STATE OF CALIFORNIA

DUTY STATEMENT

CEC-004 (Revised 2/2022)

Classification: Electric Generation System Specialist I

Working Title: Energy Demand Decarbonization Analyst

Position Number: 535-820-4841-950

Division/Office: Energy Assessments/Demand Analysis – Administration

Collective Bargaining Identifier (CBID): R09

Work Week Group (WWG): 2

Effective Date: June, 2022

Conflict of Interest (COI): ☒ Yes ☐ No

If yes, this position is responsible for making or participating in the making of governmental decisions that may potentially have a material effect on personal financial interests. The appointee is required to complete Form 700 within 30 days of appointment, which identifies pertinent personal financial information.

Job Description

The Electric Generation System Specialist I (EGSS I) is under the direction of the Demand Analysis Office (DAO) Manager and serves as an analyst on the Demand Scenarios Project supporting Senate Bill 100 (SB 100) (de León, Chapter 312, Statutes of 2018). Senate Bill 100 established a landmark policy requiring that renewable energy and zero-carbon resources supply one hundred percent of electric retail sales to end-use customers by 2045. The Energy Demand Decarbonization Analyst (Analyst) serves as technical support to DAO’s senior technical leads on long-term energy demand scenarios modeling that will help create a viable strategy to achieve the green energy targets set forth in SB 100. Data resulting from the demand scenarios are also shared with electric generation system modelers in the EAD’s Supply Analysis Office for use in their generation resource modeling. The Analyst works at the full journey-level to design and lead the implementation of scenarios for behind-the-meter electricity generation and energy storage technologies that assess impacts from different levels of adoption, performance, and hourly generation and/or consumption profiles. As part of the key responsibilities, the Analyst gathers energy demand results from the sector forecast, transportation forecast, fuel substitution and energy efficiency forecast, and distribution generation forecasts and builds a modeling tool to sum the corresponding fuel consumption and calculate the greenhouse gas (GHG) emissions, and reviews and reports on results. The Analyst also works with and supports electric generation system modelers in the Supply
Analysis Office to ensure they have the data and information required from the demand scenarios to run the PLEXOS model which selects the electric generation resource mix to meet the demand.

**Essential Duties**

40%  Leads the demand scenario designs for behind-the-meter distributed electricity generation, battery storage, and load flexibility such as demand response and vehicle-to-grid or vehicle-to-building integration. Designs the distributed generation demand scenarios with input from the distributed generation forecasting team and advises this team on model inputs and assumptions that reflect the scenario designs. Interprets model results and make modifications as needed. The incumbent also assists senior specialists in the overall design of the energy demand scenarios and work closely with the staff that forecast energy demand from various sectors, as well as the staff forecasting electricity generation from behind-the-meter PV and battery storage, transportation electrification, energy efficiency, and building electrification.

20%  Gathers energy demand results from the sector forecast, transportation forecast, fuel substitution and energy efficiency forecasts, and distribution generation forecasts. Builds a modeling tool using R or Python to summarize the electricity and natural gas consumption, including the hourly loads for electricity. After compiling the hourly electricity loads in each year, uses emission factors provided by the Supply Analysis Office to calculate the corresponding greenhouse gas (GHG) emissions based on the mix of electric generation in each hour. Researches and applies emission factors for natural gas from other sources, such as the California Air Resources Board. Reviews and reports on results.

20%  Summarizes demand scenario results using Excel, R, Python, or Tableau. Creates visualizations for reports, presentations, and CEC web pages such as the California Planning Library. Documents methodology, results, and conclusions within reports such as the Integrated Energy Policy Report. Responds to data requests from both internal and external stakeholders, including media requests. Supports electric generation system modelers in the Supply Analysis Office to ensure they have the data and information required from the demand scenarios to run the PLEXOS model which selects the electric generation resource mix to meet the demand.

15%  Organizes and participates in Energy Commission, Public Utilities Commission, and other workshops, conferences, and proceedings which address potential demand scenarios aimed at decarbonization and related topics. Advises the Energy Commission, other governmental agencies, and private entities on issues associated with SB 100 and the impacts of demand scenarios. May present oral testimony and make presentations before the California Energy Commission, other government agencies, industry organizations, and other public forums, and represent the California Energy Commission at public hearings, meetings and conferences with stakeholders, policy makers, and the general public.

**Marginal Duties**

5%  Performs other duties as required, consistent with the specifications of the classification.
Working Conditions

The California Energy Commission offers a hybrid workplace model that is designed to support a distributed workforce of both office-based and remote-centric workers that relies on a high level of telework. Limited-in person attendance and occasional travel may be required based on the needs of the division. Regular and consistent attendance - whether office-based or remote-centric - is essential to the successful performance in this position. Work hours beyond the eight-hour workday or forty-hour workweek may be required. This position is remote centered which means the incumbent works 50 percent or more of their time monthly from an alternate work location (i.e., teleworking).

Diversity and Inclusion Statement

As a State agency serving all Californians, the California Energy Commission is committed to being an organization that embodies diversity, equity, and inclusion. The Energy Commission plays an active and meaningful role in creating an environment that enables each employee to thrive.

**Employee’s Acknowledgement:** I certify that I am able to perform, with or without the assistance of a reasonable accommodation, the essential duties of this position.

