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Region 4 Superfund and Emergency Management Division

STANDARD OPERATING PROCEDURE

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Revision History

The table below shows changes to this controlled document over time. The most recent version is presented in the top row of the table and replaces the previous version. Previous versions of the document are maintained by the EPA Region 4 Superfund and Emergency Management Division (SEMD) Document Control Coordinator.

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1 General Information

1.1 Purpose

This document describes the methods to be used in submitting environmental data electronically to the United States Environmental Protection Agency (the EPA) Region 4 Superfund and Emergency Management Division (SEMD) personnel and their contractors as well as other EPA personnel working on the EPA Region 4 Superfund Program sites and/or projects. These methods occur during field activities that result in creating, handling, and managing field documentation and resulting in the creation of environmental data to be submitted to the EPA Region 4 data management system. The goal of this SOP for environmental data submission is to guide the EPA Region 4 SEMD personnel and contractors to submit the appropriate required electronic data.

1.2 Scope/Application

The methods described in this document are to be used by all data providers when preparing and submitting environmental data electronically to the EPA Region 4, regardless of the originating program. The enforcement of such methods is supported by the SEMD Director's Memo "Region 4 Data Management and Electronic Data Deliverables" that may be found at:

<http://www2.epa.gov/sites/production/files/2015-09/documents/ddeddmemo.pdf>

This document does not cover the use of DART, EQUIS™ Professional, or creating maps and reports. Extensive documentation on the use of EQUIS Professional and EQUIS Enterprise can be found at: <https://help.earthsoft.com>.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by the EPA Region 4 SEMD personnel, based on their knowledge, skills and abilities, and has been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure will be scanned into the EPA's Superfund Enterprise Management System (SEMS) and published on EPA's internet. The Document Control Coordinator (DCC) is responsible for ensuring the most recent version of the procedure is placed in SEMS and for maintaining records of review conducted prior to its issuance.

1.4 Acronyms

CAD – Computer-Aided Drafting

CLP – Contract Laboratory Program

DART – Data Archival and ReTrieval

DCC – Document Control Coordinator

EDD – Electronic Data Deliverable

EDGE – EQUIS Data Gathering Engine

EDP – EQUIS Data Processor
EQUIS™ – Environmental Quality Information System
EPA – United States Environmental Protection Agency
GIS – Geographic Information System
GNIS – Geographic Names Information System
GPS – Global Positioning System
LIMS – Laboratory Information Management System
LSASD – Laboratory Services and Applied Science Division
OSC – EPA’s On Scene Coordinator
NPL – National Priorities List
PRP – Potentially Responsible Party
QAPP – Quality Assurance Project Plan
R4DART – United States Environmental Protection Agency, Region 4 DART
R4LIMS – United States Environmental Protection Agency, Region 4 LIMS
RCRA – Resource Conservation and Recovery Act
RPM – Remedial Project Manager
SEMD – Superfund and Emergency Management Division
SEMS – Superfund Enterprise Management System
SMO – Sample Management Office
URL – Uniform Resource Locator
USGS – United States Geological Survey
XML – Extended Markup Language

1.5 Definitions

Activity Code (task_type) – Descriptive code for the EPA activity (RA - Remedial Action, RI – Remedial Investigation, etc.) for which the event is required. Activity Code values are a controlled vocabulary.

Analytical Data – Data reported by a fixed-base laboratory.

Controlled Vocabulary – See Valid Values.

Data Package – A data package is a software archive (.dat format) containing one or more Electronic Data Deliverables.

Data Provider – The entity responsible for the electronic submission of environmental data to the EPA Region 4. Data providers are identified by a code value that is a controlled vocabulary.

Data Submittal Summary – A summary of the data proposed for submittal by the data provider for the Potentially Responsible Party and fund lead projects not scheduled through R4LIMS.

Electronic Data Deliverable – An archive zip file saved with a “.dat” extension holding one or more tab-delimited text files containing the environmental data to be submitted. An EDD file follows a consistent design meant to organize information in a useful format and typically contains header row(s) that describe what information should be completed in each column.

Element – LIMS system used to report LSASD and CLP analytical data.

EQuIS Collect – A user friendly, mobile field application from EarthSoft, Inc. for collecting environmental and geotechnical data on a smart phone, tablet, or computer. EQuIS Collect uses EDP to verify and enforce data quality in real time.

EQuIS Data Gathering Engine – Software from EarthSoft, Inc. that runs on a tablet or computer to ensure accurate and complete field data collection events. EDGE includes EDP for live, real-time error checking of data submissions.

EQuIS Data Processor – Software from EarthSoft, Inc. used to check the EDDs for data completion, referential integrity, and identify and correct errors prior to submission.

EQuIS Professional – Workstation Software from EarthSoft, Inc. used by data managers that interfaces to the EPA Region 4 database.

Esri – A software development and services company providing Geographic Information System software.

Field Results Data – Field analytical data such as pH, dissolved oxygen, XRF, etc. These data may be generated from EDGE, EQuIS Collect, or Scribe.

Format File – The EDP format file is the essence of data checking with EDP and contains the definitions and restrictions for each individual field in available data tables. The format file controls data checks, formatting, and enumerations.

Geographic Information System Data – GIS data, as they relate to the Superfund program, may include point data (latitude/longitude), lines, and/or polygons representing some site-related area of interest. Computer-aided drafting (CAD), image formatted files, and tabular data are also acceptable data formats so long as they meet the requirements defined in the *EPA Region 4 Geographic Information System Deliverable Guidance*.

Geographic Names Information System – The naming system was developed by the U.S. Geological Survey (USGS) in cooperation with the U.S. Board on Geographic Names (BGN), and contains information about the official names for places, features, and areas in the 50 states, District of Columbia, and territories and outlying areas of the United States, including Antarctica.

