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BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the Matter of Load Management Standards Implementation	Docket No. 23-LMS-01

JOINT RESPONSE OF LARGE INVESTOR-OWNED UTILITIES TO SEPTEMBER 1, 2023 STAFF DOCUMENT

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Dated: September 29, 2023

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JOINT RESPONSE OF LARGE INVESTOR-OWNED UTILITIES TO SEPTEMBER 1, 2023 STAFF DOCUMENT

Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) (collectively, the Large Investor-Owned Utilities (Large IOUs)), hereby respond to the document entitled "Load Management Standards Implementation Rate Uploads with Price Modifiers" filed on the docket of the above-captioned proceeding on September 1, 2023.[1] In this response, the Large IOUs explain their position as to their obligations under the Load Management Standards (LMS) set by California Code of Regulations (CCR) 20 §§ 1621-1625 to upload time-dependent rates to the California Energy Commission's (CEC) Market-Informed Demand Automation Server (MIDAS) Database, and propose cost-effective and technologically feasible next steps that are consistent with the regulation and will further the goals underlying the LMS.

I.

EXECUTIVE SUMMARY

The Large IOUs respond herein to the position expressed in the CEC's September 1, 2023 document, as reiterated by CEC representatives during a subsequent conference call, that the LMS regulations require the Large IOUs to upload to MIDAS not only their time-dependent

[1] See CEC Docket 23-LMS-01, TN #: 252115, Load Management Standards Implementation Rate Uploads with Price Modifiers (9/1/2023).

rates and modifiers, but the millions of permutations that result from the application of various combinations of non-time-dependent modifiers to the rates. As discussed below, the Large IOUs do not agree with this expansive interpretation of the regulation, which in any event would not be technologically feasible or cost-effective to implement. Among other feasibility and cost issues, while each IOU's database architecture is designed to handle significant number of rates and constant changes to them, the MIDAS system architecture has not been designed to handle such frequent rate changes and the resulting permutations. The Large IOUs intend to comply with the plain language of the LMS regulation, but also hope to collaborate with the CEC on a plan for additional uploads (beyond what the regulation strictly requires) in the coming months, as well as an exploration of potential improvements to the functionality of the MIDAS platform.

This document is organized as follows. Section II provides an introduction and context to the issues discussed herein. Section III provides a detailed discussion of the LMS regulations, the authorizing statute, and the procedural background, all of which support the Joint IOUs' understanding of the requirements of the regulations as they relate to uploads of time-dependent rates to MIDAS. Section IV discusses the Joint IOUs' compliance with the LMS regulations to date through the uploading of significant numbers of time-dependent rates to MIDAS. Section V discusses the significant feasibility issues that would arise with undertaking an effort to upload millions of permutations of rates combined with non-time-dependent modifiers. Section VI explains the Joint IOUs' legal position as what the LMS regulations require with respect to uploads of time-dependent rates to MIDAS, based on the relevant statute and regulations as well as cost-effectiveness and feasibility requirements (which the CEC's September 1, 2023 document did not address). Finally, Section VII includes a proposal from the Joint IOUs as to next steps, which include their compliance with the LMS regulations as well as additional actions that would go beyond those requirements to support the overall goals of the LMS regulations and the MIDAS platform with respect to price transparency and more informed customer decision-making regarding when to use electricity.

II.

INTRODUCTION

The Large IOUs have begun uploading time-dependent rates and time-dependent modifiers to MIDAS and intend to upload the remainder of such time-dependent rates and time-dependent modifiers by October 2, 2023.[2] Over the last several months, the Large IOUs have expressed concern to the CEC that the governing regulation could be read (incorrectly) to require the Large IOUs to upload to MIDAS not only their time-dependent rates and time-dependent modifiers, but the millions of permutations of time-dependent rates that can result from applying various combinations of *non-time dependent* modifiers to those rates. In addition to being unsupported by the language of the regulation, such an interpretation would not be consistent with the underlying statute requiring that the LMS requirements be technologically feasible and cost-effective. Requiring the upload of all such permutations is infeasible not only from the side of the Large IOUs, but also with respect to the MIDAS database itself, which does not have the functionality to run such permutations. There is no readily available automated means by which the Large IOUs could calculate or upload these permutations, meaning that to even attempt to do so would require technical efforts on the part of the Large IOUs that would be enormously time-consuming and costly to ratepayers.

In the September 1, 2023 document, the CEC articulated the position that the LMS regulations require the Joint IOUs to upload all permutations of time-dependent rates and non-time-dependent modifiers, and that the Joint IOUs must complete such uploads by October 1, 2023. The Large IOUs respectfully submit that this interpretation is not consistent with the language of the at-issue regulation, the background of this proceeding, or the underlying authorizing statute. Moreover, as recently as May 2023, CEC Staff characterized the issue of "which rates, rate modifiers, and rate determinants require separate uploads to support MIDAS

[2] Currently, CPP rates are the only time-dependent rate modifiers offered by the Utilities.

user needs" as a matter on which the CEC was seeking consensus with stakeholders, rather than a matter that was strictly governed by the regulation itself.[3]

On September 15, 2023, the Large IOUs held a conference call with representatives of the CEC and the Energy Division of the California Public Utilities Commission (CPUC), during which the Large IOUs presented slides on price modifiers that they will upload, as required by the LMS, by October 2, 2023, a second level of price modifiers that are technologically feasible to upload to MIDAS but not required by the LMS, and a third level of price modifiers that are neither required by the LMS nor technologically feasible or cost-effective to upload. However, CEC representatives reiterated the position expressed in the September 1, 2023 document that the LMS regulations require upload of all permutations of time-dependent rates and all modifiers (including non-time-dependent modifiers) by October 2, 2023. In light of these recent developments, the Joint IOUs write to present their position in writing and propose next steps that will be best suited to the goals of the LMS regulations.

