

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

Application of the California Energy	)	
Commission for Approval of Electric Program	)	Application 12-11-001
Investment Charge Proposed 2012 through	)	(Filed November 1, 2012)
2014 Triennial Investment Plan	)	
	)	
_____	)	
And Related Matters.	)	
	)	Application 12-11-002
	)	Application 12-11-003
	)	Application 12-11-004
_____	)	

**COMPLIANCE FILING OF SAN DIEGO GAS & ELECTRIC COMPANY'S  
(U 902 E) 2013 EPIC ANNUAL REPORT**

Emma D. Salustro  
101 Ash Street, HQ12  
San Diego, California 92101-3017  
Telephone: (619) 696-4328  
Facsimile: (619) 699-5027  
Email: esalustro@semprautilities.com

Attorney for:  
SAN DIEGO GAS & ELECTRIC COMPANY

February 28, 2014

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

Application of the California Energy	)	
Commission for Approval of Electric Program	)	Application 12-11-001
Investment Charge Proposed 2012 through	)	(Filed November 1, 2012)
2014 Triennial Investment Plan	)	
	)	
_____	)	
And Related Matters.	)	
	)	Application 12-11-002
	)	Application 12-11-003
	)	Application 12-11-004
	)	
_____	)	

**COMPLIANCE FILING OF SAN DIEGO GAS & ELECTRIC COMPANY'S  
(U 902 E) 2013 EPIC ANNUAL REPORT**

Pursuant to the Ordering Paragraph 16 of Decision (“D.”) 12-05-037 and in accordance with the annual report outlined provided in Attachment 5 of D.13-11-025, San Diego Gas & Electric Company (“SDG&E”) hereby submits its 2013 EPIC Annual Report (“Report”), provided hereto as Attachment A. In addition, SDG&E provides the excel file titled “SDG&E 2013 EPIC Project Status Report” in accordance with D.13-11-025 as Attachment B.<sup>1</sup> Together the two documents provide an overview of SDG&E’s EPIC activities during the 2013 calendar year and program financial information through December 31, 2013 (2012-2013).

<sup>1</sup> The EPIC Administrators are required to provide with the annual report “electronically in spreadsheet format the information identified in Attachment 6 to report on projects described in Section 4.b of the EPIC annual report outline adopted by this decision.” D.13-11-025 at 63; Attachments 5 & 6.

SDG&E and its fellow EPIC Administrators are required to each submit an annual report “detailing program activities.”<sup>2</sup> The annual reports are designed “to facilitate consistent reporting by the [EPIC] Administrators on their investment plans and project results.”<sup>3</sup> The reports, and their timing, are intended to inform stakeholders of the EPIC Plan’s accomplishments when they meet with the EPIC administrators in March of the years in which investment plans will be considered.<sup>4</sup> Stakeholder workshops for the Second Triennial EPIC Plan are currently scheduled for mid-March 2014. The Second Triennial EPIC Plans will be filed on May 1, 2014.

In accordance with D.12-05-037, SDG&E serves this Report on “all parties in the most recent EPIC proceeding, and all parties to the most recent general rate cases” for SDG&E, Pacific Gas & Electric, and Southern California Edison.<sup>5</sup> SDG&E did not conduct any EPIC program solicitations in 2013, so there are no EPIC funding applicants to serve with this Report.

DATED at San Diego, California, this 28th day of February, 2014.

Respectfully submitted,

SAN DIEGO GAS & ELECTRIC COMPANY

By: /s/ Emma D. Salustro

EMMA D. SALUSTRO  
101 Ash Street, HQ-12B  
San Diego, California 92101-3017  
Telephone: (619) 696-4328  
Facsimile: (619) 699-5027  
E-mail: ESalustro@semprautilities.com

---

<sup>2</sup> D.12-05-037 at 8.

<sup>3</sup> D.13-11-025 at 4-5, 62.

<sup>4</sup> D.12-05-037 at 30-31.

<sup>5</sup> D.12-05-037 at OP 16.

