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(U 39 M)
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Date: August 6, 2025
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PACIFIC GAS AND ELECTRIC COMPANY

**PACIFIC GAS AND ELECTRIC COMPANY, RESPONSE TO
ADMINISTRATIVE LAW JUDGE'S RULING DIRECTING FILING OF
ADDITIONAL INFORMATION**

HEARING EXHIBIT PGE-06





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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of Pacific Gas and Electric Company
for Approval of Its Billing Modernization
Initiative

Application No. 24-10-014

(U 39 M)

**PACIFIC GAS AND ELECTRIC COMPANY'S (U 39 M)
RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING DIRECTING FILING OF
ADDITIONAL INFORMATION**

**PUBLIC VERSION
(CONFIDENTIAL INFORMATION FOUND
IN ATTACHMENTS 1 AND 2)**

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PACIFIC GAS AND ELECTRIC COMPANY

Dated: August 6, 2025

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I. INTRODUCTION

Pacific Gas and Electric Company (PG&E) submits these responses to the *Administrative Law Judge’s Ruling Directing Filing of Additional Information*, issued July 23, 2025 (Ruling). The Ruling directs PG&E to file and serve responses to the ALJ’s questions by August 6, 2025.

II. RESPONSES TO RULING QUESTIONS

1. Please provide information regarding the vendor selection process including the information below:

PG&E’s Billing Modernization Initiative (BMI) covers a number of different solutions including legacy systems and their replacement modern solutions. PG&E’s legacy billing systems include the Advanced Billing System (ABS) for both complex gas and complex electric tariffs. Customer Care and Billing (CC&B) is PG&E’s legacy mass market billing and customer information system. PG&E is upgrading ABS Electric to Billing Cloud Services (BCS) as part of Stage One of the BMI. In Stage Two of the Initiative, PG&E is

upgrading CC&B from version 2.4 to version 25.1 (now called version 25.4)¹. Finally, in Stage Three PG&E will migrate BCS and CC&B into the target state solution Customer-to-Meter (C2M).

PG&E executed two RFPs as part of the BMI projects. The first RFP sought to select a product to replace the ABS in 2020. The second RFP sought to select a vendor to support the implementation of the C2M system (known as a system integrator) in 2022. Below, PG&E provides answers to subparts h through i the for the Advanced Billing System Replacement RFP, followed by answers to subparts h through i for the C2M System Integrator RFP.

Advanced Billing System Replacement RFP

a. Please provide a copy of the original request for proposal (RFP) issued to prospective vendors, including the original RFP notice and subsequent RFPs.

PG&E no longer has the RFP emails sent to the vendors, due to PG&E's three-year email retention policy. Please see Confidential Attachments 1a and 1b for vendor presentation materials, questionnaire responses, and cost estimates submitted in response to the RFP.

b. Please provide a copy of all vendor quotes, proposals, and procurement documents submitted.

Please refer to the vendor presentation materials, questionnaire responses, and cost estimates for Oracle BCS and Salesforce Gotransverse attached (Confidential Attachments 1a and 1b, respectively). The vendors provided pricing for their products

¹ Oracle had previously informed PG&E that 25.1 would be the version number, but Oracle has since changed its numbering/naming convention for future releases to [Year].[Month] (thus, 25.4 for April 2025). Since this is only a change to the version name, and does not change the other information provided about the version in PG&E's direct testimony, PG&E does not plan to change its filed testimony to address this name change.

and conducted a proof-of-concept on billing calculation scenarios that PG&E provided. Each vendor performed a live presentation of the proof-of-concept results, in addition to the documents provided.

c. Please describe the original RFP issued to vendors.

PG&E sought to replace the extensively customized ABS system with a product that could handle the complex rate requirements at PG&E. As such, PG&E sought out vendors to perform proof-of-concepts on certain billing scenarios, namely net energy metering (NEM) aggregation and NEM paired storage, two of the more complex billing scenarios. The proof-of-concept responses, in addition to pricing and support model, as well as vendor proposals, would be used to score the products.

d. Please describe in detail the process used to select prospective vendors for the BMI (e.g. competitive bidding, other criteria).

PG&E used a competitive bidding process to select the product to replace the ABS system. The scoring card and results are attached as Confidential Attachment 1c. Vendors provided proposals, billing proof-of-concepts, and pricing structures. PG&E scored the vendor information across the criteria included in Confidential Attachment 1c.

e. How did PG&E conduct due diligence (e.g., cost-benefit analyses) on these proposals?

PG&E took several steps to conduct due diligence as part of the RFP process. PG&E identified 14 criteria for the vendor products that are necessary for successful use and support in the PG&E environment. PG&E asked the vendors to perform proof-of-concepts to demonstrate that the vendor products could perform the rate

calculation and bill output required for the complex rates in the system. The team that scored the proposals was experienced in the development of complex rates and operation of complex technology systems. The team had the experience to evaluate the proposals for their fit within PG&E and ask questions to vendors based on scenarios specific to PG&E. Further, PG&E's Sourcing team compared the vendor quotes against other product cost structures to determine if the quotes provided were in line with existing contracts at PG&E.

- f. Please describe the system (e.g. scoring matrix) and criteria PG&E used in the scoring matrix to evaluate and compare vendors. For each criterion, explain the rationale for its inclusion and its assigned weight in scoring. Additionally, identify and describe any alternative scoring that was considered, and explain why the final configuration was selected.**

The scoring results are attached as Confidential Attachment 1c. The RFP scoring was done across 14 criteria: business capabilities, cost of product, level of customization required, customization developer, ability to integrate with PG&E systems, automation capabilities, product maturity, scalability and performance, ease of use, security, support model, reporting capabilities, product update schedule, regression testing abilities, and Sarbanes-Oxley auditing and recovery capabilities. These criteria represent the dimensions of the product that PG&E requires to develop, support, and use the system for delivering complex billing solutions.

- g. Did PG&E compare different cloud-based billing systems according to impacts on operating expenses, staffing, automation, upgrade efficiency, regulatory compliance, and return on capital? If so, how?**

The two highest-weighted criteria were the business capabilities and cost of product, followed by the customization criteria. The legacy system, ABS, was fully developed and customized in-house at PG&E. PG&E required a new system with the

flexibility to meet the complex billing requirements using base product functionality (i.e., without the need for specialized resources to customize the system for PG&E), enabling a more cost-effective long-term support model. The Oracle and Salesforce products were popular enough in the utility industry that PG&E could hire additional resources who were already familiar with the system. By contrast, only a small number of existing PG&E resources were familiar with the custom-built legacy system.