III.

BACKGROUND

A. APPLICABLE LEGAL PROVISIONS

The CEC's authority in relation to the LMS derives from the provisions of the enabling statute (Cal. Public Resources Code § 25403.5) and the LMS regulations (20 CCR §§ 1621-1625).[4]

Public Resources Code § 25403.5 provides that the CEC "shall . . . adopt standards by regulation for a program of electrical load management for each utility service area," and that

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[3] Indeed, as recently as July 2023, CEC staff in emails and workshop materials were discussing the issue of uploads of modifiers as a matter to be resolved by consensus and not a matter that is prescribed by the regulation.

[4] See D.06-01-024 (CPUC) at 10 (noting that the CPUC's authority to delegate oversight of utilities to the CEC is limited to "to whatever the CEC is authorized to administer according to existing legislation.").

such standards "shall be cost-effective when compared with the costs for new electrical capacity, and the commission shall find them to be technologically feasible."[5] Section 25403.5 also provides that "[a]ny expense or any capital investment required of a utility by the standards . . . shall be treated by the Public Utilities Commission as allowable in a rate proceeding."[6] In addition, this statute provides that the CEC "may determine that one or more of the load management techniques are infeasible and may delay their adoption[.]"[7]

20 CCR § 1621 ("General Provisions") articulates the goal that the LMS will "establish cost-effective programs and rate structures which will encourage the use of electrical energy at off-peak hours," and affirms that the CEC "has found these standards to be technologically feasible and cost-effective when compared with the costs for new electrical capacity."[8] Section 1621 also defines various terms used in the LMS regulations.[9] In addition, Section 1621 provides that each Large IOU is to submit a plan to comply with Sections 1621 and 1623 to the CEC's Executive Director by October 1, 2023, that the Executive Director "shall review the plans and either return them to the Large IOU for revision or submit them to the Commission for review and potential approval," and that the Commission "shall approve submittals which are consistent with these regulations and which show a good faith effort to plan to meet program goals for the standards."[10]

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5 Cal. Pub. Resources Code § 25403.5(b).

6 Id.

7 Id.

8 20 CCR § 1621(a)-(b).

9 See 20 CCR § 1621(c) (defining (among others) the following terms: "Load management tariff" ("a tariff with time-dependent values that vary according to the time of day to encourage off-peak electricity use and reductions in peak electricity use"); "Rate Identification Number" or "RIN" ("the unique identifier established by the Commission for an electricity rate"); "Rate-approving body" ("the California Public Utilities Commission in the case of investor-owned utilities"); "Tariff" ("a pricing schedule or rate plan that a utility . . . offers to their customers specifying the components of the customer's electricity bill"); "Time-dependent rate" ("a rate that can vary depending on the time of day to encourage off-peak electricity use and reductions in peak electricity use. Time-of-use, hourly, and sub-hourly rates are time-dependent rates.").

10 20 CCR § 1621(d).

Section 1621(e) permits the Large IOUs to apply to the Executive Director for exemptions, extensions, or modifications in relation to the LMS regulations, and includes enforcement provisions whereby the "Executive Director may, after reviewing the matter with the Large IOU, file a complaint with the Commission following the process set forth in [20 CCR] Sections 1233.1 to 1233.4 or seek injunctive relief."[11] Finally, Section 1621 provides that "[i]n its rate applications, each Large IOU shall seek to recover the full costs associated with conducting each program required by this article from the class of customers which the program most directly affects."[12]

20 CCR § 1623 ("Load Management Tariff Standard") provides that by a specified deadline, "each Large IOU shall upload its existing time-dependent rates . . . to the [MIDAS] database," and shall upload any new or updated time-dependent rates "each time a time-dependent rate is approved by the rate-approving body and each time a time-dependent rate changes."[13] Section 1623 further states that "[t]he time-dependent rates uploaded to the MIDAS database shall include all applicable time-dependent cost components, including, but not limited to, generation, distribution, and transmission."[14] Section 1623 also states that the CEC "maintains public access to the MIDAS-database through an Application Programming Interface (API) that, provided a Rate Identification Number (RIN), returns information sufficient to enable automated response to marginal grid signals . . . ."[15]

Key points to distill from these statutory and regulatory provisions include the following:

- Any requirements set by the LMS must be "cost-effective when compared with the costs for new electrical capacity." (Public Resources Code § 25403.5).
- The CEC must find the LMS requirements to be "technologically feasible." (Id.).
- The CEC has discretion to "determine that one or more of the load management techniques are infeasible and may delay their adoption[.]" (Id.)

[11] 20 CCR § 1621(e)-(f).
[12] 20 CCR § 1621(g).
[13] 20 CCR § 1623(b).
[14] Id.
[15] Id.

- Any expenses the Large IOUs incur in order to implement the LMS are chargeable to ratepayers and must be treated by the CPUC as allowable in a rate proceeding. (Id.)

- The goal of the LMS is to "establish cost-effective programs and rate structures which will encourage the use of electrical energy at off-peak hours." (20 CCR § 1621).

- The Commission "*shall approve*" the Large IOUs' submitted plans to comply with Sections 1621 and 1623 if those plans "are consistent with these regulations and . . . show a good faith effort to plan to meet program goals for the standards." (Id.) (emphasis added).

- A "time-dependent rate" is "a rate that can vary depending on the time of day to encourage off-peak electricity use and reductions in peak electricity use." (Id.)

- Load serving entities subject to the LMS regulations must upload to MIDAS "time-dependent rates" (including "time-dependent cost components") that have been "approved by the rate-approving body." (20 CCR § 1623).

