Data Record Reporting Procedures for Over-the-Air Reprogrammed Vehicles Using SAE J1979-3

California Air Resources Board
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Background

California's Data Standardization Requirements for 2026 and Subsequent Model Year Light-Duty Zero Emission Vehicles and Plug-in Hybrid Electric Vehicles (title 13, California Code of Regulations (CCR) section 1962.5(c)(5)(B)) provides for manufacturers to compile and submit in-use tracking data records grouped by test groups that are Over-the-Air (OTA) reprogrammed if any of the specified tracking data would be cleared as a result of the reprogramming event. The procedures below describe how the data records should be constructed, formatted, and submitted to the California Air Resources Board (CARB or the Board) for vehicles using SAE J1979-3.

Data Fields and Format

The data fields are presented in the table below. The first five fields describe the data record. The remaining fields are comprised of aggregated data parameters corresponding with title 13, CCR section 1962.5. As indicated in the table, the data fields are computed from single data parameters read from reprogrammed vehicles. All averages and standard deviations should be unweighted. All parameters should be scaled as specified in the relevant industry standard (i.e., SAE J1979-3 and SAE J1979DA).

The header for the comma-separated values (CSV) file should exactly match the template below under "Example Record."

No data fields should be omitted from the header row, even if the vehicle does not support certain parameters. Fields in the data row should be left blank for unsupported data fields as shown in the example records. Each data record should be submitted in a separate CSV file.

Submission Information and Deadlines

Manufacturers are to collect and submit the data to the Executive Officer within 75 days of the release of the OTA software update. The data should not be aggregated

until after 45 days from the release of the software. Vehicles that are not successfully reflashed within this timeframe may be left out of the aggregated data record. Records should be posted to the manufacturers' space on CARB's electronic file system for uploading certification applications (e.g., eFiles) using a filename based on the certification engine family/test group name and the date of the OTA release, as follows: family_OTA_mmddyyyy.csv.

Record Identification Fields

Field Name	**Description**	**Vehicle Parameters**	**Format**
FAMILY	Test Group Name	Certification Identifier for Test Group	Text
CALID	Calibration Identification Number	Calibration Identification Number	Text
CALDATE	Date the calibration was released over the air	none - entered separately	Date DD/MM/YYYY
VEHCOUNT	Number of vehicle records included in the aggregate record	none - entered separately	Integer
CORRUPTCOUNT	Number of vehicle records rejected based on detected data errors	none - entered separately	Integer
ODOMETER-AVE	Vehicle odometer reading (average)	Odometer	Integer
ODOMETER-SD	Vehicle odometer reading (standard deviation)	Odometer	Floating Point
ECUNAME	Name(s) of each propulsion-related Electronic Control Unit that has been reflashed	Electronic Control Unit Name	Text

ZEV Vehicle Operation Tracking

Field Name	Description	Vehicle Parameters	Format
DT-L-AVE	Distance Traveled (average)	Total Distance Traveled	Floating Point
DT-L-SD	Distance Traveled (standard deviation)	Total Distance Traveled	Floating Point
QTY_PSA_TRIPS-L-AVE	Total number of propulsion system active events (average)	Total Number of Propulsion System Active Trips	Floating Point
QTY_PSA_TRIPS-L-SD	Total number of propulsion system active events (standard deviation)	Total Number of Propulsion System Active Trips	Floating Point
PKE-L-AVE	Positive Kinetic Energy (average)	Total Positive Kinetic Energy	Floating Point
PKE-L-SD	Positive Kinetic Energy (standard deviation)	Total Positive Kinetic Energy	Floating Point
ETM_A_TOE_L-AVE	Electric Traction Motor A Total Output Energy (average)	Total Electric Motor Output Energy #1	Floating Point
ETM_A_TOE_L-SD	Electric Traction Motor A Total Output Energy (standard deviation)	Total Electric Motor Output Energy #1	Floating Point
ETM_B_TOE_L-AVE	Electric Traction Motor B Total Output Energy (average)	Total Electric Motor Output Energy #2	Floating Point
ETM_B_TOE_L-SD	Electric Traction Motor B Total Output Energy (standard deviation)	Total Electric Motor Output Energy #2	Floating Point
ETM_C_TOE_L-AVE	Electric Traction Motor C Total Output Energy (average)	Total Electric Motor Output Energy #3	Floating Point
ETM_C_TOE_L-SD	Electric Traction Motor C Total Output Energy (standard deviation)	Total Electric Motor Output Energy #3	Floating Point
ETM_D_TOE_L-AVE	Electric Traction Motor D Total Output Energy (average)	Total Electric Motor Output Energy #4	Floating Point
ETM_D_TOE_L-SD	Electric Traction Motor D Total Output Energy (standard deviation)	Total Electric Motor Output Energy #4	Floating Point
PSA-L-AVE	Total Propulsion System Active Time (average)	Total Propulsion System Active Time	Floating Point
PSA-L-SD	Total Propulsion System Active Time (standard deviation)	Total Propulsion System Active Time	Floating Point

