

“funding for additional improvements in Rule 24/32 implementation beyond the improvements requested in the Advice letter ordered in Ordering Paragraph 10, including but not limited to enrollment process improvements and increasing customer participation registrations in the California Independent System Operators [CAISO] market.”²⁵⁴

Therefore, given the increased flexibility of the funding cap, we order PG&E, SCE and SDG&E to file one or more Advice Letter(s) as described in Table 3 below, to implement the modifications to OAuth Solution 3, the performance metrics, and other minor improvements that were not scoped in the extant Advice Letters and are ordered in this Resolution. The Utilities shall work with the parties and any other interested stakeholders in the Customer Data Access Committee to scope out requirements, and develop a consensus proposal(s).

Finally, D.17-06-005 removed limitations in D.16-06-008 that would have required all activities related to third-party demand response and Rule 24/32 direct participation to be requested in the demand response portfolio program cycle, and removed the requirement that the Utilities wait for Commission directive before filing mass market applications to increase customer participation registrations in the CAISO wholesale market.²⁵⁵ These flexibilities will allow the Utilities to make improvements to the click-through authorization process, increasing Rule 24/32 registrations, and implement other changes to support a robust third-party market.

Table 2 below provides additional clarity.²⁵⁶

²⁵⁴ *Id.* at Ordering Paragraph 13, modifying Ordering Paragraph 13 of D.16-06-008.

²⁵⁵ *Id.* at Ordering Paragraph 3, modifying Ordering Paragraph 12 of D.16-06-008.

²⁵⁶ Figure 1, “Explanation of Funding Sources,” D.17-06-005 at 16.

TABLE 2
Funding Mechanisms and Budgets Remaining

Purpose for Funding D.16-06-008 as Modified by D.17-06-005	Funding Mechanism	Funding Caps (in Millions)	Remaining Budgets²⁵⁷
<i>Ordering Paragraph 10:</i> To implement the click-through authorization process, as approved in this Resolution.	Tier 3 Advice Letters: PG&E 4992-E SCE 3541-E SDG&E 3030-E	PG&E: \$ 5.6 SCE: \$ 1.5 SDG&E: \$ 4.9	None
<i>Ordering Paragraph 13:</i> Improvements for direct participation beyond those requested in the Advice Letters. ²⁵⁸	Additional Tier 3 Advice Letters ²⁵⁹	PG&E: \$ 10.39 SCE: \$ 3.2 SDG&E: \$ 4.9	PG&E: \$ 8.476 SCE: \$ 3.2 SDG&E: \$ 1.847
<i>Ordering Paragraph 12:</i> Increasing enrollments with click-through improvements not possible within Advice Letter caps and mass market requirements.	New Application (No need to wait for Commission directive)	None	Subject to Commission approval through an application proceeding.

As discussed throughout this Resolution, we find it necessary to improve the click-through authorization process beyond what was proposed in the Advice

²⁵⁷ Without prejudging the outcome, budgets remaining described here assume pending CAISO registration Advice Letters are approved as proposed. PG&E AL 5014-E requested \$1.914 million; SDG&E AL 3041-E requested \$3.053 million; and SCE AL 3553-E requested no additional funds.

²⁵⁸ These purposes include but are not limited to (1) improvements to the click through authorization process, (2) activities to increase enrollments in third-party programs, and (3) increases in customer registrations in the CAISO wholesale market.

²⁵⁹ The CAISO registration Advice Letters (PG&E AL 5014-E, SCE AL 3553-E, and SDG&E AL 3041-E) are examples of those filed for additional improvements.

Letters. Table 3 below describes the timing for the meetings and Advice Letter filings ordered in this Resolution. Advice Letter filings requesting cost recovery shall be Tier 3. All others shall be Tier 2.

TABLE 3 ²⁶⁰*Schedule of Advice Letter Filings and Meetings*

	45 Days	60 Days	90 Days	120 Days
Filings		<ul style="list-style-type: none"> • Expansion of the Data Set (SDG&E) • Short Synchronous Data Set (SDG&E) • Email Notification (if needed, SDG&E, SCE) 	<ul style="list-style-type: none"> • Proposal for Performance Metrics Website 	<ul style="list-style-type: none"> • CISR-DRP and Rule 24/32 Updates • Revocation in My Account or Green Button platform (if needed, SCE) • Revocation in click-through within cap • Other technical features or improvements within cap
Meetings	First meeting Customer Data Access Committee		Meeting with Distributed Energy Resource providers to "future-proof" solution(s)	

²⁶⁰ These activities are in addition to the phasing described in Section 17 - Phase 1 in six months, Phase 2 in nine months, and Phase 3 in fifteen months. Activities refer to all three Utilities unless otherwise noted. Some filings are optional as indicated, depending upon if the Utility needs additional funding.

PG&E AL 4992-E, SCE AL 3541-E, and SDG&E AL 3030-E/KJS

The Utilities shall also include additional improvements in the Advice Letter filings within the budget caps. All other improvements as determined by the Customer Data Access Committee shall be included in an application filed no later than fifteen months from the approval of this Resolution.

The applications shall contain:

- a proposal to expand the click-through solution(s) to other distributed energy resource and energy management providers;
- a cost estimate and proposal for API Solution 1;
- a cost estimate and proposal for Synchronous data of the complete and expanded data set within ninety seconds;
- improvements to the authorization process that may have the effect of increasing customer enrollment in third-party demand response programs;
- improvements in data delivery processes;
- upgrades to the information technology infrastructure needed for click-through authorization processes;
- additional functionalities for click-through authorization processes proposed in the Customer Data Access Committee;
- resolution of implementation issues related to OAuth Solution 3 or API Solution 1 raised by stakeholders in the Customer Data Access Committee;
- costs for integrating the CISR-DRP Request Form terms and conditions into the Utility Green Button platforms – ShareMyData, Green Button Connect, or Customer Energy Network;²⁶¹ and

²⁶¹ Currently, all three Utilities provide customers the option to authorize through their Green Button platform, but the CISR-DRP terms and conditions are not included. Including the CISR-DRP Request Form terms and conditions would limit customer confusion in cases where a customer seeks to authorize multiple Distributed Energy Resource providers, and advance the D.16-09-056 principle of promoting customer choice.

- publication of customer friendly information on the Utility website including, information about Rule 24/32, and instructions on how to authorize data access or revoke authorization.