B. PROCEDURAL BACKGROUND

1. 21-OIR-03

The CEC initiated 21-OIR-03 (the "2022 Load Management Rulemaking") in December 2021. In the Final Staff Report for this rulemaking, CEC staff recommended regulatory amendments that would require utilities to (inter alia): "a) Develop retail electricity rates that change at least hourly to reflect locational marginal costs and submit those rates to the utility's governing body for approval," and "b) Update the time-dependent rates in CEC's [MIDAS] database whenever a rate is approved or modified."[16] The Final Staff Report concluded that the proposed LMS revisions would be cost-effective based on an estimate that the total cost of the amendments across all affected utilities and the CEC would be $24 million over 15 years, compared to an estimated benefit over the same period of $267 million.[17] The Final Staff report concluded that requiring utilities "to aggregate and upload all time-dependent rate data using the MIDAS API" would be "feasible" because "[a]utomation of such data uploads is a standard task

[16] CEC Docket 21-OIR-03, TN #: 241067, Final Staff Report (12/22/2021) at iii.
[17] Id. at 3, 54, 73.

commonly done by utility information technology staff."[18] There is no indication in the Final Staff Report that utilities would be expected to upload millions of permutations of time-dependent rates and non-time-dependent modifiers, and the conclusions of the Final Staff Report as to cost-effectiveness and feasibility do not appear to contemplate any such requirement.

As part of 21-OIR-03, CEC staff issued a document responding to comments submitted by numerous parties on the proposed amendments to the LMS regulations.[19] Notably, in response to an SCE comment regarding the requirements of Section 1623(b), CEC staff stated: "Only existing, approved rates are required to be kept up to date in the rate database."[20] In response to another SCE comment stating that the deadline set by Section 1623(b) "would be feasible for Time-of-Use (TOU) rates that have been previously approved by the CPUC" but "may not work for Real-Time Pricing (RTP) rates," CEC staff stated: "staff believe upload of existing RTP rates within 3 months after the effective date is feasible. To demonstrate the feasibility, MIDAS database was able to, with an even shorter development time, successfully incorporate SGIP GHG signals that updates every 5 minutes, which provides an excellent example that such upload at daily or hourly frequency is achievable within the timeline proposed. The CEC plans to work closely with the Large IOUs to ensure successful upload of existing RTP rates."[21] As with the Final Staff Report, nothing in this staff response document reflects an understanding or expectation that utilities would upload millions of permutations of time-dependent rates and non-time-dependent modifiers.

Indeed, the Large IOUs are not aware of any document on the docket for 21-OIR-LMS issued prior to the effective date of the LMS regulations that suggests or even appears to contemplate that the revised LMS would require uploads to MIDAS of millions of permutations of time-dependent rates combined with all possible price modifiers. To the contrary, the Final

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18 Id. at 62.

19 See CEC Docket 21-OIR-03, TN #: 248524, Response to Comments on revisions to the Load Management Standards (1/25/2023).

20 Id. at 86.

21 Id. at 108.

Staff Report, the CEC staff response to comments, and the draft regulations themselves all point to a common understanding that the "time-dependent rates" required to be uploaded to MIDAS under Section 1623(b) encompassed only time-dependent rates that are approved (as part of a tariff) by the relevant rate approving body. In the case of the Large IOUs, this effectively means TOU and RTP rates specifically identified in a tariff that is approved by the CPUC.

2. 23-LMS-01

This rulemaking is "intended for guidance to and submissions by entities regulated by the" LMS.[22]

As part of this rulemaking, the Large IOUs and other load serving entities (LSEs) submitted a letter on April 28, 2023 seeking an extension of the original deadline set by the revised LMS for uploading rates to MIDAS, and raising a number of still-unresolved technical issues around the construction of Rate Identification Numbers (RINs), the level of "rate data granularity" that should be applied to uploads to MIDAS, and the prospect of very high numbers of RINs resulting from various rate modifiers combined with "locational permutation" being applied to time-dependent rates.[23]

In response to this letter, CEC staff issued an Initial Determination and Recommendation on May 19, 2023.[24] As to the issues about RINs and modifiers raised in the LSEs' letter, this document stated in relevant part:

> Through the MIDAS Working Group meetings, CEC staff are actively working with stakeholders, including the Joint Parties, to develop consensus on which rates, rate modifiers, and rate determinants require separate uploads to support MIDAS user needs. CEC staff have requested proposals from stakeholders which are forthcoming. These requirements are not necessarily complex or complicated but ideally would be consistent across all LSEs. CEC staff believe the Joint Parties can upload base rates to MIDAS by August 1, 2023, and that issues regarding price modifiers and RIN determinations for rates with price modifiers

[22] See CEC Docket 23-LMS-01, TN #: 249383, Memo to Open New Docket (3/21/2023).
[23] See id., TN #: 249904, Extension Request Letter for MIDAS Uploads (4/28/2023).
[24] See id., TN#: 250212, Initial Determination and Recommendation of the Executive Director on Joint Parties' Request to Extend MIDAS Upload Deadline (5/19/2023).

> will be resolved in time to allow the Joint Parties to upload all of their time-dependent rates by October 1, 2023."[25]

Thus, as of May 19, 2023, well after the revised LMS regulations took effect, CEC staff were seeking to work with stakeholders to "develop consensus on which rates, rate modifiers, and rate determinants require separate uploads to support MIDAS user needs," indicating that, at that point, the CEC itself did not read the text of Section 1623(b) as prescribing the upload of millions of permutations of time-dependent rates and non-time-dependent modifiers.

In a response to the Staff Initial Determination memorandum, SCE submitted a response on May 26, 2023 that stated in relevant part: "although the Initial Determination references "rates with price modifiers," SCE does not understand non-time-dependent price modifiers to fall within the scope of the "time-dependent rates" and "time-dependent cost components" that CCR § 1623(b) requires to be uploaded to MIDAS."[26] PG&E and SDG&E shared (and continue to share) SCE's understanding on this point, but all of the Joint IOUs have sought to collaborate with the CEC on the issue of modifiers.