Geology Data – Specialized data relating to geology, such as lithology, well construction, etc.

LIMS – Software for managing and reporting laboratory analyses.

Media Code (matrix_code) – A two or more character code designating the sample matrix (i.e., SW is the media code for Surface Water). Media code values are a controlled vocabulary.

Project – A project is defined as the data generated for a report.

Project ID (task_code) – Unique ID associated with a project QAPP or for R4LIMS projects, it is associated with a single sampling event. For R4LIMS, this value is assigned by the Project Tracking System for the dataset being submitted. For all other project types, the R4DART will provide this Project ID.

Project Number (task_code2) – A Project ID may have multiple Project Numbers or be the same as the Project ID. For R4LIMS, this value is assigned by the Project Tracking System for the Chain of Custody being submitted. For all other project types, R4DART will provide this Project Number.

Project Tracking System – The EPA Region 4 LSASD’s project tracking system used for R4LIMS projects.

Quality Assurance Project Plan – The controlling document for proposed field work. There may be multiple Project ID numbers assigned to the QAPP and will be used in EDDs generated for that project to uniquely identify the data to that event.

Reference Value File – The reference value file (RVF) is associated with the EDP format file and is denoted with an .rvf file extension. This file contains the valid values reference tables that EDP uses to populate the drop-down menus that control when a specific type of value is required in an EDD. Example reference values are “mg/kg” (milligrams per kilogram) for a unit code or “GW” (groundwater) for a media code. These fields limit the type of data permitted in certain columns of the EDD, and the most recent valid values are in the RVF file. Therefore, it is extremely important to ensure you are using the most current file. Check the EarthSoft website to see if your version is current before working on your data. The link for this web site is provided below within section 2.3.2.

Scribe – Scribe is a software tool developed by EPA to assist in the process of managing environmental data. Scribe captures soil, water, air, and biota sampling, observational, and monitoring field data. Scribe can import EDDs from analytical laboratories, location data from a global positioning system, and from specific laboratory and exported EQUIS EDDs.

Shapefiles – Map files used by Esri GIS software.

Site (or Waterbody) – The unique site or waterbody in DART for storing project data. Also sometimes referred to as a facility.

Station ID (sys_loc_code) – Unique designation for a sample location.

Valid Value – All allowable values for the field have been pre-determined. The data provider must select one of the available choices, or request a new valid value be added.

.xml File – File format of the electronic chain-of-custody for Scribe, Collect, and EDGE.

1.6 Supporting Reference Documents

EPA Region 4 EDD Format File Guide.

The EPA Region 4 EDD Format File Guide provides detailed information for the creation of the EDD files that are required to be submitted.

EPA Region 4 EQUIS Data Processor Reference Manual.

The EPA Region 4 EQUIS Data Processor Reference Manual provides the information needed to download, install and maintain the EDP software, as well as how to use the software to proof EDDs and create data packages.

EPA Region 4 Geographic Information System Deliverable Guidance.

The EPA Region 4 GIS Deliverable Guidance document provides specific requirements and file delivery formats for all GIS materials developed in support of the program.

2 Introduction

2.1 Data Sources

Data is submitted electronically to the EPA Region 4 from multiple sources. It should be emphasized that the differences between the processes for data submittal arise solely from the inherent efficiencies afforded to EPA lead investigations because the work may be done 'in-house'. There is **no** difference in the types of data submitted, or the format of the files being submitted. Regardless of how EDD files are created (or what organization led the investigation), the files must meet the specifications of the *EPA Region 4 EDD Format File Guide*. All GIS materials developed in support of the program must meet the specific requirements and file delivery formats specified in the *EPA Region 4 Geographic Information System Deliverable Guidance*.

2.2 Overview

The following summary provides a general outline of the process for submitting environmental data to the EPA Region 4.

Create the Site or Waterbody – If the site or waterbody does not exist in DART, it must be created. Creating the site or waterbody is the responsibility of the R4DART coordinator.

Create the Project – For R4LIMS projects, before data can be accepted by LSASD, a receiving project must be created in the R4LIMS System. Creating the project is the responsibility of the EPA Region 4 Sample Coordinator or EPA LSASD project lead.

Data Submittal Summary – For non R4LIMS, a projects summary of the data must be submitted to provide a check that all data is received. The data provider is responsible for this task.

DART Reports – For R4LIMS projects, reports are sent out automatically after the chain-of-custody information is uploaded to the Project Tracking System. The data provider (or EPA LSASD project leader) is responsible for responding to these reports.

Create EDD(s) – Create EDDs to match the Data Submittal Summary. The data provider (or the EPA LSASD project leader) is responsible for this task.

Check EDD(s) with EDP – All EDDs must be checked with EDP prior to submittal to the R4DART coordinator. The data provider (or EPA LSASD project leader) is responsible for this task.

Submit EDD(s) – Submit all EDDs to EPAR4@EQulSonline.com. Attach the EDD(s) to the requesting email. The data provider (or EPA LSASD project leader) is responsible for this task.

Proof and Correct as Needed – Notify [R4DART](#) of any needed corrections or additions arising from the EDDs being rejected. It is the EPA Region 4's responsibility to update or add any information needed and inform back to the data provider completion or denial of request with

alternate action. It is then the responsibility of the data provider (or the EPA LSASD project leader) to proof the data for accuracy and resubmit with any needed corrections.

The system is designed for data to be submitted once (i.e., sample coordinates and screening intervals for a monitoring well are submitted one time).

The details for successfully completing the above steps can be found in Section 3 for EPA fund lead data submittals and Section 4 for Potentially Responsible Party (PRP) lead data submittals.

GIS Data Submittal – GIS data deliverables must accompany the submission of a final report to the EPA Region 4 (see Section 5 for instructions).