The two final product candidates for PG&E's ABS replacement were both cloud-based solutions. The BCS product is a licensed product from Oracle, while Gotransverse was a solution that worked within the Salesforce architecture. As shown in the scoring matrix (Confidential Attachment 1c), PG&E considered many operational factors of the two products as part of the RFP scoring.

h. How did PG&E make use of third-party consultant analysis (i.e., Accenture, Utiligent), and how did these analyses inform internal discussions and decision-making with regard to the RFP process and scope?

PG&E did not leverage any specific third-party analysis as part of this RFP. However, prior analysis from Accenture performed for PG&E did provide insights into potential products (at the time of analysis) that could meet unique complexity of California's rate environment. Note that the Accenture analysis had a broader scope than this RFP. Accenture focused on enterprise customer information systems, while the RFP was limited to a separate, complex billing system (one component of a customer information system).

i. Regarding the vendor communication process:

- i. Please describe the process PG&E took with the prospective vendors in responding to the RFP regarding project needs, goals, functionality, scope, and timeline.**

Please see below for PG&E's response to subparts i and ii.

- ii. Please provide a high-level timeline of PG&E's communications with each prospective vendor. Where there were multiple meetings with a vendor please only include short summaries (no more than a paragraph) of each meeting.**

PG&E provided details to prospective vendors describing the complex rates that the system would need to support, PG&E's billing tariffs, and details around proof-of-concepts to be performed. PG&E requested the vendors provide feedback on how the products could meet the demands of PG&E in a complex and fast-changing rate environment.

The initial RFP requests were sent in Q3 2020. In September 2020, PG&E worked with the vendors to provide generic, example account information for the proof-of-concept activities for NEM Aggregation and NEM Paired Storage rates. In late September, the two vendors presented their results of the proof-of-concepts as well as product pricing.

C2M System Integrator RFP

- a. Please provide a copy of the original request for proposal (RFP) issued to prospective vendors, including the original RFP notice and subsequent RFPs.**

Please refer to Confidential Attachments 2a and 2b. Confidential Attachment 2a contains the original RFP that PG&E sent to the vendors. Confidential Attachment 2b contains the revised RFP and "Best and Final Offer" (BAFO) request. For further explanation of the RFP process, please see PG&E's response to part c, below.

b. Please provide a copy of all vendor quotes, proposals, and procurement documents submitted.

Please refer to Confidential Attachments 2c through 2f. Confidential Attachment 2c contains the initial response from Accenture and Oracle, while Confidential Attachment 2d contains the responses based on the revised RFP and BAFO requests. Confidential Attachment 2e contains the initial response from Infosys and Ernst & Young, while Confidential Attachment 2f contains the responses based on the revised RFP and BAFO requests. For further explanation, please see PG&E's response to part c, below.

c. Please describe the original RFP issued to vendors.

The initial RFP was released to six vendors, but only four chose to participate. Accenture and Oracle partnered as a single response, and Infosys and Ernst & Young partnered as a single response. Their proposals for the initial RFP are provided as Confidential Attachments 2c and 2e. Upon review, PG&E determined that the initial proposals were too different to make a useful comparison.

PG&E engaged West Monroe Partners (West Monroe) for an RFP improvement process. West Monroe provided templates and contract structure to enable the proposals to be compared "apples to apples", comparing alignment to PG&E's scope, vendor rates, onshore/offshore resource mix, and other dimensions. With West Monroe's support, PG&E launched a revised request. Based on these proposals, PG&E provided feedback and requested the "best and final offer" proposal from the vendor teams. These proposals are attached as Confidential Attachments 2d and 2f.

d. Please describe in detail the process used to select prospective vendors for the BMI (e.g. competitive bidding, other criteria).

Please refer to Confidential Attachments 2g and 2h. PG&E performed a competitive bid process. Confidential Attachment 2g shows the scoring criteria that were used to evaluate the vendors from the initial response. PG&E scored the proposals before engaging West Monroe. Confidential Attachment 2h shows the West Monroe analysis of the proposals after the revised RFP and BAFO requests. The West Monroe analysis was presented to the RFP team and project leadership to make the decision to move forward.

Note that PG&E leveraged West Monroe's experience to develop a contract structure that governed the entire project but had incremental statements of work. Accordingly, the vendors bid on all phases of the project, but the initial contract locked in the pricing and activities for the Plan, Analyze, and Design phases. At the end of this contractual statement of work, the vendor would re-estimate the rest of the project, providing justification on any cost differences from the initial full-project estimate. This process was designed to enable PG&E and vendors to base estimates on known scopes of work. The re-estimation after the completion of Plan, Analyze, and Design phases would be based on most knowledge of the customization reductions, base application functionality, and the better definition of functionality that needed to be built.

e. How did PG&E conduct due diligence (e.g., cost-benefit analyses) on these proposals?

While PG&E did not conduct a specific cost-benefit analysis on the RFP proposals, PG&E performed extensive due diligence after the first round of vendor

responses. PG&E engaged West Monroe to help improve the RFP responses. The West Monroe process leveraged templates to request information from the vendors on scope, cost, resource mix, deliverables, contract terms, and other considerations of the project (included in Confidential Attachment 2b). The template process required the vendors to adapt their proposals to fit within the data framework of the template, enabling PG&E to directly compare the two proposals. West Monroe performed analysis of the proposals across various dimensions, including project team mix, project duration, compliance with vendor services requested, and compliance with commercial terms. After reviewing the improved proposals, PG&E and West Monroe launched a BAFO round, requesting the vendors to improve their proposals based on feedback where the vendor and PG&E did not align. The analysis from the proposal improvement and BAFO rounds are attached as Confidential Attachment 2h.

