Application of SOUTHERN CALIFORNIA GAS COMPANY (U 904 G) to Establish a Demand Response Program	Application 18-11-___ (Filed November 6, 2018)

CHAPTER 2

PREPARED DIRECT TESTIMONY OF

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ON BEHALF OF

SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

November 6, 2018

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<center>**PREPARED TESTIMONY**
OF NANCY CARRELL LAWRENCE</center>

I. OVERVIEW AND SUMMARY

A. Purpose

The purpose of my prepared direct testimony on behalf of Southern California Gas Company (SoCalGas) is to request approval to recover the costs associated with building, implementing, and operating an energy data sharing technology platform (Energy Data Sharing Platform or EDSP) to enable and support future Winter Demand Response (DR) programs facilitated by third-party vendors under contract to SoCalGas. The purpose of the EDSP is to provide a standardized, automated, and secure approach for sending customer energy usage data to third parties. Specifically, the EDSP will enable the third-party implementer-facilitated Behavioral Messaging Pilot described in Chapter 1, Direct Testimony of Darren Hanway. Additionally, the platform will facilitate the data transfers to DR program evaluators required to conduct the Evaluation, Measurement and Verification (EM&V) outlined in Chapter 1, section III, including load impact evaluations.

SoCalGas requests $7.31 million from 2020 through 2022 to build and operate the Energy Data Sharing Platform described in this testimony. This includes $5.58 million for the initial build out and implementation of an information technology platform to support third-party DR contractor and program evaluator access to energy-related customer data, and an additional $1.73 million over the three-year period to fund the support staff and ongoing software licensing and maintenance costs required to operate the data sharing platform. Anticipating a Commission decision on this proceeding during the second half of 2019, SoCalGas estimates commencing this project at the beginning of 2020 with deployment of the full platform and capabilities by mid-2021.

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B.   Overview of the Energy Data Sharing Platform

As shown in Figure 1 below, the Energy Data Sharing Platform will enable automated and secure third party access to customer-specific energy-related data, such as Advanced Meter Infrastructure (AMI)[1] daily and hourly interval usage data, through SoCalGas' back office[2] systems as required to enable programs offered by authorized third-party DR providers under contract to SoCalGas.[3] The EDSP will also support similar requirements for automated transfer of AMI usage data and other customer data to DR program evaluators, as well as to third parties under contract to SoCalGas and/or to Statewide Lead Program Administrators to implement innovative, new Energy Efficiency (EE) programs as contemplated in SoCalGas' Energy Efficiency Business Plan.[4]
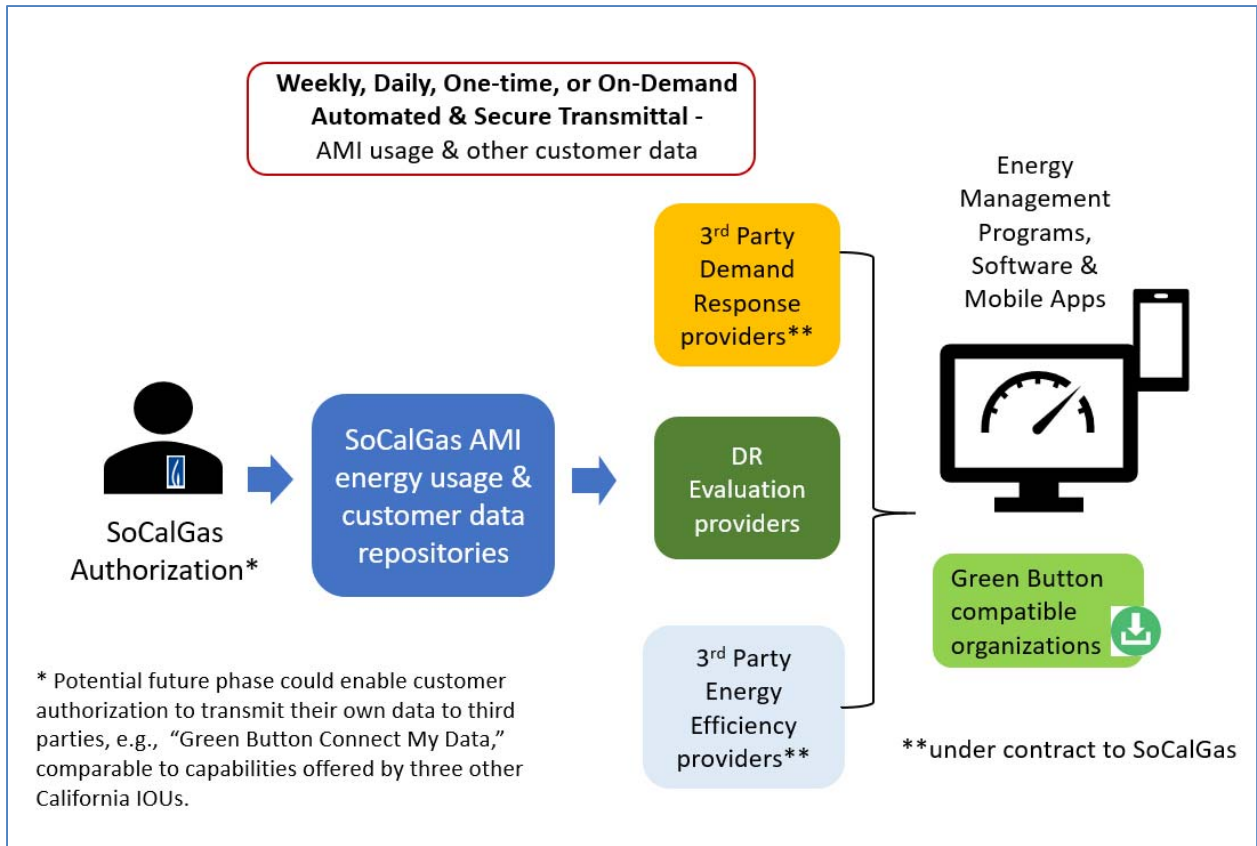
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[1] SoCalGas' Advanced Meter Infrastructure project was 99% complete by the end of 2017 as outlined in the "Southern California Gas Company Advanced Meter Semiannual Report - February 28, 2018" page 4, https://www.socalgas.com/regulatory/A0809023.shtml.

