



California ISO

2018 Modification Assessment Cost Report

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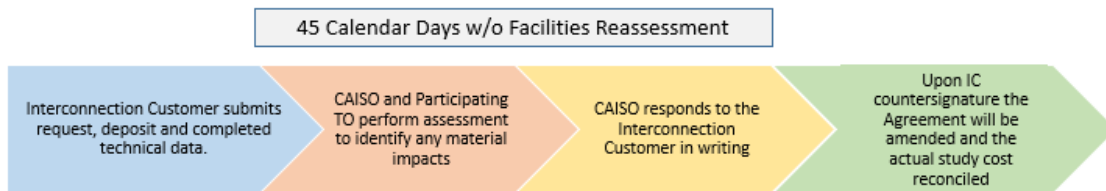
1. Executive Summary

1.1 Purpose and Scope

The CAISO evaluates a variety of modification requests for Interconnection Customers' generator projects. In doing so, the CAISO coordinates with the relevant Participating TO(s) and Affected System Operator(s), if appropriate. To provide transparency regarding the cost of material modification assessments ("MMA"), the Tariff requires the CAISO to publish cost data for the MMAs. This report contains a description of the number, types, duration, and costs of modification requests completed in 2018.

1.2 Background

The CAISO generally uses the same process and criteria to review modification requests for all generation projects.¹ A high level-depiction of the modification process is below:



If a Facilities Reassessment is required, the modification assessment can take an additional 45 calendar days. The Facilities Reassessment is initiated after completion of the MMA and the determination that the modification request is not material.

Interconnection Customers are required to provide a \$10,000 deposit for the modification assessment, and after the modification assessment is complete, the CAISO invoices for the actual costs incurred for the modification assessment. The invoices include an itemized account of expenses incurred, including those incurred by the CAISO, the Participating TOs, and third parties at the direction of the CAISO or Participating TO. Whenever the actual cost of performing the modification assessment exceeds the modification assessment deposit, the invoice directs the Interconnection Customer to pay the excess amount.

¹ The modification assessments discussed in this report are governed by CAISO Tariff Appendix S, Section 1.3.4; Appendix T, Section 3.4.5; Appendix U, Section 4.4.3; Appendix Y, Section 6.9.2.2; or Appendix DD, Article 6.7.2.2 as applicable, and the BPM for Generator Management.

However, it is far more common for the deposit to exceed the invoice,² in which case the Interconnection Customer is refunded the balance with interest.

1.3 Report Summary

1.3.1 Types of Modifications

The Interconnection Customer must submit to the CAISO, in writing, a request to modify their Project and any information provided in the Interconnection Request or Generator Interconnection Agreement. The variety, content, and scope of modification requests are as unique and complex as the Generating Facilities themselves, but for the purpose of this report, modification requests have been grouped into six “buckets”:

- 1) Commercial Operation Date (“COD”) extensions and/or requests for project Phasing;
- 2) Technology changes, e.g., inverter, add batteries, transformer, and equipment changes;
- 3) Interconnection changes, e.g., generation tie route changes, Point of Interconnection changes, Point of Change of Ownership Changes, and Site Location changes;
- 4) COD and Interconnection, COD and interconnection changes as discussed above;
- 5) COD and Technology, COD and technology changes as discussed above; and
- 6) Technology and Interconnection, technology and interconnection changes as discussed above.

1.3.2 Time

The modification assessment commences when the CAISO and Participating TO (1) deem the modification request (including all of the necessary technical documentation) valid and data complete, and (2) receive the Interconnection Customer’s modification assessment deposit. Per the Tariff, the CAISO targets providing a written response to the Interconnection Customer within 45 calendar days of commencement. If the modification assessment cannot be completed within that period, the CAISO notifies the Interconnection Customer, provides an estimated completion date, and explains why additional time is required.

