Company: San Diego Gas & Electric Company (U 902 M)
Proceeding: 2024 General Rate Case
Application: A.22-05-015/-016 (cons.)
Exhibit: SDG&E-217

REBUTTAL TESTIMONY OF

DAVID H. THAI

(CUSTOMER SERVICES – FIELD OPERATIONS)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

May 2023

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REBUTTAL TESTIMONY OF
DAVID H. THAI
(CUSTOMER SERVICES – FIELD OPERATIONS)

I. SUMMARY OF DIFFERENCES

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Comparison of San Diego Gas & Electric (SDG&E) and Intervenors
TY 2024 Estimated CS-Field Operations Operating and Maintenance (O&M) Expenses

TOTAL O&M - Constant 2021 ($000)			
	Base Year 2021	**Test Year 2024**	**Change**
SDG&E	33,342	40,337	6,995
CAL ADVOCATES	33,342	37,210	3,868
JOINT CCAs	33,342	40,337	6,995
TURN	33,342	34,233	891
UCAN	33,342	36,722	3,380

TABLE DT-2
Comparison of SDG&E and Intervenors
Estimated CS-Field Operations Information Technology (IT) Capital Expenses

TOTAL CAPITAL - Constant 2021 ($000)					
	2022	**2023**	**2024**	**Total**	**Difference to SDG&E**
SDG&E	22,833	52,849	81,418	157,100	
CAL ADVOCATES	20,687	34,942	42,629	98,258	-58,842
JOINT CCAs	22,833	52,849	81,418	157,100	0
TURN	5,141	6,208	3,663	15,012	-142,088
UCAN	22,833	52,849	0	75,682	-81,418

II. INTRODUCTION

This rebuttal testimony regarding San Diego Gas & Electric Company's (SDG&E's) request for Customer Services – Field Operations (CS-Field Operations) addresses the following testimony from other parties:

- The Public Advocates Office of the California Public Utilities Commission (Cal Advocates), as submitted by Mariana Campbell (Exhibit CA-10), dated March 2023.[1]

[1] Ex. CA-10 (Testimony of Mariana Campbell on behalf of Cal Advocates), March 27, 2023.

- San Diego Community Power and Clean Energy Alliance (Joint CCAs), as submitted by Mark Fulmer, dated March 2023.[2]
- The Utility Reform Network (TURN), as submitted by David Cheng (Exhibit TURN-09C), dated March 2023.[3]
- The Utility Consumers' Action Network (UCAN), as submitted by Dr. Eric Charles Woychik, dated March 2023.[4]

As a preliminary matter, the absence of a response to any particular issue in this rebuttal testimony does not imply or constitute agreement by SDG&E with the proposal or contention made by these or other parties. The forecasts contained in SDG&E's direct testimony, performed at the project level, are based on sound estimates of its revenue requirements at the time of testimony preparation.

Additionally, as a matter of prudence, the deliberations herein regarding the Smart Meter 2.0 (SM2.0) and Field Service Delivery (FSD) programs are fundamental to daily SDG&E customer and field operations. Specifically, without Smart Meter, SDG&E could not issue customer bills with customer usage data. If FSD were not available, customer field service orders could not be scheduled and routed to field technicians. The current systems are reaching (or have reached) end of life (accounting and useful).

Smart Meter failures attributable to technology reaching end of life of 17-years, as referenced in Decision (D.) 07-04-043 (Opinion Approving Settlement on San Diego Gas & Electric Company's Advanced Metering Infrastructure Project), are creating challenging operating scenarios that are resulting in increased bill estimations and/or delayed bills and will deteriorate the efficacy of SDG&E's grid outage detection sourced from smart meter data power outage notifications. As Department of Ratepayer Advocates (formerly DRA, currently Cal Advocates) stated and asserted in the Settlement that approved the initial Advanced Meter Infrastructure Project:

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[2] Joint CCAs (Prepared Direct Testimony of Mark Fulmer on behalf of Joint CCAs), March 27, 2023 (hereinafter, Ex. CCA (Mark Fulmer)).

[3] Ex. TURN-09C (Prepared Testimony of David Cheng on behalf of TURN), March 27, 2023.

[4] UCAN (Prepared Direct Testimony of Dr. Eric Charles Woychik on behalf of The Utility Consumers Action Network), March 27, 2023 (hereinafter, Ex. UCAN (Eric Woychik)).