2.3 EDP Standalone

If you are a data provider to the EPA Region 4 and do not have access to an EPA workstation, you will need to download and install the EQuIS Data Processor (EDP) Standalone software. There is no charge to the user for this software. If you have access to an EPA workstation and need EDP installed, email R4DART@epa.gov.

2.3.1 Obtaining EDP Standalone

Instructions for obtaining, installing, registering, and maintaining EDP Standalone can be found in the *EPA Region 4 EQuIS Data Processor Reference Manual*.

2.3.2 Using EDP Standalone

EDP Standalone can be used to create smaller EDD files, but its primary function is to check EDDs for errors and create data packages for submittal.

The structure of the EPA Region 4 EDD files is determined by the format file. If the format of any of the EDDs must be changed (rarely), then it will be necessary for users of the standalone version of EDP to obtain the updated format file. Instructions for downloading and installing updated format files can be found in the *EPA Region 4 EQuIS Data Processor Reference Manual*.

Likewise, if the valid values used by EPA Region 4 are updated, it will then be necessary for users of the EDP Standalone to obtain the updated reference value file (.rvf). The current version of the EPA Region 4 .rvf file is at:

<https://www.epa.gov/superfund/region-4-superfund-electronic-data-submission>.

This file is updated periodically when the valid values are updated.

The EPA Region 4 will notify all data providers, currently in the database, when it is necessary to update these files, but it is the responsibility of the data provider to ensure that the most current version is being used.

2.3.3 Valid Values in EDP

The EPA Region 4 valid values can be viewed in EDP by starting EDP, then clicking on the “Reference Values” tab in the lower left corner.

If you need a valid value that is not in the list (rare analyte, new analytical method, etc.), you may request it be added as outlined in the *EPA Region 4 EDD Format File Guide*.

2.3.4 Data Package

A data package is created by EDP when the ‘sign and submit’ function is used to save the EDD. This creates an archive file (.zip) containing all EDDs that were loaded into EDP. The data package must be properly named, including .dat file extension.

2.4 Information Required in EQulS EDDs

An EDD is a tab-delimited text file containing environmental data in the EPA Region 4 format. Detailed information on all EDD formats may be found in the *EPA Region 4 EDD Format File Guide*. Table 2-1 is a check list of which EDD files are required based on the type of field activity. When planning field activities, consider the data requirements to ensure appropriate data collection and reporting to meet project objectives. Verify with your RPM if you should be completing other EDDs in addition to the required EDDs for the field activity. A brief summary of the more commonly used formats can be found below.

Location EDDs – These EDDs provide coordinates for sampling locations, along with a simple indication of the quality of the information. Because all other EDDs rely upon this information, the Location EDD is the first EDD that is submitted.

Field Results EDDs – These EDDs provide the results of field analyses (e.g., XRF, pH, temperature, turbidity, etc.).

Water Level EDDs – These EDDs provide groundwater elevation data. If a water level EDD is submitted, a Location EDD with the ground surface elevation (measured to top of casing for wells) is required. In addition, each Water Level EDD must have a matching Well Datum EDD (EPAR4_WellDatum_v1) to identify the measuring point of the Water Level Depth. The Well Datum EDD is required when submitting water levels for the first time and any time a well is modified.

Geology EDDs – These EDDs provide information about well construction, lithology, etc. If groundwater samples are to be submitted, the screening intervals must have been recorded using the well construction EDD (EPAR4_WellConstruction_v1).

Analytical Data EDDs – Provide the fixed-base laboratory analytical data. The data is in a three-file format.

Table 2-1 Required EDD Files

EDDs/Tables/Format Sections	Soil (Surface and Subsurface)	Soil Borings/ Cores ¹	Well Installation (New and Existing)	Sediment	Surface Water	Groundwater (Monitoring Well, Piezometer, Temporary Well)	Groundwater (Irrigational Wells, Residential or Potable Wells)	Residential Tap on Public Supply ²	Ambient Air, Soil-Gas ³	Vapor Intrusion (sub slab)	Windrose Air Speed/ Direction ⁴	Land Access ⁵
EPAR4 Location	√	√	√	√	√	√		√	√	√	√	√
EPAR4 Location Parameter	x	x	x	x	x	x	x	x	√	√	√	√
EPAR4 Well	x	x	√	x	x	√	√	x	x	x	x	x
EPAR4 Well Construction	x	x	√ ⁶	x	x	x	x	x	x	x	x	x
EPAR4 Lithology	√	√	√	x	x	x	x	x	x	x	x	x
EPAR4 Well Datum	x	x	x	x	x	√	x ⁷	x	x	x	x	x
EPAR4 Water Levels	x	x	x	x	x	√	x ⁷	x	x	x	x	x
EPAR4 Field Results	√	√ ⁸	√	√	√	√	√	√	√	x	x	x
EPAR4 Fsample	√	√	√	√	√	√	√	√	√	x	x	x
EPAR4 TST	√	√	√	√	√	√	√	√	√	x	x	x
EPAR4 RES	√	√	√	√	√	√	√	√	√	x	x	x
VI Bldg Address	x	x	x	x	x	x	x	x	x	√	√	√
VI Building Inspection	x	x	x	x	x	x	x	x	x	√	√	√
VI Building Parameters	x	x	x	x	x	x	x	x	x	√	√	√
VI Locations	x	x	x	x	x	x	x	x	x	√	√	√
VI Outdoor Locations	x	x	x	x	x	x	x	x	x	√	√	√
VI Samples	x	x	x	x	x	x	x	x	x	√	√	√
VI Test Results QC	x	x	x	x	x	x	x	x	x	√	√	√
VI Batches	x	x	x	x	x	x	x	x	x	√	√	√
Files	When requested, schematics and photos should be submitted. Examples are boring logs, monitoring wells, locations, etc. Historic information may be sent as a PDF file, except for well screen information which must be submitted in an EDD.											

