



AWS SFTP Hourly OCPP Data Submission Instructions

For Charging Network Providers (CNPs)

Last Updated: 9/17/2026

1. Purpose

The purpose of these instructions is to provide Charging Network Providers (CNPs) with clear guidance on submitting hourly OCPP data files using Amazon Web Services (AWS) 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. 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:

- /{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/
 - /{dictionary_version}/sandbox/
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3. What You Need Before Starting

CNPs authenticate using an 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 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

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

Step 3 — Send Access Configuration Details

Email the following to:



ZEVDataReporting@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
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Step 4 — SFTP Connection 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

Step 5 — Hourly Data Submission Testing and Validation

After SFTP access is confirmed and before technical enrollment is completed, the CEC EV Charger Data and Reliability Standards require CNPs to transmit data to the CEC as part of



the Enrolled CNP process¹. . CNPs must complete CEC-directed testing and validation before the CEC will confirm completion of technical onboarding . This test period requests a minimum amount of hourly sample data in order for the CEC to identify and resolve transmission, file-format, completeness, and data-quality issues before production reporting begins.

Testing parameters:

- Continuous 24-hour submissions for at least seven consecutive days.
- Data from at least 20 operational chargers with charge session transactions, and expected to be subject to the Hourly OCPP 2.0.1 Transmittal requirements, when available. If fewer than 20 such chargers are available, include all available chargers.
- At least one record for each required OCPP PDU file type within the data submission.

These parameters establish the CEC’s standard minimum testing targets for completing technical onboarding. They do not create additional regulatory reporting requirements or change the applicability requirements established by the regulations. A CNP that cannot meet a testing parameter must notify the CEC and provide the reason so that the CEC can determine whether an alternative testing approach is appropriate. If the CEC identifies an issue or needs additional sample data, the CEC will provide feedback to the CNP.

During testing and validation, CNPs must upload files to the appropriate OCPP PDU folders using the same folder structure and submission process that will be used for production reporting. For the purposes of sample data collection, CNPs may hash or obfuscate the identifiers of the sample chargers so long as those obfuscated identifiers are consistently hashed. Data submitted during testing and validation will not be treated as production submissions or used in official reliability calculations or reports. The CEC will notify the CNP when to begin production reporting.

Applicability reminder: Hourly OCPP 2.0.1 transmittal reporting applies to publicly or ratepayer-funded direct current fast chargers (DCFCs) installed on or after September 28, 2026. Refer to the EV Charger and Reliability Standards for complete applicability criteria and exceptions.

Step 6 — Final Technical Onboarding Confirmation

¹ 3131(c) Enrolled Charging Network Providers for Publicly or Ratepayer Funded Chargers.



The CEC will notify the CNP via email when the technical onboarding is complete. After receiving this notification, the CNP must stop submitting sample data. All subsequent submissions must only consist of data subject to the regulations and will be treated as regulatory submissions.

The CNP must confirm within 24 hours of receiving the notification that it has stopped submitting sample data. If your technical onboarding is completed on or after September 28, 2026, the CNP must submit any required historical hourly OCPP 2.0.1 data from September 28 onward for chargers installed on or after that date and subject to the regulations.

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

/cnp_name/

- / {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>

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

Appendix B — Submitting Missing or Stale Hourly Data

If OCPP data could not be submitted during the hour in which it was generated and must be submitted later, do not split the missing data into separate files for each missed hour. Instead, include the missing data in your next hourly file submission for the applicable OCPP PDU type.

For example, if a charger was offline for seven days, the next hourly file may contain both the OCPP messages generated during the seven-day period that were not previously submitted and the OCPP messages generated during the current submission hour.

Use the standard filename for the current submission hour, even if the file contains data from previous hours or days.

Example

A CNP is unable to transmit HeartbeatResponse data for several days. When connectivity is restored during the 2026-01-01 01:00 submission hour, the CNP may submit a file named:

heartbeat_response_2026010101.csv

That file may include the previously missing HeartbeatResponse records together with records from the current hour.

Support

For technical onboarding or submission questions:

ZEVDataReporting@energy.ca.gov



For program or application questions:

enrolledcharging@energy.ca.gov