COMMENTS

Public Utilities Code section 311(g)(1) provides that this Resolution must be served on all parties and subject to at least 30 days public review and comment prior to a vote of the Commission. Section 311(g)(2) provides that this 30-day period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day comment period for the draft of this Resolution was neither waived nor reduced. Accordingly, this draft Resolution was mailed to parties for comments on July 11, 2017.

The Draft Comment Resolution E-4868 was published on July 11, 2017. The Joint Commenting Parties,²⁶² OhmConnect, Inc. ("OhmConnect"), and all three Utilities timely submitted comments on the Draft Resolution on July 31, 2017. Comments are addressed here and throughout the resolution as indicated.

Alternative Authentication Credentials: The Joint Commenting Parties urge the Commission to make a decision on the precise credentials that should be used, with a preference for the customer name, account number and zip code.²⁶³ SDG&E and PG&E urge the Commission to reconsider the prohibition on the use of the Social Security or Federal Tax Identification numbers.²⁶⁴ Further, SDG&E suggests that the issue be considered in a stakeholder working group.²⁶⁵ We decline to determine the specific credentials. We reaffirm that the Social

²⁶² The Joint Commenting Parties include the Joint Demand Response Parties (CPower, EnerNOC, and EnergyHub), as well as the California Efficiency + Demand Management Council, Mission:Data Coalition, and Olivine, Inc..

²⁶³ Joint Commenting Parties Comment on Draft Resolution at 4-5.

²⁶⁴ SDG&E Comment on the Draft Resolution at 1-3; and PG&E Comments on Draft Resolution E at 3-4.

²⁶⁵ SDG&E Comments on Draft Resolution at 3.

Security Number and Tax Identification Number are numbers, which generally, should only be used for purposes of employment, not for enrollment in a demand response program.

Cost of Data: The Joint Commenting Parties request again that the Commission declare that the Utilities provide at no charge to third-party Demand Response Providers, all “usage and related information necessary for increasing customer participation in EE or DR.”²⁶⁶ We decline to make a determination on this issue because insufficient information was provided regarding the current charges and costs that third-party Demand Response Providers must pay now. It is not possible to assess the reasonableness of a cost without more information.

Reporting Performance Metrics: PG&E and SCE prefer monthly reporting. PG&E explains that it has sought to resolve issues quickly and therefore does not need to report the performance of the click-through solution(s) on a daily basis.²⁶⁷ SCE objects to the requirement that data delivery performance be reported daily, and believes that the costs of implementation are too high.²⁶⁸ We find that the frequency of performance reporting on data delivery can be determined by stakeholders in the Customer Data Access Committee, and then filed in a consensus report as directed in Section 19. However, we affirm that reporting of performance metrics is necessary to protect the ratepayer investment in the click-through solution(s). We therefore only adjust the timing and allow PG&E and SCE to implement their websites by Phase 3 as described in Section 17.

API Solution 1 and “Decoupling” the Solutions: The Joint Commenting Parties request a faster timeline for filing the Application with a cost estimate on API Solution 1.²⁶⁹ Both PG&E and SCE expressed concerns about staff resources and working on OAuth Solution 3 and API Solution 1 concurrently.²⁷⁰ PG&E is

²⁶⁶ Joint Commenting Parties Comment on the Draft Resolution at 9-10.

²⁶⁷ PG&E Comments on the Draft Resolution at 3.

²⁶⁸ SCE Comments on the Draft Resolution at 5-6.

²⁶⁹ Joint Commenting Parties Comment on the Draft Resolution at 10-11.

²⁷⁰ PG&E Comments on the Draft Resolution at 8; and SCE Comments on the Draft Resolution at 2-3.

concerned about timing and requests that the Application for API Solution 1 be “decoupled” from the Application for improvements to OAuth Solution 3.²⁷¹ Additionally, SCE requests indemnification from liability because of security concerns.²⁷² We decline to indemnify the Utilities because the Customer Data Access Committee may be able to find technical solutions to address any security concerns as described in Section 14. Further, API Solution 1 will not be implemented until the Commission makes a determination in the Application ordered by this Resolution as described in Section 19. Therefore, SCE may raise the issue of indemnification there. We decline to decouple the Application for API Solution 1 from the improvements to OAuth Solution 3 and expanding the solution to other distributed energy resource providers. We also decline to move up the required filing date for the Application on API Solution 1. It will be more efficient to file one Application given that the solutions are so related.

Customer Friendly Information on Rule 24/32 Websites: PG&E requests the removal of a requirement for the Applications ordered in Section 19 regarding customer friendly information about Rule 24/32. PG&E states that the requirement is very similar to the OhmConnect Marketplace proposed in the 2018-22 Application 17-01-012 et. al.²⁷³ We decline to remove the section entirely, but revise the requirement because we find that more customer friendly Rule 24/32 websites will help inform customers about Rule 24/32, and about how to revoke authorization. Therefore, we change the requirement from:

“publication of customer friendly information prominently on the Utility website including, a list of Commission-registered third-party demand response providers with contact information, and instructions on how to authorize data access or revoke authorization.”

to:

²⁷¹ PG&E Comments on the Draft Resolution at 2.

²⁷² SCE Comments on the Draft Resolution at 2.

²⁷³ PG&E Comments on the Draft Resolution at 11.

“publication of customer friendly information on the Utility website including, information about Rule 24/32 and instructions on how to authorize data access or revoke authorization.”

Other Granted Requests for Modifications: There were several other minor requests for modifications in the Comments on the Draft Resolution that were granted, but not discussed throughout the Resolution including:

- “Enrollment”: PG&E and SCE requested the removal of language that imposes a responsibility on the Utility to increase enrollments in third-party programs²⁷⁴ in Section 19, “improvements to increase customer enrollment in third-party demand response programs.” The Resolution therefore clarifies that these improvements would better the click-through authorization process, which could have the effect of increasing enrollment.
- Customer Data Access Committee Feedback “in time”: PG&E is supportive of the ongoing feedback mechanism through the Customer Data Access Committee described in Section 18, but is concerned about receiving feedback after it has already developed the requirements of a particular technical feature, because this could lead to delay and going outside of the budget.²⁷⁵ Therefore, we added “timely” throughout the Resolution wherever the issue of stakeholder input was discussed in order to clarify that input must be timely in order to be properly incorporated by the Utility.

