

ACR 188 - Stakeholder Comments on Draft List of Studies

As the California ISO kicks-off its ACR-188 effort to summarize recent relevant studies on the impacts of expanded regional cooperation, we welcome your careful review of the proposed list of studies. Please use this form to provide feedback from your organization for the following items:

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1. Identify any listed studies you believe are most relevant or pertinent for inclusion in the ACR 188 report.

The Energy Division of the California Public Utilities Commission (CPUC or Commission) develops and administers energy policy and programs to serve the public interest, advise the Commission, and ensure compliance with Commission decisions and statutory mandates. The Energy Division provides objective and expert analyses that promote reliable, safe, and environmentally sound energy services at just and reasonable rates for the people of California.¹ Further, the Energy Division advocates on behalf of California ratepayers at the Federal Energy Regulatory Commission (FERC), under whose jurisdiction the contemplated expanded regional² cooperation would fall.

As discussed throughout these comments, the Energy Division recommends the California ISO and the National Renewable Energy Laboratory (NREL) approach the report from a balanced perspective. In addition to evaluating the benefits of regionalization, the California ISO should evaluate potential risks such as reliability and increased transmission costs.

The California ISO must also find, or conduct, additional studies that objectively evaluate the impacts of regionalization on transmission costs to California utility ratepayers and on reliability. If these studies do not exist, the ISO must dedicate a portion of the report to describe the studies needed and describe the ISO's plan to conduct these studies. Further, the CPUC concurs with the Public Advocates Office of the CPUC³ that the ISO and NREL should update several studies as described in Section 4.

¹ More information about the CPUC Energy Division is available at: <https://www.cpuc.ca.gov/about-cpuc/divisions/energy-division>

² Use of the terms “expanded regional” and “regional” in these comments are considered “interregional” under the jurisdiction of the Federal Energy Regulatory Commission (FERC), as what is being contemplated here expands beyond the existing footprint of the ISO to include other areas of the western United States.

³ *ACR 188 Stakeholder Comments on Draft List of Studies*, Public Advocates Office of the California Public Utilities Commission, October 27, 2022, available at: <http://www.caiso.com/Documents/CPUC-PAOComments-AssemblyConcurrentResolution188-Oct17-2022.pdf>.

a. Provide your rationale for your selection(s).

While many of the studies on the list are relevant, the majority of the studies on the list conclude that regionalization will have an overall positive impact on costs and reliability. The California ISO should present a balanced report to the California Legislature. If studies that assess the potential impacts of regionalization on transmission costs and reliability do not exist, then the ISO must describe the studies that are needed and create a plan to conduct these studies. Otherwise, the California Legislature will receive a one-sided evaluation that fails to assess the full range of impacts on ratepayers and the reliability of the grid.

2. Identify any listed studies you believe should not be included in the ACR 188 report.

Generally, studies completed prior to 2015 should not be included. If there are relevant studies prior to 2015, then those studies must be updated. For example, the CPUC Energy Division concurs with the Public Advocates Office⁴ that the ISO and NREL should update several studies as described in Section 4.

a. Provide your rationale for your selection(s).

Studies completed prior to 2015 have little relevance given the big transformation that the California electric grid.

3. Identify any additional studies you believe should be included in the ACR 188 report.

Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave

Energy Division recommends the California ISO include the *Root Cause Analysis: Mid-August 2020 Extreme Heat Wave*⁵ report in its ACR 188 report.

Summer Market Performance Report (September 2022)

The California ISO released the Summer Market Performance Report on November 2, 2022⁶ that evaluates the early September heat wave event. This report should be included in the ACR 188 report.

Studies Not Yet Conducted

As discussed in Section 4, Energy Division recommends the California ISO conduct various studies and update other studies.

⁴ *ACR 188 Stakeholder Comments on Draft List of Studies*, Public Advocates Office of the California Public Utilities Commission, Kanya Dorland, October 27, 2022, available at: <http://www.caiso.com/Documents/CPUC-PAOComments-AssemblyConcurrentResolution188-Oct17-2022.pdf>.