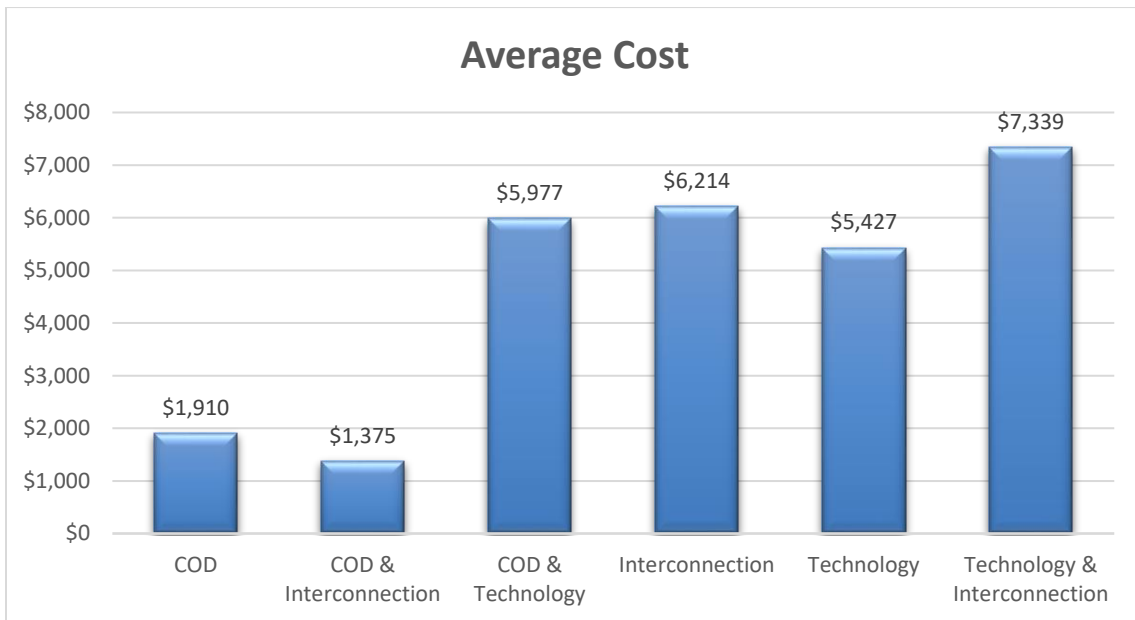
If a facilities reassessment is required after the modification request has been determined to not be material, that can take up to an additional 45 calendar days. If the facilities reassessment cannot be completed within that period, the CAISO notifies the Interconnection Customer, provides an estimated completion date, and explains why additional time is required.

² Or the Interconnection Customer withdraws its modification request before most costs are incurred.

2.0 Report

2.1 Cost

The CAISO completed 68 modification assessments in 2018. The average cost for modification assessments in 2018 was \$3,450. The highest-cost modification assessment was \$29,600. The lowest-cost modification assessment was \$151.00.³ Average cost per type was as follows:

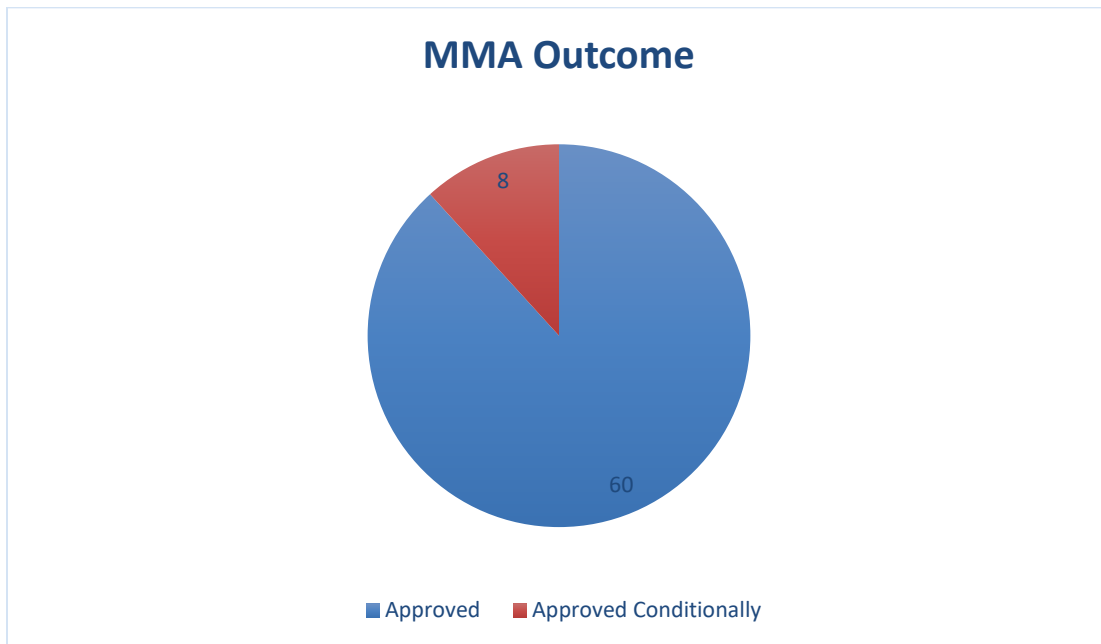


Of the 68 modifications: two (2) modifications were more than \$10,000; nine (9) modifications were between \$5,000 and \$10,000; and 57 modifications were less than \$5,000.