FINDINGS

1. PG&E AL 4992-E, SCE AL 3541-E and SDG&E AL 3030-E require improvements beyond the proposals in the filings as described herein.

²⁷⁴ PG&E Comments on the Draft Resolution at 10; and SCE Comments on the Draft Resolution at 6.

²⁷⁵ PG&E Comments on the Draft Resolution at 11.

2. The general principle that alternative authentication credentials shall be limited to information that is easily available to the customer and the specific credentials should be no more onerous than those required for a similar online utility transaction is reasonable.
3. Providing any part of a social security number or a federal tax identification number is overly burdensome and would create additional barriers for joining third-party demand response programs.
4. All customer classes must have the ability to use the alternative authentication credentials function of the click-through authorization process.
5. The customer should be able to authorize ongoing data transfers to the Demand Response Provider of their choice regardless of whether the customer identity is verified using the utility login and password or alternative authentication credentials.
6. Dual authorization of two third-party demand response providers is reasonable and consistent with both D.16-06-008 and D.16-09-056.
7. SCE's request to roll out dual authorization on the CISR and the online process at the same time is reasonable.
8. There has not been sufficient information provided to support a requirement for more than two authorized parties within a single authorization transaction.
9. PG&E, SCE, and SDG&E proposals to minimize clicks and screens in the OAuth Solution 3 click-through authorization process, as modified in the reply comments are reasonable.
10. Minimizing clicks and screens in the click-through authorization process creates a streamlined process as ordered by D.16-06-008.
11. The user experience requirements in Appendix E of the Informal Status Report are reasonable.
12. Pre-populating the click-through authorization process will reduce customer fatigue and drop off in compliance with D.16-06-008.
13. Displaying the terms and conditions with a scroll bar or requiring customers to click on a link with pop-out terms and conditions will likely lead to increased customer abandonment.

14. Customer fatigue is reduced if the click-through authorization screens are written in clear and concise language, with less formal legal language.
15. Existing ShareMyData, Customer Energy Network, and Green Button Connect authorization platforms do not provide a seamless user experience and cause customer fatigue.
16. The parties concern about the mobile user experience is reasonable.
17. Third-party providers and other interested parties should be able to provide meaningful and timely input on the mobile application for the click-through solution. Focus groups and content sharing will not provide sufficient opportunities for ongoing feedback.
18. There is a difference between websites that are “mobile device capable” and websites that are “optimized for mobile devices.”
19. The customer, not the Utility is in the best position to determine whether the length of authorization offered by the Demand Response Provider suits their needs.
20. SDG&E’s technical specifications for the length of authorization described in Section 6 herein most coincide with the options discussed in the working group.
21. Allowing customers to choose between either a specific end date or an indefinite timeframe for authorization increases customer choice, removes barriers to customer data access, and demonstrates a preference for third-party demand response providers.
22. SDG&E’s proposal for notifying all parties of the successful completion of the authorization with a system generated email, including up to two demand response providers and the customer, is reasonable.
23. Accepting three different forms of notification of successful authorization could be confusing, burdensome, and inefficient for third-party demand response providers.
24. It is reasonable to allow both customers and demand response providers to revoke authorization and stop the flow of data from the Utility to the third-party.

25. Creating a variety of methods for customers and third-party demand response providers to revoke authorization promotes customer choice by allowing a customer to easily un-enroll from one demand response provider.
26. A customer should be able to revoke authorization using their Utility MyAccount, the Utility Green Button platform, the click-through authorization process, on the third-party demand response providers' website, using the paper Customer Information Service Request Demand Response Provider form, or by contacting the Utility.
27. Online solutions including the click-through authorization process are dynamic and therefore may need future updates and improvements. The Customer Data Access Committee established herein, is an appropriate place to address technical improvements.
28. The OAuth 2.0 standard or subsequent standard agreed upon by the Customer Data Access Committee will provide all parties with a uniform approach which will allow third-party Demand Response Providers to more efficiently utilize the click-through authorization process.
29. Customizing the timeframe of any particular customer is a useful feature.
30. The approaches taken by SCE and PG&E to expand the Rule 24/32 data set are reasonable.
31. It is reasonable to exclude PDF copies of customers' bills, payment information, data that is not typically stored, and gas service data.
32. It is reasonable to require all three Utilities to include the Customer Class Indicator in order to comply with D.16-09-056, Resolution E-4838, and Demand Response Auction Mechanism requirements.
33. The comment SDG&E made at the January 9, 2017 workshop describing data beyond "customer usage data" as proprietary ignores the customer's own interest in their energy related data.
34. The customer's interest in accessing and determining to whom their energy-related data should be disclosed could be limited if the Utility only releases "usage data."
35. The grammatical placement of "a customer's" in Public Utilities Code § 8380 implies that the customer has an interest in their energy related data.

36. Expanding the data set helps achieve the goal and principles identified in D.16-09-056 of increasing customer choice, eliminating barriers to customer data access, developing a competitive market with a preference for third-party demand response providers, and supporting renewable integration and emission reductions.
37. Rule 24/32 already requires the Utilities to release data beyond “customer usage data.”
38. Limiting the definition of data that Utilities must release to data used for “direct participation” imposes barriers to data access.
39. D.16-06-008 found that direct participation is evolving and should be improved. Expanding the data set will improve direct participation.
40. D.16-06-008 directed Utilities to streamline and simplify the direct participation enrollment process, including adding more automation, mitigating enrollment fatigue, and resolving any remaining electronic signature issues. Expanding the data set adds more “automation” and is within the scope of the Rule 24/32 Application 14-06-001 et. al. proceeding and the Advice Letter implementation ordered in D.16-06-008, and the Customer Data Access Committee established in this Resolution.
41. Progress must be made for demand response use cases before the click-through authorization process(es) can be expanded to other distributed energy resource and energy management providers.
42. Limiting data set to data only for “direct participation” is contrary to the D.16-09-056 principle of eliminating barriers to data access. The adopted principle of eliminating barriers to data access necessitates expanding the Rule 24/32 data set.
43. The expanded data set provides data to third-party demand response providers that is needed for (1) direct participation integration into the CAISO wholesale market, (2) essential Demand Response Provider business practices, and (3) providing a successful customer experience.
44. Requiring third-party demand response providers to obtain data from other sources including directly from the customer is extremely unreasonable and burdensome. Requesting data from the customer does not “streamline and

simplify the direct participation enrollment process,” nor does it add more automation, or mitigate enrollment fatigue as directed by D.16-06-008.

