

Information Bulletin

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Title: Control of Externally Prepared Technical Procedures

Date: May 8, 2006

Identifier: 2006-RL-HNF-0014

Lessons Learned Summary: Technical procedures developed external to Fluor Hanford (FH) work processes pose unique work planning challenges. Personnel who choose to incorporate or reference non-FH procedures in work packages should understand external procedures are not prepared or released in accordance with their Facility/Project's procedure control processes. For this reason, externally prepared procedures may require additional administrative controls and special handling to assure key program requirements such as document review and approval, procedure revision control, work step validation, USQ evaluations and other work management expectations are satisfied prior to authorizing their use in FH facilities.

Discussion of Activities: An evaluation of HEPA filter aerosol testing at FH-managed facilities revealed multiple weaknesses in the implementation and control of Contractor provided (CH2M-Hill) In-Place Leak Test procedures. To accommodate a wide variety of system configurations, the generic Vent and Balance (V&B) test procedures are intentionally vague and lack facility and system specifics. As the test procedure clearly states, it is the facility's responsibility to provide supplemental information to support the test. Issues discussed in this lessons learned document involve both the quality of facility-provided supplemental information and the manner in which the V&B procedures are incorporated and controlled in pre-approved work activities. Though the problem type and severity varied among facilities, the evaluation revealed V&B procedure implementation and control problems occurred wherever the procedure was used. Noted deficiencies include:

- Technical procedure references in the Work Management database (Job Control System (JCS) were not always correct (e.g., Vent and Balance procedure reference was missing, incomplete, or incorrect)
- PM/S Work activities requiring use of Vent and Balance (V&B) procedures were not always appropriately reviewed or approved
- Adequate procedure revision controls were not always employed, especially when generic test procedures were embedded into repetitive pre-approved work activities
- Procedure validations were not always performed on HEPA systems
- Supplemental information required by the V&B procedure (e.g., System Sketch, test port identification, test configuration requirements, facility-specific acceptance criteria, etc.) were not always provided, complete, or formally approved or controlled by FH staff.

Analysis: A fully integrated facility work management and procedure development program forms a comprehensive and effective work control program. However, when elements of either process are performed or controlled by external (non-FH) organizations, effectiveness of established internal controls can be compromised. Facility personnel, who are unaware of potential differences in work management and procedure development programs between site contractors, may assume standard internal work process controls are adequate to maintain program compliance: often they are not. The following discussion illustrates how reliance on standard work practices may not provide the expected level of control.

Work planning staff are trained to review the database and verify the current procedure version is incorporated into a work package prior to release. To facilitate this process, only current “approved” procedures are accessible on the shared drive. For the majority of FH work, the planner can reasonably assume internal procedures required per a pre-approved work activity have been appropriately reviewed and approved by facility staff. Since referenced internal procedures are already approved, the work process allows planners to embed approved procedures into a pre-approved work package without additional engineer review or approval. The same assumption for externally prepared procedures can lead to incorporation of a revised technical procedure without the requisite work validation, USQ evaluation, and technical review and approvals. For example, current generic V&B procedures are also accessed through a controlled shared drive and appear to be approved and acceptable for use. However, because external V&B procedures are not issued by FH, they are not reviewed and approved by the responsible FH engineer, nor have they been evaluated or approved for use in an FH facility. Unless the work planner is aware of this distinction, standard work management practices may not be effective in controlling the work.

Use of externally prepared procedures can also blur the lines of technical responsibility and procedure ownership. The Vent and Balance organization provides HEPA filter test services to the entire Hanford site. They have also played a key role in establishing site aerosol test policies, and have developed and maintained a series of generic test procedures. Because V&B personnel have received formal training in filter testing, they are recognized by many as “test experts.” As previously noted, the generic test procedures provide only basic test instructions, and lack facility and system-specific information such as system configuration requirements, test port locations, acceptance criteria, and other technical direction needed to perform the test. Consequently, accurate facility supplemental information must be included with each test. The evaluation revealed FH staff rarely provide the required facility and system-specific information with the appropriate level of detail or formality.

In the past, facility personnel frequently deferred many test-related technical decisions to the V&B staff, and relied on “skill-of-the-craft” to fill the gaps and provide the required procedure technical inputs (e.g., system configuration, test acceptance criteria, test port selection, etc.) Assignment of System Engineers and Design Authorities to HEPA systems, documented expectations regarding the content of aerosol test procedures, and continued internal and external oversight of the filter test process has appropriately shifted the primary technical responsibility for assuring test adequacy from the V&B personnel to facility engineers. However, evaluation results suggest some facility engineers continue to defer important system test decisions to V&B personnel. Apparently, the availability of “approved” generic

aerosol test procedures and the willingness of V&B staff to accept less than adequate or informal test supplements lead some to conclude a hands-off approach to testing is acceptable: it is not. Assigned facility engineers must assume full responsibility for assuring the adequacy of in-place leak tests performed on their systems, regardless of the procedure source.

Recommendations: It is recommended that work control, planning, and engineering personnel be made aware of the potential procedure control and technical ownership issues associated with embedding externally prepared procedures in pre-approved work activities. Because the procedures discussed in this lessons learned bulletin were used for demonstrating filter performance for regulatory and safety basis compliance, it was decided, the implementation and control issues could best be addressed through administrative restrictions on the use of the generic test procedures and development and issuance of FH internal procedures. The selected approach is not intended to suggest external procedures cannot be managed effectively by other means. Other options were available. Whether or not additional administrative controls are needed for controlling use of external procedures depends on many factors (e.g., existing facility work management controls, procedure type and complexity, quality and safety considerations, etc.) and should be determined on a case-by-case basis.

Estimated Cost Savings: Not evaluated

Work Function: Conduct of Operations - Work Control

ISM Core Function: Define Work

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Keywords: Procedure, Work Control, Review and Approval, Procedure Validation, Aerosol Test, In-Place Leak Test

References:

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Internal Memorandum CEO4PMO.099, C.M. Kronvall, FH, to Chief Engineers, same subject, dated June 10, 2004;
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