On June 1, 2023, the CEC issued an Order in response to the April 28, 2023 letter.[27] As to the point SCE raised about non-time-dependent modifiers, the Order stated: "The Joint Parties' request did not include a request to exempt uploads of rate modifiers that themselves are not time dependent. Nor should they have because once rate modifiers are added to basic time-dependent rates, the resultant rates are still time-dependent and hence must be uploaded pursuant to the regulation. CEC staff does not concur with SCE on this issue for the reasons stated."[28] However, the Order also stated that "[i]ssues regarding the multiplicity of IOU rates due to price modifiers are advancing towards resolution."[29] The Order further stated that "[i]ssues regarding the uploads of other rates due to price modifiers can be resolved in time for the Joint Parties to upload their remaining time-dependent rates by October 1, 2023," and that "[p]roviding the Joint

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[25] Id. at 6.
[26] Id., TN #: 250350, Southern California Edison Response to CEC Staff Determination (5/26/2023) at 2.
[27] See id., TN #: 250450, Item_10_MIDAS_Order_ada-1 (6/1/2023).
[28] Id. at 4.
[29] Id. at 3.

Parties with additional time to address these issues will alleviate any technological infeasibility that may have frustrated the Joint Parties' efforts to upload their existing time-dependent rates."[30] The Order concluded that "[a]fter working with CEC staff to resolve the issues regarding the uploads of other rates due to price modifiers, the Joint Parties shall upload their remaining time-dependent rates by October 1, 2023."[31] Thus, the Order contemplated that the remaining uploads would occur *after* issues regarding modifiers were resolved. However, the Order did not address the actual feasibility issues that arise with the prospect of uploading millions of permutations of time-dependent rates and non-time-dependent modifiers.

The CEC hosted working group meetings with stakeholders on June 6, June 20, and July 11, 2023. In these meetings, the CEC worked on various subjects including those mentioned in the June 1 Order. Notably, the issue regarding uploading of unbundled RINs was resolved during the June 20 working group meeting. While the issue of uploading rates with price modifiers was discussed at the June 20 and July 11 meetings, with proposals from the CEC and other parties discussed, no resolution of this issue was reached. On July 20, 2023, stakeholders received an email from CEC staff stating that the rate modifier issue was continuing to be discussed internally at the CEC and that the next working group would be delayed. The working groups have yet to resume.

As noted, on September 1, 2023, the document entitled "Load Management Standards Implementation Rate Uploads with Price Modifiers" was added to the 23-LMS-01 docket.[32] This document states that CEC had "reviewed regulatory language, [and] comments submitted to the docket 23-LMS-01, and met three times with" LSEs (including the Large IOUs) subject to the LMS regulations.[33] The document further states in relevant part:

> CEC staff believes that uploading rates without price modifiers could harm ratepayers who use data from MIDAS to control energy use in their homes and

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30 Id. at 5.
31 Id.
32 Id., TN #: 252115, Load Management Standards Implementation Rate Uploads with Price Modifiers (9/1/2023).
33 Id. at 1.

> businesses. Without price modifiers, users of MIDAS cannot retrieve their actual and accurate electricity prices and therefore cannot make informed decisions on when to use electricity. This could result in electricity use at non-optimal times and could increase ratepayers' electricity bill above what they would pay if the accurate prices were uploaded.
>
> The need to upload rates with appropriate price modifiers is also underpinned by important technical and equity needs. From a technical perspective, accurate volumetric pricing for all time periods is critical for a wide range of modern, increasingly popular, and important end uses that are crucial to load flexibility and a decarbonized California grid. . . . Mathematical analysis shows that excluding price modifiers, even if the price modifier itself is not time-dependent, skews the ratios of final time-dependent volumetric pricing. If skewed too much, the inaccurate ratio will alter the decision making of these end uses, harming customers.
>
> From an equity perspective, excluding certain price modifiers or combinations of rates with price modifiers leaves a portion of California customers with less accurate pricing information than others, creating an inequity of shared information and opportunity to shift usage and save money. Worse, many customers have price modifiers precisely because they qualify for low-income or medical discounts. This exclusion of price modifiers may disproportionally hurt underserved populations and exacerbate energy inequity that California has been working diligently to tackle.
>
> In addition, as of August 25, 2023, the large publicly owned utilities (Large POUs) have uploaded their existing time-dependent rates with price modifiers as required by the LMS. This demonstrates the MIDAS is functional and can accept rates.[34]

The September 1, 2023 document concludes that

> Based on LMS regulatory text and staff's analysis, the LMS do not authorize CEC staff to relax regulatory upload requirements and allow regulated parties to upload a subset of their rates with accompanying price modifiers. . . . Based on the above, and in response to the [June 1, 2023] Order, all time-varying rates, including modifiers that affect the volumetric portions of those rates, must be uploaded to MIDAS by October 1, 2023.[35]

Notably, while the September 1, 2023 document references the "LMS regulatory text," it does not explain how the language of the regulation – which requires the upload of "time-dependent rates" (including "time-dependent components") that are "approved by the rate-approving body" – establishes a requirement to upload millions of permutations of time-

[34] Id. at 2.
[35] Id.

dependent rates and non-time dependent modifiers. Nor does the September 1, 2023 document reconcile its conclusion that Section 1623(b) requires the upload of all such permutations with the May 19, 2023 Staff Memo, which did not reflect a conclusion that the regulation sets such a requirement, but instead indicated that Staff intended "to develop consensus on which rates, rate modifiers, and rate determinants require separate uploads to support MIDAS user needs." The September 1, 2023 document also does not address the statutory requirements of cost-effectiveness and technological feasibility in relation to an interpretation of the LMS regulations that would require the upload of millions of permutations of time-dependent rates and non-time-dependent modifiers.