45. Ratepayers paid for the cost of Advance Metering Infrastructure, as well as collecting, storing, and managing customer data. An expanded data set will allow customers to benefit from these existing investments and provide them with more choices for demand response.
46. PG&E, SCE, and SDG&E propose reasonable budgets for expanding the data set.
47. Timely data delivery is necessary for providing a positive customer experience, integrating with the CAISO wholesale market and determining eligibility for third-party demand response programs.
48. The cost of providing ninety second expanded data delivery is unknown.
49. PG&E and SCE’s proposals for providing a shorter data set within an average of ninety seconds from when the Demand Response Provider requests the data are reasonable.
50. Two days is a reasonable timeframe for delivering the complete expanded data set in the vast majority of cases.
51. The Commission has approved various fees that PG&E, SCE, and SDG&E may recover from third-party demand response providers as described herein.
52. This Resolution does not approve any additional fees that the PG&E, SCE, or SDG&E can recover from third-party demand response providers.
53. Insufficient information was provided regarding the charges that third-party Demand Response Providers pay now in order for the Commission to assess the reasonableness of those charges.
54. Fees by PG&E, SCE, or SDG&E to third-party demand response providers that are not already formally approved require Commission review through an Advice Letter or some other Commission process.
55. SDG&E’s proposal for reporting performance metrics of OAuth Solution 3 is reasonable.
56. A webpage would act as a self-enforcement mechanism because Utilities will be motivated to resolve any reported problems quickly. A webpage is

- reasonable because it would provide performance metrics on a real-time or near real-time but no less frequently than daily basis.
57. Monthly or quarterly reporting would not meet the objective of flagging any performance issues and quickly resolving these problems.
58. Utility webpages meet the objectives of D.16-06-008 by ensuring the performance of the solution is effective which adds to a streamlined customer experience, and a more automated solution.
59. The reporting metrics listed in the Informal Status Report and in Section 13 are reasonable.
60. It is efficient to report monthly aggregated performance data as part of the Quarterly Report Regarding the Status of Third-Party Demand Response Direct Participation in order to capture performance data over time, and it is reasonable to continue to file the report through 2020.
61. It is reasonable to monitor other aspects of Rule 24/32 operations such as data delivery time, the frequency of ongoing data delivery, and delivery time for missing or gaps in data or other metrics as determined by the Customer Data Access Committee.
62. It is more prudent to begin evaluating API Solution 1 now, instead of waiting until an evaluation on OAuth Solution 3 is complete.
63. In order to determine whether API Solution 1 comports with Commission Privacy Rules, the details and technical specifications of the solution must be developed.
64. It is reasonable for the non-Utility participants of the Customer Data Access Committee to develop detailed business requirements for API Solution 1. The Utilities need not begin work on the business requirements until non-Utility stakeholders have developed a detailed list.
65. Once cost estimates for API Solution 1 are filed in an application, the Commission can properly evaluate whether API Solution 1 would be an efficient use of ratepayer resources.
66. It is more efficient to file only one application for API Solution 1, additional improvements to OAuth Solution 3, and expanding the solutions to other distributed energy resources.

67. The issue of indemnification need not be determined now and would be more appropriately addressed in the Application proceeding ordered in this Resolution.
68. SDG&E's approach of incorporating flexibility into the architecture and design of the click-through solution(s) for application to distributed energy resource and other third-party providers in the future is reasonable.
69. Supporting one third-party that provides multiple services is consistent with Commission policy around integration including D.07-10-032 and D.08-09-040, as well as research studies such as the Demand Response Potential Study.
70. Taking steps now to plan for the potential future expansion of the click-through solution(s) to other distributed energy resources will protect the ratepayer investment and "future-proof" the solution(s).
71. Incorporating flexibilities into the architecture of the click-through solution(s) are likely easy to plan for since Utility Green Button platforms already allow customers to share data with third-party distributed energy resource providers.
72. Holding a meeting to ensure that the data sets needed by distributed energy resource and energy management providers are incorporated into the click-through authorization solution(s) is reasonable.
73. Clarifying a pathway for expanding the solution to other distributed energy resource and energy management providers will alleviate procedural uncertainty and allow issues of customer data access to be discussed in a broader forum.
74. Remaining on schedule for the initial roll-out of the click-through authorization solution for Demand Response Providers will allow progress to be made on demand response and positively impact enrollment in third-party demand response provider programs for the 2018 demand response auction mechanism.
75. It is reasonable to use the click-through authorization process for Community Choice Aggregation and Direct Access customers when the Utility is the Meter Data Management Agent.

76. It is reasonable to allow the Utilities to provide the expanded data set to Demand Response Providers for Community Choice Aggregation and Direct Access customers.
77. The Utilities proposals to phase their click-through solutions are reasonable, but a more aggressive timeline and certain modifications are needed to ensure sufficient progress is made.
78. The use of Generally Applicable Accounting Procedures, and the categorization of a portion of the costs as capital expense for software is reasonable.
79. It is reasonable for Phase 1 to be completed within six months of the approval of this Resolution; Phase 2 within ten months; and Phase 3 within fifteen months.
80. SCE's proposal of one-time data transfer functionality is not needed at this time.
81. The complete implementation of Alternative Authentication for ongoing data is reasonable by Phase 3.
82. The parties and stakeholders need a forum to discuss concerns with the implementation of the click-through authorization solution(s), incorporate ongoing and timely feedback into the design and development of the solution(s), and resolve disputes informally.
83. The Energy Data Access Committee addresses technical issues related to access to aggregated customer data, especially the processes for requesting data outlined in D.14-05-016.
84. D.16-06-008 ordered PG&E, SCE and SDG&E to form the click-through working group and develop consensus proposals in order to file the January 3, 2017 Advice Letters, but no forum or process for ongoing implementation was established in that Decision.
85. The Energy Data Access Committee provides a good model for the Customer Data Access Committee.
86. Because the Energy Data Access Committee only deals with issues of requests for aggregated customer data, and the Customer Data Access Committee will deal with issues of customer specific data, the Committee will not duplicate

efforts. Close coordination on issues that relate to the work of both groups will ensure efficiency.