Field Name	Description	Vehicle Parameters	Format
IPSA-L-AVE	Total Idle Propulsion System Active Time (average)	Total Idle Propulsion System Active Time	Floating Point
IPSA-L-SD	Total Idle Propulsion System Active Time (standard deviation)	Total Idle Propulsion System Active Time	Floating Point
CPSA-L-AVE	Total City Propulsion System Active Time (average)	Total City Propulsion System Active Time	Floating Point
CPSA-L-SD	Total City Propulsion System Active Time (standard deviation)	Total City Propulsion System Active Time	Floating Point
FCAT-L-AVE	Total Fuel Cell Active Time (average)	Total Fuel Cell System Active Time	Floating Point
FCAT-L-SD	Total Fuel Cell Active Time (standard deviation)	Total Fuel Cell System Active Time	Floating Point
TFSEG_L-AVE	Total Fuel Cell System Energy Generated (average)	Total Fuel cell System Energy Generated	Floating Point
TFSEG_L-SD	Total Fuel Cell System Energy Generated (standard deviation)	Total Fuel cell System Energy Generated	Floating Point
FC-L-AVE	Total Gaseous Fuel Consumed (average)	Total Hydrogen Fuel Consumed	Floating Point
FC-L-SD	Total Gaseous Fuel Consumed (standard deviation)	Total Hydrogen Fuel Consumed	Floating Point
TNBC_PSA-L-AVE	Total net battery current in propulsion system active operation (average)	Total Net Battery Current in the State of Propulsion System Active	Floating Point
TNBC_PSA-L-SD	Total net battery current in propulsion system active operation (standard deviation)	Total Net Battery Current in the State of Propulsion System Active	Floating Point
TNEC_PSA-L-AVE	Total net energy consumed in propulsion system active operation (average)	Total Net Energy Consumed in the State of Propulsion System Active	Floating Point
TNEC_PSA-L-SD	Total net energy consumed in propulsion system active operation (standard deviation)	Total Net Energy Consumed in the State of Propulsion System Active	Floating Point

Field Name	Description	Vehicle Parameters	Format
TEB_PSA-L-AVE	Total energy into battery during propulsion system active (average)	Total Energy into Battery during the State of Propulsion System Active	Floating Point
TEB_PSA-L-SD	Total energy into battery during propulsion system active (standard deviation)	Total Energy into Battery during the State of Propulsion System Active	Floating Point
TGE_OVC-L-AVE	Total grid energy into the battery during off-board charging (average)	Total Grid Energy into the Battery During Off-Board Charging	Floating Point
TGE_OVC-L-SD	Total grid energy into the battery during off-board charging (standard deviation)	Total Grid Energy into the Battery During Off-Board Charging	Floating Point
GE_CHG_OVC_DC-L-AVE	Total grid energy into the battery from off-board direct current (DC) charging (average)	Total Grid Energy into the Battery from Off-Board DC Charging	Floating Point
GE_CHG_OVC_DC-L-SD	Total grid energy into the battery from off-board direct current (DC) charging (standard deviation)	Total Grid Energy into the Battery from Off-Board DC Charging	Floating Point
GE_CHG_OVC_AC-L-AVE	Total grid energy into the vehicle from off-board AC charging. (average)	Total Grid Energy into the Vehicle from off-board AC Charging	Floating Point
GE_CHG_OVC_AC-L-SD	Total grid energy into the vehicle from off-board AC charging. (standard deviation)	Total Grid Energy into the Vehicle from off-board AC Charging	Floating Point
RESS_V2X_EN_NONPSA-L-AVE	Total battery energy supplied to an off-board usage during propulsion system non-active operation (average)	Total Battery Energy Supplied to an Off-Board Usage during Propulsion System Non-Active Operation	Floating Point
RESS_V2X_EN_NONPSA-L-SD	Total battery energy supplied to an off-board usage during propulsion system non-active operation (standard deviation)	Total Battery Energy Supplied to an Off-Board Usage during Propulsion System Non-Active Operation	Floating Point