⁵ *Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave*, California Independent System Operator, California Public Utilities Commission and California Energy Commission, January 13, 2021, available at: <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>.

⁶ *Summer Market Performance Report: September 2022*, California Independent System Operator, November 2, 2022, available at: <http://www.caiso.com/Documents/SummerMarketPerformanceReportforSeptember2022.pdf>.

a. Provide your rationale for your selection(s).

Root Cause Analysis: Mid-August 2020 Extreme Heat Wave

The *Root Cause Analysis: Mid-August 2020 Extreme Heat Wave* report should be evaluated based on any parallels that could be drawn between the market design issues that contributed to the challenges faced during the 2020 extreme heat wave and potential market design issues with the Extended Day Ahead Market.

Summer Market Performance Report (September 2022)

At the October 27, 2022 meeting of the Cal ISO Board of Governors, the Chief Executive Officer, Elliot Mainzer, stated that he and his team, “were trying to visualize how the operations of the system would have been different if we had actually had an Extended Day Ahead Market in place at the time.”² He concluded that,

“the additional visibility and transparency to the sufficiency of the broader footprint and the confidence we would have had on a number of days that the market and transfers between the different regions would have maintained reliability between California and other states would significantly reduce the need for emergency declarations, and also would have increased the incentives for folks to bid their generation into the market which would have increased liquidity.”

NREL and the California ISO should evaluate the market performance of the early September heat wave and what would have been different had the Extended Day Ahead Market (EDAM) been in place. For example, the report describes three areas for improvement. If the EDAM had been in place, would it have exacerbated these areas for improvement given the significant increase in the size of the Day Ahead market that regional Balancing Authority Areas (BAA) will participate in through the EDAM compared to the smaller Real Time market through the Energy Imbalance Market?

Studies Not Yet Conducted

While the list of studies and reports is long, there are important topics missing from the analyses. Further, all of the listed studies and reports discuss the benefits of regionalization with very little discussion of potential risks on reliability and increased costs to utility ratepayers. Section 4 includes a list of studies that Energy Division recommends the California ISO conduct and studies that should be updated. The ACR 188 report should describe the additional studies that should be conducted.

While it may not be reasonable to expect the necessary additional studies to be included in a report that is due by February 2023, Energy Division recommends the California ISO make a plan to complete these studies. The California Legislature must be presented with balanced information. Relying solely on studies that evaluate only the benefits of regionalization and none of the risks presents a one-sided perspective.

² The entire October 27, 2022 Board of Governors meeting and the Chief Executive Officer report are available to view at: https://www.youtube.com/watch?v=rtnHfyc8mRg&list=PLpEmS_3q2cQ5Pbuu--NDIvSpwUWo5JMKy&index=3. The Chief Executive Officer report begins at approximately 2 minutes 30 seconds.

4. Any additional general comments on the report development:

NREL and the California ISO should focus the report on the potential impacts of regionalization on transmission costs and reliability. The list includes studies that generally conclude that regionalization will bring benefits to reliability and lower costs. This report itself should not be biased in favor of regionalization. The report must also examine the risks of regionalization and potential negative impacts of costs related to specific transmission projects on California ratepayers, and what steps need to be taken to mitigate such impacts.

Further, the report should not be limited to existing studies, as further questions exist, and additional studies are needed. While the list of ACR 188 studies is long, it is unreasonable to believe that an initiative to perform this assessment would already have the universe of questions needing to be answered in existing studies. As discussed below, FERC is asking many new questions about transmission planning, cost management and allocation, and interconnection. Given that so many new questions are being asked, the logical conclusion is that the necessary set of studies for this work have not yet been performed.

Energy Division understands that it may not be feasible to conduct numerous studies prior to the February due date for the ACR 188 report. Energy Division recommends the California ISO and NREL include a section in the report that describes where additional studies are needed, and the ISO must make a plan for conducting these studies. Energy Division recommends various studies as described below.