√ = Required; x = Not Required

¹ Cores can include Membrane Interface Probes (MIPs) and Cone Penetration Readouts

² Not private well (municipal or community supplied)

³ Should be measured away from buildings; not for vapor intrusion studies

⁴ Measure for any air sampling

⁵ Attach PDF file of land access agreement

⁶ Well screen information is required, however, back fill and other construction information can be important and should included when available

⁷ While not required, provide whenever possible

⁸ If encountered, add rock core fracture zones as field parameter "FI-Fracture" and denote the start and end depths

2.5 Common Fields in EDDs

With few exceptions, the values described below are the first four columns of all the EPA Region 4 EDDs. See the *EPA Region 4 EDD Format File Guide* for details on your specific EDD format.

2.5.1 Data Provider Codes (sampling_company)

Data Provider codes are used to identify the source of the data within DART.

For R4LIMS projects, the data provider code is selected within the Project Tracking System as the project is created.

For all other projects, the data provider code is determined by R4DART (and is then provided to the data provider). If a data provider code does not exist in the system, R4DART will create one.

2.5.2 Project IDs (task_code)

The Project ID is a unique identifier for all data collected during an investigation. It allows data from a given study to be retrieved by the original report with which it was submitted.

For R4LIMS fund lead projects, the Project ID is generated by the R4LIMS Project System when the project is created. The Project ID is provided to data providers via the LSASD Project Tracking System email reporting system. For non R4LIMS projects, the data provider requests the Project ID from the R4DART. When Collect, EDGE or Scribe are used for the project, the Project ID is entered during the initial setup with the Site Information.

2.5.3 Project Numbers (task_code2)

The Project Number is typically the same as the Project ID. These are unique identifiers for all data collected during an event for the investigation or when multiple laboratories are needed. The Project Number allows data from a given study to be retrieved by the original report with which it was submitted.

For R4LIMS fund lead projects, the Project Numbers are generated by the R4LIMS Project System when the project is created. The Project Numbers are provided to data providers via the LSASD Project Log Summary Report email. For non R4LIMS projects, the Project Number may be the same as the Project ID provided by R4DART. If a unique Project Number is required to track an individual event, request a new Project Number from R4DART.

When Collect, EDGE or Scribe are used for the project, the Project Number is entered during the chain-of-custody setup.

2.5.4 Program/Activity Codes (task_type)

The Program/Activity code identifies the program activity associated with the sampling event to the DART database.

For R4LIMS lead projects, the Program/Activity code is provided by the person entering project data into the R4LIMS Project System.

For non R4LIMS lead projects, the Program/Activity code is determined by the site manager (RPM or OSC) and is then provided to the data provider for entry into the activity_code in the EDD.

When Collect, EDGE or Scribe are used for the project, the Program/Activity Code is entered during the initial setup with the Site Information.

2.5.5 Station IDs (sys_loc_code)

A Station ID is the permanent designation for a sample collection point. Once a sampling point has been established, the Station ID designation will be used for all future sampling events regardless of the entity leading the investigation. Note that the sampling point is established for a location, not a sample type.

A Station ID is not a Sample ID. Sample IDs should be distinct from Station IDs to prevent confusion.

Station ID designations should be simple and easy to remember. Do not use special characters such as the asterisk, quote, or percent symbol. The Station ID should be kept to 8 or fewer characters where possible.

For example, two samples are collected from the same location in Sandy Creek, sample SC-001-SW (a surface water sample) and SC-001-SD (a companion sediment sample). Because they were collected at the same location, both will have the same Station ID, such as SC001.

Additional example, a soil sample is collected as a part of a monitoring well installation. The subsurface soil sample is designated RF-007C-SB. The well being installed is being given the designation MW012. Sample RF-007C-SB (and all other samples collected at that well location) will have the Station ID MW012.

It may help to think of the Station ID as the permanent name for a sampling location, while any number of samples (from any media available) may be collected at that given location. A Station ID is a point on a map, and many samples may be collected from that point during an investigation (or series of investigations).

All environmental samples must have a Station ID (e.g., surface water, groundwater, sediment, surface soil, etc.).

Field blanks (trip blanks, equipment rinse blanks, etc.) do not have coordinates, and therefore, do not have Station IDs. The logic for this is built into EDP—if you try to enter a Station ID for a sample type (media code) that does not allow it, EDP will display an error. Likewise, if a media code requires a Station ID that is missing, EDP will again display an error.

3 EPA Lead Data Submittals

3.1 EPA Lead Projects

Data from all EPA lead projects (LSASD, States and EPA contractor performing organizations) using EPA laboratory resources (CLP and special purchase laboratories) must be permanently archived in DART. It is the responsibility of the EPA manager (RPM or OSC) to ensure that the data provider(s) for the investigation properly prepare and submit all EDDs.

All questions about data submittals for EPA Lead projects should be directed to:

R4DART@epa.gov.

Procedures for projects that are being conducted by PRPs can be found below (Section 4).

3.2 Software Requirements

The software listed below is required for electronic submittal of data from EPA lead projects in the EPA Region 4.

3.2.1 Collect, EDGE, or Scribe

EQUS Collect and EDGE are both EarthSoft developed applications and can create a Scribe like deliverable. Scribe is an EPA developed and distributed software program that is used in the EPA Region 4 to generate EDD files of chain-of-custody information.

EDGE is available for free at the EarthSoft website:

<https://earthsoft.com/products/edp/edp-format-for-epar4/>.

EQUS Collect Mobile app is available for free from the Google Play Store, Apple App Store, or Microsoft Store.

Scribe is available for free at: <https://www.ertsupport.org/Scribe>.

