Electric Vehicle Charging and Analytics Reporting Tool (EV-ChART) User Guide Version 2.0

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<table>
<tr><th colspan="3">User Guide Version History</th></tr>
<tr><th>Version</th><th>Release Date</th><th>Notes</th></tr>
<tr><td>V1.0</td><td>February 2024</td><td>This includes an overview of EV-ChART and demonstrates how to use EV-ChART to submit data.
Future iterations of the User Guide will include specific instructions on setting up accounts, adding user accounts, creating subrecipients/contractors organizations, managing stations and port information, collecting and submitting data, approving and rejecting data, and viewing and downloading data submissions</td></tr>
<tr><td>V2.0</td><td>June 2024</td><td>The guide has been updated to align with V2.2 of the application
Adding user accounts
Editing station details
Collecting and submitting data
Approving and rejecting data
Viewing and downloading data submissions
Viewing the history log of data submissions</td></tr>
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Overview

This user guide outlines the steps required to complete all tasks within the Electric Vehicle Charging Analytics and Reporting Tool (EV-ChART).

Background

The Joint Office of Energy and Transportation (Joint Office) maintains the Electric Vehicle Charging Analytics and Reporting Tool (EV-ChART), which is the centralized hub for submitting 23 CFR 680.112(a)-(c) data. The *EV-ChART User Guide* provides an overview on how to use EV-ChART, and step-by-step instructions of the primary functionality. The intended audience of this guide are those who are required to submit 23 CFR 680.112(a)-(c) data.

Information about the data attributes, field names, data types, examples, and units can be found in the EV-ChART Data Format and Preparation Guidance. Use the EV-ChART Data Input Template to upload data into EV-ChART.

View the appendix for answers to the following frequently asked questions about EV-ChART:

- Where do I submit data?
- How do I submit data?
- Who is responsible for the data?

Troubleshooting and Support

For quick clarification throughout EV-ChART, use the tooltips found across the application.

The following icon signifies a tooltip: ⓘ

Hover over or select tooltips to view definitions or directions, and to get further clarity on sections within the application.

For technical issues/procedural questions, get assistance through the "Contact Us" form.

When encountering an issue within EV-ChART or seeking clarification on a general procedure associated with the platform, access the "Contact Us" form.

1. Complete required fields marked with a red asterisk (*)
2. Select "Reporting (EV-ChART)" as the "Inquiry Type"
3. Provide detailed information about the inquiry or issue faced and select "Send"
4. EV-ChART's Tech Support Team will contact the user by email to address the described inquiry/issue

Registration and Sign-in to EV-ChART

Register

Phase 1: Request Access

When a direct recipient organization or subrecipient/contractor organization has its first charging station approaching its ribbon cutting, contact the Joint Office and request access to EV-ChART. Select Inquiry type as 'Reporting: EV-ChART'.

Phase 2: Account Creation

After contacting the Joint Office to request access, the EV-ChART Team will work on creating the initial administrator user account for the direct recipient and/or subrecipient/contractor organization.

Phase 3: Onboarding

All new users of EV-ChART will be invited to onboarding sessions with the EV-ChART Team to enhance familiarity with the platform.

Phase 4: Use EV-ChART

After accounts are created and new EV-ChART users attend onboarding, they are prepared to use EV-ChART as needed. Once an administrator(s) from an organization has successfully signed in, they will be able to use the website to add other user accounts for members within their organization.

Sign-in

Once access is granted, the user will attempt their first sign-in by following the following steps:

1. **Create a login.gov user account**, which is required to sign into EV-ChART
    a. Use this step-by-step guide to create a login.gov user account
    b. For more info visit:
        i. Authentication methods | Login.gov
        ii. How to sign in to Login.gov | Login.gov
2. **Sign in**to EV-ChART
    a. Navigate to evchart.driveelectric.gov/login
    b. Select the "Sign in with OneID" button
    a. Select "Login.gov" and complete multi-factor authentication
3. Review and accept the EV-ChART Terms of Use to complete sign in

Note: If the user is an employee/contractor of the Federal government and the user has a DOE RSA Token, select "Login with EITS" to sign in. Or, if the user is an employee/contractor of the Federal government and has a DOE, DHS, or USDT PIV Card, select “PIV Card” to sign in.

If the user experiences issues signing into EV-ChART, contact the Joint Office (Select Inquiry type as ‘Reporting: EV-ChART’).

