

U.S. DEPARTMENT OF ENERGY  
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT  
OFFICE OF QUALITY ASSURANCE

SURVEILLANCE REPORT OF  
SYSTEMS ENGINEERING AND PROGRAM INTEGRATION DIVISION (RW-32)  
WASHINGTON, DC

SURVEILLANCE HQ-SR-92-07

JULY 21-24, 1992

PREPARATION AND REVIEW OF THE  
PHYSICAL SYSTEM REQUIREMENTS - TRANSPORT  
WASTE DOCUMENT

Prepared by: *Fred Bearham*  
Fred Bearham  
Surveillance Team Leader  
Headquarters Quality Assurance Division

Date: 11/13/92

Approved By: *Donald G. Horton*  
Donald G. Horton  
Director  
Office of Quality Assurance

Date: 11/13/92

## 1.0 EXECUTIVE SUMMARY

The surveillance was conducted to verify that RW-32 personnel had prepared and reviewed the Physical Systems Requirements - Transport Waste (PSR-TW) Document in accordance with applicable QA implementing procedures. The surveillance was conducted at DOE Headquarters from July 21-24, with additional meetings held with RW-32 personnel on July 31, and August 4, 1992. The surveillance was performed by personnel from the OCRWM Headquarters Quality Assurance Division (HQAD) of the Office of Quality Assurance. The team determined that RW-32 had adequately implemented the OCRWM QA Program during the preparation and review of the PSR-TW. No Corrective Action Requests (CARs) were issued. Six recommendations, which do not require a response, were identified for management consideration.

The surveillance team determined that the PSR-TW was properly prepared and has been subjected to a detailed review. Some reviewers had nearly 100 comments and the responses to the comments were comprehensive.

## 2.0 SCOPE

Surveillance HQ-SR-92-07 was conducted to verify that RW-32 and supporting contractor personnel had prepared and reviewed the PSR-TW in accordance with applicable QA Program requirements.

The PSR-TW identifies the functions to be performed by the physical transportation system, the requirements to be imposed on those functions, and the conceptual architecture to be used to satisfy the requirements.

The surveillance team used checklists based on the requirements of Quality Assurance Administrative Procedures: QAAP 2.1, *Indoctrination and Training*, Rev 2; QAAP 3.1, *Technical Document Review*, Rev 1; QAAP 3.5, *Preparation of Technical Document*, Rev. 1; QAAP 17.1, *QA Records Management*, Rev. 2; *Physical Systems Requirements/Functional Analysis Management Plan*, Revs. 4 and 5; and *Physical Systems Requirements - Transport Waste Document*, Rev. 0 (DOE/RW-0352). Results from OCRWM Surveillance HQ-SR-91-001 and 010 were also reviewed for open items and background information prior to the surveillance.

### **3.0 SURVEILLANCE TEAM**

The surveillance team consisted of the following personnel:

Frederick Bearham, Surveillance Team Leader, CER Corporation.  
Thomas Swift, Team Member, CER Corporation.  
Joseph Christy, Team Member, CER Corporation.

### **4.0 PERSONNEL CONTACTED**

The following personnel were contacted during the course of the surveillance:

William Lemeszewsky, Acting Director, Systems Engineering and Program Integration Division and Chief, System Engineering Branch (RW-32)  
Trieu Truong , General Engineer (RW-321)  
Ray Hahn, Transportation Task Leader, Systems Engineering Branch, Weston  
Mark Senderling, General Engineer, Systems Engineering Branch (RW-321)  
Gladys Ruffin, Quality Records Center, Manager (TRW)  
Janet Arpia, Training Officer (RW-131)  
Mary Betancourt, Secretary, Systems Engineering Branch (RW-321)

### **5.0 SURVEILLANCE RESULTS**

RW-32 has adequately implemented the OCRWM QA program in the preparation of the PSR-TW and subsequent technical reviews. Several QA procedures were applied to the PSR preparation. These implementing procedures included QAAP 3.5, *Preparation of Technical Documents*; QAAP 3.1, *Technical Document Review*; and QAAP 17.1, *QA Records Management*.

#### **5.1 Preparation of the Functional Analysis Management Plan**

The surveillance team reviewed the Physical System Requirements/Functional Analysis Management Plan (PSR/FAMP), which was prepared to meet the QAAP 3.5 requirement to establish and implement a Technical Document Management Plan. The applicable PSR/FAMP in effect during preparation was Revision 4. Revision 5 was issued on December 20, 1991 during the review process. M. Senderling stated that Revision 4 and Revision 5 are functionally equivalent for Transportation activities. After comparing the two revisions, the surveillance team concurred that Revision 5 was a minor upgrade for Transportation activities.