"Projects have a clear start date and, if well run, a clear end date; the SDG&E AMI system will be substantially (if not wholly) be replaced after 17 years." [5]

Further, as addressed in D.07-04-043:

- "DRA recommends the use of a 17-year analytical timeframe, based on the longest useful life of the components of the Project. DRA's recommendation is consistent with the analytical approach we used for PG&E in D.06-07-027."[6]
- "SDG&E would likely install a second generation of AMI starting after 17 years. By 2026 (the last year of the expected system lifetime of the current project), the AMI system as a whole would likely be overtaken by a faster, cheaper and higher functioning AMI system that uses a different communications system."[7]

It would not be judicious for SDG&E to chase unit by unit failures throughout its service territory over the long-term. As described above, the useful life for the initial Smart Meters is fast approaching and SDG&E customers are experiencing failures now. Rather than proposing a reactionary project (i.e., addressing failures of technology once it fails and on an ad hoc basis), which would result in inefficiencies that will have a paramount effect on its operations, SDG&E proposed a proactive approach through SM2.0. Moreover, the alternative of maintaining the status quo of redeploying first generation technology as a corrective measure is not practical nor prudent for the ratepayer. Waiting for failures to then replace equipment is analogous to a customer replacing a failed iPhone (what existed back in 2010) with the same version even though a new version exists. Similarly, no customer would replace a failed 2010 plasma television set with the same plasma model (which no longer exists). In fact, the customer would replace the 2010 failing TV with the current QLED[8] or OLED[9] version (better resolution, more energy efficient and lower cost). As observed and experienced by many, technology continues to advance, older technology may be unsupported as newer technology is available or parts associated with legacy equipment may be challenging to procure. In the same vein, SDG&E

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[5] D.07-04-043 at 29.

[6] *Id*. at 26.

[7] *Id*. at 31.

[8] Quantum Light-Emitting Diode (QLED)

[9] Organic Light-Emitting Diode (OLED)

believes it has provided evidence to demonstrate that replacing its field solutions ensures the utility can continue to successfully schedule and dispatch field personnel to safely execute maintenance, inspections, planned/unplanned work and customer requested orders. If SM2.0 and FSD are not funded, there would be subsequent impacts to SDG&E's ability to serve its customers. SDG&E urges the Commission to consider the facts regarding legacy systems that are approaching (or have reached) the end of its useful and accounting life.

A. Cal Advocates

Cal Advocates issued its report on SDG&E Customer Services on March 27, 2023.[10] The following is a summary of Cal Advocates' position(s) regarding SDG&E CS-Field Operations only.

- Cal Advocates does not oppose SDG&E's CS-Field Operations O&M Test Year (TY) 2024 forecast for the following workgroups:
  - Customer Field Operations of $16,769,000[11]
  - Customer Field Supervision of $1,468,000[12]
  - Work Management of $3,534,000[13]
- Cal Advocates recommends disallowing a portion of SDG&E's CS-Field Operations O&M TY 2024 forecast for the following workpaper groups:
  - Customer Field Operations Support: Cal Advocates recommends a forecast of $4,180,000 or a disallowance of $1,099,000 due to different forecast methodologies for labor and non-labor expenses.[14]
  - Smart Meter Operations: Cal Advocates recommends a forecast of $11,259,000 or a disallowance of $2,028,000 due to the non-labor funding request associated with SM2.0 Capital Project.[15]

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[10] Ex. CA-10 (Mariana Campbell).

[11] *Id.* at 4, 26 (Table 10-18), and 27.

[12] *Id.*

[13] *Id.*

[14] *Id*. at 4.

[15] *Id.* at 31.

- Cal Advocates' review of SDG&E's business justifications and proposed forecast for CS–Field Operations' three IT capital projects (Smart Meter 2.0, Field Service Delivery (FSD) and Dispatch/Data Project, and Smart Meter Product/Upgrade Project)[16] are not adequately justified. Cal Advocates' recommendation for CS-Field Operations IT capital projects are $20,687,000 for 2022, $34,942,000 for 2023 and $42,629.000 for TY 2024.[17]
- Cal Advocates does not oppose some Post-Test Year (PTY) funding for incremental costs related to SDG&E's Smart Meter 2.0 program. Cal Advocates proposes 50% funding for SDG&E request which is consistent with its proposed test year adjustment of 50% funding for this program.[18]

B. TURN

The Utility Reform Network (TURN) submitted testimony on May 27, 2023. The following is a summary of TURN's position(s) on SDG&E's CS-Field Operations:[19]