**ATTACHMENT A**

**SDG&E 2013 EPIC ANNUAL REPORT**



**San Diego Gas & Electric Company**  
**2013 EPIC Annual Report**

**February 28, 2014**

## 1. EXECUTIVE SUMMARY

Pursuant to Ordering Paragraph 16 of Decision (“D.”) 12-05-037 and in accordance with the Annual Report outline provided in Attachment 5 of D.13-11-025, San Diego Gas & Electric Company (“SDG&E”) hereby submits its 2013 EPIC Annual Report (“Report”). This Report provides an overview of SDG&E’s EPIC activities up to and during the 2013 calendar year. This Report also includes information on SDG&E’s Plug-in Electric Vehicle (“PEV”) submetering pilot program activities up to and during the 2013 calendar year because SDG&E intends to fund the PEV submetering pilot program with EPIC funds.<sup>6</sup> Additional information about SDG&E’s EPIC and PEV submetering pilot program activities is provided in Attachment B as “SDG&E 2013 EPIC Project Status Report.”

### a. Overview of Programs/Plan Highlights

In A.12-11-002, SDG&E requested Commission approval of five programs that demonstrate smart grid system integration solutions. In November 2013, SDG&E’s Application and First Triennial EPIC Plan was approved in full, with minor modifications, by the Commission in D.13-11-025. The total SDG&E budget for the first triennial cycle is \$8,600k. Ten percent of this amount (\$860k) is allotted to administration. The remainder (\$7,740k) is allotted to technical work in the Technology Demonstration and Deployment (TD&D) programs, which are limited to precommercial demonstrations.

### b. Status of Projects

Also in November 2013, Commission issued D.13-11-002 in a separate proceeding, which encouraged SDG&E to use EPIC funds for a PEV submetering pilot. SDG&E plans on using EPIC funds for the PEV submetering pilot.<sup>7</sup> To fully fund the PEV

---

<sup>6</sup> D.13-11-025 “encourage[s]” SDG&E to use EPIC funds for the PEV submetering pilot but does not clarify whether SDG&E should consider the PEV submetering pilot as part of its EPIC portfolio for reporting purposes if it chooses to fund the PEV submetering pilot with EPIC. D.13-11-025 at 41. On January 14, 2014, SDG&E filed a Petition for Modification (PFM) of D.13-11-025 seeking clarification that if SDG&E were to use EPIC funds, it should include the PEV submetering pilot in its EPIC portfolio for reporting purposes. On January 21, 2014, SDG&E, Pacific Gas & Electric Company (“PG&E”) and Southern California Edison Company (collectively, the “IOUs”), jointly filed Advice Letter (“AL”) 2566-E, pursuant to D.13-11-002, which included the IOUs’ proposed PEV submetering pilot program budgets. SDG&E expressed its intent to fully fund the PEV submetering pilot with EPIC funds. AL 2566-E at Attachment B. Both the PFM and the Advice Letter are still pending before the Commission. In the interest of transparency, SDG&E has included information about the PEV submetering pilot project as part of this 2013 Annual EPIC Report.

<sup>7</sup> See AL 2566-E at Attachment B.

submetering pilot through EPIC, SDG&E will only be able to execute three of its five EPIC programs.

Therefore, SDG&E has eliminated the following two projects from the SDG&E First Triennial EPIC Portfolio because of budget limitations:

- Smart Grid Architecture Demonstrations
- Visualization and Situational Awareness Demonstrations

The two eliminated programs will be considered for the second triennial cycle, but their inclusion is not guaranteed.<sup>8</sup> A third program – Distributed Control for Smart Grid – will be downscoped to accommodate a smaller budget. Accordingly, SDG&E’s revised First Triennial Cycle EPIC Portfolio is provided in Table 1.

**Table 1**

<b>Project</b>	<b>Project Commitments (\$k) (Allocations)</b>	<b>Comments</b>
1. PEV Submetering Pilot	\$3,298 <sup>9</sup>	Budget estimate still preliminary.
2. Demonstration of Grid Support Functions of Distributed Energy Resources	\$1,673	No change from original plan.
3. Smart Distribution Circuit Demonstrations	\$1,599	No change from original plan.
4. Distributed Control for Smart Grids	\$1,170	Activity will be downscoped to accommodate smaller budget; final program budget is dependent on the PEV submetering project’s budget.
Administrative activities	\$860	
<b>Total</b>	<b>\$8,600</b>	

<sup>8</sup> The PFM also requests confirmation from the Commission that the EPIC Administrators do not have to execute every EPIC program approved by the Commission.