As noted, after receiving the September 1, 2023 document, the Large IOUs and their attorneys held a conference call with CEC staff and counsel, and representatives of the CPUC's Energy Division on September 15, 2023, to discuss the issues. The Large IOUs explained why, from their perspective, the LMS regulations do not require the upload of all permutations of time-dependent rates and non-time dependent modifiers, and why attempting to do so would not be cost-effective or technologically feasible. However, CEC representatives repeated the view expressed in the September 1, 2023 document that the LMS regulations require upload of all permutations of all time-dependent rates and all modifiers (whether time-dependent or not).

IV.

LARGE IOUS' COMPLIANCE WITH LMS TO DATE

Each of the Large IOUs has made extensive efforts in recent months to comply with the LMS regulations by uploading time-dependent rates to the MIDAS database.

SCE has been maintaining prices for time dependent rates, a total of 169 RINs, in MIDAS since the evening of July 31, 2023. This includes 63 TOU base rates and their unbundled variants which SCE will update at each rate factor change. Rate factor changes occur approximately 4-6 times per year. This also includes 11 RTP rates which are updated with pricing each evening based on the day's peak temperature. Finally, this includes 32 rates with

Critical Peak Pricing (CPP) which is a modifier with time differentiated components. These rates are uploaded with "non-event" pricing at each rate factor change. For each CPP event, pricing is updated with event pricing the evening before the day of the event. All rate uploads are currently performed using a combination of semi-automated and manual processes requiring daily user interface.

In December 2023, SCE plans to implement the Solar Billing Plan, which will be the successor to Net Energy Metering 2.0. SCE anticipates that adding this program will result in an additional 236 RINs in 2023 and 118 RINs in 2023 for a total of 523. SCE also plans to scale its manual processes to handle these RINs until an automated solution is implemented. SCE is developing an enhancement to SCE's billing system which will compute and upload prices to MIDAS at each rate factor change, as well as automate and maintain RTP and CPP event pricing in MIDAS on a daily basis based on automated receipt of temperature and CPP event information from other systems. SCE anticipates that this solution will be implemented in March 2024. From this point on, upload of prices to MIDAS will be an automated system process triggered by each rate factor update which is a process already performed several times a year. SCE estimates the implementation cost for this solution to be approximately $1.5M.

PG&E will upload its time-varying base rates, in Table 1-PG&E, below (gray row), and the time-varying rate modifiers (green rows) by October 1, 2023 using a primarily manual process. If a time-varying rate is launching in the future, e.g. Net Billing Tariff and the Business Electric Vehicle DAHRTP, PG&E will upload these rates when they becomes available.

SDG&E has uploaded information in MIDAS to comply with the August 1 and October 1, 2023 deadlines and plans to upload additional time-dependent RINs as they become approved. For August, SDG&E uploaded 138 RINs, which represents SDG&E base rates without modifiers. For October, SDG&E uploaded an additional 205 RINs, 196 of which constitute time-dependent modifiers for SDG&E's Critical Peak Pricing (CPP) events and will

require continual uploads when CPP events occur.[36] In December, SDG&E plans to upload an additional 740 RINs related to implementation of the Solar Billing Plan. In April 2024, SDG&E will upload additional RINs for Grid Integrated Rate (GIR) and Vehicle-Grid Integration (VGI) rates, per the CEC granted extension request. SDG&E is currently using a manual process to create and support these RIN uploads.

Moreover, in addition to the time-dependent modifiers being uploaded pursuant to the LMS regulations, in the spirit of collaboration and in an effort to provide more RINs for use in MIDAS, SDG&E has already uploaded 308 RINs related to its discounted programs and plans to upload 828 RINs related to the new Modified CAM line item.

Concurrent with the uploads described above, SDG&E is working on an enhancement to its billing system that will partially automate the computing and upload of RINs into MIDAS. This enhancement is a significant effort and is anticipated to be in place by April 2024. SDG&E currently estimates the initial implementation cost of this enhancement to be between $1.5M and $2.2M, with an annual cost of $75,000 to support new rates and changes to existing rates.

V.

FEASIBILITY ISSUES AROUND PROSPECT OF UPLOADING ALL PERMUTATIONS OF TIME-DEPENDENT RATES AND COMBINATIONS OF MODIFIERS

Electric rates in regulated utilities in California are made up of several components. In the simplest terms, electric charges can be divided into three broad categories, Delivery, Generation, and Other. The following paragraphs explore how a rate is used to determine customer charges, and how that same rate requires different handling to be calculated and

[36] SDG&E notes that 9 base-rate, without-modifier RINs were mistakenly excluded from the August 1 upload and therefore included with the RINs uploaded by October 1. This accounts for the 9 RIN discrepancy between 205 and 196.

uploaded to MIDAS. We will also demonstrate how the addition of modifiers applied to a manageable number of rates results in a very large number of permutations.

The following example is an examination of SCE's TOU-D-4-9PM Default Residential rate and the permutations produced with the addition of modifiers. Delivery charges recover the costs of providing delivery services to customers and are made up of multiple components including Transmission, Distribution, New System Generation Charge (NGSC), Nuclear Decommissioning Charge (NDC), Public Purpose Programs Charge (PPPC), Wildfire Charge (WFC), and the PUC Reimbursement Fee (PURCF). Of these charges, only the Distribution charge is time varying. On customer billing statements, these charges are summed up by peak period and presented as three peak prices (on-peak, partial-peak, off-peak), and the wildfire charge is included as a separate line item.

Generation charges recover the costs for generated electricity, fuel and purchased power. This charge includes the Utility Generation (UG), the bundled customers' share of past procurement charges (PCIA/PABA), and Competition Transition Charge (CTC). On customer billing statements, these charges are summed up by peak period and presented as three peak prices.