- TURN proposes a total reduction of $6,104,000 for SDG&E's CS-Field Operations TY 2024 O&M forecasts.[20]
- TURN does not address SDG&E's CS-Field Operations TY 2024 O&M forecast for the following workgroups:
  - Customer Field Operations of $16,769,000
  - Customer Field Operations Supervision of $1,468,000
  - Work Management of $3,534,000
- TURN proposes disallowing portions of SDG&E's Customer Field Operations TY 2024 O&M forecast for the following workpaper groups:
  - Customer Field Operations Support: TURN proposes the Commission should adopt a 2024 forecast of $3,399,000, which is

[16] *Id*. at 32.

[17] *Id.* at 5, 32 (Table 10-22).

[18] Ex. CA-20 (Stacey Hunter) at 19 (Table 20-12), 22-23. Cal Advocates Recommended Capital Exceptions Revenue Requirements for SDG&E 2025, 2026, and 2027.

[19] Ex. TURN-09 (David Cheng).

[20] *Id.* at 4.

a reduction of $1,880,000.[21]

- Smart Meter Operations: TURN proposes the Commission should adopt a 2024 forecast of $9,063,000, which is a reduction of $4,224,000.[22]

- TURN rejects the SM2.0 IT capital project in its entirety, with reductions of $4,292,000 in 2022, $32,802,000 in 2023, and $58,459,000 in 2024.[23]
- TURN rejects the SM2.0 IT capital project post-test year request with reductions of $59,989,000 in 2025, $69,169,000 in 2026, and $53,163,000 in 2027.[24]
- TURN rejects the FSD Scheduling & Dispatch Phase / FSD Data & Analytics Platform IT capital projects in their entirety, with reductions of $13,400,000 in 2022, $13,839,000 in 2023, and $19,296,000 in 2024.[25]
- TURN does not address Smart Meter Product (CWP-00920D)/ Upgrade (CWP-00900E) IT capital projects forecast of $5,141,000 in 2022, $6,208,000 in 2023, and $3,663,000 in 2024.[26]

C. UCAN

The Utility Consumers Action Network (UCAN) submitted testimony on May 27, 2023. The following is a summary of UCAN's position(s) on CS-Field Operations:[27]

- UCAN does not address SDG&E's CS-Field Operations Services TY 2024 O&M forecast for the following workgroups:
  - Customer Field Operations Supervision of $1,468,000
  - Work Management of $3,534,000

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[21] *Id.* at 20.

[22] *Id.* at 21.

[23] *Id.* at 4, 25-26.

[24] *Id*.

[25] *Id.* at 4, 27.

[26] *See* Ex. SDG&E-25-CWP-R (Revised Capital Workpapers to Direct Testimony of William J. Exon), August 2022, at 37.

[27] Ex. UCAN (Eric Woychik).

- UCAN recommends SDG&E's SM2.0 total O&M forecasts of $4,421,000 be denied.[28] The SM2.0 TY 2024 O&M forecast of $4,421,000 by SDG&E exhibit and workpaper group is shown in Ex. SDG&E-17-R at page DHT-3, Table DHT-3 "Smart Meter 2.0 O&M Forecast" as follows:
  - Ex. SDG&E-17-R, Witness David Thai, Customer Services – Field Operations: $90,000 Customer Field Operations (WP 1FC001.000); $2,035,000 Smart Meter Operations (WP 1FC005.000).
  - Ex. SDG&E-19-R Witness S. Baule, Customer Services Information: $120,000 Marketing, Communications, Research and Analytics (WP 1IN001.000).
  - Ex. SDG&E-25 Chapter 2 IT Forecasts – O&M Witness: T. Ballard $2,176,000 WP 2100-0207.000.
- UCAN recommends SDG&E's request for SM2.0 IT capital project costs of $58,459,000 in 2024 be denied.[29] UCAN does not address SM2.0 IT capital project costs of $4,292,000 in 2022, and $32,802,000 in 2023.
- UCAN recommends SDG&E's SM2.0 post-test year ratemaking capital costs be denied: $59,989,000 in 2025, $69,169,000 in 2026, and $54,163,000 in 2027.[30]
- UCAN recommends SDG&E's Customer Field Operations Support request for FSD total O&M TY 2024 forecast of $1,490,000 be denied.[31]
- SDG&E's Customer Field Operations Support TY 2024 incremental O&M request for FSD is $912,000. By UCAN denying SDG&E's TY 2024 estimated costs of $1,490,000 in Customer Field Operations Support (WP 1FC004.000), UCAN also denies SDG&E's base year 2021 embedded costs for FSD of $578,000.[32]

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[28] *Id.* at 12-13, 294.