<sup>9</sup> See AL 2566-E at Attachment B.

i. Project 1: PEV Submetering Pilot

No solicitations were conducted or awarded in 2013. A project manager has been designated for the PEV submetering pilot and a project plan is being developed. Final program metrics are currently being developed.

The three IOUs jointly submitted AL 2566-E on January 21, 2014, as required by the PEV submetering Pilot Decision.<sup>10</sup> AL 2566-E includes the PEV submetering requirements provided by Energy Division to the utilities, draft versions of the data format template, the submeter Meter Data Management Agent (MDMA) registration form, the Customer enrollment form, MDMA Service Requirements, Preliminary Budgets and a timeline for the PEV submetering pilot project evaluation processes. SDG&E stated in the AL 2566-E its plan to fund 100% of the PEV submeter pilot program with EPIC funds.

AL 2566-E was protested by several parties on February 10, 2014, and the IOUs submitted joint reply comments to the protests on February 18, 2014. As of this filing, the AL remains pending before the Commission.

SDG&E has been planning for and designing the first PEV submetering pilot since D.13-11-002 was approved by the Commission in November 2013. Pending Commission approval of AL 2566-E, the first pilot is expected to begin April 1, 2013 with MDMA enrollment and with customer enrollment starting May 1, 2014. The MDMA's will provide tariffed PEV submetering service under Schedule PEVSP, and a Statewide Third Party Evaluator will be selected through an RFP process managed by PG&E. The second pilot will be completed by December 31, 2016.

ii. Project 2: Demonstration of Grid Support Functions of Distributed Energy Resources

No competitive solicitations or non-competitive procurements were conducted in 2013. Candidates for the SDG&E project manager role are being interviewed and a selection will be made in early 2014. The project manager will develop an implementation plan for the project, including approach, staffing, procurement plans, specific metrics and schedule.

iii. Project 3: Smart Distribution Circuit Demonstrations

No competitive solicitations or non-competitive procurements were conducted in 2013. Candidates for the SDG&E project manager role are being interviewed and a selection will be made in early 2014. The project manager will develop an implementation plan for the project, including approach, staffing, procurement plans, specific metrics and schedule.

---

<sup>10</sup> D.13-11-002 at OPs 2 & 3.



iv. Project 4: Distributed Control for Smart Grids

No competitive solicitations or non-competitive procurements were conducted in 2013. The rescoping of Project 4 will begin in 2014, after the submetering project budget is settled and the extent of residual funding left for Project 4 is known. The project manager will develop an implementation plan for the project, including approach, staffing, procurement plans, specific metrics and schedule, at that time.

## **2. INTRODUCTION AND OVERVIEW**

### **a. Background on EPIC**

EPIC was previously established by the Commission in D.11-12-035 to provide public interest investments in applied research and development, technology demonstration and deployment, market support, and market facilitation of clean energy technologies and approaches for the benefit of ratepayers of California IOUs. D.12-05-037 established the purposes and governance structure for EPIC.

EPIC is designed to provide funding for electric utility research, development, and demonstration (“RD&D”). Specific funding allotments are made to four EPIC program administrators, including SDG&E. The EPIC program is intended to run until 2020 and is comprised of three triennial program cycles.

### **b. EPIC Program Components**

The IOUs, including SDG&E, may only administer EPIC projects in the area of pre-commercial technology development and deployment (“TD&D”). Post-commercial demonstrations and deployments are not allowed. Utility participation in the early stages of the research and development process for new utility-related technology, i.e., basic research, is also not allowed. The Commission has also determined that the PEV submetering pilot project may be funded with EPIC funds.<sup>11</sup>

---

<sup>11</sup> D.13-11-002 at 41 & 42 (“[A]ll or the majority of costs for the submetering pilot program can be fully recovered through EPIC program funding, if approved.”); D.13-11-025 at 41 (“SDG&E is not required but is encouraged to support [the PEV Submetering Pilot] project with EPIC funds.”).

