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FR0	Initial release, replaces CP4-ES-5007, update procedure to address CA-005230 and general revisions	ALL	1/23/2025	Documentation on File
FR1	Update procedure to address AI-0008622 associated with CA-005369 which adds project responsibility for data usability in the data assessment review process	ALL	6/25/2025	

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1.0 PURPOSE AND SCOPE

1.1 Purpose

This procedure describes data management coordination activities performed to organize and maintain the integrity of data generated at the Paducah Site.

1.2 Scope

This procedure describes the process of gaining access to the environmental databases [Paducah Oak Ridge Environmental Information System (OREIS) and Paducah Project Environmental Measurements System (PEMS)] as well as coordination activities performed by the Sample Management Office (SMO) and various other groups responsible for data management activities at the Paducah Site.

2.0 REFERENCES

2.1 Use References

- CP3-ES-5003, *Quality Assured Data*
- CP3-ES-5004, *Sample Tracking, Lab Coordination, and Sample Handling*

2.2 Source References

- CP2-ES-0006, *Environmental Monitoring Plan Fiscal Year 2025 Paducah Gaseous Diffusion Plant, Paducah, Kentucky*
- DOE/LX/07-2498&D1, *Paducah Gaseous Diffusion Plant Data Management Plan*

3.0 COMMITMENTS

None

4.0 RESPONSIBILITIES

4.1 Project Team

- 4.1.1 Defines project Data Quality Objectives (DQOs).
- 4.1.2 Submits request to SMO for collection of samples.
- 4.1.3 Coordinates sample collection, analysis, and decision making.
- 4.1.4 Assigns Project Reviewer to participate in data assessment review process.

4.2 SMO Manager

- 4.2.1 Serves as the primary contact for all matter relating to analytical laboratories.
- 4.2.2 Ensures long-term electronic storage of data.
- 4.2.3 Ensures compliance with DOE/LX/07-2498&D1, *Paducah Gaseous Diffusion Plant Data Management Plan*.

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4.3 SMO

- 4.3.1 Populates project-specific laboratory statements of work (SOWs), chain-of-custody (COC) forms, sample data forms, and sample labels in PEMS.
- 4.3.2 Performs loading of laboratory Electronic Data Deliverables (EDDs) to PEMS.
- 4.3.3 Performs electronic verification of data using queries in PEMS.
- 4.3.4 Performs data verification steps including contractual screen.
- 4.3.5 Prepares a project data assessment package (DAP).
- 4.3.6 Tracks data assessment review process.
- 4.3.7 Performs loading of data into OREIS.

4.4 Data Reviewer

- 4.4.1 Reviews project DAP and laboratory data packages.
- 4.4.2 Performs data assessment.

4.5 Project Reviewer

- 4.5.1 Reviews project DAP.
- 4.5.2 Performs data usability assessment.
- 4.5.3 Determines if quality assured data is generated per CP3-ES-5003, *Quality Assured Data*.

NOTE:

In this procedure, Quality Assurance (QA) Reviewer does **NOT** pertain to QA personnel.

4.6 QA Reviewer

- 4.6.1 Reviews project DAP.
- 4.6.2 Performs QA review.
- 4.6.3 Verifies completion of data assessment review process.

4.7 Environmental Monitoring Manager

- 4.7.1 Coordinates sampling required by Environmental Monitoring Plan (EMP) with the SMO.
- 4.7.2 Approves sampling chain of custody (COC) forms.

5.0 GENERAL INFORMATION

None

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6.0 INSTRUCTIONS

6.1 Obtaining Access to PEMS and/or OREIS

NOTE:

A potential user must have a network account to be able to directly access PEMS or OREIS.

Project Team

- 6.1.1 Send request for access to PEMS or OREIS to the SMO Manager via e-mail.