- f. Please describe the system (e.g. scoring matrix) and criteria PG&E used in the scoring matrix to evaluate and compare vendors. For each criterion, explain the rationale for its inclusion and its assigned weight in scoring. Additionally, identify and describe any alternative scoring that was considered, and explain why the final configuration was selected.**

Please refer to Confidential Attachment 2g, which contains the scoring matrix. PG&E evaluated the proposals across the following criteria: prior vendor experience, understanding of project scope and goals, resource quality, project management, change management, project approach, project solution, deployment readiness and support, and pricing. The “CC&B RFP Final Scoring” tab includes a column of leading questions that were used by the scoring team to evaluate across these criteria. PG&E’s Sourcing team evaluated pricing.

With the C2M project, PG&E's goal is to remove decades of customizations and move the functionality back to leveraging as much of the base product as possible. Customizations have been necessary to meet business requirements but are expensive to maintain and make upgrades more challenging. Many of PG&E's customizations are now part of Oracle's base product. As such, the RFP valued the project solution from the proposals highest, as well as the approach to delivering the project as the next highest weighting. Since the C2M product would be new and would be combining existing systems into a single unified platform (PG&E's billing systems and Meter Data Management system would become the C2M platform), PG&E determined that change management, deployment readiness and support, and resource quality as the next highest priority for scoring. Finally, PG&E determined prior vendor experience, project management, and project understanding were the lowest weights in scoring. While PG&E felt that these aspects of the proposal were important, they were less important than the solution the vendor would build and test for PG&E and how the vendor would ensure PG&E was ready to takeover and support the solution.

Before selecting C2M as the target system, PG&E did evaluate Oracle's cloud offering – Customer Cloud Service (CCS). CCS and C2M have the same underlying functionality, but CCS is the cloud product that is operated by Oracle. PG&E identified risks in the technical operation of CCS compared to C2M given that the system is cloud-based and operated by Oracle. For example, PG&E's standard for recovery for the CIS system is 4 hours, but the target for CCS is 12 hours. PG&E has three monthly releases of code enhancements for CC&B. PG&E occasionally “stands

down” production deployments during weather events to ensure systems are available to support customers, but the CCS system required more lead time than PG&E could provide in this scenario. PG&E was also concerned about the performance of the CCS product given PG&E’s customer base and complexity of processes, namely in the billing and customer functional areas. PG&E decided to wait until the CCS product was more mature and had more history of performing at a size and complexity similar to PG&E.

g. Did PG&E compare different cloud-based billing systems according to impacts on operating expenses, staffing, automation, upgrade efficiency, regulatory compliance, and return on capital? If so, how?

Before selecting C2M as the target system, PG&E did evaluate Oracle’s cloud offering – Customer Cloud Service (CCS). CCS and C2M have the same underlying functionality, but CCS is the cloud product that is operated by Oracle. PG&E identified risks in the technical operation of CCS compared to C2M given that the system is cloud-based and operated by Oracle. PG&E’s standard for recovery for the CIS system is 4 hours, but the target for CCS is 12 hours, for example. PG&E has three monthly releases of code enhancements for CC&B. PG&E occasionally “stands down” production deployments during weather events to ensure systems are available to support customers, but the CCS system required more lead time than PG&E could provide in this scenario. PG&E was also concerned about the performance of the CCS product given PG&E’s customer base and complexity of processes, namely in the billing and customer functional areas. PG&E decided to wait until the CCS product was more mature and had more history of performing at a size and complexity similar to PG&E.

h. How did PG&E make use of third-party consultant analysis (i.e., Accenture, Utiligent), and how did these analyses inform internal discussions and decision-making with regard to the RFP process and scope?

Please refer to the response to questions 2c and 2d above for a description of this process. West Monroe's analysis is included as Confidential Attachment 2h.

i. Regarding the vendor communication process:

i. Please describe the process PG&E took with the prospective vendors in responding to the RFP regarding project needs, goals, functionality, scope, and timeline.

Please see below for PG&E's response to subparts i and ii.

ii. Please provide a high-level timeline of PG&E's communications with each prospective vendor. Where there were multiple meetings with a vendor please only include short summaries (no more than a paragraph) of each meeting.

The BMI project team worked with PG&E's Sourcing organization to first gauge vendor interest in participating in the RFP. PG&E prepared the initial RFP documents (Confidential Attachment 2a) and sent them to vendors through a system for vendor communication. The RFP documents contained the project goals and desired scope, and the system was used for PG&E and vendor communication (timeline, questions, proposals, etc.) during the RFP process.

The initial RFP was released in February 2022. Vendors provided proposals and presentations over the next several months and initial scores were collected. In May 2022, PG&E began working with West Monroe Partners to execute the RFP improvement. Around July 2022, PG&E notified the vendors that the RFP would resume. Over the next two months, PG&E

provided updated requests and the vendors provided updated proposals. In September 2022, PG&E sent the BAFO request and evaluated the responses the following month. There were no additional meetings with vendors, but there were some questions and answers exchanged between the parties. After Infosys was selected, PG&E worked with Infosys on contract execution through the end of the year.

2. Why did PG&E decide to upgrade Customer Care & Billing (CC&B) to 25.1 as opposed to an earlier version of CC&B? Why did PG&E not upgrade CC&B to the next available version after 2017? Please provide evidence of the financial or political challenges that PG&E used in its assumptions when determining PG&E's ability to make past CC&B upgrades.

PG&E decided to upgrade to CC&B 25.1 to secure the longest period of vendor support from Oracle. CC&B releases typically include five years of Standard support from the release date. By upgrading to CC&B version 25.1 (released in April 2025), PG&E receives Standard support until 2030. If PG&E upgraded to CC&B version 2.9 (released in April 2022), PG&E would only receive Standard support until 2027. PG&E believes that the significant decrease in vendor support associated with upgrading to CC&B version 2.9 is insufficient to address its billing system needs. As technology evolves outside of CC&B (e.g., new operating systems, server technology), the three additional years of support will help CC&B remain compatible with new technology and security requirements for a longer period of time.

In addition, PG&E did not upgrade CC&B to the next available version after 2017 due to the following key events that impacted IT investment from 2017-2021:

- Bankruptcy. From 2018 to 2019, IT capital spend declined almost 25% (over \$70 million). This was primarily due to cash conservation during bankruptcy, requiring IT to defer not critical/non-safety related capital investments.