Field Name	Description	Vehicle Parameters	Format
AVG_BATTEMP_PSA-L-AVE	Average battery temperature during Propulsion System Active (average)	Average Battery Temperature during Charging/Propulsion System Active/Non-Usage of the Vehicle	Floating Point
AVG_BATTEMP_PSA-L-SD	Average battery temperature during Propulsion System Active (standard deviation)	Average Battery Temperature during Charging/Propulsion System Active/Non-Usage of the Vehicle	Floating Point
RESS_TIME_SOC_PSA_RNG1-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA < Range 1 (average)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG1-L-SD	Energy Storage Accumulated Time at State of Charge during PSA < Range 1 (standard deviation)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG12-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 1 < Range 2 (average)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG12-L-SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 1 < Range 2 (standard deviation)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG23-L -AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 2 < Range 3 (average)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG23-L -SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 2 < Range 3 (standard deviation)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG34-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 3 < Range 4 (average)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_PSA_RNG34-L-SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 3 < Range 4 (standard deviation)	Total time at low state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG45-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 4 < Range 5 (average)	Total time at mid state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG45-L-SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 4 < Range 5 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG56-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 5 < Range 6 (average)	Total time at mid state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG56-L-SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 5 < Range 6 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG67-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 6 < Range 7 (average)	Total time at high state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG67-L-SD	Energy Storage Accumulated Time at State of Charge during PSA within >=Range 6 < Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_PSA_RNG7-L-AVE	Energy Storage Accumulated Time at State of Charge during PSA >=Range 7 (average)	Total time at high state of charges where total time includes cumulative time during propulsion System active	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_PSA_RNG7-L-SD	Energy Storage Accumulated Time at State of Charge during PSA >=Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during propulsion System active	Floating Point
RESS_TIME_SOC_CHG_RNG1-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging < Range 1 (average)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG1-L-SD	Energy Storage Accumulated Time at State of Charge during Charging < Range 1 (standard deviation)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG12-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 1 < Range 2 (average)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG12-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 1 < Range 2 (standard deviation)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG23-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 2 < Range 3 (average)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG23-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 2 < Range 3 (standard deviation)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_CHG_RNG34-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 3 < Range 4 (average)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG34-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 3 < Range 4 (standard deviation)	Total time at low state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG45-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 4 < Range 5 (average)	Total time at mid state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG45-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 4 < Range 5 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG56-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 5 < Range 6 (average)	Total time at mid state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG56-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 5 < Range 6 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG67-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 6 < Range 7 (average)	Total time at high state of charges where total time includes cumulative time during charging	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_CHG_RNG67-L-SD	Energy Storage Accumulated Time at State of Charge during Charging within >=Range 6 < Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG7-L-AVE	Energy Storage Accumulated Time at State of Charge during Charging >=Range 7 (average)	Total time at high state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_CHG_RNG7-L-SD	Energy Storage Accumulated Time at State of Charge during Charging >=Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during charging	Floating Point
RESS_TIME_SOC_OFF_RNG1-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off is less than Range 1 (average)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG1-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off is less than Range 1 (standard deviation)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG12-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 1 < Range 2 (average)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG12-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 1 < Range 2 (standard deviation)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_OFF_RNG23-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 2 < Range 3 (average)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG23-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 2 < Range 3 (standard deviation)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG34-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 3 < Range 4 (average)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG34-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 3 < Range 4 (standard deviation)	Total time at low state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG45-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 4 < Range 5 (average)	Total time at mid state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG45-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 4 < Range 5 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG56-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 5 < Range 6 (average)	Total time at mid state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_TIME_SOC_OFF_RNG56-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 5 < Range 6 (standard deviation)	Total time at mid state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG67-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 6 < Range 7 (average)	Total time at high state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG67-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off within >=Range 6 < Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG7-L-AVE	Energy Storage Accumulated Time at State of Charge during Vehicle Off >=Range 7 (average)	Total time at high state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_TIME_SOC_OFF_RNG7-L-SD	Energy Storage Accumulated Time at State of Charge during Vehicle Off >=Range 7 (standard deviation)	Total time at high state of charges where total time includes cumulative time during non-usage of the vehicle	Floating Point
RESS_CNTS_DOD_RNG1-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter < Range 1 (average)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG1-L-SD	Lifetime Energy Storage System Depth of Discharge Counter < Range 1 (standard deviation)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG12-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 1, < Range 2 (average)	Total Number of charge events following a low depth of discharge of the battery	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_CNTS_DOD_RNG12-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 1, < Range 2 (standard deviation)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG23-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 2, < Range 3 (average)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG23-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 2, < Range 3 (standard deviation)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG34-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 3, < Range 4 (average)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG34-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 3, < Range 4 (standard deviation)	Total Number of charge events following a low depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG45-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 4, < Range 5 (average)	Total Number of charge events following a medium depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG45-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 4, < Range 5 (standard deviation)	Total Number of charge events following a medium depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG56-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 5, < Range 6 (average)	Total Number of charge events following a medium depth of discharge of the battery	Floating Point