[2] "Back office" or "back end" systems as referenced throughout this Chapter refer to the information technology systems and functions which support administration, services and data management, but which are not directly customer- or client-facing. The proposed EDSP provides customer usage data to an authorized third party from SoCalGas' back office systems. Advanced meter data from SoCalGas' back office systems incorporates validation, estimation and editing (VEE) and is consistent with the usage data presented to SoCalGas customers via the My Account website.

[3] CPUC privacy rules do not require customer consent before releasing, disclosing or otherwise making accessible any personally identifiable customer data to third-party IOU contractors or vendors that are agents of the IOU in the delivery of utility service. This circumstance is considered a "Primary Purpose" under the CPUC privacy rules.

[4] SoCalGas' Energy Efficiency Business Plan was filed on January17, 2017, and approved with modifications by the Commission in D.18-05-041 on May 31, 2018. The Executive Summary of this plan states on page 10, "The Business Plan includes a combination of proven and newer program strategies based on past successes coupled with new approaches to efficiently identify customers with the greatest energy efficiency opportunities using data analytic advancements enabled by SoCalGas' newly implemented AMI."

1 **Figure 1 – Energy Data Sharing Platform Concept Diagram**

Weekly, Daily, One-time, or On-Demand Automated & Secure Transmittal - AMI usage & other customer data

SoCalGas Authorization*

SoCalGas AMI energy usage & customer data repositories

3rd Party Demand Response providers**

DR Evaluation providers

3rd Party Energy Efficiency providers**

Energy Management Programs, Software & Mobile Apps

Green Button compatible organizations

**under contract to SoCalGas

* Potential future phase could enable customer authorization to transmit their own data to third parties, e.g., "Green Button Connect My Data," comparable to capabilities offered by three other California IOUs.

2   The EDSP will provide the critical data sharing technology infrastructure foundation

3   required to fully leverage the SoCalGas AMI system to support innovative new DR programs

4   implemented and/or evaluated by third parties. It is envisioned to provide long lasting benefits to

5   SoCalGas customers by stimulating innovation amongst third-party providers of potential DR

6   and EE mobile applications, rewards programs, and other tools and programs that support more

7   timely and energy-efficient use of natural gas. These include programs that incorporate "Pay-

8   for-Performance," energy management technologies, and data analytics-based features.

9   By providing a standardized and secure process for transferring customer energy usage

10 and other data to third parties, the platform will offer a more cost-efficient approach than

11 building extensive and time consuming "one-off" data transfer mechanisms to a multitude of

12 future third-party program implementers or evaluators. Establishing SoCalGas' foundational

automated energy-related data sharing capabilities through this Application will also provide the

foundation by which, through funding authorized in future SoCalGas regulatory proceedings, the

automated data transfer capabilities could eventually be expanded to establish "customer-

authorized" energy-related data sharing capabilities, such as a SoCalGas "Green Button Connect

My Data" (GBCMD) offering.[5] These potential future capabilities would be comparable to those

ordered by the Commission in D.11-07-056[6] of the Smart Grid proceeding and subsequent

proceedings for the three electric investor-owned utilities (IOUs). Through D.13-09-025,

"Decision Authorizing Provision of Customer Energy Data to Third Parties Upon Customer

Request," the Commission subsequently authorized Pacific Gas and Electric Company (PG&E)

to recover up to $19.4 million in costs to support their "Customer Data Access Project" and

Southern California Edison to recover up to $7.588 million to develop its platform to provide

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[5] As outlined on the Department of Energy's website at https://www.energy.gov/data/green-button, "The Green Button initiative is an industry-led effort that responds to a White House call-to-action to provide utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format. Customers are able to securely download their own detailed energy usage with a simple click of a literal "Green Button" on electric utilities' websites." And, "With their own data in hand, consumers can take advantage of a growing array of online services to help them manage energy use and save on their bills." The initiative currently encompasses more than 50 utilities worldwide. A growing set of companies are offering products, services, and applications that leverage Green Button data.