SMO Manager

- 6.1.2 Grant appropriate access to project team designee.
- 6.1.3 Provide applicable system and user documentation and training to project team designee.
- 6.1.4 Conduct periodic checks of system access by approved users.
- 6.1.5 Request a list of database users from the Information Technology organization.
- 6.1.6 Review **and** approve user access to databases as needed.
- 6.1.7 Terminate access approval when appropriate.

6.2 Data Management Coordination Activities

Project Team

- 6.2.1 Define project DQOs according to CP3-ES-5003, *Quality Assured Data*.
- 6.2.2 Provide SMO with required laboratory Statement of Work (SOW) information and sample information to populate PEMS.
- 6.2.3 Coordinate sample collection and analysis with the SMO.
- 6.2.4 Assign Project Reviewer to participate in data assessment review process according to CP3-ES-5003.

SMO

- 6.2.5 Develop project-specific laboratory SOW in PEMS.
- 6.2.6 Generate COC forms from PEMS.

NOTE:

Verification should be completed by someone other than the person who populated PEMS.

- 6.2.7 Verify information on the COC form against the information from the SOW and/or sampling plan.
- 6.2.8 **If** any entries are identified that need to be corrected, **then** make the necessary corrections in PEMS **and** go to Step 6.2.5.

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6.2.9 If samples fall under the EMP, **then** verify information on the COC forms against the EMP **and** complete CP3-ES-5007-F01, *Review Checklist for EMP Project Verification*.

6.2.10 Provide COC forms and completed CP3-ES-5007-F01 form to Environmental Monitoring Manager.

Environmental Monitoring Manager

6.2.11 Review COC forms against requirements in the EMP.

6.2.12 If discrepancies are noted, **then** resolve issues with the SMO.

6.2.13 If **NO** discrepancies are noted, **then** sign CP3-ES-5007-F01 form and return to the SMO.

SMO

NOTE:

Field measurements are not collected or recorded in PEMS for field duplicate samples. As required under the Kentucky Wastewater Laboratory Certification Program, field duplicate sample results will be included with the field laboratory quality control documentation.

6.2.14 Enter data into PEMS as required by CP3-ES-5004, *Sample Tracking, Lab Coordination, and Sample Handling*.

6.2.15 Enter other non-sample information required by PEMS (e.g., lithologic descriptions, well construction, etc.).

NOTE:

Verification should be completed by someone other than the person who entered the data in PEMS.

6.2.16 Print data entry information from PEMS **and** verify against the original COC form and/or sample data form.

6.2.17 Document verification by noting on the PEMS printout **and** initial and date the note.

6.2.18 If any entries are identified that need to be corrected, **then** make the necessary corrections in PEMS **and** go to Step **6.2.14**.

6.2.19 If Geographic Information System (GIS) coordinates are obtained for the project, **then** ensure plant coordinates and state plane coordinates are provided for loading into OREIS.

6.2.20 Load laboratory EDDs into PEMS once received from the laboratory **and** the project is complete.

6.2.21 Check 100% of the first 4 EDDs loaded to PEMS from a specific laboratory, **and** 10% of subsequent EDDs, by comparing the laboratory sample results from laboratory data package to data loaded to PEMS.

6.2.22 If discrepancies are found, **then** notify the SMO Manager immediately.

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6.2.23 Ensure the following is documented in the project-specific PEMS loading notes file:

- Project Identification Code (ProjectID)
- SOW Number(s), if needed
- Date Loaded
- Number of Records Loaded
- EDD Origin (i.e., Lab Code)
- Count of Detections
- Outputs from electronic data verification (if any)
- Errors Noted (if any)