87. It is reasonable for the Utilities to manage the Customer Data Access Committee, with oversight by the Commission's Energy Division.
88. Publishing meeting notes will facilitate public participation.
89. The Customer Data Access Committee shall be neither adjudicatory, nor advisory, so participation will not be compensated.
90. No additional enforcement mechanism is needed to address issues of data delivery because the Customer Data Access Committee, overseen by the Commission's Energy Division, may help parties address any issues that arise and come to agreements regarding potential solutions.
91. Parties retain formal dispute or policy resolution options at the Commission and recommendations made by the Customer Data Access Committee are non-binding and informal.
92. The Customer Data Access Committee will likely need to meet more than once a quarter during the first year because of the additional improvements addressed in this Resolution, but need not be limited by issues herein.
93. Prior to modification, D.16-06-008 left ambiguous how PG&E, SCE and SDG&E could recover costs for the click-through authorization process, and the Utilities were limited to request additional funding for advancements in direct participation to the 2018-22 portfolio application or mid-cycle review.
94. D.17-06-005 clarified that PG&E, SCE, and SDG&E may file Tier 3 Advice Letters to recover costs related to the click-through authorization consensus proposals at a cap of \$5.6 million for PG&E, \$1.5 million for SCE, and \$4.9 million for SDG&E. The caps for the click-through authorization consensus proposals have been reached.
95. D.17-06-005 clarified that PG&E, SCE, and SDG&E may file Tier 3 Advice Letters up to a cap to recover costs related to "additional improvements" in direct participation demand response implementation including the click-through authorization process, activities to help increase enrollments in third-party demand response programs, and costs for increasing customer registrations in the CAISO wholesale market. From the caps for additional improvements, assuming Tier 3 Advice Letters for PG&E 5014-E requesting

\$1.914 million and SDG&E 3041-E requesting \$3.053 million are approved, PG&E has \$8.476 million remaining; SCE has \$3.2 million remaining; and SDG&E has \$1.847 million remaining.

96. D.17-06-005 increased the flexibility of future funding requests by removing the requirement that PG&E, SCE, and SDG&E wait for Commission directive before filing an application to support CAISO registrations for the mass market, or wait until the 2018-22 mid-cycle review before filing an application for funding requests for additional improvements.
97. It is necessary to improve the click-through authorization process beyond the proposals in Advice Letters PG&E AL 4992-E, SCE AL 3541-E and SDG&E AL 3030-E.

THEREFORE IT IS ORDERED THAT:

1. PG&E AL 4992-E, SCE AL 3541-E and SDG&E AL 3030-E and included budgets are approved as modified herein. The Utilities shall use Generally Accepted Accounting Principles. The Utilities may categorize a portion of costs as capital expenditures where applicable under Commission rules.
2. In addition to an authentication process that utilizes the Utility login and password, PG&E, SCE and SDG&E shall incorporate alternative authentication credentials into the click-through authorization process. Alternative authentication shall be available to all customer classes, and customers must be able to authorize ongoing data for purposes of direct participation demand response. The alternative authentication credentials shall be limited to information that is easily available to the customer, and the specific credentials shall be no more onerous than those required for a similar online utility transaction. Authentication credentials shall not include any part of the social security or federal tax identification numbers.
3. PG&E, SCE, and SDG&E shall incorporate dual authorization for their online click-through authorization process(s) whether the customer uses a Utility login and password, or alternative authentication credentials. PG&E and SDG&E shall continue to make available dual authorization on the paper CISR-DRP Request Form. SCE may wait to implement dual authorization on the CISR-DRP Request Form until Phase 1 of the click-through has been implemented.

4. PG&E, SCE, and SDG&E shall design and implement the OAuth Solution 3 click-through authorization process to have a maximum of two screens and four clicks for the “quick path” authorization flow. The “quick path” shall be defined as a user flow in which the customer:
 - 1) was not already logged into the utility account;
 - 2) Does not click the “forgot your password” link;
 - 3) Does not initiate a new online Utility account registration;
 - 4) Has a single service account, or intends to authorize all service accounts;
 - 5) Accepts the default timeframe for authorization;
 - 6) Does not click to read the detailed terms and conditions; and
 - 7) Uses either utility login credentials or alternative authentication.

Further, in all cases except for when the customer clicks the “forgot your password” link or initiates a new online Utility account registration, the click-through authorization process shall be completed in two screens. The Utilities shall ensure that there is a clear path back to the authorization flow wherever possible, in cases where a customer somehow gets out of the flow. The Utilities shall adhere to the OAuth 2.0 standard or subsequent standard agreed upon by the Customer Data Access Committee in the implementation of OAuth Solution 3.

5. PG&E, SCE, and SDG&E shall ensure that the authorization screens and the terms and conditions are written in clear and concise language. The terms and conditions shall be summarized, preferably, with a link to the full terms and conditions, and shall not make use of a scroll bar, or pop-out that a customer is required to view before approving the authorization. The Utilities shall incorporate timely feedback about the display of terms and conditions from the parties and any other interested stakeholders in the Customer Data Access Committee. The Utilities and stakeholders shall work together to reduce the potential for customer abandonment resulting from user experience problems. There shall be a clear path back to the authorization screen after the customer has completed reading the terms and conditions.

6. The click-through authorization solution(s) shall perform seamlessly on mobile devices and be optimized for mobile applications. The Utilities shall incorporate timely feedback from participants in the Customer Data Access Committee established herein, when assessing the final design and determining whether the authorization process(s) are sufficiently optimized for mobile devices.
7. PG&E, SCE and SDG&E shall allow customers to choose an indefinite timeframe for authorization on both the paper CISR-DRP Request Form and the click-through authorization solution(s).
8. Demand response providers shall be given the option of pre-registering or pre-selecting their preferred timeframe to present to their customers. This may include a minimum end date, a preferred end date, or indefinite. Either end date can include a specification of an indefinite timeframe. PG&E shall provide the options described herein by Phase 3. Like PG&E, SCE and SDG&E shall develop a feature that allows the Demand Response Provider to customize the length of authorization of any individual customer. If additional funding is needed, Utilities may file a Tier 3 Advice Letter as described in Ordering Paragraph 28 or 29.
9. PG&E, SCE, and SDG&E shall send an automatically generated electronic notification such as email, upon successful completion of a customer authorization or upon modification of an existing authorization to the third-party demand response provider(s) and to the customer. The customer shall not be required to respond to the email as part of the authentication process unless required to do the same for a similar utility as described in Section 1 and Ordering Paragraph 1.
10. PG&E, SCE, and SDG&E shall build into existing infrastructure, the MyAccount and/or the Green Button platform, the ability for customers to revoke authorization for sharing data with third-party demand response providers. If additional funding is required, the Utilities may request funding for improvements as described in Table 3 herein and Ordering Paragraph 28.
11. Third-party demand response providers that utilize the click-through authorization solution(s), shall provide their customers with information about how to revoke authorization, which could include a link and instructions on how to revoke online with the Utility. The instructions shall

be subject to Energy Division review in order to ensure customer protection, as is within the authority and jurisdiction of the Commission.