[6] The Commission issued Decision (D.) 11-07-056, "Decision Adopting Rules To Protect The Privacy And Security Of The Electricity Usage Data Of The Customers Of Pacific Gas And Electric Company, Southern California Edison Company And San Diego Gas And Electric Company," on July 29th, 2011. Ordering Paragraph eight of that decision directed the utilities as follows:

"Within six months of the mailing of this decision, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric must each file an application that includes tariff changes which will provide third parties access to a customer's usage data via the utility's backhaul when authorized by the customer. The three utilities should propose a common data format to the extent possible and be consistent with ongoing national standards efforts. The program and procedures must be consistent with policies adopted in Ordering Paragraphs 6 and 7 and the Rules Regarding Privacy and Security Protections for Energy Usage Data in Attachment D of this decision. The application should propose eligibility criteria and a process for determining eligibility whereby the Commission can exercise oversight over third parties receiving this data. The three utilities are encouraged to participate in a technical workshop to be held by the Commission in advance of the filing date. The applications may seek recovery of incremental costs associated with this program."

third-party access to customer usage data, and additional $1.512 million in incremental ongoing operations costs.[7] In 2017, the Commission continued to direct the three electric IOUs to build out their information technology (IT) infrastructure to further streamline, simplify and automate their sharing of energy data with third-party electric DR providers, approving an additional up to $12 million investment through the "Click-Through Authorization Process" Resolution E-4868.

SoCalGas' AMI system is well poised to enable the same types of innovative new "Integrated Demand Side Management" customer engagement programs that the three electric IOUs have developed leveraging their respective smart meter deployments. The EDSP proposed in this Application is consistent and aligned with investments made by the three electric IOUs to build out their respective customer data sharing platforms in support of DR and EE programs. It is a key first step towards leveraging third-party-developed programs, software, mobile apps and other energy management technology capabilities that may now be adapted to support more timely and energy-efficient use of natural gas.

C. Summary of Testimony

SoCalGas' proposal to establish an EDSP will support the evolution of new and innovative DR and other energy-saving saving programs and tools by providing third-party DR program implementers and evaluators under contract to SoCalGas with access to customer-specific advanced meter usage and other data in a timely and standardized manner, thus enabling SoCalGas customers with a new generation of third-party developed options to help them manage their energy use. The EDSP is also consistent with the Commission's strategic objectives and directives outlined in D.11-07-056 and subsequent proceedings pertaining to the

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[7] As noted on p.15 of D.13-09-025, "SDG&E, in contrast, notes that it 'has already requested funding for providing third parties with access to customer energy usage data as described in SDG&E's General Rate Case application, A.10-12-005.'" SDG&E thus didn't request additional funding in its Application pertaining to this proceeding.

1   IOUs implementing and enhancing energy-related customer data sharing capabilities. For these

2   reasons, SoCalGas respectfully requests the Commission approve the costs for implementing and

3   operating the Energy Data Sharing Platform.

4   The remaining testimony in this Chapter provides further details supporting

5   SoCalGas' EDSP funding request in this Application. It is organized as follows:

6   A. Introduction – provides a high-level introduction of the EDSP and outlines the

7   numerous policy directives and objectives supporting this funding request

8   B. Detailed Description – provides a more detailed description of the EDSP

9   system components and capabilities, as well as the resources and activities

10   required to operate the platform

11   C. Budget – summarizes the estimated IT project costs and ongoing operations

12   costs by year

13   D. Conclusion

14   **II.   ENERGY DATA SHARING PLATFORM**

15   **A.   Introduction**

16   The Energy Data Sharing Platform project proposed by SoCalGas will enable and support

17   future winter demand response programs facilitated by third-party vendors under contract to

18   SoCalGas, such as the Behavioral Messaging Pilot programs outlined in Chapter 1 of this

19   Application, as well as the associated EM&V for SoCalGas DR program evaluations, as outlined

20   in Chapter 1, section III.

21   The EDSP will establish the foundational information technology infrastructure on which

22   SoCalGas, through funding potentially authorized in future regulatory proceedings, could further

23   build out capabilities allowing customers to authorize SoCalGas to provide third parties with

1 automated access to their own natural gas usage and other data via SoCalGas' back office

2 systems. As discussed previously, these future capabilities could eventually include providing

3 "Green Button Connect My Data" and additional data sharing capabilities as the Commission has

4 required of the three other California IOUs in D.11-07-056 and subsequent proceedings.

5   The EDSP will enable automated and secure energy-related customer data transfers to

6 third parties utilizing common data transfer formats to the maximum extent possible, consistent

7 with the approaches utilized by the three other California IOUs and with the ongoing national

8 standards for energy data access, including the Open Automated Data Exchange (OpenADE)

9 Energy Service Provider Interface (ESPI) standard (national Smart Grid standard).[8]

10 Additionally, the platform and associated data transfer protocols will be consistent with the Rules

11 Regarding Privacy and Security Protections for Energy Usage Data in Attachment D of D.11-07-

12 056.

13   As outlined in the Overview and Summary, the EDSP is a critical and foundational

14 element of new and innovative future DR programs implemented by third parties under contract

15 to SoCalGas. The platform will not only support the secure and automated sharing of large

16 volumes of customer interval usage data in support of third-party program implementations but

17 will also support the post-program evaluation efforts that are key to determining the

18 effectiveness and impact of the DR programs. The EDSP is comprised of five primary

19 capabilities, described in further detail in the Detailed Description section of this testimony.