Navigate EV-ChART

Upon sign-in, all users arrive at a homepage with a navigation bar accessible from every page.

“Home”

- Navigates to Home page, which includes a step-by-step guide for submitting data, and quick links to support efficient task completion.

“Data Submittals”

- Contains the following dropdown options:
    - “Draft Module Data”
        - Contains module data with a “Draft” status, viewable only to the user’s own organization (not the Joint Office, other direct recipients or other subrecipient/contractor organizations)
            - Subrecipient/contractor users upload module data and review the “draft” before submitting it for approval by the direct recipient
            - Direct recipient users may upload module data and review the “draft” before completing the module submission
    - “Submitted Module Data”
        - Contains module data that has a status of “Pending Approval,” “Approved,” “Rejected,” or “Submitted”
            - Subrecipient/contractor users may view and track all of the module submissions by users from their own organization
            - Direct recipient users view and track all of the module submissions from their own organization and submissions made on their behalf from subrecipients/contractor organizations
    - “Submission Tracker”
        - Tracks progress towards stations having all modules submitted for each reporting period
        - Available only to direct recipient users

“Management”

- Contains the following dropdown options:

- "Users"
  - Add and view users associated with your reporting organization
- "Stations"
  - Users add, edit, and view stations associated with your reporting organization.

User Management

In the navigation bar, select the "Management" heading and "Users" in the dropdown menu. The "Users" page lists all of the users of the organization.

Add a User

Follow these steps to add a user:

1. Select "Add User."
2. Provide the user details.
   a. Note: All users within EV-ChART are currently administrators. The administrator can submit data and manage other user accounts for the organization.
   b. For the user's email, ensure the email added matches the email that is used by the user for OneID authentication.
3. The added user will receive an email stating they have been added to EV-ChART and need sign in to complete registration. Refer to the "Sign-In" section for directions. section for directions.

Station Management

In the navigation bar, select the "Management" heading and "Stations" in the dropdown menu. The "Stations" page lists stations associated with the user's organization.

Add a Station

Once the Station ID is known, an administrator within the direct recipient organization must add a station. Registering (or "adding") a station in EV-ChART fulfills the Module 1: Station Location submission requirement. The subrecipient/contractor for a station cannot upload data for this station until the direct recipient completes this process.

Follow these steps to add a user:

1. Select "Add Station"
2. Complete "Station Profile Information."
   a. If needed, refer to the Data Format and Preparation Guidance..
3. If a subrecipient/contractor will be submitting data for this station on behalf of the direct recipient, Select "Authorize subrecipient(s)/contractor(s)".
   a. Select the subrecipient/contractor organization. Note: The subrecipient or contractor must first be added to EV-ChART by the Joint Office.

   b. If a matching name does not appear, check to see if the subrecipient/contractor is listed by a different name in EV-ChART. If the organization is still not found, contact the Joint Office (select Inquiry type as 'Reporting: EV-ChART'.
4. Complete "Port Information"
   a. If needed, refer to the Data Format and Preparation Guidance.

Note: this completes the Module 1: Station Location data requirements for that station.

Edit Station Details

Direct recipient administrators can edit station information. To edit a station's information, use the navigation bar, select the "Management" heading and "Stations" in the dropdown menu.

1. On the "Stations" page, select the "Actions" button and click "Edit." An "Edit" button is also available on the "Station Details" page.
2. Edit the station details as needed.

It is strongly recommended to not edit, remove or delete any information from the station due to potential impacts to the reported data.

Data Submittals

The direct recipient can either submit data themselves or have subrecipient(s)/contractor(s) submit data on their behalf. If a subrecipient/contractor submission process is followed, a direct recipient must review and approve the data by the module data's deadline.

For a direct recipient to have a subrecipient/contractor submit data on their behalf, the Joint Office must first add the subrecipient/contractor to the EV-ChART.

