

Region 4 Superfund E-Data Management



Understand

R4 data management requirements



Understand

Contractor's role in submitting data to R4



Explore

EQuIS Tools and Resources



Explore

Where EPA going with data management and data visualization

R4 Superfund and Data Management

2005 – 2010 launches DART; ELEMENT replaces R4LIMS

- 2007 R4 contracts w/B&V for EQUS technical assistance
- 2008 - 2013 R4 *upgrades* EDD Format Files, *upgrades* servers, database schema, DART Dashboard

2010 - Present

- 2010 Superfund DD issues Policy Memo; Website
- 2010 Environmental Data Submission SOP
- 2013 Executive Order for Open Data
- 2014 EQUS Database transferred from Lab to Superfund
- 2016 Superfund dbase moved to the Cloud
- 2016 R4 Quality Management Plans and updated SOP
- 2017 National E-data Management Vision
- 2018 National Geospatial Data Directive
- 2019 Updated R4 E-Data Guidance

Region 4 Superfund: Electronic Data Submission

General Information | Region 2 | Region 3 | **Region 4** | Region 5 | Region 7 | Region 9

This site is a resource to assist data providers with submitting environmental data to the Region 4 Data Archival and Retrieval (DART) systems, which are the main repositories for analytical, geological, and geospatial data from Superfund sites across the Region. The Superfund Program in EPA Region 4 has adopted a standardized electronic data deliverable (EDD) format for environmental sampling data that is required for all new and historical data submitted to the region. Geospatial data must be submitted via an online Geographic Information System (GIS) Data Submittal form. Detailed instructions for creating and submitting EDDs are provided in the Environmental Data Submission procedural (SEMDPROC-009-R0) and supporting reference documents.

Regional Information

- [Superfund Division Director's Memo \(PDF\)](#) (2 pp, 130 K)
- [Environmental Data Submission procedural \(SEMDPROC-009-R0\)](#) - supersedes ESD Field Branches Quality System and Technical Procedures

If you need assistance during the submittal process, contact R4DART@epa.gov.

Creating and Submitting Environmental Data

The Environmental Data Submission procedural (SEMDPROC-009-R0) is the controlling document for this process. This document outlines how to: (1) obtain your Project ID and (2) prepare and submit the Region 4 EDD and formatted geospatial data. Three supporting reference documents are attached to the procedural.

- [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 EQUS Data Processor \(EDP\) 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](#)—Provides specific requirements and file delivery formats for all GIS materials developed in support of the program.

[Environmental Data Submission Procedural \(SEMDPROC-009-R0\) \(PDF\)](#) (166 pp, 5-MB, [About PDF](#))

The EPA Region 4 has implemented EQUS 7 and upgraded the EPAR4 format file. Please note that the Region is now using the new format file and all data for submittal will need to be checked in EDP using it. The 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.

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.

Download the format and reference value files along with an EDD template file and example dataset.

- [EPA Region 4 Format File](#): earthsoft.com/products/edp/edp-format-for-epa4/
- [EPA Region 4 Reference Value File](#): earthsoft.com/products/edp/edp-format-for-epa4/
- [Region 4 Blank EDD Template for EDP \(.xlsx\)](#) (693 K)
- [Example Dataset for Laboratories \(.ZIP\)](#) (13 K)

The following steps are a brief overview of the EDD data submittal process.

Step 1: Prior to Sampling Event

For **PRP Lead** sampling, a project summary of the data analysis expected to be provided must be submitted to serve as a check that all data are received. After the project is created, the EPA Region 4 will notify the data provider to submit the Data Submittal Summary and email it to R4DART@epa.gov for tracking.

[Data Submittal Summary Template \(.XLS\)](#) (25 K)

For **Fund Lead** sampling, the Project ID must be obtained from the EPA Region 4 Sample Coordinator (LSASD or CLP data) or R4DART (other labs). If you have not been provided a Project ID, contact R4DART@epa.gov.

Step 2: Prepare Your EDD

For the EPA Region 4, an EDD is an archive zip file saved with a ".dat" extension holding one or more tab-delimited text files containing the environmental data to be submitted. Data providers are required to submit their data in the format specified in the EPA Region 4 EDD Format File Guide.