[29] *Id.* at 12-13, 280, and 294.

[30] *Id.* at 15, 316. UCAN errors by referencing $69.2M in [2028] and $54.16M in [2029], which should have been for years 2026 and 2027, respectively.

[31] *Id.* at 300. UCAN errs by referencing "FSB" throughout its testimony, the correct acronym is FSD.

[32] Ex. SDG&E-17-R (Revised Prepared Direct Testimony of David H. Thai) at DHT-6, Table DHT-5.

- UCAN recommends SDG&E's Risk Assessment and Mitigation Phase (RAMP) - FSD Scheduling and Dispatch (CWP 00920AI) and RAMP - FSD Data Analytics Platform (CWP 00920T) TY 2024 IT capital project costs of $19,296,000[33] be denied. ($13,206,000 RAMP - FSD Scheduling & Dispatch[34]; $6,090,000 RAMP – FSD Data Analytics Platform).[35]
- UCAN does not address SDG&E's RAMP – FSD Scheduling and Dispatch (CWP 00920AI) IT capital project costs of $13,400,000 in 2022 and $13,839,000 in 2023, and RAMP – FSD Data Analytics Platform (CWP 00920T) capital project costs of $3,402,000 in 2023.[36]
- UCAN recommends SDG&E's Smart Meter Upgrade (CWP 00900E) and Smart Meter Product (CWP 00900D) TY 2024 IT capital project costs be denied.[37] SDG&E's TY 2024 IT capital project costs in TY 2024 are $0 and $3,663,000, respectively.[38]
- UCAN does not address SDG&E's Smart Meter Upgrade (CWP 0900E) IT capital project costs of $5,141,000 in 2022 and $748,000 in 2023 or Smart Meter Product (CWP -900D) IT capital project costs of $5,460,000 in 2023.[39]

D. JOINT CCAs

The Joint CCAs submitted testimony on March 27, 2023. The Joint CCAs do not suggest funding reductions for CS-Field Operations, but rather opine on CS-Field Operations SM2.0 IT Capital Project.[40]

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[33] Ex. UCAN (Eric Woychik) at 300, 309.

[34] *Id.* at 14, 309-310.

[35] *See* Ex. SDG&E-25-CWP-R (William J. Exon Workpapers) at 37.

[36] *Id*.

[37] Ex. UCAN (Eric Woychik) at 316.

[38] *See* Ex. SDG&E-25-CWP-R (William J. Exon Workpapers) at 37.

[39] *Id*.

[40] Ex. Joint CCAs (Mark Fulmer) at 1-12.

III. REBUTTAL TO PARTIES' O&M PROPOSALS

A. Non-Shared Services O&M

TABLE DT-3
Comparison of SDG&E and Intervenors
TY 2024 Non-Shared Services CS-Field Operation O&M Expenses

NON-SHARED O&M - Constant 2021 ($000)			
	Base Year 2021	**Test Year 2024**	**Change**
SDG&E	33,342	40,337	6,995
CAL ADVOCATES	33,342	37,210	3,868
TURN	33,342	34,233	891
UCAN	33,342	36,722	3,380

TABLE DT-4
Comparison of SDG&E and Intervenors
TY 2024 Non-Shared Services Customer Field Operations O&M Expenses

Total O&M - Constant 2021 ($000)				
	Base Year 2021	**Test Year 2024**	**Change**	**Change from SDG&E**
Customer Field Operations - 1FC001.000				
SDG&E	16,085	16,769	684	
CAL ADVOCATES	16,085	16,789	684	0
TURN	16,085	16,789	684	0
UCAN	16,085	16,679	594	-90

1. Customer Field Operations

a. Cal Advocates

Cal Advocates does not oppose SDG&E's TY 2024 O&M forecast of $16,769,000 for Customer Field Operations.[41]

b. TURN

TURN does not oppose SDG&E's TY 2024 O&M forecast of $16,769,000 for Customer Field Operations.[42]

[41] Ex. CA-10 (Mariana Campbell) at 4.

[42] Ex. TURN-09 (David Cheng) at 18.

c. UCAN

UCAN recommends a TY 2024 O&M forecast of $16,679,000 for Customer Field Operations, which is $90,000 lower than SDG&E's forecast of $16,769,000. UCAN proposes a reduction to Smart Meter 2.0 related O&M labor.