Download & Fill Out Data Input Template

1. To begin the data capture/upload process, download the EV-ChART Data Input Template, an Excel file.
2. Open the template using a spreadsheet editing software and ensure that the final document can be exported as a CSV file.
3. Review the definition of each data attribute, their accepted values, and units of observation. This information can be found in the "Data Dictionary" tab of the EV-ChART Data Input Template.
4. Input data into the correct module tab.
   a. Input a value for each data attribute (i.e., each column in the module) per the definitions and value constraints specified.
      i. For Example: Looking at Module 2, Column X, the data attribute is "charging session", which is of type "string". If each row within the

column "charging session" is not "type string" the upload will not be successful, and an error message will display.

   b. Ensure that each row reported in the chosen module is uniquely identified by its primary key(s) and every cell within a row has a value (exceptions are for recommended fields). Attributes that have “recommended” reporting should be submitted concurrently with the required data attributes found in the same module.
   c. Modules must be submitted at a minimum cadence specified in 23 CFR 680.112(a)–(c). Modules may be submitted at a greater frequency than required.
5. Export data for an individual module (tab) in CSV format.
   a. The process for exporting a single tab as a CSV may differ depending on the spreadsheet editing software being used. If using Excel, follow these instructions to save the module data tab as an individual CSV file:
      i. In the file menu, select “Save as”
      ii. Change file type to “CSV (Comma delimited)” (*.csv)
      iii. Select “More options” to save the file to a preferred location
      iv. Select “Save”
      v. After selecting “Save”, Excel will display a warning that only the active sheet will be saved as a CSV. Select “Ok”
      vi. It is possible that there will then be a notification that the CSV download may contain features that are “not compatible” – CSV files are very simple text only files, so any formulas or styles that have been set within the template will not be saved. This is not an issue. If prompted, continue by selecting “Ok”

Upload Data

1. In the navigation bar, select the “Data Submittals” heading and “Draft Module Data” in the dropdown menu.
2. Select the “Upload Module Data” button
3. In the pop-up modal, select the applicable details from each dropdown
4. Select the “Choose File” button to begin uploading the prepared module data CSV (For guidance, refer to “Download & Fill Out Data Input Template”)
   a. Note: If the CSV is too large and an error occurs, separate the file into smaller files. For assistance, contact the Joint Office (select Inquiry type as ‘Reporting: EV-ChART’.
2. Use the computer’s file manager to select the CSV file and upload it to EV-ChART
3. Select “Upload”
   a. This data is now considered Draft Module Data and can be found in the “Data Submittals” navigation dropdown under “Draft Module Data”
      i. Direct recipient users can submit data by selecting the “Submit Module Data” button

ii. Subrecipient/contractor users can send data to the direct recipient for approval by selecting the “Send Module Data for Approval” button

Passing the Data Validation Check

As data processes, a loading spinner displays. The upload process includes data validation checks for compliance with system schema requirements. Some of the checks include:

- The column headers are unchanged and match those of the CSV template (ex. Header of “port” rather than the original “port_id” will result in validation error)
- Station is registered to EV-ChART
- Organization is authorized to report on the specified station
- The data in each cell is checked for schema compliance:
    - Data is present for all required fields
    - Data meets any minimum, maximum, or exact length requirements
    - Data contains proper placement per any decimal precision requirements
    - Data meets any minimum or maximum value requirements
    - Data follows the required formatting for its respective value column

An error modal will appear if the upload fails the data validation check. There is a button to download an Error Report CSV to see the list of errors and their descriptions (column E). See Appendix Figure 2 for Error Report example.

Submit Data/Send Data for Approval

1. In the navigation bar, select the “Data Submittals” heading and “Draft Module Data” in the dropdown menu.
2. On the “Draft Module Data” page, select the “Actions” dropdown, and select “View Details,” or click on the module name.
3. On the “Module Details” page, review the data in the table.
4. Select “Submit” for direct recipients or “Send for Approval” for subrecipients/contractors.
    a. For direct recipients, the submission process is complete after selecting “Submit” – the status of the module changes from “Draft” to “Submitted.”
    b. For subrecipients/contractors, modules sent for approval will have a status change from “Draft” to “Pending Approval.” If approved, the subrecipient/contractor’s submission is complete. If rejected, refer to the "Remediate Rejected Data” section for guidance.

Data approval is only required when a subrecipient/contractor is submitting data on the direct recipient’s behalf. If direct recipients are submitting the data, no approval is required.

To approve data submitted by subrecipients/contractors:

1. In the navigation bar, select the “Data Submittals” heading and “Submitted Module Data” in the dropdown menu
2. On the “Submitted Module Data” page, locate the module(s) with a status of “Pending Approval”, select the “Actions” dropdown and select “View Details,” or select the module name.
3. On the “Module Details” page, select “Approve”
4. On the “Approve” modal, review the details and enter notes into the “Feedback from Reviewer” field to provide feedback to the subrecipient/contractor.
5. Select the “Approve” button

Reject Data

To reject data submitted by a subrecipient(s)/contractor(s):

1. In the navigation bar, select the “Data Submittals” heading and “Submitted Module Data” in the dropdown menu
2. On the “Submitted Module Data” page, locate the module(s) with a status of “Pending Approval”, select the “Actions” dropdown and select “View Details,” or select the module name.
3. On the “Module Details” page, select “Reject”
4. On the “Reject” modal, review the details and enter notes into the “Feedback from Reviewer” field to provide feedback for the subrecipient/contractor
5. Select the “Reject” button

Remediate Rejected Data

If the direct recipient rejects the data, the subrecipient/contractor must address the issues and re-upload the data for approval to the direct recipient.

