



Memorandum

To: ISO Board of Governors

From: Mark Rothleder, Senior Vice President, Chief Operating Officer

Date: November 11, 2020

Re: **Decision on variable operations and maintenance cost review proposal**

This memorandum requires Board action

EXECUTIVE SUMMARY

As a result of the California Independent System Operator's triennial review and update of variable operations and maintenance (O&M) cost performed in 2018, the ISO determined a more extensive review of the O&M cost framework and principles was necessary. In October 2019, the ISO formalized this stakeholder initiative after discussions with stakeholders about that triennial review and update.

Management's determination that a more extensive review was necessary was based on several issues that exist in the current cost framework and process. Market participants negotiate with the ISO to receive two adders that reflect O&M costs in the ISO markets: the variable operations and maintenance adder and the major maintenance adder. Because there is a lack of publicly available principles for the categorization of O&M costs, these negotiations can become overly complex and burdensome. The triennial review has also become challenging because there are no reference categories for the ISO to evaluate the existing default values. Both of these issues result in greater administrative burden on market participants and on the ISO.

This initiative addresses these issues by proposing to change how O&M costs are estimated and accounted for in the ISO markets via its two components. The first component proposes explicit principles for use in the categorization of O&M costs to be included in the tariff. Having a uniform understanding of these principles will allow for simplified and less onerous negotiations between the ISO and market participants. It also provides reference categories that alleviate the challenge faced by the ISO during the triennial reviews of the default O&M adder values. The second component provides for an updated cost framework on which the updated principles will apply. It also updates the "default" values for O&M adders that can be used by market participants in lieu of negotiations. This new framework estimates a default value for certain O&M costs that currently do not have default values and thus may potentially eliminate the

need for some market participants to engage in negotiations in the first place. These new default values are also more precise than the current values, thereby increasing the efficiency of the market by ensuring that bids into the ISO markets are based on accurate cost estimates. These two components will decrease administrative burden, improve transparency, and lead to a more efficient market.

This initiative falls within the advisory role of the EIM Governing Body and was presented to them during the November 4, 2020 EIM Governing Body meeting. The EIM Governing Body supports this initiative.

Management proposes the following motions:

Moved, that the ISO Board of Governors approves the tariff revisions necessary to implement the variable operations and maintenance cost review proposal items as described in the memorandum dated November 11, 2020; and

Moved, that the ISO Board authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal described in the memorandum, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.

DISCUSSION AND ANALYSIS

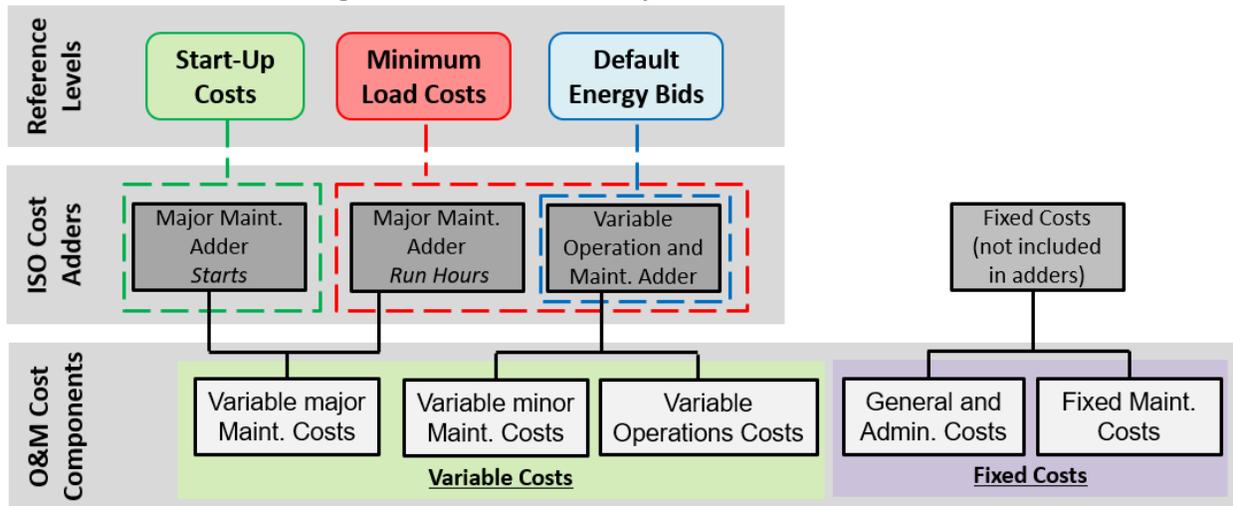
In October 2019, the ISO formalized this stakeholder initiative after discussions with stakeholders about a December 2018 ISO report for updates to the variable O&M costs. That report provided cost estimates to update the default variable operations and maintenance adder values. This cost update is expected to happen triennially. The stakeholder feedback on that report, as well as the insight provided through five working groups held in mid-2019, identified several concerns in the ISO's proposed O&M cost framework. Management formalized this discussion into a stakeholder initiative to provide a mechanism for stakeholders to actively engage in the discussion and allow for tariff updates as needed.