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[8] As described at https://www.energy.gov/data/green-button, the Energy Services Provider Interface (ESPI) data standard was released by the North American Energy Standards Board (NAESB) in the fall of 2011. "The data standards development process was facilitated by the Smart Grid Interoperability Panel, a public private partnership that is facilitated by the National Institute of Standards and Technology (NIST). The ESPI standard consists of two components: 1) a common XML format for energy usage information and 2) a data exchange protocol which allows for the automatic transfer of data from a utility to a third-party based on customer authorization." Further details relating to the ESPI standard is found at: https://www.naesb.org//ESPI_Standards.asp.

1   In addition to being critical to the success of future third-party DR and EE program

2   implementations, SoCalGas' proposed Energy Data Sharing Platform project is consistent with

3   numerous Commission and State energy policy objectives. On a fundamental level, it supports

4   Commission directives aimed at optimizing the cost-effectiveness of demand-side management

5   programs. The EDSP project will automate what could otherwise be manual and labor-intensive

6   processes to extract customer-specific energy-related data from different company systems and

7   transmit data using one-off approaches to various future DR and EE third-party program

8   implementers and evaluators.

9   Leveraging AMI-enabled interval usage information to educate and motivate customers

10   to use energy in a more efficient and timely manner is also a key objective supported in the

11   State's Energy Action Plans, which place a high priority on meeting California's energy growth

12   needs while optimizing energy conservation and resource efficiency for both electricity and

13   natural gas.[9] The State's "Energy Action Plan 2008 Update" specifically outlines "[p]rograms

14   that utilize advanced metering, tariff, and other automated demand response infrastructure" as a

15   "Next Step" with respect to then electric-only Demand Response initiatives.[10]

16   In the context of the State's electric IOU smart meter implementations, the Commission

17   supported this same premise stating that "California ratepayers have incurred substantial costs to

18   modernize the electric meters throughout the state. Many of the benefits of these new meters will

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[9] The State of California, ENERGY ACTION PLAN, first adopted in 2003, states on page 4: "The Action Plan envisions a "loading order" of energy resources that will guide decisions made by the agencies jointly and singly. First, the agencies want to optimize all strategies for increasing conservation and energy efficiency to minimize increases in electricity and natural gas demand."
(https://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF)
[10] *Id*. at 11 and 14.

not be realized until customers can obtain access to their covered data through utilities or through third parties…"[11]

The Commission supported these same principles again in the SoCalGas Advanced Meter decision. In D.10-04-027 the Commission stated that "[t]he [AMI] proposal also provides system-wide technology platform with the ability to expand operating benefits as new applications emerge. We hope and expect that this AMI system will yield further, unforeseen benefits in the future…" and "… we fully expect that SoCalGas will use this opportunity not only to induce behavioral conservation but also to scale-up participation in energy efficiency programs. The dramatic expansion in available energy usage information to customers should fundamentally alter their relationship with energy and encourage greater subscription and utilization of the energy efficiency programs offered through the utility and others."[12] The Commission went on to state that, "we view this synergy to be central to the opportunity afforded by AMI."[13]

Now that SoCalGas' AMI build-out is 99% complete, it is appropriate and vital that the Commission authorize SoCalGas to establish energy data sharing capabilities similar to those it has ordered the three other California IOUs to build out through the "Smart Grid Phase II" and subsequent proceedings. The Commission has noted that it "would welcome considering applications that would provide gas usage data as well."[14]

B. **Detailed Description**

This section provides a detailed overview of the capabilities and technical components of the Energy Data Sharing Platform, as well as details regarding the resources and functions

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[11] D.11-07-056 at 115.
[12] D.10-04-027 at 40.
[13] *Id.*
[14] D.13-09-025 at 59.

1 required to support its ongoing operations. This section is divided into four topics: (1)

2 Description of the SoCalGas EDSP solution; (2) Summary of the IT project estimation process;

3 (3) Ongoing EDSP Operation and Maintenance functions; and (4) EDSP enablement of the

4 Behavioral Messaging Pilot and DR EM&V outlined in Chapter 1 of this Application.

5 <u>Description of the SoCalGas EDSP solution included in this Application</u>

6 As outlined in Figure 2 below, the proposed Energy Data Sharing Platform incorporates

7 several key capabilities, including both "Front end" and "Back office" (or "Back end") functions

8 related to facilitating automated and secure transfer of energy-related customer data to authorized

9 third-party implementers under contract to SoCalGas. Further details regarding each of these

10 capabilities and functions, as well as the ongoing support required to operate and maintain the