It was determined that the PSR/FAMP Revisions 4 and 5 comply with QAAP 3.5 for format and content and that the PSR/FAMP provided sufficient guidance and direction for the preparation of the PSR-TW. A recommendation was made that in the future references to Codes of Federal Regulations should include the effective date or Federal Register number (see Section 6.1). Both revisions were properly approved by the Director of Systems Engineering and Program Integration. Distribution included Weston personnel and the Battelle individual responsible for the PSR-TW preparation.

## **5.2 Preparation of the PSR-TW**

The preparation, review, and approval of the PSR-TW conformed to the requirements of the PSR/FAMP.

M. Senderling provided an informal listing of the preparers and reviewers. R. Hahn provided a list of the Technical Experts who provided input to the preparers for consideration in developing the PSR-TW. The surveillance team recommended that a listing of personnel and the function they performed in the development of the PSR-TW be prepared as a formal document (see Section 6.4). It was noted that two of the eleven reviewers were also Technical Experts (R. Hahn, D. Dawson); but after interviews with M. Senderling and W. Lemeshewsky, the team concluded that Mr. Hahn and Mr. Dawson did not review their own input.

Records package QRP-90-0331.00 was reviewed at the Quality Records Center (QRC). Two pages of the technical working session report were partially illegible and were replaced during the surveillance.

The QAAP 3.6 Technical Document Input Control forms were properly completed for the source documents used for the PSR-TW. The PSR-TW, however, does not identify the baseline (Federal Register number, date or revision) of some of the referenced documents such as CFRs (see Section 6.5). The team verified that the latest 10CFR20 (May 21, 1991) was used. It was also noted that the PSR-TW contained minor errors on pages 187 and 188 (see Section 6.6).

The QAAP 3.7 Interface Identification Forms were properly completed for the Accept, Transport, and Store Waste functions.

The PSR-TW was properly transmitted to the PCCB on February 2, 1992 by W. Lemeshewsky and L. Desell. The PSR-TW was approved by the PCCB Chairman in DCP #59 on April 10, 1992.

### 5.3 Training Records

The team reviewed Indoctrination and Training (I&T) records at the Quality Records Center and noted that some required documents referenced in PSR/FAMP were not included in the records of P. Kumar, R. Mele, and M. Duffy. Revised I&T matrices on file in Mr. Senderling's office contained the correct references. The initial unavailability of these matrices was justified in a memorandum issued by RW-321, July 10, 1992, indicating that QA I&T Matrices were in the process of being re-located from Quality Record Packages to individual System 80 files.

The education and experience requirements of preparers and reviewers requires clarification. The requirements for reviewers were specific regarding education and experience while the preparers only needed a proficiency statement. The proficiency statements varied from a very general statement of proficiency to a very detailed explanation of a preparer education and experienced (P. Kumar) making it a System 80 record (see Section 6.3).

Training files of Weston personnel were reviewed and found acceptable including verification of education and experience for P. Kumar, R. Mele, and A. Mozhi. The personnel file for M. Duffy at Weston contained his resume and a memo stating that verification of education and experience was not performed because he is a Battelle employee under contract to DOE (Corrective Action Request HQ-92-014 issued as a result of Surveillance HQ-SR-92-08 addresses this problem).

The surveillance team determined that, collectively, the preparers and reviewers education and experience were sufficient to perform the assigned tasks.

The team determined that RW-321 is in the process of organizing all indoctrination and training records for submittal to the Quality Records Center.

### 5.4 Technical Review of the PSR TW

The technical review of the draft PSR-TW was conducted in accordance with the requirements of QAAP 3.1, *Technical Document Review*, Revision 1.

During the review process it was noted that three versions of the PSR-TW were identified as Rev. 0. It is recommended that in the future drafts be identified with either a version number, letter or date (see Section 6.2).

The records generated during the preparation, review, and approval of the PSR-TW had been processed in accordance with QAAP 17.1, *QA Records Management*, Revision 2.

## **6.0 RECOMMENDATIONS**

The following recommendations do not require a formal response; however, RW-32 management should consider taking appropriate action. These areas will be evaluated during subsequent verification activities.