Background on O&M cost frameworks

The current O&M cost framework is shown in Figure 1 below. Both of the current variable operations and maintenance and major maintenance adders allow market participants to include their O&M costs in their bids. The ISO includes these adders in the resource's reference levels: default energy bids and the commitment cost bid caps (a broader term that encompasses the caps for minimum load cost bids and startup cost bids). The reference level for incremental energy costs, known as the default energy bid, is used in local market power mitigation. The reference levels for commitment costs limit what market participants can bid in for minimum load costs and startup costs.

The variable operations and maintenance adder is included in default energy bids under the variable cost methodology and for determining minimum load costs. Currently, the variable operations and maintenance adder includes variable operations and *minor* variable maintenance costs. It has pre-defined default values and can also be set to a custom value via negotiations between the market participant and the ISO. Major maintenance adders are included in minimum load costs and startup costs and include only *major* variable maintenance costs. Major maintenance adders can only be established via negotiations. As further detailed below, this initiative proposes to update this cost framework.

Figure 1 – Current Cost Recovery Framework in ISO Markets



Proposed principles for cost categorization

Management proposes a set of principles for the categorization of variable maintenance costs, variable operations costs, and fixed costs as identified in Figure 1 above.¹ These principles will be used as a reference during negotiations and in the development of default values. These principles seek to balance prescriptiveness, for situations when a clear line must be drawn to guide negotiations, with flexibility, for situations when there is a diversity of practice in the field. Most of Management’s efforts and stakeholder feedback have been directed towards the variable maintenance cost principles, as the maintenance of a generating facility is a costly activity that differs significantly across organizations and technologies.

Variable operations costs:

Variable operations costs are the costs of consumables and other costs that vary directly with the electrical production (i.e., the run-hours, electricity output, or the start-up/shut-down) of a generating facility, specifically excluding maintenance costs, greenhouse gas allowance costs, fuel costs, and grid management charges.

¹ The term variable maintenance costs is inclusive of both major and minor variable maintenance costs. Under this initiative, the ISO does not attempt to differentiate between major and minor variable maintenance costs.

Variable maintenance costs:

Variable maintenance costs are the costs associated with the repair, overhaul, replacement, or inspection of a generating facility that adhere to the following conditions:

- 1) Such costs must vary with the electrical production (i.e. the run-hours, electricity output, or the start-up/shut-down) of the generating facility.
- 2) Such costs should reflect future maintenance costs that are expected to be incurred within the service life of the major component of plant or equipment.
- 3) Such costs should be consistent with good utility practice.
- 4) Such costs should not effect a substantial betterment to the generating facility.
- 5) If the item is a replacement, it cannot be a replacement of an existing major component of plant or equipment.

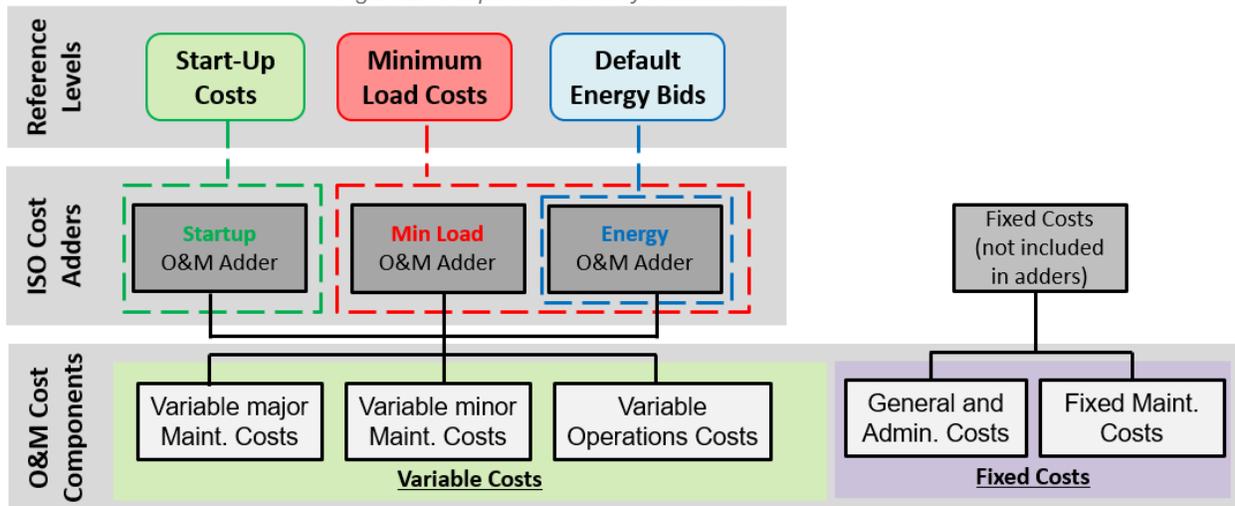
Fixed costs:

Fixed costs include fixed maintenance, general and administrative, and other costs. Fixed maintenance costs are maintenance costs that do not vary with the electrical production (i.e. the run-hours, electricity output, or the start-up/shut-down) of the generating facility. General & administrative costs are non-maintenance costs incurred at a generating facility that do not vary with or relate to production (i.e. the run-hours, electricity output, or the start-up) of the generating facility. Other costs include any other plant-specific costs that are fixed in nature.