12. PG&E, SCE, and SDG&E shall permit third-party demand response providers to revoke authorization if they no longer wish to receive customer data, both online and on the paper CISR-DRP Request Form. The Utilities shall file a Tier 2 Advice letter as described in Ordering Paragraph 28 to adopt any changes in Rule 24/32 or the CISR-DRP Request Form that are needed to facilitate Demand Response Provider revocation.
13. PG&E and SCE shall provide an expanded data set to third-party demand response providers after receipt of a valid customer authorization as described in Attachment 1 to this Resolution and in Advice Letters PG&E 4992-E and SCE 3541-E, and Replies to Protests. PDF copies of customer bills, payment information, data that is not typically stored, and data relating to gas service shall be exempt from inclusion in the expanded data set. However, all three Utilities shall include the Customer Class Indicator in order to ensure third-party compliance with Commission rules on prohibited resources, as well as Demand Response Auction Mechanism requirements. If additional funding is required, the Utilities may file Tier 3 Advice Letters in accordance with Ordering Paragraph 28.
14. PG&E, SCE and SDG&E shall expand the data set so that customer's may exercise their interest in accessing and determining to whom their own energy-related data should be disclosed. The expanded data set allows the customer to exercise their right to disclose their data to third-party Demand Response Providers. Customer energy-related data is needed for:
 - 1) direct participation integration into the wholesale market;
 - 2) essential Demand Response Provider business practices; and
 - 3) a successful customer experience.²⁷⁶
15. SDG&E's expanded data set shall include the data points described Attachment 1 to this resolution, except those related to PDF copies of customer bills, payment information, data that is not typically stored, and

²⁷⁶ OhmConnect Protest to SDG&E at 6 and Appendix A of the Protest.

data relating to gas service. However, SDG&E shall include the Customer Class Indicator in order to ensure third-party compliance with Commission rules on prohibited resources, as well as Demand Response Auction Mechanism requirements. If SDG&E needs to deviate from the list in Attachment 1, it may file a Tier 2 Advice Letter. If additional funding is required, SDG&E may file a Tier 3 Advice Letter in accordance with Ordering Paragraph 28.

16. PG&E shall provide the current Rule 24/32 data set synchronously, within ninety seconds on average, after completion of the click-through authorization process.
17. SCE shall provide a summarized data set as described in its Advice Letter synchronously, within ninety seconds on average, in order to determine a customer's eligibility. SCE is encouraged to provide additional data points within ninety seconds as is feasible. SCE may request additional funding as described in Ordering Paragraph 28 if needed.
18. SDG&E shall file an Advice Letter as described in Table 3 and Ordering Paragraph 28, with a proposal for the delivery of a smaller data set synchronously, within ninety seconds on average. SDG&E should use PG&E and SCE's approaches as a model and provide data that is available on systems integrated with the Customer Energy Network platform.
19. PG&E, SCE, and SDG&E shall deliver a complete expanded data set within two business days after a customer completes the click-through authorization. In each case, the Utility will provide the Demand Response Provider an explanation and an estimated time of resolution for data that cannot be delivered within two business days. The Commission expects that in the overwhelming majority of cases, data will be delivered within two business days. If parties experience persistent problems, the issue should be raised in the Customer Data Access Committee described in Ordering Paragraph 27.
20. PG&E, SCE, and SDG&E shall develop a cost estimate of delivering the entire and expanded data set within ninety seconds. These estimates shall be included in an application for improvements in accordance with this Resolution and Ordering Paragraph 29.
21. PG&E, SCE and SDG&E (the Utilities) shall develop websites for reporting performance metrics. The Utilities shall use the performance metrics listed

herein and in the Informal Status Report. The Utilities shall work with stakeholders in the Customer Data Access Committee to determine additional metrics to monitor Rule 24/32 operations, such as data delivery times. The data shall be reported in real-time or near real-time basis, but no less frequently than daily, with a day's delay. In order to capture performance data on an ongoing basis, the Utilities shall file compliance reports, in a format approved by the Energy Division as part of the Quarterly Report Regarding the Status of Third-Party Demand Response Direct Participation. We order the Utilities to continue filing this report through 2020. The report shall be filed in the most current demand response proceedings and service lists. The Utilities shall use remaining funding under the cap if necessary, and the Tier 3 Advice Letter process described in Table 3 and Ordering Paragraph 28.

22. Non-Utility participants of the Customer Data Access Committee shall begin developing the business requirements and specific technical features of API Solution 1. PG&E, SCE, and SDG&E shall begin work on the business requirements only after a detailed list is presented by non-Utility stakeholders. After the Customer Data Access Committee reaches a consensus, the Utilities shall file application for Commission approval of the proposal to develop API Solution , other improvements to OAuth Solution 3, and expanding the solutions to other distributed energy resources as described in Ordering Paragraph 29.
23. PG&E, SCE, and SDG&E shall take steps to plan for future expansion of the solution(s) to other distributed energy resource and energy management providers now, in order to "future-proof" the click-through authorization solution(s). The Utilities shall incorporate flexibility into the architecture and design of the solution(s) including ensuring that the different data sets available to each different distributed energy resource can be included as an option in the pre-registration process. Utilities shall hold a meeting within ninety days from the approval of this Resolution, that is open to all distributed energy resource, energy management and other third-party providers. The goal will be to ensure that the data sets that these resources need are thought through and built into the architecture of the click-through authorization solution(s).