In the EPA Region 4, these programs are used with DART to provide more compatibility between Element and DART, making EDD creation and submittal easier. If using Scribe, the EPA Region 4 samplers should obtain the EPA Region 4 template for the necessary customizations specific for the EPA Region 4 Scribe configuration from:

https://response.epa.gov/site/doc_list.aspx?site_id=ScribeGIS.

Select the Scribe Template from the right-side category listing.

3.2.2 EQUS Data Processor

EDP is used to check EDDs for errors prior to submission and to create the data package for submittal. It can also be used to create smaller EDDs. It is available as a free download, if the data provider does not have access to an EPA workstation. See Section 2.3 for more information on EDP Standalone.

3.3 Create Site or Waterbody

3.3.1 Site Creation

Before data can be submitted, the site must be created in DART.

Proper site\waterbody creation is important to success. DART is intended to be a permanent archive for the data generated by these investigations.

For EPA lead projects conducted by LSASD, the Project Leader has the responsibility for Site or Waterbody creation. For EPA lead projects not conducted by LSASD, the EPA Region 4 program office will submit the required information. Site creation requests must be sent to:

R4DART@epa.gov.

Begin by checking with the R4DART coordinator to see if the site has been created. Internal to the EPA Region 4, anyone with access to the R4LIMS Project Information may check the dropdown for R4LIMS projects. If the site is not within DART, it must be created. To create a site in DART:

- Search for the site at the SEMS website at:
<https://cumulis.epa.gov/supercpad/cursites/srchsites.cfm>
- Verify the search results, identify if there is an EPA ID recorded, and copy the URL (website address) from the search results and paste it into an email to R4DART@epa.gov requesting the site be created.
- If the site is not found on the SEMS website or does not have an EPA ID, go to the EPA EnviroFacts website at: <https://enviro.epa.gov/>.
- This will utilize a Multisystem query retrieval and may return several related sites. Find the site matching the address and if the site is found, select the Facility Report icon. When the page is updated, if there is an EPA Registry ID listed, copy the URL (website address) from the Facility report feature and paste it into an email to R4DART@epa.gov requesting the site be created.
- If the site is not in these databases, send the following information to R4DART@epa.gov:

Site Name
Address,
City, State, Zip Code
County
RPM/OSC
Lat/Long of Site Centroid
NPL Status

3.3.2 Waterbody Creation

First contact the R4DART coordinator to see if the waterbody already exists in DART. If the waterbody does not exist in the EQUS DART database, it must be created.

To create a waterbody in DART, the project leader must provide the USGS GNIS ID number for the Waterbody. The GNIS ID numbers for all waterbodies in the US can be found at this website: <http://geonames.usgs.gov/>.

- At the website, select 'Search Domestic Names'.
- In the dialog box that opens, enter the 'Feature Name'.
- Select your 'Feature Type' and 'State'.
- Click 'Submit Query'.
- In the dialog box that opens, click the Feature Name for details.
- Copy the URL (website address) of the page that opens and paste it into an email to R4DART@epa.gov requesting the waterbody be created.

If the waterbody does not exist in the USGS database, send the best available name to R4DART@epa.gov.

3.3.3 Criminal and Enforcement Confidential

If the field investigation is criminal or enforcement confidential, extra precaution must be taken to keep the project data confidential.

For these investigations, determine if the site is in DART as outlined above. If found, check the Facility Code field. If it does not begin with 'R4SC-', copy the name and Facility Code of the site and forward to R4DART@epa.gov with a request to create the site as criminal or enforcement confidential.

If the site or waterbody does not exist in DART, find the needed information as outlined above (Sections 3.3.1 and 3.3.2) and forward to R4DART@epa.gov. The subject line of the email should state the site is for criminal or enforcement confidential data.

If the site or waterbody cannot be found in the EPA or USGS databases, send the best available information to R4DART@epa.gov. The subject line of the email should state the site is for criminal or enforcement confidential data.

3.4 Project Creation (Project ID)

For R4LIMS fund lead projects, after the project has been created but prior to the field investigation, the data provider will receive an email with the Project Log Summary information required to successfully submit an electronic chain-of-custody to LSASD. Use the information in this report to setup your investigation in Collect, EDGE or Scribe.

When a project for the investigation is logged into the R4LIMS System, a Project ID is assigned and a project is automatically created in the R4LIMS System. The Project ID is then embedded in the EDDs and is used to tie that data to the original study.

For non R4LIMS projects, contact R4DART for the assigned Project ID. As part of the project setup for non R4LIMS projects, information about the types of data that will be collected (and EDDs submitted) should be sent to R4DART using the Data Submittal Summary Template.

3.5 Chain of Custody

All EPA lead projects in the EPA Region 4 must submit an electronic chain-of-custody to LSASD. For all soil and sediment type sampling, a copy of the chain-of-custody XML file must also be sent to R4DART@epa.gov. This file can be generated using Collect, EDGE or Scribe.

This EDD file is different in one major aspect from all other EDDs submitted from EPA lead projects:

These chain-of-custody EDDs must be submitted to R4SampleCustody@epa.gov and cc R4DART@epa.gov.

This submittal does **not** satisfy the requirement for a signed chain-of-custody to accompany the samples at all times.

3.6 DART Reports

After your chain-of-custody data is received and the samples are logged into the R4LIMS (Element) system, you will receive automated reports if additional information or corrections are required. These emails are sent the night samples are logged into the R4LIMS (Element) system and each Monday thereafter.

When all needed corrections have been made to Project Log and Element, the project setup in the Project Tracking System is checked to see what additional EDDs (Location, Field Results, Geology, or Water Level) are required.

The data provider will receive at least one DART report from the Project Tracking System, even if no errors are found and no additional data are required. This is to allow for an opportunity to proof and correct the data in the system.