SDG&E disagrees with UCAN's rejection of SM2.0 related O&M labor. SDG&E provides a response to UCAN's assertions in its SM2.0 Capital and related O&M request, in Section IV of this rebuttal.

TABLE DT-5
Comparison of SDG&E and Intervenors
TY 2024 Non-Shared Services Customer Field Operations Support O&M Expenses

Total O&M - Constant 2021 ($000)				
	Base Year 2021	**Test Year 2024**	**Change**	**Change from SDG&E**
Customer Field Operations Support - 1FC004.000				
SDG&E	3,576	5,279	1,703	
CAL ADVOCATES	3,576	4,180	604	-1,099
TURN	3,576	3,399	-177	-1,880
UCAN	3,576	3,789	213	-1,490

2. Customer Field Operations Support

a. Cal Advocates

Cal Advocates recommends a forecast of $4,180,000 for Customer Field Operations Support which is $1,099,000 lower than SDG&E's request of $5,279,000.[43] Cal Advocates states that its adjustment to labor is due to different forecast methodologies and adjustment to non-labor is based on expenses incurred in 2020 being deemed a one-time expense.

Cal Advocates asserts the following with the corresponding rebuttal below:

(1) Cal Advocates proposes different forecast methodologies for labor and non-labor expenses resulting in a forecast reduction.[44]

SDG&E disagrees with Cal Advocates' recommendation of a reduction to the TY 2024 Customer Field Operations Support labor forecast as Cal Advocates fails to provide reasonable analysis as to how it reached its recommendation and provided little evidence to justify the proposed disallowance. SDG&E also disagrees with Cal Advocates' recommendation of a

[43] Ex. CA-10 (Mariana Campbell) at 4, 26.

[44] *Id*.

reduction to the TY 2024 Customer Field Operations Support non-labor forecast due to a data request response regarding clarification of non-labor expenses incurred in 2020.

Cal Advocates asked:

> Provide supporting documentation and explain the increase in Non-labor from $234,000 in year 2019 to $1.331 million in year 2020.[45]

SDG&E responded:

> The increase related to Field Service Delivery (FSD) ($857K) from 2019 to 2020 is primarily due to scope of work and timing of payments based on consulting agreements for pre-foundational preparation including; overall roadmap development; foundational work including operational process development and organizational planning, vendor RFP prep, and development of technology proof of concept.[46]

Cal Advocates utilized the response to justify a historical increase of $857,000 for year 2020 as a one-time expense and should be normalized to estimate TY 2024 for non-labor expense. SDG&E disagrees as its incremental TY 2024 forecasted O&M non-labor is relative to base year (BY) 2021. The $857,000 increase from 2019 to 2020 O&M non-labor is irrelevant. SDG&E refers the Commission to Exhibit SDG&E-17-WP-R, page 69 (1FC004.000 – Customer Field Operations Support Workpaper) and Exhibit SDG&E-17-R, page DHT-27:8-12 (Testimony of David Thai (Customer Services – Field Operations)) for the TY 2024 incremental FSD O&M non-labor explanation.

SDG&E expects FSD efforts to accelerate and continue during program implementation. To this end, SDG&E has budgeted for system development, testing, and deployment. Please examine SDG&E's FSD justification response to Cal Advocates in Section IV, Figure DT-4, above, and Table DT-12, below, illustrating the project timeline through TY 2024, the associated funding need, and the work to be conducted.

Moreover, SDG&E contends Cal Advocates' approach is "cherry-picking" forecasting methodologies. Cal Advocates states it "does not oppose SDG&E's requests for Customer Field Operations, Customer Field Operations Supervision, or Work Management"[47] and presumably SDG&E's consistent forecasting methodology using BY 2021 expenditures as a basis for TY

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[45] Ex. CA-10 (Mariana Campbell) at 29, fn.60. Cal Advocates misstates DR PubAdv-[SCG](sic)-MCL-115, Q.5d.

[46] Appendix B, at DHT-B-13, SDG&E Response to PAO-SDGE-115, Question 5d.

[47] Ex. CA-10 (Mariana Campbell) at 4.

2024 forecasts. Cal Advocates' decision to propose selective treatment for Customer Field Operations Support is dubious. SDG&E use of a Base Year methodology (most indicative of business needs) has been consistently applied throughout its Customer Service chapters whereas Cal Advocates' forecasting methodology is selective and arbitrary.