24. PG&E, SCE, and SDG&E shall include a proposal for expanding the solution(s) to other distributed energy resource and energy management providers in the application for future improvements described herein and in Ordering Paragraph 29. The Utilities shall stick to the phasing schedule described in Ordering Paragraph 26 in order to ensure that progress is first made on demand response.
25. PG&E, SCE, and SDG&E shall allow Community Choice Aggregation and Direct Access customers to use the click-through authorization process including the expanded data sets.
26. PG&E, SCE and SDG&E shall complete OAuth Solution 3 and related data delivery improvements to the click-through authorization process within fifteen months of the approval of this Resolution. Following the adoption of this Resolution, Phase 1 shall be completed within six months; Phase 2 shall be completed within ten months; and Phase 3 shall be completed within fifteen months. The activities that shall be completed by the end of each phase vary by Utility and are given in Table 1 herein.
27. PG&E, SCE, SDG&E, shall host the first Customer Data Access Committee (CDAC) meeting within ninety days from the approval of this Resolution, inclusive of any interested stakeholders regardless of status as providers of demand response. Energy Division staff will have oversight responsibility of the Committee, but it shall be managed by the Utilities and interested stakeholders. The Energy Division may at its discretion assume direct management of the Committee or appoint a working group manager at any time. The objectives of the CDAC will be to address data access issues associated with customer authorizations to third-party providers, including, but not limited to:
- providing timely input into design of OAuth Solution 3 including – the overall design, the connectivity to mobile devices, the links to terms and conditions, the user experience and other technical features;
 - developing proposals for Advice Letter filings requesting funding within the caps including performance metrics for the Utility websites, and additional improvements;
 - developing proposals for the application filing including forming the business requirements for API Solution 1, expanding the click-

through solution(s) to other distributed energy resource and energy management providers, and additional improvements beyond what can be accomplished in the funding caps; and

- informally resolving dispute that may arise among stakeholders.

The CDAC will be separate from the Energy Data Access Committee, but shall coordinate closely on related matters. The CDAC shall meet no later than forty-five days after this Resolution is issued, and will meet, at a minimum, quarterly for the first two years and as needed thereafter. Meeting notes shall be prepared by Utilities and stakeholders and published on a website. The Committee shall meet more often during the first year in order to address the additional improvements ordered and the implementation issues arising in this Resolution.

28. PG&E, SCE and SDG&E shall file Tier 3 Advice Letter(s) within sixty, ninety and one-hundred and twenty days as described in Table 3 herein to request funding for enhancements to OAuth Solution 3 and other improvements that were not scoped in the extant Advice Letters. If funding is not needed, a Tier 2 Advice Letter may be filed. The Utilities shall work with the parties and any other interested stakeholders in the Customer Data Access Committee to scope out requirements and develop consensus proposals.
29. PG&E, SCE, and SDG&E shall file an application no later than fifteen months from the approval of this Resolution seeking cost recovery for the following improvements to the click-through authorization process unless cost recovery was already sought via the Tier 3 Advice Letters in Ordering Paragraph 28:
- a proposal to expand the click-through solution(s) to other distributed energy resource and energy management providers;
 - a cost estimate and proposal for API Solution 1;
 - a cost estimate and proposal for Synchronous data of the complete and expanded data set within ninety seconds;
 - improvements to the authorization process that may have the effect of increasing customer enrollment in third-party demand response programs;
 - improvements in data delivery processes;

- upgrades to the information technology infrastructure needed for click-through authorization processes;
- additional functionalities for click-through authorization processes proposed in the Customer Data Access Committee;
- resolution of implementation issues related to OAuth Solution 3 or API Solution 1 raised by stakeholders in the Customer Data Access Committee;
- costs for integrating the CISR-DRP Request Form terms and conditions into the Utility Green Button platforms – ShareMyData, Green Button Connect, or Customer Energy Network; and
- publication of customer friendly information on the Utility website including, information about Rule 24/32, and instructions on how to authorize data access or revoke authorization.

This Resolution is effective today.

I certify that the foregoing Resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on August 24, 2017; the following Commissioners voting favorably thereon:

/s/TIMOTHY J. SULLIVAN

TIMOTHY J. SULLIVAN

Executive Director

MICHAEL PICKER

President

CARLA J. PETERMAN

LIANE M. RANDOLPH

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

Commissioners

ATTACHMENT 1

*Comparison of Current and Expanded Data Set
Southern California Edison (SCE)*

SCE CURRENT RULE 24 DATA ELEMENTS	SCE EXPANDED (FUTURE) RULE 24 DATA ELEMENTS
Account Elements	Account Elements
Account name (ACME INC. or JOE SMITH)	Account address (123 OFFICE ST...) Account ID (2-xxx...)
Service Elements	Outage block (A000)
SCE Unique Identifier	Service Elements
Service ID (3-xxx...)	Known future changes to Status of Service
Service address (123 MAIN ST #100...)	Service tariff options (CARE, FERA, etc.)
Service tariff (D-TOU)	Known future changes to Sublap
Service voltage (if relevant)	Known future changes to Pricing Node
Service meter number (if any)	Local Capacity Area
Meter Read Cycle	Known future changes Local Capacity Area
Sublap	Customer Class Indicator
Pricing Node	Bill tier breakdown (if any)
Billing Elements	Name (Over Baseline 1%-30%)
Bill start date	Volume (1234.2)
Bill end date	Cost (\$100.23)
Bill total charges (\$)	Bill TOU kwh breakdown (if any)
Bill total kWh	Cost (\$100.23)
Bill TOU kwh breakdown (if any)	Bill demand breakdown (if any)
Name (Summer Off Peak)	Cost (\$100.23)
Volume (1234.2)	Bill line items (sum should equal bill total charges above)
Bill demand breakdown (if any)	Charge name (DWR Bond Charge)
Name (Summer Max Demand)	Volume (1234.2)
Volume (1234.2)	Unit (kWh)
	Rate (\$0.032/kWh)
	Cost (\$100.23)

ATTACHMENT 1

*Comparison of Current and Expanded Data Set
Southern California Edison (SCE) (CONTINUED)*