Field Name	Description	Vehicle Parameters	Format
RESS_CNTS_DOD_RNG56-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 5, < Range 6 (standard deviation)	Total Number of charge events following a medium depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG67-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 6, < Range 7 (average)	Total Number of charge events following a high depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG67-L-SD	Lifetime Energy Storage System Depth of Discharge Counter within >=Range 6, < Range 7 (standard deviation)	Total Number of charge events following a high depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG7-L-AVE	Lifetime Energy Storage System Depth of Discharge Counter >= Range 7 (average)	Total Number of charge events following a high depth of discharge of the battery	Floating Point
RESS_CNTS_DOD_RNG7-L-SD	Lifetime Energy Storage System Depth of Discharge Counter >= Range 7 (standard deviation)	Total Number of charge events following a high depth of discharge of the battery	Floating Point

Example Records:

The first row of the data record shall include the field names exactly as shown below. Following the header row are two additional rows of data. The first additional row is for a battery electric vehicle (BEV). The second additional row is for a fuel cell electric vehicle (FCEV). The column names are not repeated for the second example.

FAMILY,CALID,CALDATE,VEHCOUNT,CORRUPTCOUNT,ODOMETER-AVE,ODOMETER-SD,ECUNAME,DT-L-AVE,DT-L-SD,QTY_PSA_TRIPS-L-AVE,QTY_PSA_TRIPS-L-SD,PKE-L-AVE,PKE-L-SD,ETM_A_TOE_L-AVE,ETM_A_TOE_L-SD,ETM_B_TOE_L-AVE,ETM_B_TOE_L-SD,ETM_C_TOE_L-AVE,ETM_C_TOE_L-SD,ETM_D_TOE_L-AVE,ETM_D_TOE_L-SD,PSA-L-AVE,PSA-L-SD,IPSA-L-AVE,IPSA-L-SD,CPSA-L-AVE,CPSA-L-SD,TNBC_PSA-L-AVE,TNBC_PSA-L-SD,TNEC_PSA-L-AVE,TNEC_PSA-L-SD,TEB_PSA-L-AVE,TEB_PSA-L-SD,TGE_OVC-L-AVE,TGE_OVC-L-SD,GE_CHG_