Other charges recover other costs not included in transmission or distribution. These charges include items such as the Fixed Recovery Charge (FRC) which recovers the cost of repayment of bonds issued to cover the costs of wildfire mitigation. Taxes, including Utility Users Tax (UUT), which is a city-level %-based charge and California state tax which is a per-kWh charge are also included in this section. These items are typically listed individually.

In order to upload prices to MIDAS, SCE must first compute the total per kWh price by summing all volumetric delivery and generation factors into a single value. This is not a value that SCE has readily available in its billing system, because, as explained above, nowhere on SCE's billing statements are the customer charges distilled down to a single per kWh value.

To upload the per kWh price for a single hour, SCE would have to calculate the total volumetric price for that hour for each of the 52 time-varying rates in SCE's portfolio. Eleven of

SCE's rates have charges that vary by service voltage (Primary, Secondary, or Sub-transmission) when those variations are added SCE has a total of 74 time-varying rates. SCE understands that CCA-specific rates must also be uploaded to MIDAS. To accomplish this, SCE must sum only the Delivery components and upload them to MIDAS as a separate RIN. SCE has identified CCA Variants for 63 of its 74 time-varying rates bringing the total to 137. SCE also understands that all time-varying components should be uploaded to MIDAS. SCE has identified a program, Critical Peak Pricing (CPP) which includes energy credits and charges which are time-varying. As such for SCE's 32 eligible rates, SCE has taken its base rate pricing, added the CPP credits and charges, and uploaded these prices separately as another variation of the same base rates. The result is that some of SCE's rates have as many as 3 variations, the base rate, the CCA variation, and the CPP variation.

Later this year SCE plans to launch its Solar Billing Plan (SBP) the successor to NEM 2.0. This program will provide customers with time-varying export credits for energy they export from their systems to SCE's grid. The SBP will be available to customers on 53 of SCE's 74 time-varying rates. The SBP "stacks" with both the CCA and CPP variations, that is, a customer can be enrolled in only CPP or SBP, or both CPP and SBP. Customers taking generation services from a CCA may also enroll in SBP. To further complicate matters, SBP includes vintaging of some rate components. Vintaging is a term used to describe a rate feature where a customer receives a set price, or schedule of prices based on a trigger date such as date of program enrollment, or in this case, the date the customer's generation system was granted permission to operate (PTO). In this case there will be a 2023 vintage of export pricing for customers who received PTO in 2023, a 2024 vintage of pricing for customers who receive PTO in 2024, and a "non-vintage" price for all customers who have been transitioned to SBP from NEM or who have opted out of their vintage price. Additional vintage schedules will be offered through 2027 and the customers can remain on their vintage for up to 9 years. As a result of SBP, the ability of customers stacking SBP with CPP and CCA service, in addition to multiple

vintages, in 2024, SCE will add an additional 354 RINs due to the inclusion of SBP for a total of 523 active RINs.

SCE has also identified 13 additional "modifiers" that result in additional permutations of rates. These modifiers do not include time varying components, but instead typically function as a percentage-based charge or discount calculated on the bill subtotal, or as a per kWh charge or discount either added to the energy charges, or charged as a separate line item. As such, these modifiers do not change the order of the price peaks found in the base rate. In other words, the highest priced hour of the day remains the highest priced hour. Similar to SBP, most of these modifiers apply to most or all rates and stack with the previously mentioned options (CPP, CCA, SBP) as well as with each other. For a simple example, customers enrolled in the Medical Baseline program (MBL) are exempt from paying the wildfire charge. This program applies to all residential customers and stacks with SBP, CPP, and CCA. If SCE was to develop RINs for this modifier, it would result in a doubling of the current number of RINs for rates that are eligible for MBL. A more complex example would be Utility Users Tax (UUT), which is a percentage charge calculated on the bill subtotal and CA State Tax which is a per kWh charge. SCE has 28 jurisdictions with UUT and 2 jurisdictions with similar "franchise fees" and furthermore some customers are exempt from UUT but still pay state tax, and vice versa. These charges, and their exemptions, apply across all rate classes and combinations of programs. Ignoring the tax-exempt status for simplicity, the inclusion of UUT would result in multiplying SCE's currently planned for 523 active RINs by 30 for 15,690, or including tax exempt status, by 60 for 31,380. Each of the other 12 additional modifiers would increase this value by whatever number of variations the modifier contains, in some cases double but in some cases many more in the case of PCIA (17) or UUT (30). SCE has performed an initial analysis on including all identified modifiers and determined it would result in approximately 17 million RINs.[37]

[37] This is a preliminary estimate. This number could increase if additional modifiers or variations of modifiers are identified or decrease if further analysis determines that some stacking of modifiers is not valid.

PG&E agrees with SCE's description of the computational complexities of stacking rate modifiers to develop RINs. PG&E also agrees that its billing system does not have the computational resources to develop all possible composite RIN values. PG&E is working on a project to automate the upload of its time-dependent rates this year, and estimates that it will be complete by the end of November. This project will support the grey and green rates in Table 1-PG&E only.

PG&E is implementing significant changes to its billing system. PG&E currently estimates this work will not be completed until 2027. At that time, PG&E anticipates the process of uploading its non-time-varying rates, in the blue rows below, to MIDAS can be automated once the billing system upgrade is completed. However, CEC Staff's September 1, 2023 interpretation of the LMS to require uploading all permutations of time-varying and non-time varying rate elements presents an impossible situation. As shown below, PG&E's preliminary estimate of possible RINs using the CEC Staff's interpretation produces many millions of permutations for PG&E, using just the rate elements identified in the table below. Adding other rate elements that were not used for the preliminary analysis below would increase the number of RINs. Furthermore, as more rate elements are added, such as new PCIAs each year, the number of permutations will increase further. The resulting many millions of RINs for PG&E is technically infeasible for PG&E to upload to MIDAS, even after the current billing system upgrade is complete. Moreover, it is PG&E's understanding that since MIDAS is based on tables, MIDAS cannot receive rate permutations from the IOUs at the scale involved under the CEC Staff's interpretation.