A Section Dedicated to Describing Additional Studies is Needed

Energy Division recommends additional studies on the following topics:

- Increased transmission costs and cost containment measures
- Transmission cost allocation
- Market design and its impact on reliability and utility ratepayer costs
- Regionalization and California utility ratepayers
- Updates to the following studies:
 - *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*⁸ by NREL (2013)
 - *A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations*⁹ by NREL (2011)
 - *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*¹⁰ by the Brattle Group and Energy+Environmental Economics (2016)

⁸ *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*, National Renewable Energy Laboratory (NREL), March 2013, available at: <https://www.nrel.gov/docs/fy13osti/57115.pdf>.

⁹ *A Survey of Transmission Costs Allocation Methodologies for Regional Transmission Organizations*, NREL, February 2011, available at: <https://www.nrel.gov/docs/fy11osti/49880.pdf>.

¹⁰ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, available at: https://www.caiso.com/Documents/SB350Study_AggregatedReport.pdf

Increased transmission costs and cost containment measures

Missing from the list of existing studies is the consideration of cost containment measures related to specific projects, particularly those receiving cost recovery in transmission owner rate cases at FERC. As discussed at a recent technical conference at FERC, the significant gaps in transparency, authentic stakeholder engagement, and monitoring of costs in transmission planning and development are a nationwide dilemma.¹¹ Studies are needed to assess cost impacts of expanded regional transmission development and appropriate measures needed to ensure that transparency, cost containment, and project and cost monitoring occur at all levels of transmission planning and development in the West.

As discussed at the FERC technical conference, improved transparency, authentic stakeholder engagement, and cost management are needed at all stages of local and regional transmission planning and development to ensure that projects are developed holistically and in ways that are efficient and cost effective. These needs are no different here in what would be considered interregional coordination under FERC's jurisdiction. Studies are needed to assess the impacts on ratepayers from shortcomings in transparency, stakeholder engagement, and long-term project monitoring at the assumptions, needs, solutions, and implementation phases.

Further, studies are needed to evaluate measures that could result in more effective project cost management. This would include a holistic approach to monitoring projects at all stages and assessing the appropriate size and scale to optimally meet future transmission needs. Additionally, as demonstrated in the CAISO over the last decade, the use of competitive bidding in the selection of project developers has had the effect of encouraging cost caps and curbing the typical cost escalations in projects developed by incumbent transmission owners. Other measures to be studied as ways to mitigate impacts of massive transmission development on ratepayers include changes to the prudence standard at FERC and adjustments to the return on equity (ROE) that a utility is eligible for in rate recovery, particularly the potential ineligibility for any FERC-granted ROE incentives for projects not going through a holistic review at all stages of planning and development in this (inter)regional coordination.

Finally, one of the most discussed measures proposed by FERC in the last two years, which should be included in the list of needed studies, is the establishment of an Independent Transmission Monitor to promote cost effectiveness at all stages transmission planning and development. As current studies related to regionalization do not adequately assess cost impacts on ratepayers or measures that can be taken to yield the most cost-effective and efficient transmission solutions, such studies are needed to ensure the greatest benefits to ratepayers in California and the West.

¹¹ *Transcript for the October 6, 2022 Technical Conference on Transmission Planning and Cost Management* Docket AD22-8-000, Federal Energy Regulatory Commission at 74, line 4, available at: <https://www.ferc.gov/media/transcript-docket-no-ad22-8-000>.

See also, *YouTube Video of the Technical Conference on Transmission Planning at Cost Management*, Docket AD22-8-000, October 6, 2022, Panel 2: Local Transmission Facility Cost Management Practices, 1:35:02 / 7:53:28, available at: https://www.youtube.com/watch?v=8a6HXgBNeZE&feature=emb_imp_woyt.

Transmission cost allocation

In addition to the need for assessment of cost impacts on ratepayers, and cost management measures, Energy Division recommends the California ISO evaluate the appropriate allocation of costs between regions using agreed upon categories of costs and benefits applied to different regions.