Table DT-6 below reflects Cal Advocates inconsistent methodology applied to each area within CS–Field Operations.

TABLE DT-6
Cal Advocates Forecast Methodologies

CS-Field Operations[48]	Labor	Non-Labor
Customer Field Operations (WP 1FC001.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Customer Field Operations Supervision (WP 1FC002.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Work Management (WP 1FC003.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Customer Field Operations Support (WP 1FC004-000)	2022 (Forecast)[49]	Base Year 2021 Actual without Incremental
Smart Meter Operations (WP 1FC005.000)	Base Year 2021 with Incremental	Removed Base Year 2021 50% of Incremental

For the reasons stated above, SDG&E requests the Commission reject Cal Advocates' recommended Customer Field Operations Support TY 2024 O&M forecast of $4,181,000 resulting in a disallowance of $1,099,000 consisting of disallowances in labor of $277,000 and non-labor of $822,000. SDG&E believes its forecast of $5,279,000 is reasonable and should be approved.

[48] Ex. SDG&E-17-WP: Customer Field Operations 1FC001.000 at 4-47, Customer Field Operations Supervision 1FC002.000 at 48-57, Work Management 1FC003.000 at 58-65, Customer Field Operations Support 1FC004.000 at 66-78, Smart Meter Operations 1FC005.000

[49] SDG&E observed an error in Ex. CA-10 at pg. 28:20-21 Cal Advocates states: "Cal Advocates' forecast is based on 2022 [adjusted-recorded labor expense of $3.466 million] (FN-59 Ex. SDG&E-17-(WP)-R p. 67)."

b. TURN

TURN recommends a forecast of $3,399,000 for Customer Field Operations Support which is $1,880,000 lower than SDG&E's request of $5,279,000. TURN recommends its disallowance based on wholesale rejections to all of SDG&E's incremental funding request.

TURN asserts the following with the corresponding rebuttal below:

(1) TURN asserts SDG&E does not offer adequate justification for the FSD Project, therefore O&M costs associated with the project should be rejected. TURN further states "In order to approve spending of more than $104 million, the Commission needs to ensure that the spending is cost-effective, which is not possible without a cost-benefit analysis."[50]

SDG&E disagrees with TURN's rejection of FSD related O&M. SDG&E provides a response to TURN's assertions in its FSD Capital and related O&M request, in Section IV of this rebuttal testimony.

(2) TURN rejects SDG&E's argument that it needs to add back salaries because there were timing issues in backfilling vacancies in 2021 due to the pandemic. TURN states "The Commission should reject SDG&E's COVID-19 argument because during the pandemic, it pocketed the reduced O&M costs as earning for shareholders, which allowed Sempra to achieve record profits." [51]

SDG&E disagrees with TURN's proposed labor expenditure reductions. By not funding the full-year effect due to partial-year vacancies discounts the realities of business operations and is inconsistent with past General Rate Case (GRC) treatment. These positions have been filled in BY 2021 and are currently full-time paid employees in their roles as defined in Exhibit SDG&E-17-WP-R, page 69 (1FC004.000 – Customer Field Operations Support Workpaper).

For the reasons stated above, SDG&E contends TURN's recommended rejection is unwarranted and the Commission should dismiss TURN's recommendation.

[50] Ex. TURN (David Cheng) at 26.

[51] *Id*. at 18-19.

(3) TURN states "the most appropriate forecast would be a historical average [5-year average from 2018-2022]" to arrive at a $1,880,000 reduction of the TY 2024 forecast as proposed by SDG&E.[52]

SDG&E disagrees with TURN's use of a five-year average forecasting methodology as TURN fails to provide reasonable evidence or explanation to justify the methodology aside from the following statement:

> "TURN believes that the most appropriate forecast would be a historical average. To arrive at the estimate with the most conservative reduction,…"[53]

Counter to TURN's argument, TURN acknowledges the past three years of recorded expenses in years, 2020, 2021, and 2022 are the highest of the past five years.[54] To selectively include five years 2018 through 2022 to reduce SDG&E's TY 2024 request without rationale is arbitrary, at best. SDG&E sees no reason for a five-year average, four-year average or three-year average with any chosen timeframe between 2017 and 2022. TURN's forecasting methodology was chosen for the maximum reduction to SDG&E's request. SDG&E's use of a Base Year methodology (most indicative of business needs) has been consistently applied throughout its Customer Service chapters whereas TURN's forecasting methodology is inconsistent as evidenced by other forecasting methodologies that TURN has used across CS-Field Operations.