3.6.1 Sample Information Requests

These email alerts are triggered by missing or incorrect information in Project Log or Element that will prevent the lab analytical data from loading to DART once reported. These corrections **must be made before** the data is reported by the LSASD laboratory. If the corrections are not made before the data is reported, it will be necessary for the lab to re-report the data.

These emails contain a due date in the subject line. Corrections and missing data must be submitted prior to the due date.

3.6.1.1 Corrections to Project Log

For R4LIMS lead projects, if the Project Summary report email shows information missing, forward the email to R4DART@epa.gov and supply the missing information. This portion of the report checks for:

- Valid site or waterbody selected,
- Valid Project ID selected,
- Valid program\activity selected, and
- Valid data provider selected.

3.6.1.2 Corrections to Element

Errors within Element are not easily corrected when system information conflicts with the official hardcopy. Changes to Element must be accompanied by supporting information, such as corrected chain-of-custody, logbook information, and explanation (to attach to official documents in the file). Information presented in this portion of the email shows your sampling information as it currently resides in Element.

Station IDs and Media Codes are checked to ensure compliance with business rules. If you have a missing or incorrect Station ID or Media Code, type the correct value in the appropriate 'Edited' column and forward the email to R4DART@epa.gov and cc R4SampleCustody@epa.gov.

Should an error on the chain-of-custody be found after the samples and electronic chain-of-custody xml file have been sent to R4SampleCustody@epa.gov (cc R4DART@epa.gov), an updated electronic chain-of-custody needs to be recreated and then sent to R4COCCorrections@epa.gov and again cc R4DART@epa.gov. Errors of this type may be a mislabeled sample, the wrong location code used, or a date and time wrongfully entered.

3.6.2 EDD Requests

These emails contain a due date in the subject line. Requested EDDs must be submitted prior to the due date.

- After any errors in Project Log and Element are corrected, a Location EDD is requested for Station IDs that cannot be matched in DART. A weekly reminder to submit the Location EDD will be sent until the data are received.
- Once the Location EDD has been received, requests for any additional EDDs will be sent based upon the information in the project setup.

3.6.3 'Overdue' Reports

If corrections and EDDs are not submitted before the analytical data is reported by the lab for R4LIMS lead projects, 'Overdue' reports will be generated. These reports will be sent each Monday morning until the requested data is received.

3.7 Creating EDDs

EDDs can be created in a number of ways. The best method will depend upon the amount of data to be submitted, and how the chain-of-custody was generated.

It should be noted that for small amounts of data, any of the EDD(s) listed below can be created directly in EDP. Detailed instructions for creating EDDs can be found in the *EPA Region 4 EDD Format File Guide* and the *EPA Region 4 EQUIS Data Processor Reference Manual*.

3.7.1 Location EDDs

Each email request for a Location EDD has the list of missing Station IDs within the email body. Submit the required information via Location EDD as soon as possible and prior to the analytical data being generated.

3.7.2 Field Results EDDs

Field results should be sent to DART as soon as the locations have been submitted. These are typically the direct measurements taken during the field event. In place of a CAS-RN, all field parameters use a FI- prefix for the code. Fields results are not permitted to be entered within the analytical results EDD.

3.7.3 Water Level EDDs

Required for all groundwater elevation measurements and for all surface water elevation measurements tied to groundwater elevation. The measuring from datum must be recorded for the elevation to be calculated using the depth to water.

3.7.4 Geology EDDs

It is recommended that these EDDs be prepared by professionals with experience with this type data. Details for the various formats are specified in the *EPA Region 4 EDD Format File Guide*.

3.7.5 Analytical Data EDDs

Preparation of these files should be performed by individuals with experience in understanding unfiltered laboratory reports. The format is specified in the *EPA Region 4 EDD Format File Guide*.

Element – Analytical data reported by the EPA Region 4 LIMS (Element) are formatted for EQUIS and are automatically loaded upon receipt of a valid Location EDD. This includes any samples that are shipped to the CLP.

Subcontracts/Interagency Agreements – Any non-Element data must be placed in the EQUIS format by the data provider. To help ensure accuracy, the performing laboratory should be requested to report the data in the EPA Region 4 EQUIS format as part of the bid. If the data provider has been tasked to validate the data, then validation qualifiers, interpreted qualifiers, and the validation stage are added to the laboratory deliverable prior to error checking and submittal.

3.8 Error Checking with EQulS Data Processor

For information on obtaining, installing, maintaining and using EDP Standalone, refer to the *EPA Region 4 EQulS Data Processor Reference Manual*. If you are using EDP Standalone, be sure the EPA Region 4 format and reference values are all up to date before using.

If you are using EDP on an EPA workstation, start EDP by logging in to EQulS Professional and selecting your site (facility). Once connected to the database, select the EDP icon in the upper left corner.

Data Providers must use EDP to check all EDDs for errors before submission. EDP contains a help file to assist with error correction. Let the mouse hover over any cell with a non-white background to view a detailed error message. Hover the mouse over any column header to view additional information specific to the field.

Instructions for using EDP can be found in the *EPA Region 4 EQulS Data Processor Reference Manual*.

When you email the EDD to EPAR4@EQulSOnline.com and there are errors, the system will automatically send the data provider an email that the EDD was rejected and an error log will be attached. If you are unable to correct the problem, email the EDD's Error Log along with the file causing the problem to R4DART@epa.gov with your contact information.

3.9 Submitting EDDs

After correcting any errors in your EDD, save the file from EDP using the sign and submit menu option to save the data package. A user name and password is required to successfully create the EDD package and upload the data into DART. If you do not have a valid user name and password for DART, email R4DART@epa.gov and provide the Site, RPM, data provider company, and data provider email address.

