

**California Energy Commission
July 10, 2024, Business Meeting
Backup Materials for Agenda Item 9**

The following backup materials for the above-referenced agenda item are available as described below:

1. Proposed Resolution, attached below.
 - Notice of Availability, attached below, and available at <https://efiling.energy.ca.gov/GetDocument.aspx?tn=257462&DocumentContentId=93336>.

For the complete record, please visit:

<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-IEPR-03>.

To stay informed about this project and receive documents as they are filed, please subscribe to the proceeding Topic, which can be accessed here:

<https://public.govdelivery.com/accounts/CNRA/signup/31719>. The Topic sends out email notifications and direct links when documents are filed in the proceeding docket.

**STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

**RESOLUTION OF THE CALIFORNIA ENERGY COMMISSION ADOPTING THE REVISED 2023
ADDITIONAL ACHIEVABLE FUEL SUBSTITUTION HOURLY RESULTS OF THE CALIFORNIA
ENERGY DEMAND 2023-2040 FORECAST**

WHEREAS, Public Resources Code section 25301(a) requires the California Energy Commission (CEC) to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices" and to "use these assessments and forecasts to develop and evaluate energy policies and programs that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety"; and

WHEREAS, the Integrated Energy Policy Report (IEPR) contains these assessments and associated policy recommendations and is adopted every two years, with an Integrated Energy Policy Report Update being adopted each interim year; and

WHEREAS, the 2023 IEPR included six Additional Achievable Fuel Substitution (AAFS) scenarios for the California Energy Demand 2023-2040 Forecast adopted in February 2024 and the 2023 Gradual Transformation AAFS scenario adopted in May 2024; and

WHEREAS, CEC staff discovered an error in the AAFS input mapping file used in the development of the AAFS scenarios; and

WHEREAS, CEC staff developed a revision of the AAFS scenarios impacting the electric hourly results for the California Energy Demand 2023-2040 Forecast; and

WHEREAS, CEC staff consulted with appropriate state and federal agencies in developing the revisions to the California Energy Demand Forecast, 2023-2040 including, but not limited to, the California Public Utilities Commission (CPUC), the California State Air Resources Board (CARB), and the California Independent System Operator (CAISO); and

WHEREAS, CEC staff held a Demand Analysis Working Group Meeting on June 12, 2024, to discuss the revisions to the hourly results for the AAFS Scenarios and the implications to the California Energy Demand 2023-2040 Forecast, and make the revised data files publicly available on the CEC website; and

WHEREAS, on June 24, 2024, staff docketed the Notice of Availability for the Revised 2023 Additional Achievable Fuel Substitution Hourly Results of the California Energy Demand 2023-2040 Forecast in Docket No. 23-IEPR-03 identifying the documents that make up the revised scenarios, including forecasts for electricity demand impacts for each of the major planning areas and for the state as a whole; and

Note: California Energy Commission's formal name is State of California Energy Resources Conservation and Development Commission.

THEREFORE BE IT RESOLVED, the CEC hereby adopts the Revised 2023 Additional Achievable Fuel Substitution Hourly Results of the California Energy Demand 2023-2040 Forecast along with any changes identified at its July 10, 2024, Business Meeting, and directs CEC staff to make the revised forecast available to the public.

It is so Ordered.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on July 10, 2024.

AYE:

NAY:

ABSENT:

ABSTAIN:

Dated:

Kristine Banaag
Secretariat

Note: California Energy Commission's formal name is State of California Energy Resources Conservation and Development Commission.