Table DT-7 below reflects TURN's selective forecasting methodologies as applied to each of operating areas identified above.

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[52] *Id*. at 19-20.

[53] *Id*.

[54] *Id*. at 20:3.

TABLE DT-7
TURN Forecast Methodologies

CS-Field Operations[55]	Labor	Non-Labor
Customer Field Operations (WP 1FC001.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Customer Field Operations Supervision (WP 1FC002.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Work Management (WP 1FC003.000)	Base Year 2021 with Incremental	Base Year 2021 with Incremental
Customer Field Operations Support (WP 1FC004.000)	Five-Year Average (2018-2022) without Incremental	Five-Year Average (2018-2022) without Incremental
Smart Meter Operations (WP 1FC005.000)	Base Year 2021 without Incremental	Base Year 2021 without Incremental

For the reasons stated above, SDG&E requests the Commission reject TURN's proposal.

(4) TURN states regarding incremental O&M funding request, "SDG&E provides no support for why these costs should be incremental. Clearly, all of the activities listed above are activities that SDG&E should have been performing for many years already. SDG&E does not provide any clear and convincing evidence for why the existing level of funding is not sufficient to continue performing the activities that SDG&E has already been performing. SDG&E's request for these incremental positions should be rejected."[56]

SDG&E disagrees with TURN's rejection of its incremental O&M labor funding request of $881,000. Changes to the business require SDG&E incremental resources to continue to lead critical customer-facing field teams, develop training materials, support compliance activities, managing emergencies, and providing data entry and analytics. Changes include addressing new quality assurance (QA) processes, workload forecasting analytics to drive efficiencies, and additional support for field teams.

For example, Customer Field Operations Support has made a concerted effort to enhance analytics capabilities to bolster data-driven operations improvements. These improvements are possible with staff participating in the design, development, maintenance, and enhancement of

[55] *See* Ex. SDG&E-17-WP (Workpapers to Testimony of David Thai), Customer Field Operations 1FC001.000 at 4-47, Customer Field Operations Supervision 1FC002.000 at 48-57, Work Management 1FC003.000 at 58-65, Customer Field Operations Support 1FC004.000 at 66-78, Smart Meter Operations 1FC005.000 at 79-90.

[56] Ex. TURN-09 (David Cheng) at 19.

data products across the full cycle of data services – integration/transport, processing and/or visualization. Further, as workloads continue to grow, additional field leadership will be required that aligns with spans of control.

As such, the Commission should reject TURN's recommended Customer Field Operations Support TY 2024 O&M forecast of $3,399,000 and adopt SDG&E's forecast of $5,279,000.

c. UCAN

UCAN recommends a forecast of $3,789,000 for Customer Field Operations Support which is $1,490,000 lower than SDG&E's request of $5,279,000. UCANs' reduction of $1,490,000 includes a reduction to SDG&E's BY 2021 embedded base costs of $578,000.[57] UCAN recommends its adjustment to non-labor is due to its rejection of SDG&E's proposed FSD program altogether.

UCAN asserts the following with the corresponding rebuttal below:

(1) FSD presents obsolescence and stranded cost issues.58

(2) FSD is unlikely to fulfill its promises of replacing end of life and unsupported software, consolidating software applications, improve customer experience and satisfaction.59

[57] Ex. SDG&E-17-R at DHT-6, Table DHT-5.

[58] Ex. UCAN (Eric Woychik) at 298.

[59] *Id*. at 299.

(3) SDG&E does not offer adequate justification for the FSD platform, therefore does not demonstrate proposed expenditures for this platform are just and reasonable. UCAN states "SDG&E's existing FS[D] is obsolete, SDG&E's proposed next round of FS[D] expenditures would finance a platform that will soon be obsolete and outmoded, are not economically justified, and should not be approved by the Commission. Accordingly, the O&M amounts to be denied SDG&E includes FS[D] O&M of $1.49M in 2024."[60]

SDG&E disagrees with UCAN's rejection of FSD related O&M. SDG&E provides a response to UCAN's assertions in its FSD Capital and related O&M request, in Section IV of this rebuttal.