³ The CAISO tariff requires that "The Participating TO(s) shall invoice the CAISO for any assessment work within seventy-five (75) calendar days of completion of the assessment." These values include modification assessments where the CAISO received no invoice from the Participating TO.

2.2 MMA Outcomes

Of the 68 modification assessments in 2018, 60 were approved and eight (8) were conditionally approved. In 2018, the CAISO did not deny any modification requests.

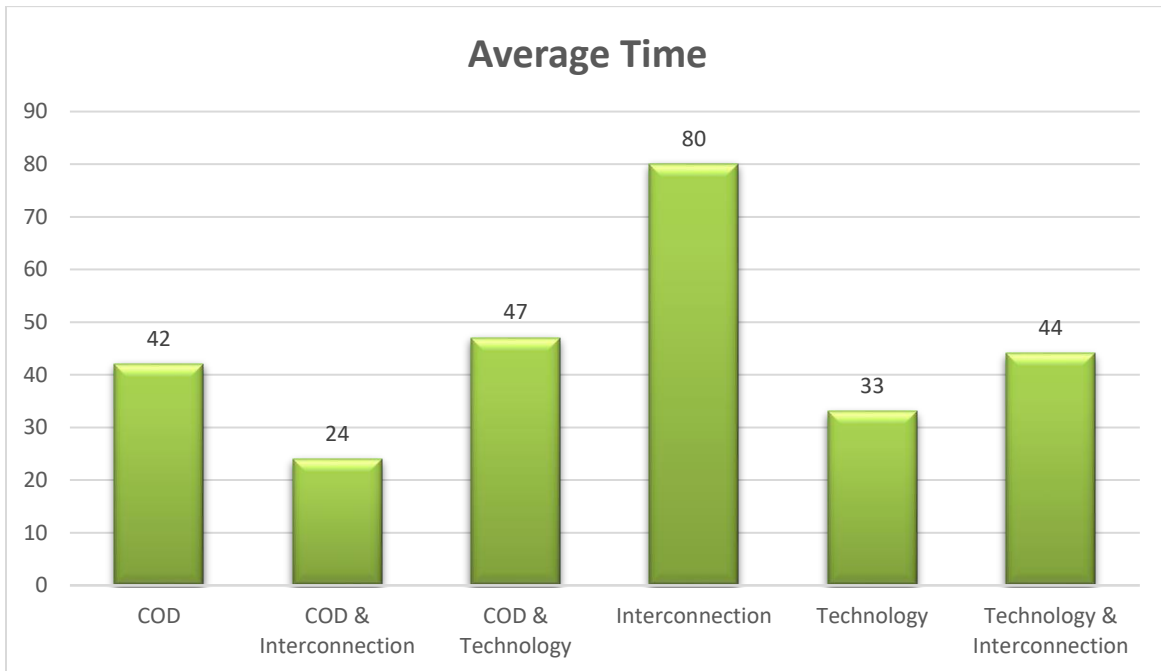


Conditional approval was generally based on the following conditions:

- Execute the Generator Interconnection Agreement within a certain period.
- Continue to make payments and postings for Network Upgrades.
- For storage devices, respond to CAISO dispatch, a mechanism required to be in place to ensure that the project does not deliver more to the CAISO controlled grid than the net MW at the point of interconnection studied, and separate metering and telemetry.
- For inverter changes, install a mechanism to ensure that the project does not deliver more to the CAISO controlled grid than the net MW at the point of interconnection studied.
- CAISO proposed different CODs from the request due to Participating TO construction times.

2.3 MMA Average Time

Of the 68 modification assessments in 2018 the average time in the process varied depending upon the complexities of the request. The time starts when the request data has been deemed completed and ends when the CAISO sends the response letter to the Interconnection Customer.



Of the 68 modifications, six (6) were more than 90 days; 23 were less than 90 days and greater than 45 days; and 39 were within 45 days.