After processing with EDP, the submitted file **IS REQUIRED** to be named according to the following convention that includes the following elements connected with underscores:

- Task Code
- Site Name
- Data Provider Company Code
- Date Submitting (YY MM DD)
- Type (Loc-Location/Ch-Chemistry/FR-FieldResults/WL-WaterLevel/GEO-Geology/WC-Well and Well Construction /VI-Vapor Intrusion)
- .FacilityCode.EPAR4.dat

For example:

13-0001_YourSite_YourCompanyCode_19 01 08_Ch.110001224773.EPAR4.dat

NOTE: The EPA electronic mail system will reject files with a .zip format due to security concerns. To match how the EPA Region 4 laboratory submits EDDs, you must rename the EDD file extension from .zip to .dat before emailing the EDD to the EPA Region 4. **Files must be submitted with the “.dat” extension.**

NOTE: The EPA electronic mail system will reject files with more than three (3) periods. Thus, it is important to connect the file naming elements using underscores rather than periods.

If the EDD contains data for a field that will need to update values already in the database, use “EPAR4update.dat” rather than “EPAR4.dat”, which only merges the data. An example is replacing estimated coordinates with surveyed coordinates.

Attach the EDD to the automated email you received requesting the sampling for R4LIMS lead projects and forward to EPAR4@EQulSonline.com. If the file is named improperly or not attached to the requesting email, it will be returned to the data provider.

3.10 Proofing and Corrections

Notify the DART coordinator of any errors you find in the system. Send corrections to R4DART@epa.gov.

After the data has been successfully loaded, an automated email will be sent to the data provider from EPAR4@EQulSonline.com notifying that the file has been accepted and no errors were found. If the data are rejected, an automated email will be sent to the data provider from EPAR4@EQulSonline.com with the error log attached as a .dat file. To open the error log, download the .dat file from the email and rename the file extension from .dat to .zip prior to opening.

Once the errors have been corrected, recreate the EDD package following the same process as the original sign and submit. The one exception will be the file name, which may not be identical to any previous submissions. For each resubmittal, add a capital letter suffix (i.e., “A” then “B”, etc.) to the file name. After the “Type”, insert an underscore followed by the capital letter suffix (i.e., Type_ **A**.FacilityCode).

For example:

13-0001_YourSite_YourCompanyCode_19 01 08_Ch_ **A**.110001224773.EPAR4.dat

The data provider is responsible for the receipt of all automated emails based on the information provided when requesting a user name and password. Should the data provider not receive the automated emails regarding their EDD submission or feel an error was inaccurately returned, notify the EPA Region 4 at R4DART@epa.gov for any errors found.

4 PRP Lead Data Submittals

4.1 PRP Lead Projects

Responsible Parties conducting environmental investigations in the EPA Region 4 for the Superfund program must report their data to the EPA Region 4 electronically. The types of data required to be submitted are outlined in Section 2.4. The responsible party is responsible for the information contained in the files submitted by the data provider.

Address all data submittals questions to R4DART@epa.gov.

Procedures for EPA lead projects can be found in Section 3.

4.2 Software Requirements

All data providers are required to use EDP to check their data files for errors prior to submittal. EDP is software used to check all EDDs for errors prior to submittal and to create properly formatted data packages. EDP can also be used to create smaller EDDs. EDP is available as a free download.

4.3 Site Creation

All National Priorities List sites in the EPA Region 4 have been created in DART. If, however, a site is found to be missing (or a new site is added to the NPL), it must first be created using information from EPA's national database as described in Section 3.3.1.

To create the site, the RPM or OSC must email the URL (website address) from their search results (SEMS or Envirofacts as detailed in Section 3.3.1) to R4DART@epa.gov.

If the site is not in these databases, the RPM or OSC must send the following information to R4DART@epa.gov:

- Site Name
- Address,
- City, State, Zip Code
- County
- RPM/OSC
- Lat/Long of Site Centroid
- NPL Status

4.4 Project Creation (Project ID)

For current and historical data (as defined in the *EPA Region 4 EDD Format File Guide*), the project must be created manually (assuming no past fund lead projects are available in the R4LIMS Project System). The R4DART coordinator will use the DART system to setup the proposed data submittal, and to get the data provider contact information (email address) in the system.

When the project has been successfully established, a report may be sent to the data provider containing any existing Station IDs and their coordinates. The data provider must review the report for existing sampling stations. If samples are to be collected (or were collected) at an existing Station, the established Station ID must be used.

4.5 Data Submittal Summary

After the project is created, the EPA Region 4 will notify the data provider to submit the Data Submittal Summary for non R4LIMS sampling and email to R4DART@epa.gov for tracking. When this information has been received and accepted by the RPM, the R4DART will be prepared to receive the project data. Information on the Data Submittal Summary format can be found in the *EPA Region 4 EDD Format File Guide* and downloaded from the Superfund website at: <http://www2.epa.gov/superfund/region-4-superfund-electronic-data-submission>

4.6 DART Reports

After the information from the Data Submittal Summary is entered into the Project Tracking System and accepted by the RPM, automated reports detailing any errors or additional information needed will be sent to the data provider. These emails are sent the night the Data Submittal Summary is loaded, and each Tuesday thereafter until all data for the given project has been received.

Note the order for the data submittals below. This order is both dictated by a desire to offer data providers with the opportunity to review each step in the data submittal process, and by the database logic of DART.

4.6.1 Location EDD Request

If the Data Submittal Summary contains additional information for an established sampling station, the data provider **MUST** use the Station ID(s) provided.

Because the system will begin requesting the remaining EDDs upon receipt of the first Location EDD file, the data provider may prefer to submit all Station IDs in a single Location EDD file. Multiple Location EDDs may be submitted if needed.

If the Location EDD is found to contain an error not related to the coordinates, the PRP must send a spreadsheet with a list of the incorrect and corrected information.