- Wildfire mitigation. At the same time as cash conservation, PG&E increased spend on wildfire mitigations. While IT capital overall reduced by 25%, IT capital for wildfire mitigations and PSPS support increased by 200% (from \$6 million to \$18 million). In late 2018, we had the pge.com failure, which shifted priorities to that system.
- Emergence from Bankruptcy & COVID-19. Coming out of bankruptcy, investments deferred in 2019 put pressure on 2020. PG&E also had to accelerate migration out of PG&E's San Francisco General Office data center due to sale of the building. The COVID-19 pandemic required a significant increase in laptop purchases (more than double year-over-year spend in client devices).

During that 2017-2021 timeframe, there were a number of other critical investments in addition to those mentioned above:

- Grid Modernization Investments, including Advanced Distribution Management System (ADMS), Distribution Control Center Consolidation, and supporting network infrastructure (Integrated Grid Platform Field Area Network (IGP FAN) and Supervisory Control and Data Acquisition (SCADA) Reliability).
- SmartMeter investments to lifecycle the 2G/3G-based network assets as AT&T and Verizon prepared to shut down the corresponding cellular networks, and the process of bringing all of the previously externally hosted infrastructure/application systems in-house to address cybersecurity concerns that PG&E data was being co-mingled with non-PG&E customer data.
- Customer technology investments with dependencies and/or resource requirements from Customer Care IT. PG&E had developed an initiative to

improve the Contact Centers' tools by implementing Salesforce to present customer data to call center agents in an improved manner. As PG&E introduced public safety power shutoffs, the need for increased customer responsiveness drove increased importance on the contact center systems. Additionally, enhancements were needed to support PG&E's website after capacity challenges were realized during a public safety power shutoff event. Revenue reporting (including city/county tax calculations) required modernization. Consent and preference management became a requirement with the introduction of the California Consumer Privacy Act and California Privacy Rights Act.

- PG&E began the replacement of ABS at the end of 2020.

3. Please describe the internal cost management strategies PG&E is using to prevent project overruns and to cap costs.

There are a number of processes and structures in place to manage costs and prevent overruns. These include the team's operating model and PG&E's governance. PG&E has implemented management and operations process changes across all functional areas. PG&E's operating model focuses on visual management, operating reviews, problem solving, standard work and waste elimination.

Visual management drives discussions on a daily, weekly and monthly basis. Visuals focus on safety, quality, cost, delivery and morale . Quality, cost and delivery are project specific, focusing on the work being completed while safety and morale are focused on the people doing the work. During daily operating reviews (short, daily meetings), the prior day's commitments are confirmed, and new deliverables are established. Weekly operating reviews focus on ensuring projects are on track for monthly deliverables. Finally, monthly operating reviews are focused on projects in their entirety, long-term goals, and ensuring financials and

project delivery are on track. These regular meetings provide frequent opportunities to discuss any issues that may affect any part of the project. The sooner an issue is raised, the more quickly the project team can assess how to resolve it and keep things on track. For more significant issues, PG&E uses a formalized problem-solving process to identify root causes and solutions. By preventing delays and maintaining schedule rigor PG&E can prevent many cost overruns.

Financial reviews take place monthly as soon as the previous month's financial data is available. These reviews compare all forecasted line items to the actual line items. PG&E can accelerate or decelerate resource deployments based on financial or schedule needs.

In addition to the operating reviews, the BMI team meets bi-weekly with PG&E's Executive Vice President and Chief Information Officer and Chief Customer and Enterprise Solutions Officer. These bi-weekly sessions review progress-to-date and project-stage financials and allow the team to quickly raise opportunities and leverage broader expertise and resources to keep the project on track.

PG&E also has enterprise project governance for projects that are forecasted to cost more than \$20 million. The Gate Review Board provides governance and oversight and approval is required before beginning a project under their jurisdiction. The GRB approval requires project schedules, risk analysis and cost forecasts, Cost overruns require re-approval by this board.

PG&E has also begun implementing contract terms to ensure vendors are committed to delivering on time and on budget. Known as "holdbacks", these provisions reduce the payment to the vendor by a set percentage, with the amount held back only paid once the project reaches a certain milestone. In the case of the system integrator contract for C2M, the

contract had three levels of holdbacks: a percentage held until the end of the project phase, a percentage held until the project deployment, and a percentage held until the project met stabilization criteria. Thus, a significant percentage of the contractual costs would be tied to successfully deploying and stabilizing the system – providing an incentive for vendors to stay on schedule.

Lastly, PG&E has implemented weekly meetings with vendor leadership. In the case of the BCS stage of the initiative, PG&E meets with Oracle leadership weekly on Thursdays to review vendor deliverables and financials.

4. Please describe the projected ratepayer impacts of the BMI. Please include analysis considering bill impacts of the BMI on different customer classes (e.g. California Alternate Rate for Energy (CARE) or unbundled customers).

PG&E’s bill insert that accompanied the original filing applied the requested revenue requirements on top of rates in place at the time of the application in 2024. To remain consistent with PG&E’s bill insert, PG&E used the same set of present rates to fulfill the ALJ’s request.

For gas customers, the projected ratepayer impact of the billing modernization is minimal. Please refer to Attachment 3a, “Gas Rate and Bill Impacts” for ratepayer impacts. Generally, customers will experience less than a 1% increase over the four-year period.

Similarly, for electric customers, the projected ratepayer impact of the billing modernization is minimal. Please refer to Attachment 3b, “Electric Rate and Bill Impacts” for ratepayer impacts. No customer class will experience an increase greater than 1% over the four-year period.

5. What analysis does PG&E propose to conduct after the CC&B 25.1 upgrade to reevaluate the prudence of switching to Customer to Meter (C2M)? What decision-making framework might PG&E use to decide if upgrading to C2M is still appropriate?

Currently, C2M remains the optimal solution for a unified customer information system, billing and meter data management platform. Numerous studies included in workpapers to Chapter 4 of PG&E's initial testimony show how PG&E reached this decision. In addition, the prudence check after the deployment of CC&B 25.1 will determine if any other solutions in the market have evolved to better meet PG&E's requirements. Customer information systems are large, enterprise-level applications which do not change quickly, but with an initiative spanning eight years, the reassessment is reasonable and prudent.

PG&E intends to re-engage with a consultant to evaluate and analyze alternatives to C2M. When deciding whether upgrading to C2M is still appropriate, PG&E will use a decision-making framework focused on the: (i) capabilities² of the alternative solutions (compared to C2M), (ii) cost of the alternative solutions (compared to C2M), and (iii) costs of changing course from C2M to the new solution.

