 Qualification card QAI-01-3 will be completed and approved by Quality Assurance (QA) management for each individual before performing any related inspection/test services and/or activities.
- 2.0 Personnel who have not been qualified in accordance with WP 13-QA.04 and QAI-01-3 may perform support activities, such as data-taking or equipment operation, under the direct supervision of a qualified inspector.
- 3.0 Attend pre-job review(s) before performing a job to discuss the tasks involved, hazards, related safety precautions and applicable controls (WP 04-AD3030).

### PERFORMANCE

#### 1.0 INSPECTION AND TEST PLANNING <sup>3</sup>

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#### NOTE

The controls established in this section are designed to control work and establish inspection/test, hold/witness points in the implementing documents for all types of inspection/test activities performed by QAIS. Inspection/test planning shall be documented in the implementing documents. Changes to the original inspection/test planning shall not proceed without the specific consent of QAIS Quality Engineering.

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- 1.1 QE, perform the following:
  - 1.1.1 Review work documents for the purpose of identifying the basis for inspection/test services. This includes, but is not limited to:
    - Work orders (WOs) and associated work change notices (WCNs) generated by WP 10-WC3011
    - Work instructions
    - Procedures
    - Lockout/Tagout requirements
    - Any referenced codes or standard(s)

- Procurement documents:
  - Purchase Requisition (PR) and associated Purchase Requisition Change Notices (PRCNs)
  - Associated Statements of Work (SOWs) and specifications
  - Associated corrective action documents, if applicable
  - Any referenced codes or standard(s)

1.1.2 Verify that a quality level evaluation for the system or component affected by the work activity has been performed in accordance with WP 09-CN3005.

1.1.3 Verify appropriate quality requirements have been incorporated in the work document using EA13QA04-5-0.

1.1.4 Verify the following attributes are incorporated in the work/inspection or test document, as applicable:

- Identification of specific items, processes, and work operations where inspections/tests are necessary
- Identification of referenced codes or standard(s)
- Identification of the parameters or characteristics to be inspected/tested
- Identification of when, during the work process, inspections/tests are to be performed. Examples:
  - Post-installation inspection/test
  - Retest
- Verification that dimensional, physical, configuration, identification, cleanliness, or other characteristics meet requirements. Examples:
  - Like-for-like inspections/tests of replacement parts
  - Mine roof bolting
  - Suspect/counterfeit items
- Verification that material control is maintained. Examples:
  - Material identification and traceability
  - Material markings applied and transferred
  - Storage and handling requirements

- Functional and performance testing to verify that items, services, and processes meet requirements and are fit for use and acceptance. Examples:
  - Functional testing of continuous air monitors (CAMs)
  - Continuity checks
- Nondestructive examination (NDE), including procedure used to perform the examination. Examples:
  - Crane hooks
  - Lift fixtures
- Inspection/test or monitoring methods to be used. Examples:
  - Observation of work being performed
  - Data review
- Acceptance and performance criteria, based on appropriate procedure, design documents, or site or industry specifications
- Sampling requirements based on ANSI/ASQ Z1.4 or statistical analysis
- Measuring and test equipment (M&TE) needed to perform the inspection/test, including calibration, type, range, accuracy, and tolerance requirements
- Test requirements and acceptance limits, including required levels of precision and accuracy
- Test prerequisites that address calibrated instrumentation, software, appropriate and adequate test equipment and instrumentation, trained personnel, and suitably controlled environmental conditions
- Provisions for ensuring that prerequisites for the given test have been met
- Hold and/or witness points
- Provision for recording inspection/test results <sup>4, 5, 8</sup>

1.1.5 Coordinate with the cognizant engineer/individual for the affected system to identify any additional inspections/tests needed.

1.1.6 Consult the Graded Approach database as needed.  
(Reference WP 09-CN3005.)

1.1.7 Establish process monitoring and/or in-process, in-service, or final inspections/tests (as needed).<sup>9</sup>

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**NOTE**

Controls shall be established and documented for the coordination and sequencing of the work at established inspection/test points during successive stages of the process. See the following sections for additional details/controls.

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1.1.8 Complete the inspection/test planning documentation, as applicable.

1.1.9 Attend post-job review(s) based on the Cognizant Manager's determination (WP 04-AD3030).

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**NOTE**

Work shall not proceed beyond a designated hold/witness point without the consent of QAIS. Approval to waive the hold/witness point must be obtained from QAIS and documented by QAIS in the work document before continuing work beyond the designated inspection/test point. The ONLY exception to this is a Corrective Action Work Order, wherein like-for-like replacement parts are stated. When **NO** replacement parts were used, the Maintenance Engineer (ME) can N/A the particular hold point with QAIS concurrence per telecom.

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1.1.10 Incorporate applicable inspections/tests (i.e., QAIS inspection/test hold and/or witness points) identified by the above reviews/evaluations into the work document.<sup>8,10</sup>

1.1.11 Indoctrinate/brief affected QA Inspector(s) as needed on codes, standards, and requirements related to the inspection/test.

## 2.0 IN-PROCESS INSPECTIONS/TESTS AND MONITORING<sup>11</sup>

2.1 QE, perform the following:

2.1.1 Establish inspection/test points for process monitoring or items in process as part of the inspection/test planning process (Section 1.0).

2.1.2 If inspection/test of processed items is impossible or disadvantageous, provide for indirect control by monitoring of processing methods, equipment, and personnel.

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**NOTE**

When a combination of inspection/test and process monitoring methods are used, monitoring shall be performed systematically to ensure that the specified requirements for control of the process and the quality of the item are met throughout the duration of the process.