### **c. EPIC Program Regulatory Process**

Pursuant to D.12-05-037, SDG&E must submit an application seeking Commission approval of an EPIC plan every three years. SDG&E submitted A.12-11-002 on November 1, 2012 and received full Commission approval of the Plan in D.13-11-025. No hearings were held. SDG&E will submit its next EPIC plan on May 1, 2014.

SDG&E and the other EPIC administrators are required to submit an annual report every February 28. This is the second annual report submitted by SDG&E for its EPIC program.

### **d. Coordination among EPIC Administrators**

The four EPIC administrators have regular teleconferences and ad-hoc face-to-face meetings as needed to coordinate EPIC activities. A Commission workshop to discuss the filed First Triennial EPIC plans with the four administrators was held on January 17-18, 2013. A public webinar was held on December 18, 2013. The three IOUs have a weekly coordination meeting to discuss PEV submetering pilot issues.

### **e. Transparent and Public Process**

SDG&E participated in a public workshop with the Office of Ratepayer Advocates (“ORA”) during the review process of the EPIC plans on January 17-18, 2013. SDG&E participated in a public webinar on December 18, 2013, in which all EPIC administrators gave updates on their implementation plans shortly after the EPIC plans were approved. SDG&E is committed to conducting competitive procurements for those parts of the project work that require contracted services or equipment or software purchases. An SDG&E public EPIC web site has been established at <https://www.sdge.com/epic>.

### 3. SDG&E's EPIC Budget & Related Costs

#### a. SDG&E Authorized Budget & Incurred Costs (2012 – 2014)

**Table 2**

	<b>Administrative</b>	<b>Technology Demonstration &amp; Deployment</b>
SDG&E Authorized Budget	\$860k	\$7,740k
SDG&E Incurred Costs	\$102k	\$0
SDG&E Disbursements to CEC	1,764k	\$0
SDG&E Disbursements to Commission for Regulatory Oversight	2012: \$62k 2013: \$0	n/a

#### b. Commitments/Encumbrances

As demonstrated in Table 1, SDG&E has committed 100% of its budget for projects (\$7,740k) for the first EPIC triennial cycle. Except for minimal administrative costs, SDG&E had not encumbered funds for either internal or external activities as of December 31, 2013.

#### c. Dollars Spent on In-House Activities

SDG&E has incurred \$102k for overall program administrative expenses during 2012-2013.

#### d. Fund Shifting Above 5% between Program Areas

SDG&E has shifted funds from its originally proposed EPIC projects to the PEV submetering pilot project. This fund shifting occurs within the TD&D area, and thus does not need Commission approval.<sup>12</sup>

<sup>12</sup> D.12-05-037 at OP 14.

#### e. Uncommitted/Unencumbered Program Funds

As demonstrated in Table 1, SDG&E has \$7,740k unencumbered, but committed, program funds as of December 31, 2013. SDG&E does not have any unencumbered and uncommitted program funds as of December 31, 2013.

#### 4. SDG&E FIRST TRIENNIAL EPIC PROJECTS

a. **SDG&E EPIC Portfolio:** Categorized by areas of the IOU Working EPIC Program Framework described in the SDG&E EPIC Plan

<b>1. Renewables and DER Integration</b>
<ul style="list-style-type: none"><li>• None</li></ul>
<b>2. Grid Modernization and Optimization</b>
<ul style="list-style-type: none"><li>• Submetering Pilots</li><li>• Demonstration of Grid Support Functions of Distributed Energy Resources (DER)</li><li>• Smart Distribution Circuit Demonstrations</li><li>• Distributed Control for Smart Grids</li></ul>
<b>3. Customer Service and Enablement</b>
<ul style="list-style-type: none"><li>• None</li></ul>

b. **Project Status Report:** In accordance with D.13-11-025,<sup>13</sup> the SDG&E 2013 EPIC Project Status Report has been provided as Attachment B.

#### c. Description of Projects

##### **Project 1: PEV Submetering and Subtractive Billing Pilot Project, as Authorized in D. 13-11-002**

- i. Investment Plan Period  
2012-2014
- ii. Assignment to Value Chain  
Distribution
- iii. Objective  
This is a two-phase pilot for EV submetering with subtractive billing. The pilots utilize third party-owned PEV submeters and SDG&E subtractive billing to separately bill PEV charging usage from other premise usage.