The primary focus of the analysis will be evaluating any new solutions or significant improvements to existing solutions in the marketplace. Please refer to Workpaper 4-3 for a good representation of what PG&E would look for in a reassessment. One example of a rapidly-developing technology that may impact this analysis is Artificial Intelligence (AI). AI programs like Open AI's ChatGPT, Microsoft's Copilot and X's Grok did not exist when PG&E created the roadmap presented in the BMI. Automation through AI has the potential to

² Key capabilities include the ability to implement complex rate programs, a modular rate engine, integrated meter data management, data privacy, third party energy provider functionality, and system performance. For more information, please refer to PG&E Initial Testimony (dated Oct. 23, 2024), Chapter 4, Section B.1, Identifying Desired Business Outcomes, End State Requirements.

introduce enough operational benefits to change the solution for the final stage of the BMI. However, it remains unlikely that PG&E will change course from C2M, as each of the major providers, including Oracle, will progress in the introduction of new capabilities at roughly the same pace.

Another major consideration will be the cost of changing course if PG&E selects a different solution. Retraining all of PG&E's internal CC&B users and then ramping up their skills until they are proficient in the new solution would likely add significant labor costs to a different solution. The analysis will also estimate the cost of rebuilding integrations—which are necessary for any customer information system to communicate with other applications and systems. Other utilities have identified these integrations as a difficult part of their own customer information system implementations, so the cost of rebuilding integrations for a new solution would likely weigh against alternative solutions.

Lastly, the analysis will reconsider whether PG&E should implement an on-premise solution (as currently planned) or choose a cloud-based solution instead. Although one of PG&E's goals for the BMI is to reduce customizations and use the base product to its fullest, currently available cloud-based solutions would prohibit such customizations entirely. This would leave PG&E unable to customize anything if required to meet business or regulatory needs. In the coming years, cloud-based offerings will likely evolve since PG&E's most recent assessment and may warrant another review. To that end, PG&E will need to reassess software as a service (SaaS) and Platform as a Service (PaaS) offerings.

6. How has PG&E incorporated best practices and lessons learned from its own past billing system or information technology (IT) upgrades to avoid errors and inefficiencies?

PG&E has drawn on lessons learned from major IT deployments including the recently deployed pge.com website redesign and ADMS implementations. Because PG&E did not have

recent experience with large-scale billing systems projects, PG&E engaged with consultants with recent firsthand experience deploying these types of billing modernization projects at other major utilities prior to and during the development of this initiative. Further, the early stages of the BCS implementation have provided firsthand billing systems project experience and valuable lessons which PG&E has incorporated into its BMI plans and process, as described below.

As outlined in Chapter 5, page 5-13 of PG&E's initial testimony PG&E made numerous changes to its BCS implementation plan. Foundationally PG&E will rely on the utility standard requirements traceability matrix (RTM) instead of a vendor-specific MoSCoW list (an acronym, for "Must have Should have Could have Won't Have" in the context of requirements development) for the foundational requirements as one example. The RTM allows for traceability from requirements through designs, development, and test cases to ensure full solution coverage. PG&E also assigned dedicated employees to the BCS initiative, removing any other project responsibilities to make BCS their sole focus. Requirements, data, and testing are areas that became the focus of improvement from lessons learned. PG&E also changed the project management oversight. Instead of using the system integrators as project managers, PG&E leveraged Ulligent, a company with numerous utility CIS implementations, to manage the day-to-day project delivery schedule. This allowed Oracle to focus on development and design activities.

In addition to the lessons learned from the early stages of the BCS implementation, the billing team has also drawn on lessons learned from other major IT deployments including the recently deployed pge.com website redesign and ADMS implementations.

One of the lessons learned from PG&E's recent experience, particularly the early stages

of the BCS implementation, that has been most beneficial for the BMI is that billing systems projects require more tailored and thorough testing prior to implementation than anticipated. Certain standard testing approaches—for example the use of simulated data (also called “contrived data”) rather than real-world data in early steps of the process and performing functional testing using representative samples—are insufficient due to the level of complexity intrinsic in these rate systems. Because PG&E has so many customer types that have unique features, test cases should be mapped to the RTM instead of developed based on solution design, which leads to inadequate test coverage of the complex system. This opportunity to improve testing was also widely cited by system integrators who worked with other utilities on their customer information system projects (detailed in the response to question 7). The plans proposed in this BMI include the more tailored and thorough testing that the early stages of the BCS project revealed are necessary for a large-scale billing systems upgrade like this. To assist, PG&E leveraged its internal Testing Center of Excellence (a team that provides enterprise-wide testing services like quality assurance, process and procedure enhancement, and planning and strategizing) to bring their experience plus standard industry methodology to the BMI projects.

PG&E plans to increase staffing at the time of deployment to address any issues that arise as well as minimize any service disruptions resulting from employees being unfamiliar with the updated or new software (as described in more detail in Chapter 5 of PG&E’s initial testimony). Training and testing are also key considerations prior to deployment but surge staffing will help to avoid customer and business impacts. Surge staffing can also be released early if not needed (but it is difficult to train quickly if it is not already in place when issues arise).

7. Has PG&E incorporated any learnings from billing system upgrades of other utilities? If so, how so?

In addition to engaging with ConEd, Portland General Electric (PGE), and Southern California Edison (SCE) regarding their implementation experiences, PG&E worked closely with experienced system integrators to understand their history and lessons learned implementing major Customer Information Systems. ConEd and PGE were particularly relevant as they both upgraded with Oracle while SCE implemented SAP. PG&E worked closely with Accenture to examine key factors including integration complexity, contextual requirements (complex rates and programs) and vendor complications. Case studies included SCE, Central Hudson, Exelon, ConEd, and the Los Angeles Division of Power and Water. These utilities encountered hurdles including unexpected complexity, integrations with other systems, vendor turnover, inadequate training, inadequate testing, and deploying with unresolved system defects.

PG&E incorporated these learnings in the development of the three-stage plan for the BMI. Delays with the BCS stage of the implementation necessitated a complete review of the overall initiative which provided PG&E with the opportunity to incorporate learnings from other utilities into their plan.