Table 1-PG&E

PG&E RIN numbers calculated for base rates (gray), time-varying rate modifiers (green), specified non-time-varying modifiers (blue and pink)

Not included: employee discount, foodbanks, location specific distribution rates, location specific transmission rates

	rate/modifier	count of RINS	Total RINs
	Base Rates	39	
	Voltage class	12	51
	CCA	51	102
	CPP	18	120
	Net Billing Tariff	708	828
	CARE/FERA	828	1,656
	Medical Baseline	1,656	3,312
	Solar Choice	3,312	6,624
	LGS	6,624	13,248
	DAC-GT	13,248	26,496
	UUT & Tax Exempt (77)	2,040,192	2,066,688
	PCIA (2009-2023)	31,000,320	33,067,008

SDG&E agrees with SCE and PG&E on the complexities of stacking rate modifiers to develop RINs. And while SDG&E has fewer CCAs and franchise fee modifiers, which results in fewer RINs, it is still an unmanageable number of RINs. Without additional staffing and resources, SDG&E would not be able to provide accurate numbers. Additionally, full automation is not possible due to the complexities of more rates and rate modifiers being added and altered. Further, because rate design is never frozen, maintaining the MIDAS uploads requires regular monitoring, which will only become more difficult and time consuming the larger the number of uploaded RIN permutations.

Even if the IOUs were to perform a detailed analysis and identify all possible RINs, there would be two additional significant barriers to uploading and maintaining them in MIDAS. First, as stated above, the stacked values required to be uploaded to MIDAS are not present in the IOU billing systems. The IOU billing systems use a true database architecture consisting of a

number of tables and keys to connect the various service options. Because MIDAS represents flat file storage media, it is not a simple matter of copying a table of volumetric pricing from a utility's billing system and uploading it to MIDAS. To upload the stacked composite values to MIDAS, the IOUs will have to upgrade their billing systems with new logic to calculate these values. With the exception of SCE's and SDG&E's RTP rates, which are hourly, the IOUs currently calculate charges by TOU period. For most TOU rates the IOUs sum on, off, and mid-peak usage in kWh, and then multiply those usage values by a single price value per TOU period for delivery. This process is repeated for generation charges. The CEC has asked that values provided to MIDAS be provided hourly, or sub-hourly, this would result in the IOUs calculating 720 values per month, per RIN. Because the number of potential RINs exceeds the number of active customer accounts the computational complexity of determining all possible composite RIN values likely exceeds the computational capacity of the IOUs current billing systems.

Second, assuming the IOUs were to develop the logic and install the hardware needed to compute and store composite prices for upload to MIDAS, the IOUs would then be required to transmit the prices to MIDAS. SCE has been maintaining 169 RINS in MIDAS since August 1, 2023. This includes uploading daily pricing for SCE's RTP rates as well as event pricing for CPP rates. SCE has experienced erratic performance when uploading prices to MIDAS. The upload performance ranges from 12 seconds per RIN uploaded, to 1 minute 42 seconds per RIN uploaded. SCE has made several inquiries to CEC staff regarding the performance of the system and understands that the CEC is undergoing efforts to improve system performance and that it was recently stated (during the 9/15/23 meeting) that RINs can be uploaded in as little as 3 seconds. Even if that were the case, it would take 590 days to upload 17 million RINs, which is not even remotely practicable because rate factors are typically updated 3-6 times per year.

In summary, while the exact number of potential permutations of RINs is not yet known, preliminary analysis at the IOUs show that the number is likely in the several millions. There is little logic that can be leveraged from the IOUs' existing billing systems, because the values required to be uploaded to MIDAS differ from the values used for customer billing, and so new

logic would have to be written, and new calculations performed both which are likely as complex, or more complex, than the logic and calculations used to calculate customer bills. Even if the calculation could be performed, the current vectors for transmission of data to MIDAS are not suitable for upload of data at this magnitude. In this iteration, where all non-time-dependent modifiers are uploaded with time-dependent rates, the scope is not technologically feasible, nor is it cost effective.

VI.

THE LARGE IOUS' POSITION AS TO THEIR OBLIGATIONS TO UPLOAD TIME-DEPENDENT RATES TO MIDAS

The Large IOUs respectfully disagree with the conclusion of the September 1, 2023 document that the LMS regulations require upload of all permutations of time-dependent rates and all modifiers (whether time-dependent or non-time-dependent) for the following reasons.

First, Section 1623(b) by its terms requires the Large IOUs to "upload all time-dependent rates . . . to MIDAS prior to the effective date of the time-dependent rates each time a time-dependent rate is approved by the rate-approving body and each time a time-dependent rate changes." Section 1621(c) defines "Time-dependent rate" not as a permutation based on modifiers but as "a rate that can vary depending on the time of day to encourage off-peak electricity use and reductions in peak electricity use. Time-of-use, hourly, and sub-hourly rates are time-dependent rates." Section 1623(b) states that "[t]he time-dependent rates uploaded to the MIDAS database shall include all applicable time-dependent cost components," but nowhere references modifiers, let alone *non-time-dependent* modifiers. In addition, Section 1623(b) should be read in combination with Section 1623(a), which requires the Large IOUs to develop marginal cost-based rates and "submit such rates to [the] rate-approving body for approval." These provisions indicate that the term "time-dependent rates" in Section 1623(b) encompasses tariffed rates that are specifically approved by the CPUC, and not the millions of permutations that can result from applying those rates to different combinations of modifiers.