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2.1.3 Provide for both inspection/test and process monitoring when control is deemed inadequate using only one of these methods.

### 3.0 FINAL INSPECTIONS/TESTS <sup>12</sup>

3.1 QE, establish inspection/test controls to include the following:

- Review of results and verification of resolution of all related nonconformance reports (NCRs)
- Review of records to ensure adequacy and completeness
- Inspection/test of items for completeness, markings, calibration, protection from damage, or other characteristics to verify quality and conformance to the applicable requirements
- Reinspection or retest, as appropriate, of modifications, repairs, or replacements to verify acceptability if they were completed after final inspection/test

### 4.0 IN-SERVICE INSPECTIONS/TESTS <sup>13</sup>

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**NOTE**

Individual inspections/tests and/or surveillances shall be executed by or for the responsible WTS organization.

Inspection/test methods are used to verify that the quality characteristics remain within specified limits.

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4.1 QE, establish inspection/test points for in-service inspections/tests as part of the inspection/test planning process (Section 1.0), in conjunction with the responsible program (e.g., WP 10-WC3011).

Inspection/test methods shall include the following, as appropriate:

- Verify/witness performance capabilities of essential emergency and safety systems and equipment
- Verify/witness calibration (if required) and integrity of instruments/instrument systems
- Verify/witness maintenance

## 5.0 INSPECTION/TEST PERFORMANCE AND DOCUMENTATION

5.1 QA Inspector, perform the following:

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### NOTE

In order to minimize risks to personnel, if Lockout/Tagout or a Personal Lockout Device (PLD) is required by QAIS personnel, then the assigned QA Inspector hanging the PLD will attend the responsible crafts pre-job safety brief, if practical. This will ensure that the lock and tag are placed on the affected equipment per the work order instructions.

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5.1.1 If a Lockout/Tagout is required, perform the following:

[ A ] Hang personal lock and tag in accordance with WP 10-AD3005 and the applicable work instructions.

[ B ] Attend the responsible craft's pre-job safety brief, if practical.

5.1.2 Perform and sign or initial the required inspection/test action (monitoring, observation, measurement, examination) as directed in the parent document.<sup>8</sup>

5.1.3 QA Inspector, remove all personal locks and tags when work is completed.

5.1.4 Document inspection/test results in the spaces provided in the parent document or prepare EA13QA1006-1-0, as needed.

This includes the use and documentation of:

- Item inspected and date of inspection/test
- Inspector's name
- Parameters or characteristics to be evaluated
- Inspection/test method and techniques used
- Inspection/test criteria, sampling plan, or reference documents (including revision designation) used to determine acceptance
- Results or acceptability
- M&TE used, including identification number and calibration due date

- Reference to any information on actions taken in connection with nonconformances, as applicable<sup>3, 14, 15</sup>

5.1.5 If deficiencies are identified during inspection/test:

[ A ] Issue **ONE** of the following:

- WIPP Form in accordance with WP 04-IM1000
- NCR in accordance with WP 13-QA3004

[ B ] Record the WIPP Form/NCR number on the inspection/test documentation.

[ C ] Initiate and hang QA hold tags in accordance with WP 13-QA3004.<sup>15</sup>

5.1.6 Retrieve the next sequential number from the Quality Assurance Inspection Log (EA13QA1006-2-0), and record it on the QA Inspection Report (EA13QA1006-1-0).

5.1.7 Attach the original QA Inspection Report to the parent document and place a copy or the original (if there is no parent document) in the Quality Assurance Inspection Log.

5.1.8 When identified deficiencies are resolved, close out the related WIPP Form, NCR, and QA hold tags in accordance with the governing procedures.

## 6.0 WORK ORDER REVIEW

6.1 Quality Engineering, conduct reviews of Safety Class (SC) and/or Safety Significant (SS) Work orders (WOs) and associated work change notices (WCNs) generated by WP 10-WC3011.

6.1.1 Quality Engineering, use the guidelines listed below to conduct QA review(s) of SC and/or SS WOs and WCNs

[ A ] Attachment 1 - Initial Work Order Review Guidelines

[ B ] Attachment 2 - Completed Work Order Review Guidelines

## Attachment 1 - Initial Work Order Review Guidelines

Determine the applicability of the following quality elements with respect to WOs and WCNs:

- Like for Like Inspection
- Functional Test/Retest
- Weld Inspection
- NDE Inspection
- Hold and Witness points
- Engineering Change Order (ECO), if required
- Type of work package (M, C, S)
- Any Temporary Modifications
- Lockout/tagout requirements
- Calibrated equipment
- Bill-of-Material
- NCR (Conditional release), if required
- Start-Up Testing, if required
- As built drawing and/or specification
- Prerequisite actions (e.g, crane inspection)
- Contractor support (Qualified Suppliers List qualification), if required
- Special provisions for industrial safety (e.g., personal protective equipment)

## Attachment 2 - Completed Work Order Review Guidelines

Review work order for completeness. This may include, but is not limited to, the following items:

- Work order is properly filled out (no blanks, corrections are single lined, initialed and dated)
- Verify all steps are signed off and no hold/witness points have been bypassed.
- Verify all attachments are present.
- Verify data falls within prescribed parameters specified by the work order.
- Satisfactory functional test/retest (as required)
- All documentation is present, such as CMTRs, welder qualifications, inspection reports, etc.
- Verify calibrated equipment has been properly logged in the work package.
- Verify the work order captures the bill-of-material to ensure the specified parts have been installed and/or replaced (i.e., like-for-like).
- Generation of an action item punch list
- Verify completed tasks and/or system walk-down, if required