OVC_DC-L-AVE,GE_CHG_OVC_DC-L-SD,GE_CHG_OVC_AC-L-AVE,GE_CHG_OVC_AC-L-SD,RESS_V2X_EN_NONPSA-L-AVE,RESS_V2X_EN_NONPSA-L-SD,AVG_BATTEMP_PSA-L-AVE,AVG_BATTEMP_PSA-L-SD,RESS_TIME_SOC_PSA_RNG1-L-AVE,RESS_TIME_SOC_PSA_RNG1-L-SD,RESS_TIME_SOC_PSA_RNG12-L-AVE,RESS_TIME_SOC_PSA_RNG12-L-SD,RESS_TIME_SOC_PSA_RNG23-L -AVE,RESS_TIME_SOC_PSA_RNG23-L-SD,RESS_TIME_SOC_PSA_RNG34-L-AVE,RESS_TIME_SOC_PSA_RNG34-L-SD,RESS_TIME_SOC_PSA_RNG45-L-AVE,RESS_TIME_SOC_PSA_RNG45-L-SD,RESS_TIME_SOC_PSA_RNG56-L-AVE,RESS_TIME_SOC_PSA_RNG56-L-SD,RESS_TIME_SOC_PSA_RNG67-L-AVE,RESS_TIME_SOC_PSA_RNG67-L-SD,RESS_TIME_SOC_PSA_RNG7-L-AVE,RESS_TIME_SOC_PSA_RNG7-L-SD,RESS_TIME_SOC_CHG_RNG1-L-AVE,RESS_TIME_SOC_CHG_RNG1-L-SD,RESS_TIME_SOC_CHG_RNG12-L-AVE,RESS_TIME_SOC_CHG_RNG12-L-SD,RESS_TIME_SOC_CHG_RNG23-L-AVE,RESS_TIME_SOC_CHG_RNG23-L-SD,RESS_TIME_SOC_CHG_RNG34-L-AVE,RESS_TIME_SOC_CHG_RNG34-L-SD,RESS_TIME_SOC_CHG_RNG45-L-AVE,RESS_TIME_SOC_CHG_RNG45-L-SD,RESS_TIME_SOC_CHG_RNG56-L-AVE,RESS_TIME_SOC_CHG_RNG56-L-SD,RESS_TIME_SOC_CHG_RNG67-L-AVE,RESS_TIME_SOC_CHG_RNG67-L-SD,RESS_TIME_SOC_CHG_RNG7-L-AVE,RESS_TIME_SOC_CHG_RNG7-L-SD,RESS_TIME_SOC_OFF_RNG1-L-AVE,RESS_TIME_SOC_OFF_RNG1-L-SD,RESS_TIME_SOC_OFF_RNG12-L-AVE,RESS_TIME_SOC_OFF_RNG12-L-SD,RESS_TIME_SOC_OFF_RNG23-L-AVE,RESS_TIME_SOC_OFF_RNG23-L-SD,RESS_TIME_SOC_OFF_RNG34-L-AVE,RESS_TIME_SOC_OFF_RNG34-L-SD,RESS_TIME_SOC_OFF_RNG45-L-AVE,RESS_TIME_SOC_OFF_RNG45-L-SD,RESS_TIME_SOC_OFF_RNG56-L-AVE,RESS_TIME_SOC_OFF_RNG56-L-SD,RESS_TIME_SOC_OFF_RNG67-L-AVE,RESS_TIME_SOC_OFF_RNG67-L-SD,RESS_TIME_SOC_OFF_RNG7-L-AVE,RESS_TIME_SOC_OFF_RNG7-L-SD,RESS_CNTS_DOD_RNG1-L-AVE,RESS_CNTS_DOD_RNG1-L-SD,RESS_CNTS_DOD_RNG12-L-AVE,RESS_CNTS_DOD_RNG12-L-SD,RESS_CNTS_DOD_RNG23-L-AVE,RESS_CNTS_DOD_RNG23-L-SD,RESS_CNTS_DOD_RNG34-L-AVE,RESS_CNTS_DOD_RNG34-L-SD,RESS_CNTS_DOD_RNG45-L-AVE,RESS_CNTS_DOD_RNG45-L-

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