11 EDSP, are provided below.

12 **Figure 2: Energy Data Sharing Platform Capabilities**
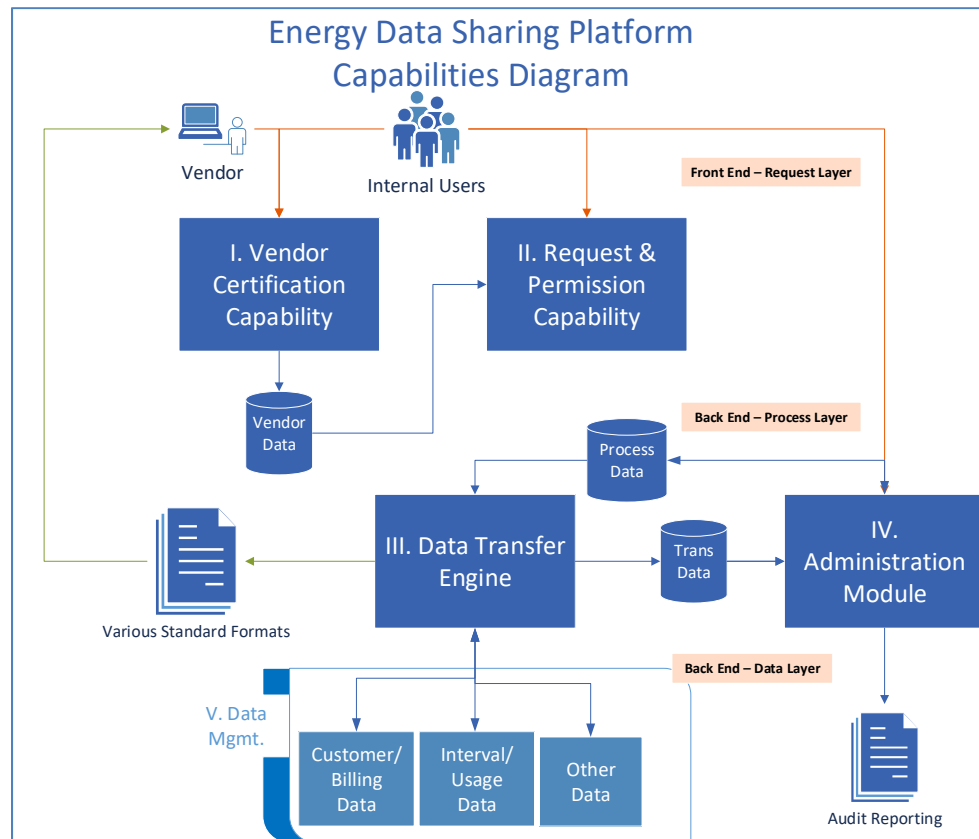
"Front End" - Data Request Administration Capabilities

Vendor (Third Party) Certification Capability - This first capability (shown as "I" on Figure 2 above) facilitates and automates the process workflow for the numerous steps required to certify that a third-party contractor is eligible to participate in SoCalGas' energy data sharing process. It includes SoCalGas' verification that third-party vendors under contract to SoCalGas will protect customers' information by following policies and practices no less protective than SoCalGas' policies.[15] The process requires the following activities:

- Verify that third-party vendors will follow privacy policies and information security practices no less protective than SoCalGas' policies;

- Confirm that each third party receiving customer data can accept SoCalGas' standardized data format(s) and mechanism(s) for data transfer; and

- Identify the type of data and/or program for which the third party is being certified.

Following are the sub-capabilities of the Vendor Certification capability:

1)   Ability for a third party under SoCalGas' administration[16] to request certification:

        a.   The third party selects from a list of the type of programs and/or program evaluation for which the certification is being requested:

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[15] To protect and ensure customer privacy, the CPUC issued "Rules Regarding Privacy and Security Protections for Energy Usage Data." These rules are described in SoCalGas' Tariff Rule No. 42. As noted on SoCalGas's Privacy Notice posted at https://www.socalgas.com/privacy-notice, Third Parties with whom SoCalGas shares customer energy usage data are required to protect customer information by following policies and practices no less protective than SoCalGas' policies.
[16] Third party request may be facilitated by SoCalGas DR EDSP program administrator or SoCalGas Program Advisor who is working with the third party.

i.   The EDSP system in turn specifies the type of data available and

required for given programs, etc.

     b.   Key vendor information is recorded in the EDSP.

2)   The EDSP facilitates the third party's acceptance of SoCalGas data transfer

guidelines and specifications pertaining to data format(s) and the transfer

mechanism(s).

3)   Through the EDSP, SoCalGas secures the third-party contractor's acceptance of

SoCalGas data privacy guidelines and security policies, encompassing general

guidelines regarding use of the data, responsibilities associated with being a

custodian of the data, and other regulatory and legal requirements.

4)   The EDSP facilitates, secures and records a San Diego Gas & Electric Company

(SDG&E) and SoCalGas IT Cybersecurity Consulting department

"Cybersecurity" assessment of the third party's security posture, both initially,

and on a periodic basis.

5)   The EDSP facilitates approval of the third-party certification request via an

automated workflow process:

     a.   Creates approval workflow based on specifics of the certification request;

     b.   Provides electronic notification at each point of approval process;

     c.   Provides final approval notification to the third party and all designated

     approvers.

Request and Permission capability - The second capability (shown as "II" on Figure 2

above) includes processes by which a SoCalGas-authorized internal user sets up an

automated data transfer request to a designated third party under contract to SoCalGas

that has been certified through the previously described "Vendor Certification" process.

This capability includes identification of the customer accounts(s) for which data will be transferred, type of data, format, frequency, duration, etc.

Following are the sub-capabilities of the <u>Request and Permission</u> capability:

1)   Ability for a third-party program implementer (or evaluator) to request energy-related customer data required to implement their program:

     a.   Request made through third party's applicable SoCalGas program administrator contact;

     b.   Request may include one or multiple customer accounts; and

     c.   Request may include various data types.