IN THE MATTER OF:

*2023 Integrated Energy Policy Report
(2023 IEPR)*

DOCKET NO. 23-IEPR-03

NOTICE OF AVAILABILITY

RE: Revised Additional Achievable Fuel
Substitution Scenarios

Notice of Availability and Opportunity to Comment on the Revised 2023 Additional Achievable Fuel Substitution (AAFS) Hourly Results of the California Energy Demand 2023-2040 Forecast

A revision to the California Energy Demand 2023-2040 Forecast of Hourly and Peak Demand for Electricity adopted as part of the 2023 Integrated Energy Policy Report Proceeding is available for public review and comment and will be considered for adoption at the California Energy Commission (CEC) business meeting on July 10, 2024. Please see instructions on how to submit public comments further below. The revision fixes an error in an Additional Achievable Fuel Substitution (AAFS) hourly input file, which incorrectly assigned cooling load shapes to a portion of the residential heat pump heating load. Through this notice, staff is proposing a revision to the six 2023 AAFS scenarios adopted in February 2024, and the 2023 Gradual Transformation AAFS scenario adopted in May 2024. The revised results impact the overall electric hourly results for the Planning Forecast and Local Reliability Scenario.

Background

The CEC discovered the AAFS hourly input file error in the spring of 2024 while answering stakeholder questions regarding the California Energy Demand 2023-2040 Forecast of Hourly and Peak Demand for Electricity. The error occurred in an AAFS input file, which incorrectly assigned cooling load shapes to a portion of the residential heat pump heating load. The error solely affected the zero-emission appliance standards modeled in the AAFS scenarios and led to an inaccurate amount of heat pump load in the forecast occurring in the summer months. The annual gas and electricity results were not affected.

The revision redistributed the hourly loads from the zero-emission appliance standards modeled in the AAFS scenarios from the summer to the winter months. The revision decreased the forecasted annual CAISO system peaks for the Planning Forecast and Local Reliability Scenario, particularly in the long term when zero-emission appliance standards are assumed to be in full effect statewide. The revision reduces the 2040

annual peak by 3,400 MW and 3,500 MW for the Planning Forecast and Local Reliability Scenario, respectively. The near-term impacts to the annual peak forecast are minor since the zero-emission appliance standards begin in or after 2027 and there is a ramp-up of adoption starting in 2026.

The redistribution of load from the summer to the winter months increases the winter peak by 8,600 MW and 8,700 MW for the Planning Forecast and Local Reliability Scenario, respectively. Notably, the revised 2040 annual CAISO system peak for the Planning Forecast shifts from September to February. The 2040 February peak for the Local Reliability scenario is just shy (roughly 1,000 MW) of the September peak.

CEC staff disclosed the error and revision to investor-owned utilities and agency partners: California Public Utilities Commission (CPUC), California Air Resources Board (CARB), and California Independent System Operator (CAISO).

At a June 12, 2024, Demand Analysis Working Group Meeting, CEC staff publicly presented the error and the impacts of the revision. On the same day, CEC staff posted the following revised data to the [meeting webpage](#) for the Planning Forecast and Local Reliability Scenarios: hourly demand forecast files, load serving entities and balancing authority area tables, and hourly additional achievable energy efficiency (AAEE) and AAFS files (includes files for the 2023 Gradual Transformation AAFS Scenario).

The following documents constitute the Revised Additional Achievable Fuel Substitution Scenarios and will be considered for adoption on July 10, 2024.

Load Serving Entities and Balancing Authority Tables

- TN Number: 257110 Title: [CED 2023 Planning Forecast LSE and BAA Tables – Corrected](#)
- TN Number: 257109 Title: [CED 2023 Local Reliability LSE and BAA Tables - Corrected](#)

Hourly Demand Forecast Files

- TN Number: 257303 Title: [CED 2023 Peak Forecast - Corrected](#)
- TN Number: 257302 Title: [CED 2023 Hourly Forecast - CAISO – Planning Scenario - Corrected](#)
- TN Number: 257285 Title: [CED 2023 Hourly Forecast - CAISO - Local Reliability – Corrected](#)
- TN Number 257327 Title: [CED 2023 Hourly Forecast - PGE – Planning Scenario - Corrected](#)
- TN Number: 257301 Title: [CED 2023 Hourly Forecast - PGE – Local Reliability - Corrected](#)
- TN Number: 257317 Title: [CED 2023 Hourly Forecast - SCE – Planning Scenario - Corrected](#)
- TN Number 257326 Title: [CED 2023 Hourly Forecast - SCE – Local Reliability - Corrected](#)
- TN Number: 257311 Title: [CED 2023 Hourly Forecast - SDGE – Planning Scenario - Corrected](#)
- TN Number: 257316 Title: [CED 2023 Hourly Forecast - SDGE – Local Reliability - Corrected](#)