- 6.1** PSR/FAMP Paragraph 7.3.3 identifies seven Codes of Federal Regulation (CFRs), which the authors and other experts must be familiar, that effective date was not addressed in any document. It is recommended that, in the future, some direction be given as to the edition to be considered.
- 6.2** Three different versions of the PSR-TW were identified as Rev. 0. The original draft was dated on each page and marked "DRAFT" on the front page. The version that incorporated the reviewers comments was identified as Rev. 0 on each page and the final approved version issued in April 1992 annotated with Rev. 0 on each page.
- It is recommended that future documents have only one version identified as Rev. 0; drafts are identified with either a version number, letter, or date on all pages of the document.
- A memorandum from M. Senderling to W. Lemeshefsky, dated September 17, 1992, resolves this problem.
- 6.3** It is recommended that a meeting be held between RW-3, RW-10 and RW-30 to determine if "Personnel Requirement Forms" and "Qualification Reviewers Forms" are considered System 80 Records and discuss documentation of qualification requirements for DOE and other personnel.
- 6.4** In the future, PSRs should include a listing of the preparers and reviewers by memo or listing them in the document. This would demonstrate compliance of reviewer's independence required by the QAAPs and provide traceability of participants.
- 6.5** In the future, PSRs should provide a baseline date or applicable issue dates for reference documents.
- 6.6** It is recommended that in the next revision of PSR-TW, the QARD's issue date as it appears on page 187 of the current PSR should be corrected and the month the PSR/FAMPs were issued should be identified on page 188 since both revisions were issued during 1991.

## **7.0 LIST OF ATTACHMENTS**

Attachment 1: List of Objective Evidence

ATTACHMENT 1

Objective Evidence Reviewed During the Surveillance

- Physical System Requirements - Transport Waste (PSR-TW), Rev. 0, DOE/RW-0352, April 1992
- DCP Number 59, Initial Issuance, PSR-TW, April 10, 1992
- PSR/Functional Analysis Management Plan, Revision 4, June 19, 1991
- PSR/FAMP, Revision 4, Distribution letter, H.J. Hale, Director, SE & PID, June 20, 1991.
- Physical Systems Functional Analysis of TW requesting support, memo by D. Shelor, Associate Director for Systems and Compliance, August 2, 1991.
- PSR/FAMP, Revision 5, December 20, 1991
- PSR/FAMP, Revision 5, Distribution letter, W.A. Lemeshewsky, Acting Director, SE & PID, December 20, 1991
- DCP 56 Interim Approach for the Technical Baseline, December 4, 1992
- Source documents (QAAP 3.6) for PSR-TW (CFRs, DOE Orders, MOA, etc.)
- Interface Identification Forms (QAAP 3.7) dated January 3, 1992 (10 forms covering Accept, Transport and Store Waste functions)
- PSR-TW Preliminary Draft and transmittal letter by Dr. M.A. Duffy, Battelle, to W. Lemeshewsky, Chief SEB, dated November 8, 1991.
- Transport Waste Working Session Report, Washington, DC, August 7 & 8, 1991
- Transport Waste Working Session Report, Washington, DC, August 13 & 14, 1991
- Transport Waste Working Session Report, Washington, DC, August 28 & 29, 1991
- Transport Waste Working Session Report, Oak Ridge, TN, October 2, 1991
- Transport Waste Working Session Report, Washington, DC, October 16, 1991
  
- Informal List of Preparers (Task Team) provided by M. Senderling
  - M. Duffy - Battelle Task Leader
  - T.A. Mozhi, P. McGinn, R. Mele - Weston
  - N.P. Kumar - (Weston) now DOE
  
- Informal List of Reviewers provided by M. Senderling
  - M. Rahimi
  - T. Truong
  - R. Hahn
  - D. Kane
  - J. Imam
  - A. Berusch
  - T. Pollog
  - D. Dawson
  - G. Carruth
  - N. P. Kumar
  - A. Benson

- **Informal List of Core Team (Technical Experts) provided by Weston**
  - D. Dawson, (M&O)
  - R. Hahn, (Weston)
  - E. Chapel, (Weston)
  - R. Best, (SAIC)
  - L. Shappert, (Martin Marietta)
- **QAAP 3.1, Review for the PSR-TW, Memo by John P. Roberts, Acting Associate Director for Systems and Compliance, November 20, 1991, including attached qualification of reviewer form.**
- **Quality Record Package, QRP-92-0629.00 QA**
- **Quality Record Package, QRP-90-0331.00 Rev. 0, PSR-TW.**

**Personnel Files Reviewed**

- **SY80-92-0010.00, N.P. Kumar**
- **SY80-92-0105.00, P. McGinn**
- **SY80-92-0028.00, P. Mele**
- **SY80-92-0338.00, M. Betancourt**
- **Proficiency Review Reports**
- **"Qualification of Reviewer" forms**
- **System 80 files for T. Truong and M. Duffy**