2)   Ability for the SoCalGas program administrator to identify third party(ies) that have been certified to be able to receive certain types of customer data.

3)   Ability to identify the type of data that can be transferred:

     a.   The SoCalGas administrator is able to choose from a list of available data types individual certified third parties are eligible to receive.

4)   Ability to determine and set the data transfer characteristics:

     a.   "One time" and/or "On-Demand" data transfer; and

     b.   Specific timeframe(s) and frequency associated with and available for each given data type.

"Back Office" - Process/Data Management Capabilities

The "Back office" aspects of the EDSP system include the Data Transfer Engine (shown as "III" in the Figure 2 capabilities diagram), the Administration Module ("IV" in Figure 2), and the Data Management Process capability ("V" in Figure 2). The proposed IT

architecture to enable these capabilities is further detailed in "Figure 3: Energy Data Sharing Platform Conceptual Architecture" and is attached as Appendix A.

Data Transfer Engine – This capability includes the various components of the data sharing platform that manage the approved data requests to verify the transfer of the right data, at the right frequency, in the right format, through the right secure transfer mechanism to the right third-party implementer.

Data Management Process – This capability gathers appropriate data from SoCalGas internal systems and formats the data in pre-determined, standard data formats.

Following are the sub-capabilities of the Data Transfer Engine and Data Management Process capabilities:

1) The Data Transfer Engine runs daily to manage the data required to be shared with each certified and authorized third party for a given day. It identifies the following for each established data transfer:

   a. The third party receiving the data;

   b. The customer account(s) data that is being shared; and

   c. The data format.

2) The engine gathers data from various internal data repositories/systems as required for a given third-party program/evaluation:

   a. Energy/usage data (monthly or hourly/daily interval gas usage data);

   b. Customer data (billing, account, etc.); and,

   c. Other data (for example, specific DR or EE program data).

3) The Data Management process makes sure that the appropriate data is gathered from SoCalGas' internal systems and formatted in pre-determined, standard data formats:

    a.   Each format consists of:

        i.   A list of data elements, and

        ii.   Any additional requirements specific to gathering a specific data element.

4) Data is sent to each receiving third party via the specified data transfer mechanism.

5) Data transfer logs are then recorded in the audit/administration module.

Administration Module – This capability includes elements of the EDSP that facilitate SoCalGas' back office administration of data transfers to third parties, including managing/updating vendor certifications, the ability to view a history and audit trail for all transactions, and the ability to generate reports as needed for internal and/or external stakeholders.

Summary of IT Project Estimation Process

To determine the IT resources and costs required to implement the EDSP project, SoCalGas utilized its standard "IT Lifecyle" processes to develop high level requirements and cost estimates. This included first working with internal DR program management and business systems analyst staff to identify business/program requirements and associated "use cases" involving the need for secure and automated sharing of customer-specific energy-related data with third-party DR program implementors and evaluators. This was followed by working with technical/IT staff, including managers, architects and software developers, to translate the

| 1 | business or functional requirements of the platform to a proposed architecture and high-level set |

business or functional requirements of the platform to a proposed architecture and high-level set

of technical functions/capabilities. Key system requirements included confirming that the

current OpenADE data format standards would be followed (at a minimum), as well as

Commission and other privacy-related directives, mandates, and best practices. A third and key

step in this process was benchmarking against similar capabilities offered by the other IOUs.

SoCalGas carefully studied the applications and approaches proposed by the other three IOUs in

their previous filings and also of a Commission-sponsored "Whitepaper"[17] and Commission

directives outlined in prior energy data sharing-related proceedings as well. These

benchmarking efforts included several in-person meetings and discussions with privacy, program

and IT staff at SDG&E.

These collective system design and estimation efforts resulted in SoCalGas' identification

of the five key system capabilities outlined above, as well as the associated high-level cost

estimates required to build out each of these respective capabilities.

Ongoing EDSP Operation and Maintenance Functions

Because the EDSP will be a major new SoCalGas IT system, and consistent with the

energy data sharing systems developed by the three other California IOUs, there will be ongoing

operations and maintenance requirements associated with the day-to-day support of the

SoCalGas EDSP and the third-party programs it will support. This includes EDSP DR program

administration staff, technical/IT support staff, and annual software licensing, hosting and

maintenance costs.

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[17] Specifically, SoCalGas referenced the "Customer Data Access Committee Whitepaper," published May 21, 2018 and drafted by numerous stakeholders as part of the Customer Data Access Committee, including contributions from CPUC staff.

Properly resourced ongoing EDSP support is critical to make sure reasonable levels of performance are maintained related to the timeliness of initial and ongoing coordination with third-party program implementers (and their respective system/data administrators); initial and ongoing vendor certification, data transfer set-up and testing; ongoing data access; quality assurance monitoring; and software system maintenance, enhancements and day-to-day production support.

The following is a summary of the support functions and elements included in SoCalGas' EDSP funding request:

1. <u>EDSP DR Program Administration</u> – a) provides overall oversight as it relates to the use of the EDSP in support of DR third-party program implementation and evaluation; b) provides direct support and acts as the liaison to SoCalGas internal program managers and to third-party program implementors under contract to SoCalGas; and c) manages all reporting pertaining to the EDSP for internal and external stakeholders.