Step 3: Validate Your EDD

- Company Code is "PL-DataProvider"
- Date Submitting is January 8, 2019 as "190108"
- Type of data submission is "Ch" for Chemistry
- Facility Code is "110001224773"
- Format used is "EPAR4"
- File extension has been changed from ".zip" to ".dat"

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

R4 Superfund Data Management Planning

Step 1: Identify Point of Contacts and submit a POC EDD

Step 2: Set up EQulS account and GeoPlatform Account

- Analytical, Field, Well Construction, Geology, etc
 - Set up EQulS Account
 - View Site Data
 - Run Data Gap Report
 - EDD Checklist
 - EQulS Dashboard
 - Develop DMP
 - Plan your Event – CLP/Regional/Other Lab Sample Booking- ARF
 - Check Data with EDP
 - Submit Data
- Geospatial Data
 - Set up GeoPlatform Account
 - View Site Data
 - GeoPlatform Dashboard
 - Develop DMP
 - New Reports - Submit GIS Data

E-Data Prime POC - One Person per Site

Have **one** POC that is the liaison with R4DART and EarthSoft (field software).

They can do everything in each application (and they likely spend much of their time in EQulS). They are responsible for training their site team.

- ✓ Attends Monthly E-Data Provider Call
- ✓ Import and Correct Data
- ✓ Set up Sample Plans and Contracts
- ✓ Build Groups and Action Levels (MCLs)
- ✓ Configure EDGE and/or Collect Forms
- ✓ Build/Use Enterprise Dashboards
- ✓ Prepare Tables and Crosstabs
- ✓ Maintain data...

Sampling Coordinator – One Person per Field Event

This is the person that books the field event with the R4 Sample Custodian/R4DART. This person likely receives a copy of the field assignment information from R4 Superfund QA Coordinator.

- ✓ CLP/Regional Lab: Submit 1-Analytical Request Form (excel spreadsheet) to R4 Sample Custodian.
- ✓ Other Lab: Submit 1-Analytical Request Form (excel spreadsheet) to R4DART.
- ✓ Update and resubmit 2-Analytical Request Form (edd) to epar4@equisonline.com

Field Team Leader – One Person per Field Event

This is the person in the field that signs the Chain-of-Custody. This person likely receives an automated email confirming the field assignment locations and requested sample analysis.

- ✓ Use Scribe, EDGE and/or Collect Forms
- ✓ Signatory on the e-COCs

Field Team is to contact the E-Data Prime POC for field software related issues!

E-Data Provider

They are responsible for emailing site data to epar4@equisonline.com.

Remember – data must be checked with EDP to auto create a user certificate!

