



AWS SFTP Hourly OCPP Data Submission Instructions

For Charging Network Providers (CNPs)

Last Updated: 6/29/2026

1. Purpose

The purpose of these instructions is to provide Charging Network Providers (CNPs) with clear guidance on submitting hourly OCPP data files using an Amazon Web Services (AWS) Secure File Transfer Protocol (SFTP). This ensures data submissions are consistent, secure, and compliant with state and regulatory requirements. By following these instructions, CNPs can efficiently transmit required data to the California Energy Commission (CEC) and meet ongoing reporting obligations under CEC electric vehicle (EV) charging grant agreements and the EV Charger Data and Reliability Standards regulations. CNPs must submit hourly OCPP data files through a secure AWS SFTP service.

If the CNP is reporting data for EV charging grant agreements, all data files must conform to the CEC data dictionary, "**Hourly_Charger_Data_Reporting_Specification_ada.xlsx**", which defines the required file structure, field definitions, and validation rules. The data dictionary is available on the [EV Charger Data and Reliability Standards](#) webpage under **Data Dictionaries** click the link **Hourly Charger Data Reporting Specifications**.

If the CNP is reporting for compliance with the EV Charger Data and Reliability Standards Regulations, then all data files must be in accordance with the CEC Data Dictionary titled "Hourly Charger Data Reporting Specifications", which serves as the authoritative reference for file structure, field definitions, and validation rules and is published on the CEC website at [EV Charger Data and Reliability Standards](#).

For questions about enrollment or onboarding for Charging Network Providers, email enrolledcharging@energy.ca.gov.

For questions about which requirements are applicable to a given charger, please email FTD@energy.ca.gov.

2. What You Will Receive

Each Charging Network Provider will be provided:



- A dedicated SFTP username
- A secure SFTP server endpoint
- A dedicated S3-backed folder structure isolated to the user
- Required OCPP PDU subfolders for file uploads
- Data Dictionary version that will be used

Example folders include:

- /sandbox/
- /{dictionary_version}/authorize_request/
- /{dictionary_version}/authorize_response/
- /{dictionary_version}/boot_notification_request/
- /{dictionary_version}/boot_notification_response/
- /{dictionary_version}/heartbeat_response/
- /{dictionary_version}/notify_event_request/
- /{dictionary_version}/request_start_transaction_request/
- /{dictionary_version}/status_notification_request/
- /{dictionary_version}/transaction_event_request/

3. What You Need Before Starting

CNPs authenticate using a Secure Shell (SSH) private key stored locally before uploading files over SFTP. Before submitting files, you must have the following:

Required Items

1. SSH private key (generated by your organization)
 - a. See Appendix A below.
 - b. Note: Not to be shared with the CEC.
2. SSH public key (.pub file)
 - a. See Appendix A below.
3. Static Internet Protocol (IP) address range that will be used for file uploads

The public key and static IP range must be shared with the CEC for account provisioning.

4. Registration Process

Note: Steps 1 and 3 are separate emails sent at different times



Step 1 — Send Intro Registration Email

Email: **ZEVDDataReporting@energy.ca.gov**

Subject Line

{Company Name} Hourly Data Technical Registration

Include the following in the body of the email:

- Charging Network Provider name
 - Company website
 - Work phone number
 - Note: send the email from your company business email address
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Step 2 — CEC Provides Access Information

After verification, CEC will provide:

- Your SFTP username
 - SFTP server endpoint: `ocpp-uploads.energy.ca.gov`
 - Note: Names may differ across clients; “username” might be called “user” or “account”
 - Your assigned upload folder structure
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Step 3 — Send Access Configuration Details

Email the following to:

ZEVDDataReporting@energy.ca.gov

Subject Line

{Company Name} SSH public key and static IP ranges

Make sure to:

1. Attach your SSH public key (.pub file). Do not send your private key.
2. Include the static IP address range



Required

- Your SSH Public Key (.pub file)
 - <https://docs.aws.amazon.com/transfer/latest/userguide/windows-ssh.html>
 - (For Windows)
 - <https://docs.aws.amazon.com/transfer/latest/userguide/macOS-linux-unix-ssh.html>
 - (For macOS/Linux)
- Static IP address range used for uploads

Step 4 — Confirmation from CEC

CEC will send a confirmation email once:

- Your public key is registered
- Your static IP range is approved
- Your SFTP access is ready

5. File Submission Requirements

Each uploaded CSV must be placed inside the correct OCPP folder and Data Dictionary version folder.

Required Folder Structure

Note: dictionary_version will be provided via email

/sandbox/

/ {dictionary_version} /authorize_request/

/ {dictionary_version} /authorize_response/

/ {dictionary_version} /boot_notification_request/

/ {dictionary_version} /boot_notification_response/

/ {dictionary_version} /heartbeat_response/

/ {dictionary_version} /notify_event_request/

/ {dictionary_version} /request_start_transaction_request/

/ {dictionary_version} /status_notification_request/

/ {dictionary_version} /transaction_event_request/



Example

/{{dictionary_version}}/authorize_request/authorize_request_YYYYMMDDHH.csv

Important Notes

- Name files according to the Data Dictionary instructions in the “READ ME” tab.
- File paths are case sensitive
- Files must be placed in the correct folder
- Incorrect folder placement may cause validation failure
- Empty files should not be submitted
- Directory listing is allowed for upload confirmation
- Download/read access is not allowed
- {{dictionary_version}} will be provided by the CEC during onboarding or can be found on the CEC website: [EV Charger Data and Reliability Standards](#).
- You must include the final “/” in an S3 folder path to properly reference the folder.

6. Connecting to the SFTP Server

Note: SFTP access will be restricted exclusively to the static IP range that was previously communicated with CEC.

Option A — Command Line (Recommended)

Connect

```
sftp -i /path/to/cnp_sftp_key {user_name}@ocpp-uploads.energy.ca.gov
```

Upload a Test File for Connectivity Verification

```
put your_file.csv /sandbox/
```

Upload a Real File

```
put your_file.csv /{{dictionary_version}}/authorize_request/
```

Verify Upload

```
ls -l /{{dictionary_version}}/authorize_request/
```



Option B — SFTP Client Software

You may also use:

- WinSCP
- Cyberduck
- FileZilla

Reference guides:

- WinSCP: https://winscp.net/eng/docs/guide_connect
 - Cyberduck: <https://docs.cyberduck.io/cyberduck/>
 - FileZilla: <https://wiki.filezilla-project.org/Using>
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Appendix A — Generate SSH Keys

Use OpenSSH (available on Mac, Linux, and Windows).

Run

```
ssh-keygen -t rsa -b 4096 -C "your_email@example.com"
```

This creates:

- Private key → Keep secure
- Public key (.pub file) → Send to CEC

Example:

- cnp_sftp_key
 - cnp_sftp_key.pub
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Support

For technical onboarding or submission questions:

ZEVDataReporting@energy.ca.gov

For program or application questions:

enrolledcharging@energy.ca.gov