6.2.24 Verify the data according to CP3-ES-5003.

6.2.25 If data validation was performed, **then** enter data validation codes in PEMS.

6.2.26 Create the project DAP **and** send applicable files to Data Reviewer according to CP3-ES-5003.

Data Reviewer

6.2.27 Assess the data according to CP3-ES-5003.

6.2.28 Notify the SMO that data assessment is complete via e-mail.

SMO

6.2.29 Enter data assessment codes into PEMS, if applicable.

6.2.30 Update project DAP, if needed.

6.2.31 Send applicable files to Project Reviewer according to CP3-ES-5003.

Project Reviewer

6.2.32 Assess the data according to CP3-ES-5003.

6.2.33 Notify the SMO that data usability assessment is complete via e-mail.

QA Reviewer

6.2.34 Perform QA review.

6.2.35 Notify the SMO that QA review is complete via e-mail.

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SMO

- 6.2.36** If project DAP contains data that is of non-environmental matrices (i.e., waste or characterization projects), **then** submit project DAP for a Derivative Classifier review according to CP3-ES-5003.
- 6.2.37** Notify the SMO that data assessment review process is complete.
- 6.2.38** Create Ready-To-Load (RTL) file **and** load RTL file to OREIS.
- 6.2.39** Submit completed project DAP and associated laboratory data packages to Records Management for archival.

7.0 RECORDS

7.1 Records Generated

The following records may be generated by this procedure:

- Project DAP
- CP3-ES-5007-F01, *Review Checklist for EMP Project Verification*
- EDD versus Laboratory Data Package Verifications

Forms are to be completed according to CP3-OP-0024, *Forms Control*.

7.2 Records Disposition

The records are to be maintained according to CP3-RD-0010, *Records Management Process*.

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Appendix A–Acronyms/Definitions

ACRONYMS

COC – Chain-of-Custody

DAP – Data Assessment Package

EDD – Electronic Data Deliverable

EMP – Environmental Monitoring Plan

GIS – Geographic Information System

OREIS – Paducah Oak Ridge Environmental Information System

PEMS – Paducah Project Environmental Measurements System

QA – Quality Assurance

RTL – Ready-to-Load

SMO – Sample Management Office

SOW – Statement of Work

DEFINITIONS

Data Assessment Package (DAP) – An electronic file that includes data reports from the integrated data system (i.e., PEMS), CP3-ES-5003-F01, *Data Assessment Review Checklist and Comment Form*, CP3-ES-5003-F02, *Paducah Data Release Form*, CP3-ES-5003-F04, *PARCCS Parameters*, (if applicable), laboratory and sample management comments, and routine queries/reports generated to aid in the review of the data. After the review is complete, any questions or comments by the Data Reviewer, Project Reviewer, SMO, or QA Reviewer are added to the project DAP. The project DAP is submitted as a record to Records Management.

Data Reviewer – Performs independent review of data presented in project DAP. Data Reviewer can be personnel from SMO or Characterization organizations who are appropriately trained. Data Reviewer and QA Reviewer cannot be the same individual.

Environmental Monitoring Plan (EMP) – A plan that documents the rationale, sampling frequency, parameters, and analytical methods for Environmental Monitoring activities at the Paducah site and provides information on site characteristics, environmental pathways, dose assessment methodologies, and quality assurance management.

Geographic Information System (GIS) – Location information designed to display data spatially.

OREIS – The database system used for long-term storage of data. OREIS is the primary database system used for official data reporting. GIS location information is stored in OREIS.

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Appendix A– Acronyms/Definitions (continued)

PEMS – The database system used for field preparation and tracking of data collection activities. The system generates chain-of-custody forms, sample container labels, and various sample data forms. It also stores analysis type and preservative information along with tracking sampling progress. PEMS is used to load analytical data received from laboratory.

Project Reviewer – Performs independent review of data presented in project DAP. Project Reviewer is assigned by the project team and can be personnel from project team who are appropriately trained. The Project Reviewer bears the ultimate responsibility for determining the usability of a data set for decision making purposes. Project Reviewer and QA Reviewer cannot be the same individual.

Project Team – The project team consists of project personnel responsible for initiating a data collection activity (i.e., sampling event). The project team defines the project DQOs and submits request to the SMO for collection of samples. The project team coordinates sample collection and analysis with the SMO to ensure project requirements are met. The project team assigns a representative of the project to serve as the Project Reviewer.