- ✓ Import and Correct Data

GIS Data POC

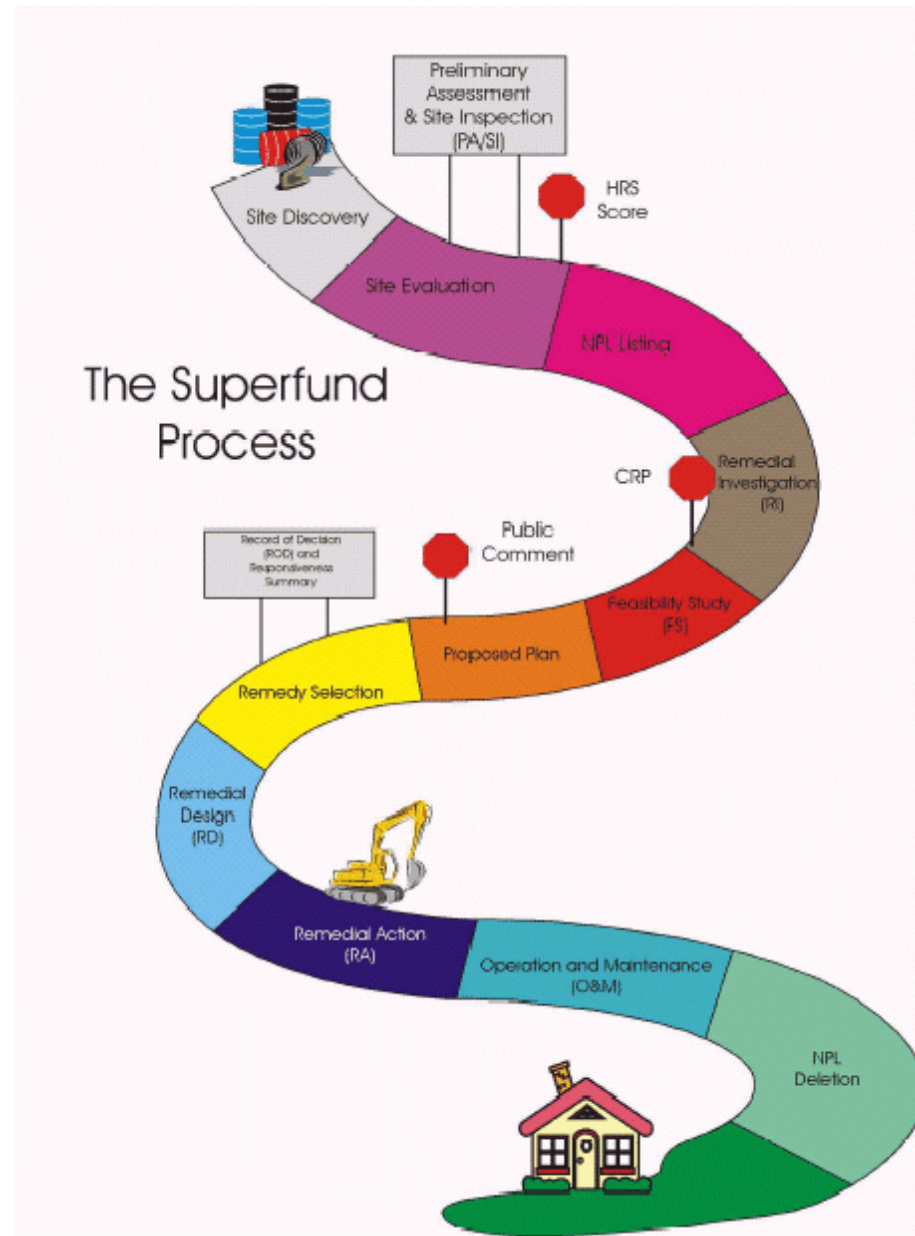
They are responsible for uploading GIS data to [https://r4.ercloud.org/R4 GIS Data Submittal/index.html](https://r4.ercloud.org/R4_GIS_Data_Submittal/index.html).

- ✓ Ensure all GIS, CAD, and image formatted files used to develop maps for any document developed R4 are delivered to the EPA in approved format.

Data Planning



Removal Actions may be stand-alone actions OR they may occur during any phase of the remedial process



Phases of Superfund Process – What is your exit strategy??

Emergency Responses

- Short Form DMP that references the Removal Program DMP
- No QAPP Required - sometimes prepared on long-term responses
- Primarily Scribe, EQuIS as data archive

Time-Critical Removal

- Short Form DMP that references the Removal Program DMP
- QAPP Required - may contain the Short Form DMP but does not have to
- Primarily Scribe, EQuIS as data archive

Typical Remedial Projects or Site Assessments

- Short Form DMP that references the Superfund Division DMP (TBD)
- QAPP Required - should contain the Short Form DMP as an attachment
- Primarily EQuIS, access to all prior data

Complex Remedial Projects

- DMP as stand-alone document
- QAPP Required - will contain references to the stand alone DMP
- Primarily EQuIS, access to all prior data

When is a Data Management Planning
Needed?