SCE CURRENT RULE 24 DATA ELEMENTS (CONTINUED)	SCE EXPANDED (FUTURE) RULE 24 DATA ELEMENTS (CONTINUED)
Historical Intervals	Tracked line items
Start	Charge name (e.g. Net In/Net Out)
Duration	Volume (1234.2 in kWh)
Volume (1234.2)	Unit (kWh)
Unit (kWh)	Rate (\$0.032/kWh, if any)
Utility Demand Response Programs	Cost (\$100.23)
Program Name	Utility Demand Response Programs
Earliest End Date w/o penalty	Capacity Reservation Level (CRL) for CPP/PDP customers
Earliest End Date regardless of penalty	
Service Providers	DR Program Nomination if fixed
LSE	Service Providers
MDMA	Known future changes to LSE
MSP	
Contact Information for LSE, MDMA, MSP	
DATA ELEMENTS NOT ADDING IN THE FUTURE (SCE)	Service Elements
	# of Service Meters
	Standby Rate Option if On-Site Generation (but "S" indicated in rate schedule)
	Historical Bills (PDF)
	Payment Information

ATTACHMENT 1

*Comparison of Current and Expanded Data Set
Pacific Gas & Electric (PG&E)*

PG&E CURRENT RULE 24 DATA ELEMENTS	PG&E EXPANDED (FUTURE) RULE 24 DATA ELEMENTS
Account Elements	Account Elements
Account name (ACME INC. or JOE SMITH)	Account address (123 OFFICE ST...)
Outage block (A000)	Account ID (2-xxx...)
Service Elements	Service Elements
PG&E Unique Identifier	Known future changes to Status of Service
Service ID (3-xxx...)	Service tariff options (CARE, FERA, etc.)
Service address (123 MAIN ST #100...)	Known future changes to Sublap
Service tariff (D-TOU)	Known future changes to Pricing Node
Service voltage (if relevant)	Local Capacity Area
Service meter number (if any)	Known future changes Local Capacity Area
# of Service meters	Standby Rate Option if On-Site Generation
Meter Read Cycle	Customer Class Indicator
Sublap	Bill tier breakdown (if any)
Pricing Node	Name (Over Baseline 1%-30%)
Billing Elements	Volume (1234.2)
Bill start date	Cost (\$100.23)
Bill end date	Bill TOU kwh breakdown (if any)
Bill total charges (\$)	Cost (\$100.23)
Bill total kWh	Bill demand breakdown (if any)
Bill TOU kwh breakdown (if any)	Cost (\$100.23)
Name (Summer Off Peak)	Bill line items (sum should equal bill total charges above)
Volume (1234.2)	Charge name (DWR Bond Charge)
Bill demand breakdown (if any)	Volume (1234.2)
Name (Summer Max Demand)	Unit (kWh)
Volume (1234.2)	Rate (\$0.032/kWh)
Historical Intervals	Cost (\$100.23)
Start	
Duration	
Volume (1234.2)	
Unit (kWh)	

ATTACHMENT 1*Comparison of Current and Expanded Data Set
Pacific Gas & Electric (PG&E) (CONTINUED)*

PG&E CURRENT RULE 24 DATA ELEMENTS (CONTINUED)	PG&E EXPANDED (FUTURE) RULE 24 DATA ELEMENTS (CONTINUED)
Utility Demand Response Programs	Utility Demand Response Programs
Program Name	Capacity Reservation Level (CRL) for CPP/PDP customers
Earliest End Date w/o penalty	
Earliest End Date w/o penalty	DR Program Nomination if fixed
Service Providers	Service Providers
LSE	MSP
MDMA	Known future changes to LSE
	Contact Information for LSE, MDMA, MSP
	Tracked line items
	Charge name (e.g. Net In/Net Out)
	Volume (1234.2 in kWh)
	Unit (kWh)
	Rate (\$0.032/kWh, if any)
DATA ELEMENTS NOT ADDING IN THE FUTURE (PG&E)	Historical Bills (PDF) Payment Information

ATTACHMENT 1*Ordered Current and Expanded Data Set**San Diego Gas & Electric (SDG&E)*

ADOPTED SDG&E CURRENT AND EXPANDED RULE 32 DATA ELEMENTS	
Account Elements	Bill tier breakdown (if any)
Account name (ACME INC. or JOE SMITH)	Name (Over Baseline 1%-30%)
Account address (123 OFFICE ST...)	Volume (1234.2)
Account ID (2-xxx...)	Cost (\$100.23)
Outage block (A000)	Bill TOU kwh breakdown (if any)
Service Elements	Name (Summer Off Peak)
SDG&E Unique Identifier	Volume (1234.2)
Service ID (3-xxx...)	Cost (\$100.23)
Service address (123 MAIN ST #100...)	Bill demand breakdown (if any)
Service tariff (D-TOU)	Name (Summer Max Demand)
Service voltage (if relevant)	Volume (1234.2)
Service meter number (if any)	Cost (\$100.23)
# of Service meters	Bill line items (sum should equal bill total charges above)
Meter Read Cycle	
Sublap	Charge name (DWR Bond Charge)
Pricing Node	Volume (1234.2)
Known future changes Status of Service	Unit (kWh)
Service tariff options (CARE, FERA, etc.)	Rate (\$0.032/kWh)
Known future changes to Sublap	Cost (\$100.23)
Known future changes to Pricing Node	Tracked line items
Local Capacity Area	Charge name (e.g. Net In/Net Out)
Known future changes Local Capacity Area	Volume (1234.2 in kWh)
Standby Rate Option if On-Site Generation	Unit (kWh)
Customer Class Indicator	Rate (\$0.032/kWh, if any)
Billing Elements	Cost (\$100.23, if any)
Bill start date	Historical Intervals
Bill end date	Start
Bill total charges (\$)	Duration
Bill total kWh	Volume (1234.2)
	Unit (kWh)

ATTACHMENT 1*Ordered Current and Expanded Data Set**San Diego Gas & Electric (SDG&E)*

ADOPTED SDG&E CURRENT AND EXPANDED RULE 32 DATA ELEMENTS (CONTINUED)	
Utility Demand Response Programs	Service Providers
Program Name	LSE
Earliest End Date w/o penalty	MDMA
Earliest End Date regardless penalty	MSP
Capacity Reservation Level (CRL) for CPP/PDP customers	Known future changes to LSE
DR Program Nomination if fixed	Contact Information for LSE, MDMA, MSP
DATA ELEMENTS NOT REQUIRED TO ADD IN THE FUTURE (SDG&E)	Historical Bills (PDF) Payment Information