For coordinates with errors (or if better coordinates become available), the original Location EDD may be edited and re-submitted. Delete the rows in the original Location EDD that do not need to be updated, edit the coordinates for the remaining rows, and re-submit to R4DART@epa.gov. The phrase 'Updated coordinates' should be in the subject line.

4.6.2 Other EDD Requests

Upon receipt of the Location EDD, the Project Tracking System will make weekly requests for the remaining EDDs that were specified in the original Data Submittal Summary and accepted by the PRP. The remaining EDDs will be checked against Station IDs as they are received, and will be rejected if no matching Station ID can be found.

4.7 Creating EDDs

EDDs can be created using spreadsheet software, directly in EDP, or in a word processor such as Notepad. More information about the file format can be found in the *EPA Region 4 EDD Format File Guide*.

The best method for creating EDDs will depend upon the amount of data to be submitted. It should be noted that for small amounts of data, any of the EDD(s) listed below can be created directly in EDP. Detailed instructions for creating EDDs can be found in the *EPA Region 4 EDD Format File Guide* and the *EPA Region 4 EQUS Data Processor Reference Manual*.

4.8 EQUS Data Processor

For information on obtaining, installing, maintaining, and using EDP Standalone, refer to the *EPA Region 4 EQUS Data Processor Reference Manual*, and Section 2.3 of this guidance document.

Use EDP to check all EDDs for errors before submission. EDP contains a help file to assist with error correction. Hover the mouse over any cell with a non-white background to view a detailed error message. Hover the mouse over any column header to view additional information specific to the field.

If you have errors you are unable to correct, email the EDD's Error Log along with the file(s) causing the problem to R4DART@epa.gov with your contact information. Place the site name and the Project ID in the subject line.

If you need to update the EDP Standalone appearance options for 508 compliancy, email R4DART@epa.gov for assistance.

4.9 Submitting EDDs

Remember to submit Location EDDs **before** submitting any other EDDs. The database structure requires locations to be loaded prior to all other environmental data.

While EDP permits the submittal of combined EDDs, this feature is not fully supported in the EPA Region 4 implementation. Submit each EDD separately (**except** for Analytical EDDs, which are **always** submitted as a three file set, and first time water levels will need a well datum EDD together – See the *EPA Region 4 EDD Format File Guide*).

When all errors have been corrected, save the EDD(s) using 'sign and submit' (see *EPA Region 4 EQUIS Data Processor Reference Manual*). Name all files as specified below. Improperly named files will be returned to the data provider. The required names can also be found in the EDD request reports sent to the data provider.

After processing with EDP, the submitted file **IS REQUIRED** to be named according to the following convention that includes the following elements connected with underscores:

- Task Code
- Site Name
- Data Provider Company Code
- Date Submitting (YY MM DD)
- Type (Loc-Location/Ch-Chemistry/FR-FieldResults/WL-WaterLevel/GEO-Geology/WC-Well and Well Construction /VI-Vapor Intrusion)
- .FacilityCode.EPAR4.dat

For example:

P2013-0001_YourSite_YourCompanyCode_19 01 08_Ch.110001224773.EPAR4.dat

NOTE: The EPA electronic mail system will reject files with a .zip format due to security concerns. To match how the EPA Region 4 laboratory submits EDDs, you must rename the EDD file extension from .zip to .dat before emailing the EDD to the EPA Region 4. **Files must be submitted with the “.dat” extension.**

If the EDD contains data for a field that will need to update values already in the database, use “EPAR4update.dat” rather than “EPAR4.dat”, which only merges the data. An example is replacing estimated coordinates with surveyed coordinates.

To submit your prepared data package, attach the data package to the EDD request and forward to EPAR4@EQUISonline.com. Any time there has been a data request sent, data packages must be attached to the requesting report.

4.10 Proofing and Corrections

After the data has been successfully loaded, an automated email will be sent to the data provider from EPAR4@EQUISonline.com notifying that the file has been accepted and no errors were found. If the data is rejected, an automated email will be sent to the data provider from EPAR4@EQUISonline.com with the error log attached as a .dat file. To open the error log, download the .dat file from the email and rename the file extensions from .dat to .zip prior to opening.

Once the errors have been corrected, recreate the EDD package following the same process as the original sign and submit. The one exception will be the file name, which may not be identical to any previous submissions. For each resubmittal, add a capital letter suffix (i.e., “A”

then “B”, etc.) to the file name. After the “Type”, insert an underscore followed by the capital letter suffix (i.e., Type_ **A**.FacilityCode).

For example:

P2013-0001_YourSite_YourCompanyCode_19 01 08_Ch_ **A**.110001224773.EPAR4.dat

The data provider is responsible for the receipt of all automated emails based on the information provided when requesting a user name and password. Should the data provider not receive the automated emails regarding their EDD submission or feel an error was inaccurately returned, notify the EPA Region 4 at R4DART@epa.gov for any errors found.

5 Information Required in GIS Submittals

Initial draft submittal and final version of spatially enabled files acquired or developed to support mapping, spatial analysis, and/or report generation by a data provider are considered property of the EPA Region 4 SEMD and are required to be submitted to the EPA Region 4. GIS data submittals must meet the project, metadata, organizational, and delivery requirements in acceptable GIS data formats as specified in the *EPA Region 4 Geographic Information System Deliverable Guidance*.

GIS data and map files will be packaged into zip files and submitted electronically. All electronic submissions will require the completion of an online GIS Data Submittal form. This form and zip file(s) should contain all information necessary to understand the data submittal. The EPA Region 4 will not accept any GIS data that does not have this form completed and accompanying the submittal.

To submit your GIS data to the EPA Region 4, please zip all files and use the link below to access the EPA Region 4 online GIS Data Submission form:

<https://arcg.is/1aDXya>