QA Reviewer – Performs independent review of project DAP and verifies completion of data assessment. QA Reviewer is a member of the SMO who is appropriately trained. QA Reviewer and Data Reviewer cannot be the same individual.

Appendix B–CP3-ES-5007-F01-Review Checklist for EMP Project Verification

CP3-ES-5007-F01–Review Checklist for EMP Project Verification

Month: _____ Year: _____

Project Title:	ProjectID:	Satisfactory		Comment
Groundwater Sampling Programs				
C-746-S&T Landfill Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
C-746-U Landfill Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
C-404 Landfill Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
C-404 Companion Wells		<input type="checkbox"/>	<input type="checkbox"/>	
C-746-K Landfill Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
NE Plume Optimization MWs Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Northwest Plume O&M Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Northwest Plume O&M Quarterly & Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
C-400 Wells Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
C-400 Wells Quarterly & Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
SWMU1 Monitoring Wells Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
SWMU 211-A Wells Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
Water Policy Boundary Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Water Policy Boundary Annual		<input type="checkbox"/>	<input type="checkbox"/>	
Carbon Filter Treatment (Before)		<input type="checkbox"/>	<input type="checkbox"/>	
Carbon Filter Treatment (After)		<input type="checkbox"/>	<input type="checkbox"/>	
Environmental Surveillance Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Environmental Surveillance Quarterly & Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
Environmental Surveillance Annual		<input type="checkbox"/>	<input type="checkbox"/>	
Environmental Surveillance Biennial		<input type="checkbox"/>	<input type="checkbox"/>	
Geochemical Environmental Surveillance Triennial		<input type="checkbox"/>	<input type="checkbox"/>	
Surface Water Sampling Programs				
C-746-S&T Landfill Surface Water Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
C-746-U Landfill Surface Water Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
KPDES Outfalls Permit KY0004049		<input type="checkbox"/>	<input type="checkbox"/>	
NE Plume CERCLA Outfall		<input type="checkbox"/>	<input type="checkbox"/>	
KDPEs Outfalls ERPP		<input type="checkbox"/>	<input type="checkbox"/>	
C-613 Sediment Basin Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	

Appendix B–CP3-ES-5007-F01-Review Checklist for EMP Project Verification (continued)

CP3-ES-5007-F01–Review Checklist for EMP Project Verification (continued)

Project Title:	ProjectID:	Satisfactory Yes N/A		Comment
Surface Water Sampling Programs (continued)				
Surface Water Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Surface Water Seeps Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
ERPP Surface Water Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
ERPP Surface Water Annual		<input type="checkbox"/>	<input type="checkbox"/>	
Sediment Sampling Programs				
Sediment Monitoring Semiannual		<input type="checkbox"/>	<input type="checkbox"/>	
ERPP Sediment Monitoring Annual		<input type="checkbox"/>	<input type="checkbox"/>	
Air Filter Sampling Programs				
Ambient Air Monitoring Filters Quarterly		<input type="checkbox"/>	<input type="checkbox"/>	
Leachate Sampling Programs				
C-746-S Landfill Leachate Annual		<input type="checkbox"/>	<input type="checkbox"/>	
C-746-U Landfill Leachate Annual		<input type="checkbox"/>	<input type="checkbox"/>	
C-404 Leachate Pit		<input type="checkbox"/>	<input type="checkbox"/>	

Project Title:	ProjectID:	Satisfactory Yes N/A		Comment
Non-EMP Routine Projects				
Northeast Plume Operations		<input type="checkbox"/>	<input type="checkbox"/>	
Northwest Plume Operations		<input type="checkbox"/>	<input type="checkbox"/>	
Site Drinking Water		<input type="checkbox"/>	<input type="checkbox"/>	
KDOW Compliance Bimonthly		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	
		<input type="checkbox"/>	<input type="checkbox"/>	

Reviewed by: _____

Sample Management Office

Approved by: _____

Environmental Monitoring Manager