Second, the Large IOUs are not aware of any material in the background of the 21-OIR-03 and 23-LMS-01 proceedings supporting the proposition that the regulation was drafted with the intention of requiring the upload of all permutations of time-dependent rates and modifiers. To the contrary, as noted, in response to party comments in 21-OIR-03, CEC staff stated that "[o]nly existing, approved rates are required to be kept up to date in the rate database," and that "staff believe upload of existing RTP rates within 3 months after the effective date is feasible," indicating an understanding that the regulation required upload of CPUC-approved tariffed rates (such as TOU and RTP rates), not permutations based on modifiers. Similarly, as recently as May 19, 2023, CEC staff indicated that "issues regarding price modifiers and RIN determinations for rates with price modifiers" had yet to be "resolved," and stated that "[t]hrough the MIDAS Working Group meetings, CEC staff are actively working with stakeholders, including the Joint Parties, to develop consensus on which rates, rate modifiers, and rate determinants require separate uploads to support MIDAS user needs." This statement does not reflect an understanding that the regulation prescriptively requires the upload of all permutations of rates and modifiers.

Third, an interpretation of Section 1623(b) as requiring the upload of millions of permutations of time-dependent rates and modifiers would likely violate Public Resources Code 25403.5, which requires that the LMS "shall be cost-effective when compared with the costs for new electrical capacity, and the commission shall find them to be technologically feasible." As discussed, in the Final Staff Report issued in 21-OIR-03, CEC Staff concluded that Section 1623(b) would be cost-effective based on an estimate that the total cost of the LMS amendments across all affected utilities and the CEC would be $24 million over 15 years, compared to an estimated benefit over the same period of $267 million. However, there is no indication that in reaching its cost estimate, CEC Staff factored in the cost of uploading millions of permutations to MIDAS, or even contemplated that uploads on this scale would be required. Given that the Large IOUs' IT systems are not presently capable of automating such an extensive and time-consuming process (nor can MIDAS do so), the Large IOUs view the estimate of $24 million as

a small fraction of what the real cost would be. Because the authorizing statute provides that "[a]ny expense or any capital investment required of a utility by the standards . . . shall be treated by the Public Utilities Commission as allowable in a rate proceeding," the burden of paying for these costs would ultimately fall on Large IOU customers through rate proceedings.

As to technological feasibility, the Final Staff report concluded that requiring utilities "to aggregate and upload all time-dependent rate data using the MIDAS API" would be "feasible" because "[a]utomation of such data uploads is a standard task commonly done by utility information technology staff." However, as discussed above, uploading millions of permutations (or attempting to automate the process of performing such uploads) would not be a "standard" task but rather a massive new undertaking that is not technologically feasible. Here again, the Final Staff report does not even appear to contemplate the prospect of the utilities having to upload permutations on this scale.

Fourth, the September 1, 2023 document issued by CEC Staff does not provide a basis for interpreting Section 1623(b) to require upload of all permutations of time-dependent rates and all modifiers to MIDAS. While the document states that its conclusion is "[b]ased on LMS regulatory text," it does not explain how this conclusion is supported by or consistent with the language of Section 1623(b), which only references "time-dependent rates" that are "approved by the rate-approving body." Nor does the September 1, 2023 document even mention (let alone analyze) the issues of cost-effectiveness and technological feasibility. Instead, the document appears to base its conclusion that all permutations must be uploaded on the concern that "uploading rates without price modifiers could harm ratepayers who use data from MIDAS to control energy use" and in light of "important technical and equity needs." While these considerations are important, they cannot trump the plain language of Section 1623(b) or create a compliance obligation that is nowhere to be found in the regulation itself. Moreover, the Joint IOUs disagree that uploading time-dependent rates without non-time-dependent modifiers will "harm" ratepayers (whether from a technical or equity perspective). Unlike the interpretation advanced in the September 1, 2023 document, the Joint IOUs' plain-language interpretation of

the regulation will advance the goals of the LMS while adhering to the requirements of cost-effectiveness and technological feasibility. Indeed, it is the overbroad interpretation put forward in the September 1, 2023 document that would raise technical and equity issues by imposing a cumbersome and costly obligation on the Large IOUs that would have to be recovered from ratepayers.

VII.

THE LARGE IOUS' INTENDED NEXT STEPS

Based on the above, the Joint IOUs intend to (i) continue uploads of time-dependent rate factors and (ii) submit the required compliance plan by October 2, 2023. By doing so, as mentioned above, the Joint IOUs are in compliance with the LMS. In addition, the Joint IOUs are on target to make RINs available on customer's bills for these rates in 2024, as well as meet the other listed compliance requirements.

As stated during the September 15, 2023 conference call, in the spirit of mutual collaboration, the Joint IOUs further recommend additional discussions with the CEC to determine if there are additional rate components that provide a meaningful difference in prices that would influence customer decision-making that are technologically feasible and cost-effective to implement. The Joint IOUs propose an exploratory and development period of 3- to 6- months be taken to determine the appropriate additional modifiers to include in the MIDAS upload. It is our goal to establish principles and a process that would determine the list of applicable modifiers, and to determine if the basic architecture of MIDAS needs to be modified. Establishing this framework is essential to the development of the Statewide Tool as the total number of RINs has an impact on the data architecture and costs associated with the Tool. After the exploratory and development period, the resulting changes could be considered for a subsequent launch, with an appropriate funding mechanism provided.[38]

[38] PG&E notes that the timing for uploading to MIDAS any RINs additional to the time-dependent rate and rate modifier RINs (828 including Net Billing rates) will likely be different than for the other IOUs due to PG&E's billing system upgrade project currently expected to be completed by 2027.

VIII.

CONCLUSION

The Large IOUs appreciate the opportunity to provide this response and look forward to continuing to work collaboratively with the CEC to implement the LMS.

Respectfully submitted,

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