

Investigation No. 17-04-019
Exhibit PAC/1500-I
Witness: Joseph P. Hoerner

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

PACIFICORP

Rebuttal Testimony of Joseph P. Hoerner

Redline Version

ERRATA

December 2018

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2017

1 **Q. Are you the same Joseph P. Hoerner who previously submitted reply testimony**
2 **in this proceeding on behalf of PacifiCorp d/b/a Pacific Power?**

3 A. Yes.

4 **I. PURPOSE AND SUMMARY OF TESTIMONY**

5 **Q. What is the purpose of your testimony in this proceeding?**

6 A. The purpose of my testimony is to rebut Mr. Woodruff's testimony on behalf of The
7 Utility Reform Network (TURN) related to the system operation of the PacifiCorp
8 generation fleet on an optimal system-wide basis on behalf of its customers and in the
9 Energy Imbalance Market (EIM).

10 **Q. Please summarize your testimony.**

11 A. As described in my opening testimony, PacifiCorp operates its generation and
12 transmission system as an integrated six-state system in which customer loads are
13 served from a common pool of resources. The resource mix that PacifiCorp operates
14 is very diverse with large levels of hydro, wind, solar, coal, natural gas, and some
15 geothermal generation. This diverse resource mix allows PacifiCorp to maximize
16 benefits to its customers by more nimbly adapting to high gas prices, low renewable
17 output or high electricity prices due to the fuel diversity mix that is unique to
18 PacifiCorp. In addition, this resource diversity allows PacifiCorp to more ably
19 benefit from the Energy Imbalance Market due to its ability to operate its resources
20 across large ranges of dispatchable generation.

1 **II. PACIFICORP’S INTEGRATED SIX-STATE SYSTEM**

2 **Q. Does Mr. Woodruff’s testimony acknowledge that PacifiCorp is operated on an**
3 **integrated six-state basis?**

4 A. Yes. In addition, Mr. Woodruff quoted my previous testimony that the EIM has
5 provided PacifiCorp the ability to enhance its integration across both balancing
6 authority area’s that it manages.

7 **Q. Mr. Woodruff makes the statement that “PacifiCorp is actively seeking to serve**
8 **California loads with high-GHG resources when financially advantageous.”¹ Is**
9 **this true?**

10 A. No. Mr. Woodruff has mischaracterized comments made by PacifiCorp associated
11 with its efforts to increase ramp rates and decrease plant minimums across its coal
12 fleet to allow better integration of renewable energy, such as solar resources, by
13 ramping down in the morning and ramping up again in the evenings to serve peak
14 load. Mr. Woodruff seems to believe that PacifiCorp resources only move in
15 response to California load, however, that is far from the truth. PacifiCorp’s
16 resources are dispatched primarily to serve its native load customers. For example,
17 during the day, when California, Arizona, or another EIM entity has low priced
18 renewable generation, PacifiCorp’s coal fleet is able to decrease its output to allow
19 renewable generation to provide energy to the PacifiCorp system. Once those
20 renewable resources are no longer generating, such as when the sun sets, PacifiCorp’s
21 resource will increase to serve its own resource need.

¹ Prepared Direct Testimony of Kevin Woodruff on behalf of TURN (Woodruff Direct), p. 8 (lines 6–8).

1 **Q. Mr. Woodruff states that PacifiCorp’s GHG bid adders do not prevent GHG-**
2 **emitting units from being dispatched in the EIM.² Is that true?**

3 A. Yes. It is true that GHG bid adders do not prevent resources from being
4 economically dispatched to serve PacifiCorp’s load, or any EIM entities load that
5 does not have a carbon policy. However, the GHG bid adders that PacifiCorp
6 includes on its participating thermal resources are taken into consideration in whether
7 or not they are used to serve California load. Mr. Woodruff’s argument is based on
8 analyzing California in isolation and assuming that PacifiCorp dispatches resources
9 only related to California load, which is untrue, especially given the size and depth of
10 the additional EIM entities that are currently in the EIM or are slated to join the EIM
11 in the near future.

12 **Q. Mr. Woodruff’s testimony seems to be implying that California has experienced**
13 **increased GHG emissions since joining the EIM due to PacifiCorp.³ Do you**
14 **believe that is true?**

15 A. No. In fact, the opposite is true. PacifiCorp’s participation in the EIM has
16 contributed significantly to California’s continued decline in total GHG emissions to
17 serve California load due to its increased ability to avoid curtailment of its renewable
18 resources through backing down PacifiCorp’s thermal resources and through
19 PacifiCorp’s exports of hydro and renewable generation. The California Independent
20 System Operator produces, on a monthly basis, a GHG emission tracking report that

² Woodruff Direct, p. 8, (lines 17–24).