Other key EDSP Program Administration responsibilities will include:

- Facilitating/guiding third-party implementers or evaluators through the vendor certification process;
- Managing the Request and Permission process within the EDSP to set up data transfers to certified third-party program implementers and evaluators;

- Coordinating with third party vendors on their certification reviews, including periodic Cybersecurity "re-certification" reviews in accordance with SDG&E and SoCalGas IT Cybersecurity requirements;

- De-certification of third-party program/evaluators driven by Commission directive, third-party program termination or company closure; third-party security breach, etc.;

- Coordinating internal SoCalGas response support in the event of security breaches within a third-party program implementer;

- Coordinating customer inquiry support pertaining to third-party implementer utilization of customer data (e.g., responding to customer privacy questions or concerns); and

- Supporting general customer complaint and issue escalation arising from the data transfer aspects of third-party programs.

2. <u>EDSP Business Systems Operations</u> – supports the day-to-day operations of the EDSP system, including working with and coordinating with EDSP DR Program Administration staff, program advisors and IT staff to resolve technical, system and data issues that may arise, defining business requirements for system enhancements, and performing comprehensive system testing of new enhancements to and maintenance of the platform.

Other key responsibilities of EDSP Business Systems Operations include:

- Driving the investigation and resolution of data quality issues identified by internal program staff and/or third-party implementers (e.g., incomplete, inaccurate, or missing data);

1   •   Supporting the initial set-up, testing and verification of automated, secure

2   data transfers to contracted third-parties;

3   •   Supporting the shut down and de-commissioning of automated data

4   transfers to contracted third-parties; and,

5   •   Overseeing proper internal access controls to the EDSP.

6   3.   EDSP IT Support -   as noted above, the Energy Data Sharing Platform will be a

7   new capability in the SoCalGas IT department's portfolio and thus will require

8   associated IT technical support.   Primary responsibilities of EDSP IT Support will

9   include performing software version upgrades and other regular system

10   maintenance on various IT components of the platform, as well as supporting the

11   technical aspects of both ongoing and future cybersecurity and privacy

12   requirements. Another major focus for ESDP IT Support will be to address and

13   resolve technical issues that are identified by both internal and third-party users of

14   the system.   This IT technical support is also needed to develop additional

15   capabilities (e.g., new data types, data formats, and transfer mechanism) that may

16   be required as the DR and EE programs mature and business and technical

17   requirements for the system evolve.

18   EDSP support staff in each of the areas above will also engage as required in ongoing

19 industry dialogues, forums and working groups, including SoCalGas participation in the joint

20 IOU "Customer Data Access Committee," as well as other standards and regulatory forums

21 associated with verifying that the EDSP operates in a manner that is consistent with utility

22 energy data standards and best practices.

1   IT funding is also required for the annual software licensing, hosting and maintenance

2   fees associated with the operation of EDSP software and hardware.

3   Funding requested to support both the staff and non-labor resources discussed above are

4   outlined in Table 2-2 in the "Budget" section that follows.

5   EDSP enablement of Behavioral Messaging Pilot and EM&V

6   As noted earlier, the capabilities and functions of the EDSP that are detailed above in this

7   Detailed Description section will enable the Behavioral Messaging Pilot DR programs outlined

8   in Chapter 1 of this Application.

9   As described in Chapter 1, through the Behavioral Messaging Pilot, SoCalGas will solicit

10   proposals from third-party vendors to implement behavioral-based winter gas demand response

11   programs under contract to SoCalGas. Two types of third-party provided behavioral programs

12   will be solicited for this pilot: Application Based Messaging and Energy Report and Email

13   Messaging.

14   Application Based Messaging will leverage a "Mobile App"-based third-party program

15   provider to sign-up and notify customers of DR event days, with the objective of motivating

16   customers through various behavioral approaches, such as points and rewards, to reduce their gas

17   usage during times of system stress. Similar programs have been implemented by third-party

18   providers for electric DR. These types of programs for electric DR, as they will for gas DR,

19   typically include advanced meter-based energy usage analytics to provide customer-specific

20   messaging and feedback, such as providing a customer with his/her recent usage patterns, a

21   calculation of "forecasted use" during a planned DR event, and/or post-event feedback on actual

22   usage. Third-party DR programs of this nature are dependent on the utility to facilitate the

automated and secure sharing of customer advanced meter usage data on a next day basis

through a data sharing platform with capabilities such as those proposed for SoCalGas' EDSP.

Energy Report and Email Messaging is similarly dependent on an automated, secure and

efficient means by which the utility can transfer sometimes very large quantities of historical and

ongoing advanced meter and other customer data to third-party program implementers. These

types of programs will focus on peak day and event day education and messaging via paper

reports and emails. They will likely incorporate analysis of current customer usage patterns

versus their historical usage patterns, as well as provide potentially tailored pre- and post- energy

use analytics to motivate customers to conserve during DR events. Subsequent to events,

customers will receive reports showing them the impact they had during event and non-event

days. As in the case of the Mobile App-based programs, the long-term success of these types of

DR programs depends on SoCalGas' ability to automatically and efficiently transfer the required

customer advanced meter usage and other data.