Energy Division recommends the California ISO study how different transmission cost allocation methodologies could impact California utility ratepayers, and what methodologies are most equitable. As discussed below, Energy Division concurs with the Public Advocates Office that the ISO and NREL should update the report, *A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations (2011)*.¹² Energy Division recommends the ISO take that survey one step further and evaluate cost impacts to California utility ratepayers of the different cost allocation methodologies.

Market design and its' impact on reliability and utility ratepayer costs

Market design is extremely complicated, and improvements and enhancements are needed on an ongoing basis. One of the key findings from the Root Cause Analysis on the Mid-August 2020 Extreme Heat Wave was that “Some practices in the day-ahead energy market exacerbated the supply challenges under highly stressed conditions.” The California ISO was very likely not aware that these practices could exacerbate supply challenges until the mid-August 2020 heat wave occurred. Designing the Extended Day Ahead Market is complicated and like all of the other markets at the California ISO, improvements and enhancements will likely be needed after the first round of implementation.

The question that the California ISO must consider is what will be the cost to California utility ratepayers if the initial market design impacts reliability? For example, will other states with similar peak usage times need to rely on California transmission for wheeling and exports? Energy Division recommends the California ISO take a closer look at potential reliability risks and how those reliability risks could impact California utility ratepayers.

Regionalization and California Utility Ratepayers

The California ISO publishes quarterly reports on the *Western Energy Imbalance Market Benefits*. The third-quarter 2022 report was published on October 31, 2022.¹³ The reports list benefits including access to lower-cost supply, avoided curtailments of renewable energy, improved operational efficiencies, and reduced need for real-time flexible reserves. The report describes cumulative benefits for different Balancing Authority Areas. The report does not describe in detail who is receiving these benefits. For example, are these economic benefits from increased energy sales to generators?

¹² Available at: <https://www.nrel.gov/docs/fy11osti/49880.pdf>.

¹³ *Western Energy Imbalance Market Benefits, Third Quarter 2022*, California ISO, October 31, 2022, available at: <https://www.westerneim.com/Documents/iso-western-energy-imbalance-market-benefits-report-q3-2022.pdf>.

The CPUC's mission is to ensure safe utility service at just and reasonable rates. Therefore, the CPUC is interested in evaluating how utility ratepayers benefit from regionalization. Potential ratepayer benefits could include lower cost supply, meaning ratepayers could potentially benefit if California utilities spend less money on buying energy in the market. The California ISO and NREL should study the benefits of regionalization on California utility ratepayers.

Updates to several studies

Energy Division concurs with the CPUC Public Advocates Office comments on the ACR 188 report¹⁴ that the following reports and studies should be updated:

- *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*¹⁵ by NREL (2013)
- *A Survey of Transmission Cost Allocation Methodologies for Regional Transmission Organizations*¹⁶ by NREL (2011)
- *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*¹⁷ by the Brattle Group and Energy+Environmental Economics (2016)

¹⁴ *ACR 188 Stakeholder Comments on Draft List of Studies*, Public Advocates Office of the California Public Utilities Commission, Kanya Dorland, October 27, 2022, available at: <http://www.caiso.com/Documents/CPUC-PAOComments-AssemblyConcurrentResolution188-Oct17-2022.pdf>.

¹⁵ *Examination of Potential Benefits of an Energy Imbalance Market in the Western Interconnection*, NREL, March 2013, available at: <https://www.nrel.gov/docs/fy13osti/57115.pdf>.

¹⁶ *A Survey of Transmission Costs Allocation Methodologies for Regional Transmission Organizations*, NREL, February 2011, available at: <https://www.nrel.gov/docs/fy11osti/49880.pdf>.

¹⁷ *Senate Bill 350 Study, The Impacts of a Regional ISO-Operator Power Market on California*, The Brattle Group, Energy+Environmental Economics et al, July 8, 2016, available at: https://www.caiso.com/Documents/SB350Study_AggregatedReport.pdf