8. Did PG&E investigate using other tools such as artificial intelligence (AI) enabled mainframe refactoring tools and services that could support the BMI efforts? Are these services feasible for upgrading legacy software systems like PG&E's?

While not an “AI-enabled” tool, one of the tools PG&E is using provides many of the same benefits by leveraging automations to allow for the efficiencies of computer code conversion with minimal manual involvement. PG&E has engaged Oracle to perform a conversion of the customizations that Oracle built for PG&E, as part of the CC&B 25.1 stage of the BMI. This process uses an Oracle-developed tool to convert code that is built within the

CC&B framework. While this tool does need some manual intervention, it is largely successful because the customizations built within the Oracle framework follow standard naming conventions, logic, process flows, etc., enabling conversions based on known standards.

PG&E has done some investigation into using AI tools, mainly to convert COBOL programs to JAVA. In addition to the COBOL customizations that are in CC&B, PG&E has a number of interface programs that are also programmed in COBOL. PG&E was looking for a tool to convert these programs into a JAVA format that could be supported by existing JAVA developers. PG&E engaged vendors to perform proof-of-concept conversions of existing PG&E COBOL programs. Through the investigation, PG&E found that currently-available AI conversion tools have had mixed results, and determined that none of them were worthy of pursuing at this time. One of the main challenges was due to the COBOL programs not being built using a standard application framework. The AI conversion tools are “trained” using COBOL programs and processes. Without a standard set, the tools are not able to handle the variety of scenarios that exist in the PG&E COBOL program set, resulting in a lower success rate of conversion and requiring a heavy manual update to the programming.

Given the complexity of enterprise software systems like PG&E’s CC&B, PG&E has seen no evidence that there are AI services feasible to upgrade or implement the new systems. PG&E is aware of AI tools used to create documents based on code input, or the programming language conversion above, but these would be smaller supporting activities to the broader enterprise projects.

III. CONCLUSION

PG&E appreciates the opportunity to submit this additional information.

Respectfully Submitted,

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Dated: August 6, 2025

ATTACHMENT 1

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ATTACHMENT 3

PACIFIC GAS AND ELECTRIC COMPANY
ATTACHMENT 3A

PACIFIC GAS AND ELECTRIC COMPANY
Gas Class Average Bundled and Transportation/PPPS Rates (\$/th)