The EDSP is also critical to facilitate the data transfers to DR program evaluators

required to conduct the EM&V outlined in Chapter 1, section III, including load impact

evaluations. As is the case for the two types of Behavioral Messaging Pilot programs outlined

above, the post-program load impact analysis for all the DR programs outlined in Chapter 1 will

rely on SoCalGas' ability to quickly and efficiently transfer large quantities of historical and

event day interval data to its DR program evaluation consultants. As the DR Program scales up,

this becomes even more critical to support the quick turnaround post-program load impact

analysis required to evaluate program effectiveness and adjust program approaches prior to the

next winter season.

C.   **Budget**

SoCalGas requests $7.31 million from 2020 through 2022 to build and operate an Energy

Data Sharing Platform. This includes $5.58 million for the initial build out and implementation

of an information technology platform to support third-party contractor access to energy-related

customer data, and an additional $1.73 million over the three-year period to fund the support

staff and ongoing software licensing and maintenance costs required to operate the data sharing

platform. Anticipating a Final Decision on this proceeding during the second half of 2019,

SoCalGas estimates commencing this project at the beginning of 2020, with deployment of the

full platform and capabilities by mid-2021.

Table 2-1 below provides a summary of the estimated costs necessary to build and

implement the various capabilities proposed for the Energy Data Sharing Platform outlined in

this Application.

Table 2-1
SoCalGas Energy Data Sharing Platform Project
Summary of IT Project Costs[18]

Project Costs ($000's)	2020	2021	Total
TOTAL	$ 3,450	$ 2,130	**$ 5,580**

Table 2-2 below provides a summary of the estimated costs necessary to operate the

Energy Data Sharing Platform outlined in this Application.

Table 2-2
SoCalGas Energy Data Sharing Platform Project
Proposed Budget Ongoing Operating Costs

Ongoing Operating Costs ($000's)	2020	2021	2022	Total
TOTAL	$ 312	$ 702	$ 716	**$ 1,730**

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[18] IT project cost estimates include a 20% contingency, which per SoCalGas' IT lifecycle methodology, is standard for this type of "Concept Phase" high level estimation.

D. Conclusion

SoCalGas embraces the opportunity to enable a new generation of energy-saving programs and tools for our customers through leveraging the capabilities of its advanced meter infrastructure to support innovative DR and EE programs. At the same time, it is a priority to protect customer privacy and safety, making sure that their data is made available to third-party program implementers and evaluators in the most secure, standardized, and cost-efficient manner.

The proposed SoCalGas Energy Data Sharing Platform supports the DR programs outlined in Chapter 1 of this Application and is aligned with the Commission's strategic objectives and directives outlined in D.11-07-056 and subsequent proceedings pertaining to the IOUs implementing and enhancing energy-related customer data sharing capabilities in support of both expanded and enhanced DR and EE opportunities.   SoCalGas requests approval to recover the costs associated with building, implementing and operating the EDSP to enable and support future DR programs facilitated by third-party vendors under contract to SoCalGas.

This concludes my prepared direct testimony.

III. QUALIFICATIONS

My name is Nancy Carrell Lawrence. My business address is 555 West Fifth Street, Los Angeles, California. I am currently employed by SoCalGas as the Operations Strategy Manager within the Customer Programs and Assistance Organization.

I joined SoCalGas over twenty-five years ago and have worked in a variety of product development, project management, technical, information technology, and customer communications-focused positions at both regulated and unregulated Sempra Energy companies. These positions included SoCalGas Energy Services Engineer, Business Development Manager for Sempra International, Market Strategy and Web/eServices Manager for SoCalGas and

1 SDG&E, and Advanced Meter Customer Experience and Energy Presentment Manager for

2 SoCalGas.

3   Prior to my current role, I managed the customer communications, conservation and

4 energy engagement tool implementation aspects for SoCalGas' six million meter advanced meter

5 infrastructure (AM) deployment. During my tenure on the AM project, I led the implementation

6 of new energy and bill analysis tools for customers and company service representatives, as well

7 as the development of new "behavior change" conservation and Demand Response programs that

8 leverage advanced meter data to bring new energy-saving insights to SoCalGas customers.

9 Many of these new advanced meter-enabled programs and tools are now being carried forward

10 by EE and other SoCalGas organizations.

11   I have a B.S. in Mechanical Engineering from the University of California, Davis, and a

12 Masters in Business Administration from the University of California, Los Angeles.

APPENDIX A

Appendix A: Figure 3: Energy Data Sharing Platform Conceptual Architecture

Conceptual Architecture
SoCalGas Energy Data Sharing Platform

Back End - Process Layer

Process Monitoring
Rules Configuration
Process Management
Data Access Rules
Response Reports
Regulatory Guidelines
Report Formatting
Aggregation Rules
Authentication Rules
Authorization Rules

Front End – Request Layer

Requestor

3rd Party

Internal

Responses

Requests

Communications

Secure Transfer Mechanism
Requestor Authentication
Request Authorization
Requestor Communications Email/Text

Completed Responses

Requests for Clarifications on Identity and Requests

Process Database

Process Administration

View History
Reporting Tools
Search
Archives
Email Responses
Manual Intervention
Report Initiation
Audit Reports

Back End – Data Layer

Data Management
Includes calculation and transformation

ETL

Billing
Customer
Usage
Interval Data
Others

ETL