**Employee’s Name (Print):** ____________________________

**Employee’s Signature:** ____________________________  **Date:** __________

**Supervisor’s Acknowledgment:** I certify this duty statement represents a current and accurate description of the essential functions of this position. I have discussed the duties of this position with and provided the above-named employee a copy of this duty statement.

**Supervisor’s Name (Print):** Heidi Javanbakht

**Supervisor’s Signature:** ____________________________  **Date:** __________
STATE OF CALIFORNIA
DUTY STATEMENT
CEC-004 (Revised 2/2022)

Classification: Energy Analyst

Working Title: Energy Demand Decarbonization Analyst

Position Number: 535-820-5837-950

Division/Office: Energy Assessments/Demand Analysis – Administration

Collective Bargaining Identifier (CBID): R10

Work Week Group (WWG): 2

Effective Date: June 2022

Conflict of Interest (COI): ☐ Yes ☒ No

If yes, this position is responsible for making or participating in the making of governmental decisions that may potentially have a material effect on personal financial interests. The appointee is required to complete Form 700 within 30 days of appointment, which identifies pertinent personal financial information.

Job Description

The Energy Analyst (EA) is under the supervision of the Demand Analysis Office (DAO) Manager and serves as an analyst on the Demand Scenarios Project supporting Senate Bill 100 (SB 100) (de León, Chapter 312, Statutes of 2018). Senate Bill 100 established a landmark policy requiring that renewable energy and zero-carbon resources supply one hundred percent of electric retail sales to end-use customers by 2045. The Energy Demand Decarbonization Analyst serves as technical support to DAO’s senior technical leads on long-term energy demand scenarios modeling that will help create a viable strategy to achieve the green energy targets set forth in SB 100. Data resulting from the demand scenarios are also shared with electric generation system modelers in the EAD’s Supply Analysis Office for use in their generation resource modeling. The Energy Demand Decarbonization Analyst performs work of average difficulty and assists with the design and implementation of scenarios for behind-the-meter electricity generation and energy storage technologies that assess impacts from different levels of adoption, performance, and hourly generation and/or consumption profiles. As part of the key responsibilities, the Analyst gathers energy demand results from the sector forecast, transportation forecast, fuel substitution and energy efficiency forecast, and distribution generation forecasts and builds a modeling tool to sum the corresponding fuel consumption and calculate the greenhouse gas (GHG) emissions, and reviews and reports on results. The Analyst also works with and supports electric generation system
modelers in the Supply Analysis Office to ensure they have the data and information required from the demand scenarios to run the PLEXOS model which selects the electric generation resource mix to meet the demand.

**Essential Duties**

40% Assists with the demand scenario designs for behind-the-meter distributed electricity generation, battery storage, and load flexibility such as demand response and vehicle-to-grid or vehicle-to-building integration. Assists the distributed generation forecasting team in designing the distributed generation demand scenarios, and advises this team on model inputs and assumptions that are consistent with the overall scenario designs. Interprets model results and make modifications as needed. The incumbent also assists senior specialists in the overall design of the energy demand scenarios and work closely with the staff that forecast energy demand from various sectors, as well as the staff forecasting electricity generation from behind-the-meter PV and battery storage, transportation electrification, energy efficiency, and building electrification.

20% Gathers energy demand results from the sector forecast, transportation forecast, fuel substitution and energy efficiency forecasts, and distribution generation forecasts. Builds a modeling tool using R or Python to summarize the electricity and natural gas consumption, including the hourly loads for electricity. After compiling the hourly electricity loads in each year, uses emission factors provided by the Supply Analysis Office to calculate the corresponding greenhouse gas (GHG) emissions based on the mix of electric generation in each hour. Researches and applies emission factors for natural gas from other sources, such as the California Air Resources Board. Reviews and reports on results.

20% Summarizes demand scenario results using Excel, R, Python, or Tableau. Creates visualizations for reports, presentations, and CEC web pages such as the California Planning Library. Documents methodology, results, and conclusions within reports such as the Integrated Energy Policy Report. Responds to data requests from both internal and external stakeholders, including media requests. Supports electric generation system modelers in the Supply Analysis Office to ensure they have the data and information required from the demand scenarios to run the PLEXOS model which selects the electric generation resource mix to meet the demand.

15% Assists in organizing and participates in Energy Commission, Public Utilities Commission, and other workshops, conferences, and proceedings which address potential demand scenarios aimed at decarbonization and related topics. May assist in advising the Energy Commission, other governmental agencies, and private entities on issues associated with SB 100 and the impacts of demand scenarios. As directed, may present oral testimony and make presentations before the California Energy Commission, other government agencies, industry organizations, and other public forums, and represent the California Energy Commission at public hearings, meetings and conferences with stakeholders, policy makers, and the general public.
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Employee’s Acknowledgement: I certify that I am able to perform, with or without the assistance of a reasonable accommodation, the essential duties of this position.

Employee’s Name (Print): ________________________________
Employee’s Signature: ________________________________  Date: ______________

Supervisor’s Acknowledgment: I certify this duty statement represents a current and accurate description of the essential functions of this position. I have discussed the duties of this position with and provided the above-named employee a copy of this duty statement.

Supervisor’s Name (Print): Heidi Javanbakht
Supervisor’s Signature: ________________________________  Date: ______________