1. In the navigation bar, select the “Data Submittals” heading and “Submitted Module Data” in the dropdown menu
2. Locate the module with the status of “Rejected” and within “Actions” select “View Details”
3. View the “Module Details” page and review the feedback left by the direct recipient
4. Address the issue(s) with the data and refollow the upload and submission process again

History Log

The history log for module data allows users to view the history of changes related to a specific module submission.

1. In the navigation bar, select the “Data Submittals” heading and either “Draft Module Data” OR “Submitted Module Data” in the dropdown menu
2. In the “Draft Module Data” or “Submitted Module Data” table, locate the data module to view, select “Actions” and “View History Log” in the dropdown

Submission Tracking Dashboard

Direct recipients: The Submission Tracking Dashboard is a high-level overview of progress towards a station having all modules submitted for each reporting period.

Note: The tracker is a tool to convey whether all, some, or none of the modules are submitted for each reporting period. For data with a quarterly reporting cadence, to ensure that all ports have data accounted for within each module, it is necessary to review the details, completeness, and quality of each data submission.

To use the submission tracking dashboard:

1. In the navigation bar, select the “Data Submittals” heading and “Submission Tracker” in the dropdown menu
2. The key on the “Submission Tracker” page explains the 3 “statuses” that are depicted in the Submission Tracker Dashboard
3. Apply a time-bound filter to the tracker by using the “Reporting Year” dropdown menu

To view a specific station:

1. Above the tracker table, select the input field labeled “Search by Station”
2. In this field, type the station nickname or station ID for the intended station to view
3. Select “Update Tracker”

Appendix

Where do I submit data?

Data must be submitted via EV-ChART.

As described in Section 23 CFR 680.112 (a)-(c), data is to be submitted “in a manner prescribed by the FHWA [Federal Highway Administration].” The specific manner prescribed by FHWA is defined in the preamble:

“To facilitate the collection of data required in this section [Section 680.112 (a), (b), and (c)], and in accordance with its Congressional mandate, ***the Joint Office will establish and manage a national database and analytics platform that will streamline submission of data from States and their contractors****. Using the platform, States will be able to produce reports, conduct analysis, and access data for their program assessment activities. The platform will also provide a public facing dashboard for communication of aggregated, anonymized information.”*

Note: EV-ChART is *not* referred to by name in 23 CFR 680.112, but EV-ChART is the “national database and analytics platform” referenced in that statement.

How do I submit data?

Direct recipient should follow these steps, which are also demonstrated in Appendix Figure 1:

1. Create an EVChART Account
2. Once the Station ID for an EV Charging Station is known, add the station in EV-ChART
3. Capture and store individual module data on a local machine using the EV-ChART Data Module Template
4. Upload module data into EV-ChART
5. Review and submit data in EV-ChART
6. (Optionally) Download data to review at any time

Who is responsible for the data?

The direct recipient of funding for the programs can either submit data themselves or have subrecipient(s)/contractor(s) submit data on their behalf. If a subrecipient/contractor submits data on behalf of the direct recipient, the direct recipient must review and approve the submitted data by the deadline.

Users of EV-ChART are defined by their role and business function. Below, general outlines of these user roles and their associated responsibilities are defined per the Code of Federal Regulations (eCFR) – Requirements for Federal Awards.

Direct recipient

- An entity, usually but not limited to non-federal entities, that receives a federal award directly from a federal awarding agency. The term recipient does not include subrecipients or individuals that are beneficiaries of the award.

Subrecipient

- An entity, usually but not limited to non-federal entities, that receives a subaward from a pass-through entity to carry out part of a federal award; but does not include an individual that is a beneficiary of such award. A subrecipient may also be a recipient of other federal awards directly from a federal awarding agency. See definition for Subaward in 2 CFR 200.1.

Contractor

- An entity that receives a contract. See definition for contract in 2 CFR 200.1.