<sup>13</sup> D.13-11-025 at 63; Attachments 5 & 6.

iv. Scope

A third-party MDMA will recruit participants, and own, install, maintain and read the EV submeters. SDG&E will receive MDMA and Customer participant registrations, receive the submeter data from the MDMA, and perform the subtractive billing processes.

v. Deliverables

A third-party evaluator, contracted by PG&E, will evaluate the pilots Statewide and prepare a public report.

vi. Metrics

Formal metrics for the pilot evaluation may include:

- 1) Comparison of the total cost of metering services;
- 2) Access to PEV tariffs;
- 3) Multiple submeter MDMA and PEVs operating behind a primary meter;
- 4) Utility disconnection capability;
- 5) Customer satisfaction;
- 6) Reliability of data, technology, and service;
- 7) Service and technology innovations;
- 8) Technology standardization;
- 9) Cost minimization.

These metrics are more fully described in D.13-11-002 at 36-38.

vii. Schedule

The PEV submetering pilot is scheduled to start April 1, 2014, pending approval of AL 2566-E, and the final completion of data is scheduled for December 31, 2016. The Joint IOU Advice Letter 2566-E to implement the pilots was filed on January 21, 2014, and was suspended up to 120 days on January 28, 2014 for Commission staff review. It is currently pending at the time of this Report's submission.

viii. EPIC Funds Encumbered

\$0

ix. EPIC Funds Spent

\$0

- x. Partners (if applicable)  
Submeter Meter Data Management Agents, and a Third-Party Evaluator
- xi. Match Funding (if applicable)  
n/a
- xii. Match Funding Split (if applicable)  
n/a
- xiii. Funding Mechanism (if applicable)  
Combination of in-house work and pay-for-performance contracts
- xiv. Treatment of Intellectual Property (if applicable)  
TBD. None to date.
- xv. Status Update  
The three IOUs submitted AL 2566-E on January 21, 2014, which includes the submetering requirements provided by the Commission's Energy Division to the utilities, draft versions of the data format template, the submeter Meter Data Management Agent registration form, the customer enrollment form, MDMA Service Requirements, Preliminary Budgets and a timeline for the PEV submetering pilot project evaluation processes. SDG&E states in AL 2566-E that it intends to fund the PEV submetering pilot with EPIC funds. AL 2566-E was suspended up to 120 days on January 28, 2014 for Commission staff review. AL 2566-E was protested by several parties on February 10, 2014, and the IOUs submitted joint reply comments to the protests on February 18, 2014. Pending timely Commission approval of AL 2566-E, the PEV submetering pilot is scheduled to commence April 1, 2014.

**Project 2: Demonstration of Grid Support Functions of Distributed Energy Resources**

- i. Investment Plan Period  
2012-2014
- ii. Assignment to Value Chain  
Distribution

iii. Objective

The objective is to assess the viability of using DER to provide non-traditional functions, such as Volt/VAR regulation, fast-response peaking or emergency power, peak shaving and distribution system status information. These findings will be used to determine DER's appropriate roles in a mix of alternative solutions for distribution system voltage regulation, electrical loss reduction, and gains in safety and reliability. The results will aid utilities to decide which, if any, DER grid support functions in specific application situations warrant commercial pursuit.

iv. Scope

DER grid support functions will be tested in various application situations to assess their technical and economic viability and to determine interconnection and interoperability system requirements for control and dispatch of those DER functions that appear to be viable for commercial adoption (if any).

v. Deliverables

There are no received deliverables at this early stage. The final report describing the work and results will include (but not be limited to) the following items:

- Descriptions of DER functions demonstrated, application situations, testing performed, and test results.
- Recommendations regarding which DER functions should be pursued commercially in power distribution systems.
- Roadmap for transfer of knowledge gained (on function viability and interoperability system requirements to support functions) to commercial practice and/or to standards working groups, as may be appropriate.
- Specifications for integration systems to encourage “plug and play” capabilities in the “smart inverters” (power conditioning systems) and other integration components.
- Transfer of relevant information to standards development organizations and other stakeholders.

vi. Metrics

This project is still being developed so there is not yet a comprehensive list of project metrics. Future annual reports will include a list of project metrics, in accordance with D.13-11-025.<sup>14</sup>

---

<sup>14</sup> D.11-13-025 at 67; Attachment 4 (potential project metrics).