Proposed O&M cost framework and default values

The other main component of Management's proposal provides for an enhanced cost framework on which the newly defined principles will apply, and updates the default values used for the O&M adders. Figure 2 presents the proposed update to the O&M cost framework. The main update to the cost framework is that variable maintenance and variable operations costs, rather than being restricted to only certain reference levels, can now be reflected in all three.

Figure 2 – Proposed Recovery Framework in ISO Markets



The final proposal contains the proposed updates to the default O&M adder values, as well as the current values used for the variable operations and maintenance adder and the major maintenance adder.² The proposed default values for variable operations costs were derived from a study performed by Nexant on behalf of, and with the guidance of, Management while the proposed default values for variable maintenance costs were developed by the ISO. Direct comparison between the current default values and the new default values is difficult because the grouping of costs and the units of measurement differ between the two. If such a comparison were conducted, the new variable operations costs would appear to be lower than the current variable operations costs. This decrease would be partially offset by an increase in the variable maintenance costs included in the new default values. Any negative impact of the changes in default values can be mitigated by participants by pursuing the negotiated option. The negotiated option allows participants to negotiate the O&M adder values, consistent with the current practice for variable operations and maintenance adders and major maintenance adders.

Some salient features of this proposal include:

- The cost estimation process is publicly verifiable and robust, which Management believes is valuable. A public process provides the transparency and ability to review Management’s claim that the resulting default values are just and reasonable. During the development of the default values, we further supported that claim by cross-validating the external cost estimates against an internal set of maintenance cost data developed over 8 years of variable operations and maintenance adder and major maintenance adder negotiations.
- The default values should be generally useful while also sufficiently conservative. Because the cost estimates are used in the calculation of reference levels that

² Under the proposal, the “O&M adder” replaces the variable operations and maintenance adder and major maintenance adder, as shown in Figure 2. Management proposes that O&M adders can be comprised of variable operations and variable maintenance costs and can be included in any of the three reference levels.

are ultimately used in local market power mitigation, they must be a conservative estimate to avoid market inefficiencies. However, they must also be set to a level that helps market participants and the ISO minimize the number of negotiations conducted. Management believes that our final methodology successfully balances these two competing goals.

POSITIONS OF THE PARTIES

While stakeholders are broadly supportive of Management's proposal, some raised specific concerns regarding the language for the proposed categorization principles. No stakeholders who provided comments on the draft final proposal generally opposed the initiative.

From a policy perspective, most comments focused on the language of the principles and on the proposed default O&M adder values. During the stakeholder process, Management incorporated stakeholder suggestions into the final language of the principles. For example, Puget Sound Energy (PSE) suggested that the term "substantial betterment" used by FERC in its Uniform System of Accounts was more appropriate in considering the treatment of improvements to equipment. In response, Management incorporated this language into the principles. PSE, while expressing its support for the final principles proposed, noted their concern that certain of the proposed default values are too low compared to their internal cost estimates or grouped in inappropriate technology categories. Management understands PSE's concerns about the default values not being reflective to some specific resource conditions but thinks that the proposed adders are appropriate. They were developed with input from stakeholders, are based on verifiable cost information, and we believe that they strike a reasonable balance between being sufficiently conservative while also being useful for most of participants' resources. Further, under Management's proposal, market participants will still have the ability to negotiate O&M adder values if the default O&M adder values do not meet a specific resource's needs.

From an implementation perspective, stakeholders focused their comments on the treatment of existing O&M adders and on the timeline of the initiative. Several stakeholders note that negotiating their current major maintenance adders and custom variable operations and maintenance adders took time and effort that may go to waste if they are required to renegotiate if Management's proposal is approved. Management incorporated this feedback by proposing to grandfather in the existing major maintenance adders and custom variable operations and maintenance adders under the new proposed cost paradigm. PG&E is concerned that the initiative would be implemented too soon, should the relevant Board and FERC approvals be received. Management believes that PG&E's concerns are valid and we thus updated the target implementation date from October 1, 2021 to January 1, 2022.

The ISO's Department of Market Monitoring (DMM) also generally supports the initiative. This is noteworthy because DMM currently acts as the ISO's agent in these negotiations and thus has accumulated an expertise in the area of O&M costs.

CONCLUSION

Management recommends the Board of Governors approve the variable operations and maintenance cost review proposal. The proposed changes will provide for a more accurate accounting of O&M costs in the ISO markets. This will increase the markets' efficiency by decreasing the administrative burden of negotiations once they are conducted using a defined and common set of principles. The proposal will also decrease administrative burden on the ISO once the triennial cost review is built on a solid, principle-based foundation. If approved, market participants will also have greater flexibility in their ability to reflect their O&M costs in any part of their bids. The newly proposed default O&M adder values were developed through a robust open process, thus providing more transparency. Finally, suppliers may be able to forgo onerous negotiations by relying on pre-determined default values. The efficiency and flexibility added with this proposal will benefit the market as a whole while streamlining the ISO's administrative burden, and should therefore be approved.