*All Percent and Dollar Changes compared to September 1, 2024 rates

Line No.	Customer Class	Present				Proposed				Proposed							
		September 1, 2024	January 1, 2026	\$ Change	% Change	January 1, 2027	\$ Change	% Change	January 1, 2028	\$ Change	% Change	January 1, 2029	\$ Change	% Change	January 1, 2030	\$ Change	% Change
1	BUNDLED—RETAIL CORE*																
2	Residential Non-CARE	\$2.657	\$2.668	\$0.011	0.4%	\$2.667	\$0.010	0.4%	\$2.667	\$0.009	0.4%	\$2.665	\$0.008	0.3%	\$2.678	\$0.021	0.8%
3	Residential CARE	\$2.095	\$2.103	\$0.009	0.4%	\$2.103	\$0.008	0.4%	\$2.102	\$0.008	0.4%	\$2.101	\$0.006	0.3%	\$2.112	\$0.017	0.8%
4	Small Commercial Non-CARE	\$1.908	\$1.914	\$0.006	0.3%	\$1.914	\$0.006	0.3%	\$1.913	\$0.005	0.3%	\$1.912	\$0.005	0.2%	\$1.920	\$0.012	0.6%
5	Large Commercial	\$1.355	\$1.358	\$0.003	0.2%	\$1.358	\$0.003	0.2%	\$1.358	\$0.003	0.2%	\$1.358	\$0.002	0.2%	\$1.362	\$0.006	0.5%
6	Uncompressed Core NGV	\$1.367	\$1.370	\$0.003	0.2%	\$1.370	\$0.003	0.2%	\$1.370	\$0.003	0.2%	\$1.369	\$0.003	0.2%	\$1.373	\$0.007	0.5%
7	Compressed Core NGV	\$2.848	\$2.861	\$0.013	0.5%	\$2.860	\$0.012	0.4%	\$2.860	\$0.011	0.4%	\$2.858	\$0.010	0.3%	\$2.874	\$0.026	0.9%
8	TRANSPORT ONLY—RETAIL CORE																
9	Residential Non-CARE	\$2.209	\$2.219	\$0.011	0.5%	\$2.219	\$0.010	0.5%	\$2.218	\$0.009	0.4%	\$2.217	\$0.008	0.4%	\$2.230	\$0.021	1.0%
10	Residential CARE	\$1.736	\$1.744	\$0.009	0.5%	\$1.744	\$0.008	0.5%	\$1.743	\$0.008	0.4%	\$1.742	\$0.006	0.4%	\$1.753	\$0.017	1.0%
11	Small Commercial Non-CARE	\$1.496	\$1.502	\$0.006	0.4%	\$1.502	\$0.006	0.4%	\$1.502	\$0.005	0.4%	\$1.501	\$0.005	0.3%	\$1.509	\$0.012	0.8%
12	Large Commercial	\$0.980	\$0.983	\$0.003	0.3%	\$0.983	\$0.003	0.3%	\$0.982	\$0.003	0.3%	\$0.982	\$0.002	0.2%	\$0.986	\$0.006	0.6%
13	Uncompressed Core NGV	\$0.995	\$0.999	\$0.003	0.3%	\$0.999	\$0.003	0.3%	\$0.998	\$0.003	0.3%	\$0.998	\$0.003	0.3%	\$1.002	\$0.007	0.7%
14	Compressed Core NGV	\$2.477	\$2.490	\$0.013	0.5%	\$2.489	\$0.012	0.5%	\$2.488	\$0.011	0.5%	\$2.487	\$0.010	0.4%	\$2.503	\$0.026	1.0%
15	TRANSPORT ONLY—RETAIL NONCORE (NONCOVERED ENTITIES)																
16	Industrial – Distribution	\$0.897	\$0.901	\$0.004	0.4%	\$0.901	\$0.004	0.4%	\$0.901	\$0.003	0.4%	\$0.900	\$0.003	0.3%	\$0.905	\$0.008	0.9%
17	Industrial – Transmission	\$0.528	\$0.530	\$0.002	0.3%	\$0.529	\$0.002	0.3%	\$0.529	\$0.002	0.3%	\$0.529	\$0.001	0.3%	\$0.531	\$0.004	0.7%
18	Industrial – Backbone	\$0.279	\$0.279	\$0.000	0.1%	\$0.279	\$0.000	0.1%	\$0.279	\$0.000	0.1%	\$0.279	\$0.000	0.1%	\$0.280	\$0.001	0.2%
19	Uncompressed Noncore NGV – Distribution	\$0.852	\$0.855	\$0.004	0.5%	\$0.855	\$0.004	0.4%	\$0.855	\$0.003	0.4%	\$0.854	\$0.003	0.3%	\$0.859	\$0.008	0.9%
20	Uncompressed Noncore NGV – Transmission	\$0.503	\$0.505	\$0.002	0.3%	\$0.505	\$0.002	0.3%	\$0.505	\$0.001	0.3%	\$0.504	\$0.001	0.3%	\$0.506	\$0.003	0.7%
21	Electric Generation – Distribution/Transmission	\$0.468	\$0.470	\$0.002	0.4%	\$0.470	\$0.002	0.3%	\$0.469	\$0.002	0.3%	\$0.469	\$0.001	0.3%	\$0.471	\$0.003	0.7%
22	Electric Generation – Backbone	\$0.230	\$0.230	\$0.000	0.2%	\$0.230	\$0.000	0.1%	\$0.230	\$0.000	0.1%	\$0.230	\$0.000	0.1%	\$0.231	\$0.001	0.3%
23	TRANSPORT ONLY—WHOLESALE																
24	Alpine Natural Gas (T)	\$0.273	\$0.275	\$0.002	0.6%	\$0.275	\$0.002	0.6%	\$0.275	\$0.001	0.5%	\$0.275	\$0.001	0.5%	\$0.277	\$0.003	1.2%
25	Coalinga (T)	\$0.274	\$0.276	\$0.002	0.6%	\$0.276	\$0.002	0.6%	\$0.276	\$0.001	0.5%	\$0.275	\$0.001	0.5%	\$0.277	\$0.003	1.2%
26	Island Energy (T)	\$0.288	\$0.289	\$0.002	0.6%	\$0.289	\$0.002	0.6%	\$0.289	\$0.001	0.5%	\$0.289	\$0.001	0.4%	\$0.291	\$0.003	1.2%
27	Palo Alto (T)	\$0.269	\$0.271	\$0.002	0.6%	\$0.271	\$0.002	0.6%	\$0.271	\$0.001	0.6%	\$0.271	\$0.001	0.5%	\$0.273	\$0.003	1.3%
28	West Coast Gas – Castle (D)	\$0.661	\$0.666	\$0.004	0.6%	\$0.665	\$0.004	0.6%	\$0.665	\$0.004	0.5%	\$0.665	\$0.003	0.5%	\$0.670	\$0.008	1.2%
29	West Coast Gas – Mather (D)	\$0.932	\$0.938	\$0.006	0.6%	\$0.938	\$0.006	0.6%	\$0.938	\$0.005	0.6%	\$0.937	\$0.004	0.5%	\$0.944	\$0.012	1.2%
30	West Coast Gas – Mather (T)	\$0.276	\$0.277	\$0.002	0.6%	\$0.277	\$0.002	0.6%	\$0.277	\$0.001	0.5%	\$0.277	\$0.001	0.5%	\$0.279	\$0.003	1.2%
Bill Impacts Including the California Climate Credit																	
Residential Bundled																	
Non-CARE (31 therms)		\$75.25	\$75.58	\$0.33	0.4%	\$75.56	\$0.31	0.4%	\$75.54	\$0.29	0.4%	\$75.50	\$0.25	0.3%	\$75.91	\$0.66	0.9%
CARE (26 therms)		\$47.34	\$47.56	\$0.22	0.5%	\$47.55	\$0.21	0.4%	\$47.53	\$0.20	0.4%	\$47.51	\$0.17	0.4%	\$47.78	\$0.44	0.9%
Residential Unbundled																	
Non-CARE (31 therms)		\$61.35	\$61.68	\$0.33	0.5%	\$61.66	\$0.31	0.5%	\$61.64	\$0.29	0.5%	\$61.60	\$0.25	0.4%	\$62.01	\$0.66	1.1%
CARE (26 therms)		\$38.01	\$38.23	\$0.22	0.6%	\$38.22	\$0.21	0.6%	\$38.21	\$0.20	0.5%	\$38.18	\$0.17	0.4%	\$38.45	\$0.44	1.2%

* Illustrative Bundled Rates incorporate an illustrative procurement revenue requirement as filed in PG&E's 2024 AGT.

- (1) CARE Customers receive a 20% discount off of PG&E's total bundled rate and are exempt from the CARE portion of PG&E's Public Purpose Program Surcharge (G-PPPS) rates and cost recovery of the California Solar Initiative Thermal Program.
- (2) Transportation rates paid by all customers include an additional GHG Compliance and obligation Cost Recovery component of \$0.2025 per therm.
- (3) Covered Entities (i.e. customers that currently have a direct obligation to pay for allowances directly to the Air Resources Board) will pay a GHG Compliance Recovery Cost component of \$0.00572 per therm to cover PG&E allowance costs associated with lost & unaccounted for (LUAF) gas and compression costs. Covered entities will see a line item credit on their bill equal to \$0.19678 (\$0.2025 minus \$0.00572) per therm times their monthly billed volumes.