Figure 1: EV-ChART Submission Process

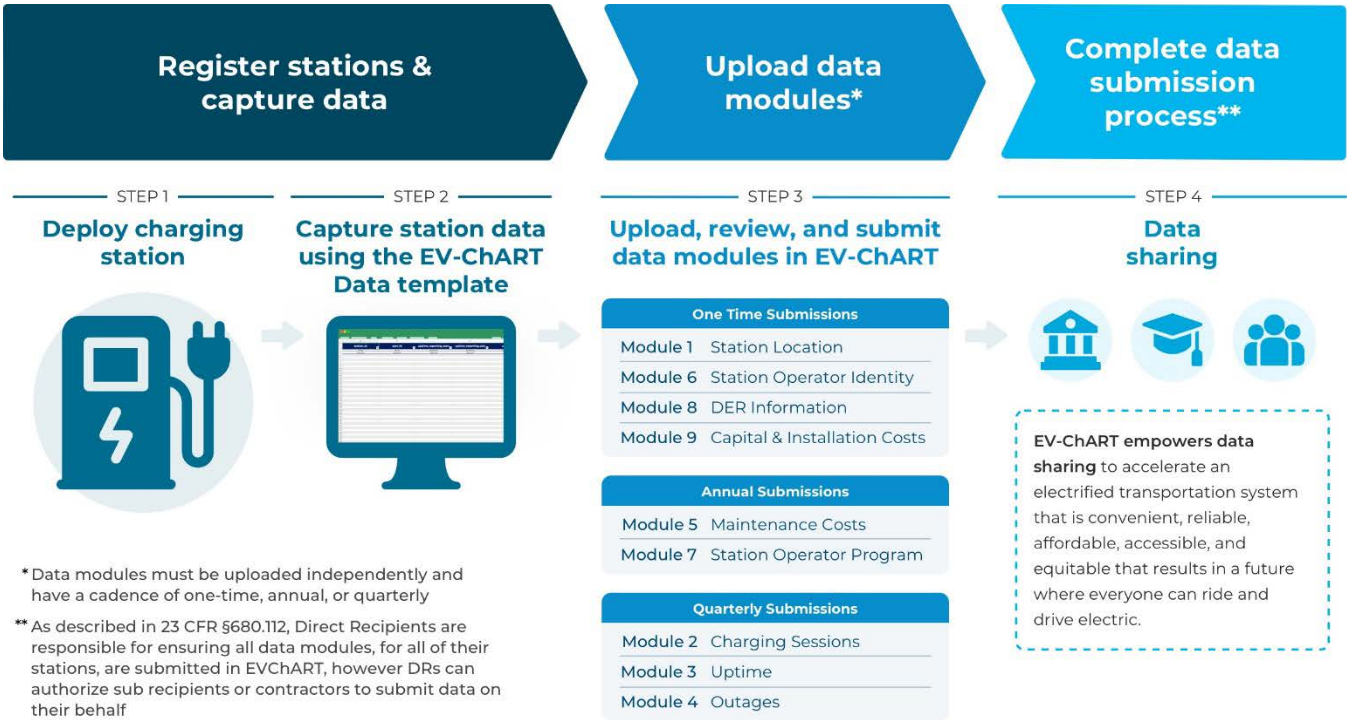

Figure 2: Example Error Report

See column "D" for error descriptions.

	A	B	C	D	E	F	G	H	I	J
1	error_id	module_id	data_upload_header	data_uploa	error_description	time_of_upload_attempt	station_id	subreci	direct_rec	invalid_record
2	347	5	station_id	4	No station profile can be	06/18/24 3:19 PM EDT	LOC1	null	3	{""""caas"""": """"TRUE""""
3	348	5	station_id	5	No station profile can be	06/18/24 3:19 PM EDT	LOC2	null	3	{""""caas"""": """"FALSE""""
4	349	5	station_id	6	No station profile can be	06/18/24 3:19 PM EDT	LOC3	null	3	{""""caas"""": """"TRUE""""
5	350	5	station_id	7	No station profile can be	06/18/24 3:19 PM EDT	13526	null	3	{""""caas"""": """"FALSE""""
6	351	5	station_id	8	No station profile can be	06/18/24 3:19 PM EDT	30531	null	3	{""""caas"""": """"FALSE""""
7	352	5	maintenance_cost_federal	5	Data type does not match	06/18/24 3:19 PM EDT	LOC2	null	3	{""""caas"""": """"FALSE""""