In general, the ultimate measures of success for this project will be if it provides a basis for deciding which DER functions warrant commercial pursuit in smart grid development. Project metrics will also include the identification of suitable interoperability and interconnection systems that support the functions. Finally, the metrics will include a determination of what standards, rules and regulations are needed to encourage the adoption of viable grid support functions and the dissemination of program results to standards writers and governmental entities engaged in drafting applicable industry standards and rules.

- vii. Schedule  
January 1, 2014 to December 31, 2016
- viii. EPIC Funds Encumbered  
\$0
- ix. EPIC Funds Spent  
\$0
- x. Partners (if applicable)  
n/a
- xi. Match Funding (if applicable)  
n/a
- xii. Match Funding Split (if applicable)  
n/a
- xiii. Funding Mechanism (if applicable)  
Combination of in-house work and pay-for-performance contracts
- xiv. Treatment of Intellectual Property (if applicable)  
TBD. None to date.
- xv. Status Update  
SDG&E project manager selection is currently in progress. The appointed project manager will develop a project implementation plan, including approach, testing locations, internal staffing, specific metrics, procurement plans, and schedule.



In developing the implementation plan, the SDG&E project manager will work with the involved SDG&E stakeholder groups to define the details for project implementation, including which services, equipment, and software need to be procured for the project and the timeline for these items. A procurement schedule will then be developed. Procurements are expected to occur by the third quarter of 2014.

### **Project 3: Smart Distribution Circuit Demonstrations**

- i. Investment Plan Period  
2012-2014

- ii. Assignment to Value Chain  
Distribution

- iii. Objective

The objective of this project is to perform pilot demonstrations of smart distribution circuit features and associated simulation work to identify best practices for integrating new and existing distribution equipment in these circuits. Simulations will take advantage of hardware-in-loop testing with a real-time digital simulator currently available at SDG&E. Using simulations to optimize one particular circuit, desired features will be tested in that circuit to assess their suitability for widespread commercial adoption.

- iv. Scope

This three-year project will encompass laboratory and field testing of alternative distribution circuit components and circuit designs, and assess the related distribution system operational implications. Tests will be staged and data will be taken. It will be necessary to stage “before and after” simulations and tests to understand the prospective benefits of specific options that are under study. Data analysis will be performed, and recommendations will be made on best practices for robust distribution circuit practices in the future.

- v. Deliverables

There are no received deliverables at this early stage. This project will produce three reports containing project data, findings, and recommendations. The Hardware and Circuit Evaluation Report (an interim report) will describe the available and existing hardware capabilities, the required hardware or simulations and any baseline data results and conclusions. The Circuit Simulation Report (an interim report) will provide the simulation model specifics, required control algorithms, optimal equipment placement, and any circuit

improvements simulated (based on baseline data). The comprehensive Final Report will document all of the work and important project results.

vi. Metrics

This project is still being developed so there is not yet a comprehensive list of project metrics. Future annual reports will include a list of project metrics, in accordance with D.13-11-025.<sup>15</sup>

In general, the ultimate measure of success will be having a benchmark smart distribution circuit design that helps advance smart grid development. The circuit design will be capable of assimilating a wide variety of smart devices and will have a protection system that allows this assimilation to be done without compromising reliability or safety. Project metrics will include meeting project milestones and completing deliverables. The findings will be published in relevant technical conferences and journals.

vii. Schedule

January 1, 2014 to December 31, 2016

viii. EPIC Funds Encumbered

\$0

ix. EPIC Funds Spent

\$0

x. Partners (if applicable)

n/a

xi. Match Funding (if applicable)

n/a

xii. Match Funding Split (if applicable)

n/a

xiii. Funding Mechanism (if applicable)

Combination of in-house work and pay-for-performance contracts

---

<sup>15</sup> D.11-13-025 at 67; Attachment 4 (potential project metrics).