³ See Woodruff Direct, p. 8, (lines 13–15).

1 shows that since 2014, California's emissions have declined by 24 percent

2 (Exhibit PAC/1501-I).

3 **Q. Does this conclude your rebuttal testimony?**

4 A. Yes.

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PACIFICORP

Exhibit Accompanying Rebuttal Testimony of

Joseph P. Hoerner

California ISO Greenhouse Gas Emission Tracking Report December 2017

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December 2018



Greenhouse Gas Emission Tracking Report December 2017

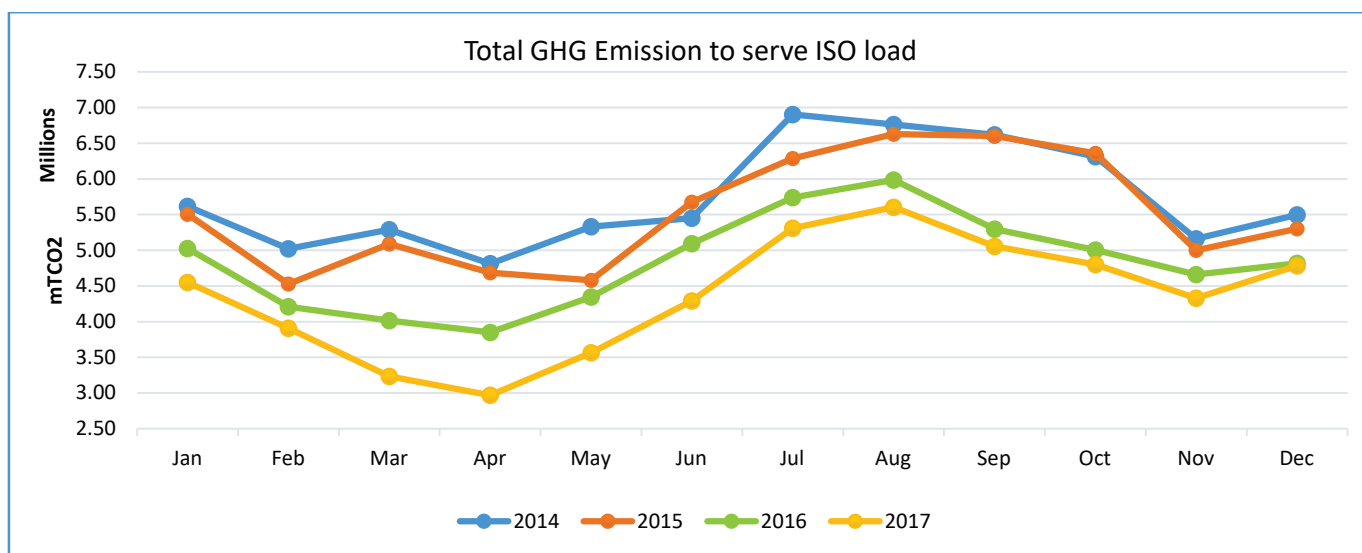
The information contained in this report is preliminary and subject to change without notice. Any questions regarding this report should be directed to CAISO MQRI.

This report depicts greenhouse gas (GHG) emissions for the California Independent System Operator’s (ISO) balancing authority area as a direct result of the dispatch of ISO internal resources and imports, including dynamic resources, serving ISO load.

The report reflects total GHG emissions to serve ISO loads.

FIGURE 1 – Total GHG emissions to serve ISO load. This figure reflects the sum of GHG emissions from internal ISO dispatches and GHG emissions from imports serving ISO load through December 31, 2017. The graphic shows GHG emissions in 2017 continue to track below the previous three years.

YTD (January - December) million mTCO2	2014	2015	2016	2017
GHG Emission to serve ISO load	68.78	66.24	58.05	52.41





Greenhouse Gas Emission Tracking Report December 31, 2017

The information contained in this report is preliminary and subject to change without notice. Any questions regarding this report should be directed to CAISO MQRI.

FIGURE 2 – Total hourly GHG emissions to serve ISO load. This figure reflects the hourly sum of GHG emissions from internal ISO dispatches and GHG emissions from imports serving ISO load for the month of December 2017.