Hourly AAEE-AAFS

- TN Number 257337 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - BUGL Planning Area - Corrected](#)
- TN Number 257328 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - IID Planning Area - Corrected](#)
- TN Number 257332 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - LADWP Planning Area - Corrected](#)
- TN Number 257333 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - NCNC Planning Area - Corrected](#)
- TN Number 257334 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - PGE Planning Area - Corrected](#)
- TN Number 257335 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - SCE Planning Area - Corrected](#)
- TN Number 257336 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - SDGE Planning Area - Corrected](#)
- TN Number 257331 Title: [2023 IEPR Local Reliability \(AAEE 2 and AAFS 4\) - SMUD Utility - Corrected](#)
- TN Number 257365 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - BUGL Planning Area - Corrected](#)
- TN Number 257363 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - LADWP Planning Area - Corrected](#)
- TN Number 257364 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - IID Planning Area - Corrected](#)
- TN Number 257330 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - SMUD Utility - Corrected](#)
- TN Number 257360 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - SCE Planning Area - Corrected](#)
- TN Number 257361 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - PGE Planning Area - Corrected](#)
- TN Number 257362 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - NCNC Planning Area - Corrected](#)
- TN Number 257329 Title: [2023 IEPR Planning Scenario \(AAEE 3 and AAFS 3\) - SDGE Planning Area - Corrected](#)
- TN Number 257382 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - BUGL Planning Area - Corrected](#)
- TN Number 257366 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - IID Planning Area - Corrected](#)
- TN Number 257388 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - LADWP Planning Area - Corrected](#)
- TN Number 257387 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - NCNC Planning Area - Corrected](#)
- TN Number 257386 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - PGE Planning Area - Corrected](#)

- TN Number 257385 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - SCE Planning Area - Corrected](#)
- TN Number 257384 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - SDGE Planning Area - Corrected](#)
- TN Number 257378 Title: [Gradual Transformation AAFS Scenario Hourly Impacts - SMUD Utility - Corrected](#)

These documents are available on the CEC's [2023 IEPR webpage](#) at <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2023-integrated-energy-policy-report>, and in the CEC Docket No. [23-IEPR-03](#) at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=23-IEPR-03>.

Public Comments

Written comments may be submitted to the Docket Unit by 10:00 a.m. on or before July 05, 2024.

The CEC encourages use of its electronic commenting system for written comments. Visit the [e-commenting page](#) at (<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=23-IEPR-03>) which links to the comment page for this docket. Enter your contact information and a subject title that describes your comment. Comments may be included in the "Comment Text" box or attached as a downloadable, searchable document in Microsoft® Word or Adobe® Acrobat®. The maximum file size allowed is 10 MB.

Written and oral comments, attachments, and associated contact information (including address, phone number, and email address) will become part of the public record of this proceeding with access available via any internet search engine. Written comments may also be submitted by email. Include docket number **23-IEPR-03** and **2023 CED Revision** in the subject line and email to docket@energy.ca.gov.

Alternatively, a paper copy may be mailed to:

California Energy Commission
Docket Unit, MS-4
Docket No. 23-IEPR-03
715 P Street
Sacramento, California 95814

Oral comments will be accepted at the business meeting on July 10, 2024. Comments may be limited to two minutes or less per speaker and one person per organization. To comment via Zoom, use the "raise hand" feature so the administrator can announce your name and unmute you. To comment via telephone, press *9 to "raise your hand" and *6 to mute/unmute. CEC will also accept comments from in-person attendees. Please see the agenda that will be posted on the Business Meeting event page at

<https://www.energy.ca.gov/event/meeting/2024-02/energy-commission-business-meeting> for more information.

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