PACIFIC GAS AND ELECTRIC COMPANY
ATTACHMENT 3B

PACIFIC GAS AND ELECTRIC COMPANY
Illustrative Electric Class Average Rates (\$/kWh)

All Percent and Dollar Changes compared to September 1, 2024 rates

Line No.	Customer Class	Present				Proposed				Proposed							
		September 1, 2024	January 1, 2026	\$ Change	% Change	January 1, 2027	\$ Change	% Change	January 1, 2028	\$ Change	% Change	January 1, 2029	\$ Change	% Change	January 1, 2030	\$ Change	% Change
1	Bundled Service*																
2	Residential CARE	\$0.27022	\$0.27073	\$0.00052	0.2%	\$0.27068	\$0.00047	0.2%	\$0.27065	\$0.00044	0.2%	\$0.27059	\$0.00037	0.1%	\$0.27120	\$0.00098	0.4%
3	Residential Non-CARE	\$0.42685	\$0.42765	\$0.00080	0.2%	\$0.42758	\$0.00072	0.2%	\$0.42753	\$0.00067	0.2%	\$0.42743	\$0.00058	0.1%	\$0.42837	\$0.00152	0.4%
4	Small Commercial	\$0.42544	\$0.42623	\$0.00080	0.2%	\$0.42616	\$0.00072	0.2%	\$0.42611	\$0.00068	0.2%	\$0.42602	\$0.00058	0.1%	\$0.42696	\$0.00153	0.4%
5	Medium Commercial	\$0.38222	\$0.38280	\$0.00059	0.2%	\$0.38274	\$0.00052	0.1%	\$0.38271	\$0.00049	0.1%	\$0.38264	\$0.00042	0.1%	\$0.38332	\$0.00110	0.3%
6	Large Commercial	\$0.32858	\$0.32906	\$0.00048	0.1%	\$0.32900	\$0.00043	0.1%	\$0.32898	\$0.00040	0.1%	\$0.32892	\$0.00034	0.1%	\$0.32948	\$0.00090	0.3%
7	Streetlight	\$0.46349	\$0.46409	\$0.00059	0.1%	\$0.46403	\$0.00053	0.1%	\$0.46399	\$0.00050	0.1%	\$0.46392	\$0.00043	0.1%	\$0.46462	\$0.00113	0.2%
8	Standby	\$0.21979	\$0.22009	\$0.00030	0.1%	\$0.22005	\$0.00026	0.1%	\$0.22003	\$0.00024	0.1%	\$0.22000	\$0.00021	0.1%	\$0.22034	\$0.00054	0.2%
9	Agriculture	\$0.38029	\$0.38096	\$0.00067	0.2%	\$0.38089	\$0.00060	0.2%	\$0.38085	\$0.00056	0.1%	\$0.38077	\$0.00048	0.1%	\$0.38156	\$0.00127	0.3%
10	Industrial	\$0.23506	\$0.23530	\$0.00025	0.1%	\$0.23526	\$0.00020	0.1%	\$0.23525	\$0.00019	0.1%	\$0.23522	\$0.00016	0.1%	\$0.23549	\$0.00043	0.2%
11	Average System Rate	\$0.34927	\$0.34987	\$0.00059	0.2%	\$0.34981	\$0.00053	0.2%	\$0.34977	\$0.00050	0.1%	\$0.34970	\$0.00043	0.1%	\$0.35039	\$0.00112	0.3%
12	Unbundled Service**																
13	Residential CARE	\$0.11011	\$0.11060	\$0.00049	0.4%	\$0.11056	\$0.00045	0.4%	\$0.11053	\$0.00042	0.4%	\$0.11047	\$0.00036	0.3%	\$0.11106	\$0.00095	0.9%
14	Residential Non-CARE	\$0.27147	\$0.27226	\$0.00079	0.3%	\$0.27219	\$0.00072	0.3%	\$0.27214	\$0.00067	0.2%	\$0.27205	\$0.00058	0.2%	\$0.27299	\$0.00152	0.6%
15	Small Commercial	\$0.28487	\$0.28567	\$0.00080	0.3%	\$0.28560	\$0.00072	0.3%	\$0.28555	\$0.00068	0.2%	\$0.28545	\$0.00058	0.2%	\$0.28640	\$0.00153	0.5%
16	Medium Commercial	\$0.22583	\$0.22640	\$0.00057	0.3%	\$0.22634	\$0.00051	0.2%	\$0.22630	\$0.00048	0.2%	\$0.22624	\$0.00041	0.2%	\$0.22690	\$0.00107	0.5%
17	Large Commercial	\$0.18417	\$0.18463	\$0.00046	0.2%	\$0.18458	\$0.00041	0.2%	\$0.18455	\$0.00038	0.2%	\$0.18450	\$0.00032	0.2%	\$0.18503	\$0.00085	0.5%
18	Streetlight	\$0.29005	\$0.29064	\$0.00059	0.2%	\$0.29059	\$0.00053	0.2%	\$0.29055	\$0.00050	0.2%	\$0.29048	\$0.00043	0.1%	\$0.29118	\$0.00113	0.4%
19	Standby	\$0.13149	\$0.13177	\$0.00028	0.2%	\$0.13174	\$0.00024	0.2%	\$0.13172	\$0.00023	0.2%	\$0.13169	\$0.00019	0.1%	\$0.13201	\$0.00051	0.4%
20	Agriculture	\$0.23062	\$0.23124	\$0.00062	0.3%	\$0.23118	\$0.00056	0.2%	\$0.23114	\$0.00052	0.2%	\$0.23107	\$0.00045	0.2%	\$0.23179	\$0.00117	0.5%
21	Industrial	\$0.11739	\$0.11763	\$0.00024	0.2%	\$0.11760	\$0.00021	0.2%	\$0.11758	\$0.00019	0.2%	\$0.11756	\$0.00017	0.1%	\$0.11783	\$0.00044	0.4%
22	Average System Rate	\$0.20447	\$0.20503	\$0.00055	0.3%	\$0.20497	\$0.00050	0.2%	\$0.20494	\$0.00046	0.2%	\$0.20487	\$0.00040	0.2%	\$0.20552	\$0.00105	0.5%

Bill Impacts Including the California Climate Credit

Average Monthly Residential Bundled Bills***

CARE (500 kWh)	\$134.91	\$135.17	\$0.26	0.2%	\$135.14	\$0.23	0.2%	\$135.13	\$0.22	0.2%	\$135.09	\$0.19	0.1%	\$135.40	\$0.50	0.4%
Non-CARE (500 kWh)	\$212.45	\$212.85	\$0.40	0.2%	\$212.81	\$0.36	0.2%	\$212.79	\$0.34	0.2%	\$212.74	\$0.29	0.1%	\$213.21	\$0.76	0.4%

* Customers who receive electric generation as well as transmission and distribution service from PG&E.

** Direct Access and Community Choice Aggregation customers who purchase energy from non-PG&E suppliers.

*** PG&E only provides illustrative bills for Bundled Residential CARE and Non-CARE customers.