Always

R4 Superfund
Environmental
Data Submission
Table 2-4
Required EDD
Files

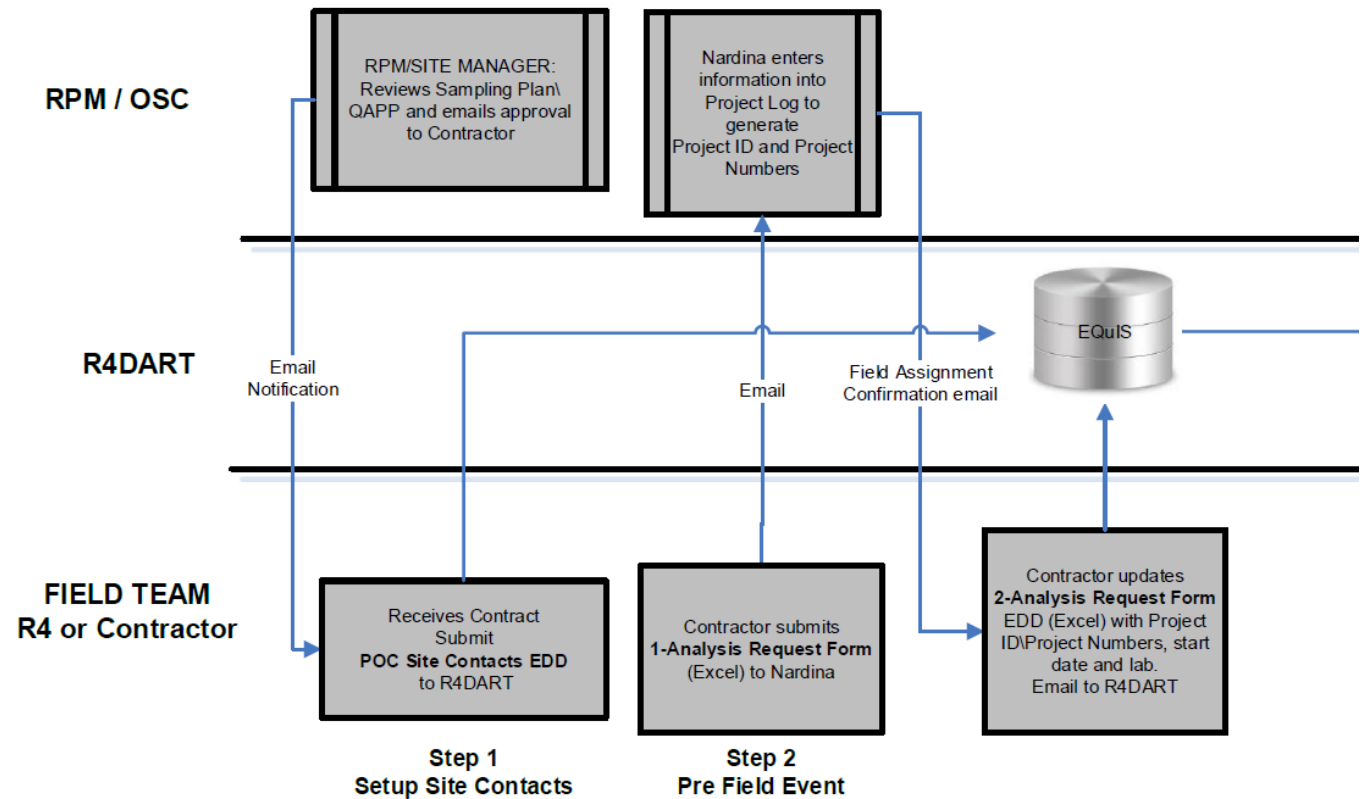
EDDs/Tables/ Format Sections	Soil (Surface and Subsurface)	Soil Borings/ Cores ¹	Well Installation (New and Existing)	Sediment	Surface Water	Groundwater (Monitoring Well, Piezometer, Temporary Well)	Groundwater (Irrigational Wells, Residential or Potable Wells)	Residential Tap on Public Supply ²	Ambient 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	√	x	x
VI Building Inspection	x	x	x	x	x	x	x	x	x	√	x	x
VI Building Parameters	x	x	x	x	x	x	x	x	x	√	x	x
VI Outdoor Locations	x	x	x	x	x	x	x	x	x	√	x	x
VI Samples	x	x	x	x	x	x	x	x	x	√	x	x
VI Test Results QC	x	x	x	x	x	x	x	x	x	√	x	x
VI Batches	x	x	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

Sample Booking Workflow:

Analytical Request Form (ARF)



Data & Visualization

Databases

- EQuIS
- MS Access

Platform

- GeoPlatform
- EQuIS

Technical Software

- Rockworks
- Modflow
- SADA
- CAD
- Surfer
- ArcGIS (ESRI)
- Envirolnsite (EarthSoft)
- Scribe (EPA)
- EDGE (EarthSoft)
- Collect (EarthSoft)
- Survey 1-2-3 (ESRI)
- Collector (ESRI)