- xiv. Treatment of Intellectual Property (if applicable)  
TBD. None to date.

- xv. Status Update

SDG&E project manager selection is currently in progress. The appointed project manager will develop a project implementation plan, including approach, testing locations, internal staffing, procurement plans, and schedule.

In developing the implementation plan, the SDG&E project manager will work with the involved SDG&E stakeholder groups to define the details for project implementation, including which services, equipment, and software need to be procured for the project and when. A procurement schedule will then be developed. Procurements are expected to occur by the third quarter of 2014.

#### **Project 4: Distributed Control for Smart Grids**

- i. Investment Plan Period  
2012-2014

- ii. Assignment to Value Chain  
Distribution

- iii. Objective

The objective of this project is to test alternatives for communication and control across distribution system resources to ensure that devices operate in a complementary manner and ensure optimum distribution system performance, reliability, and stability. The project will test distributed control methods and approaches to control distribution circuit resources and integrate them as part of a unified control scheme with other higher-level control systems, such as DMS. The project work will assess the scalability and performance of alternative control schemes.

- iv. Scope

The distributed control methods must be devised to be compatible with the overall distribution management system capabilities being developed for the SDG&E system, and they must contribute to improvements in circuit electrical efficiency (electrical loss reduction), reliability, frequency control, voltage regulation, stability, and asset health maintenance. The scope of this project will be narrowed from

SDG&E's original EPIC Plan based on the reduced available project budget.

v. Deliverables

There are no received deliverables at this early stage. The expected deliverables will be determined in re-scoping the project. A comprehensive final report will be the key deliverable.

vi. Metrics

This project is still being developed so there is not yet a comprehensive list of project metrics. Future annual reports will include a list of project metrics, in accordance with D.13-11-025.<sup>16</sup>

In general, metrics for this project will be based on comparing the performance of distribution system operations when various control schemes are in place with the performance of the same operations when the control schemes are not in place. These performance metrics will include measures of power quality, electrical loss reductions, asset health maintenance, and adaptability to new device types in the distribution system.

vii. Schedule

January 1, 2014 to December 31, 2016

viii. EPIC Funds Encumbered

\$0

ix. EPIC Funds Spent

\$0

x. Partners (if applicable)

n/a

xi. Match Funding (if applicable)

n/a

xii. Match Funding Split (if applicable)

n/a

---

<sup>16</sup> D.11-13-025 at 67; Attachment 4 (potential project metrics).

- xiii. Funding Mechanism (if applicable)  
Combination of in-house work and pay-for-performance contracts
- xiv. Treatment of Intellectual Property (if applicable)  
TBD. None to date.
- xv. Status Update  
SDG&E project manager selection is currently in progress. The appointed project manager will develop a project implementation plan, including approach, testing locations, internal staffing, procurement plans, and schedule.

In developing the implementation plan, the SDG&E project manager will work with the involved SDG&E stakeholder groups to define the details for project implementation, including which services, equipment, and software need to be procured for the project and the timeline for these items. A procurement schedule will then be developed. Procurements are expected to occur by the third quarter of 2014.

## **5. CONCLUSION**

### **a. Key Results for the Year for SDG&E EPIC Projects**

SDG&E's EPIC Plan and PEV submetering pilot were approved in November 2013. While SDG&E has initiated preliminary project work, no project results are yet available.

### **b. Next Steps for SDG&E's First Triennial EPIC Investment Plan**

Project managers will be selected for the individual projects in early 2014. The project managers will develop implementation plans for their respective projects. Project work will then be performed according to their implementation plans. Procurement for contractors will occur by 3Q 2014. Contractors will assist in the project work and/or supply equipment or software, per the implementation plans that are developed. Pending timely Commission approval of AL 2566-E, the PEV submetering pilot is scheduled to commence April 1, 2014.

### **c. Issues That May Have Major Impact on Progress in Projects, if Any**

Pending timely Commission approval of AL 2566-E, the PEV submetering pilot is scheduled to commence April 1, 2014.

SDG&E will not be able to develop the specific scope and metrics for its fourth project, Distributed Control for Smart Grids, until it has a final budget for the PEV submetering pilots.