For the reasons addressed in Section IV, SDG&E requests the Commission reject UCAN's proposed Customer Field Operations Support TY 2024 O&M forecast of $3,789,000 which includes a rejection of non-labor incremental forecast for FSD by $912,000 and embedded BY 2021 FSD expenses of $578,000 resulting in a total reduction of $1,049,000. SDG&E requests the Commission adopt SDG&E's TY 2024 O&M forecast of $5,279,000.

TABLE DT-8
Comparison of SDG&E and Intervenors
TY 2024 Non-Shared Services Smart Meter Operations (SMO) O&M Expenses

Total O&M Constant 2021 ($000)				
	Base Year 2021	**Test Year 2024**	**Change**	**Change from SDG&E**
Smart Meter Operations- 1FC005.000				
SDG&E	9,063	13,287	4,224	
CAL ADVOCATES	9,063	11,259	2,196	-2,028
TURN	9,063	9,063	0	-4,224
UCAN	9,063	11,252	2,189	-2,035

3. Smart Meter Operations Disputed O&M Cost

a. Cal Advocates

Cal Advocates recommends a forecast of $11,259,000 for Smart Meter Operations[61] which is $2,028,000 lower than SDG&E's request of $13,287,000. Cal Advocates recommended

[60] *Id*. at 300.

[61] Ex. CA-10 (Mariana Campbell) at 31.

its adjustment based on its decision to fund only 50% of the SM2.0 Capital request as Cal Advocates finds the non-labor test year forecast to be excessive.

Cal Advocates asserts the following with the corresponding rebuttal below:

(1) "Cal Advocates does not take issue with SDG&E's justification for the current meter replacement initiative, but the program's cost estimates must be reviewed and adequately justified."[62] And further states "Although Cal Advocates does not oppose SDG&E moving forward with a program to replace meters as required, it proposes to moderate the level of funding requested by SDG&E."[63]

(2) Cal Advocates does not oppose SDG&E's Smart Meter Operations funding request for labor of $9,884,000 for the test year.[64]

(3) Cal Advocates states "adjusted the non-labor request of $2.750 million by 50% of the total or $1.375 million. Cal Advocates' adjustment moderates SDG&E's forecast test year non-labor increase that is over five times greater than recorded 2021 expenses. Cal Advocates recommends an estimate of $11.259 million as a reasonable TY 2024 expense level for SDG&E's Smart Meter Operations."[65]

SDG&E disagrees with Cal Advocates' reduction of SMO O&M, based on the premise O&M associated with SM2.0 should be reduced. Cal Advocates provides no explanation as to why SDG&E's SM2.0 capital and related O&M should be "moderated" by an arbitrary 50% from SDG&E's TY 2024 request.

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62 *Id*. at 34.

63 *Id*.

64 *Id*. at 31.

65 *Id*.; see also *Id*. at Table 10-21.

SDG&E provides a response to Cal Advocates' assertions in its SM2.0 capital and related O&M request, in Section IV of this rebuttal.

(4) SDG&E's request of $9,884,000 for labor includes a shift of labor from O&M to Capital due to SM2.0, resulting in an organic reduction in O&M of $583,000. Cal Advocates accepts the labor forecast which includes the reduction for SM2.0, however, disallows the non-labor request of which benefited from SM2.0.

SDG&E disagrees with Cal Advocates' proposal to reduce the level of capital funding for SM2.0 requested by SDG&E and contends Cal Advocates should have acknowledged an increase in authorized O&M needed in doing so. Cal Advocates' proposal paradoxically, takes full advantage of the O&M reductions attributable to a fully funded SM2.0 Program but discounts the program funding.[66]

SDG&E provides a complete response to Cal Advocates' assertions in its SM2.0 capital and related O&M request, in Section IV of this rebuttal.

(5) Cal Advocates recommends a non-labor proposal of $1,375,000 for Smart Meter Operations.[67]

SDG&E disagrees with Cal Advocates' recommendation for SMO non-labor. SDG&E's total non-labor forecast for TY 2024 is $3,403,000 which includes BY 2021 non-labor expense of $653,000 and incremental request of $2,750,000 to BY 2021. While Cal Advocates' calculation of 50% of the non-labor incremental request of $2,750,000 is equal to $1,375,000, it fails to account for SDG&E's BY 2021 non-labor expense of $653,000. Therefore, Cal Advocates mistakenly does not account for SDG&E's adjusted recorded BY 2021 non-labor expenses in its forecast.

For the reasons stated above and non-labor O&M associated with SM2.0, defended in Section IV of this rebuttal, SDG&E requests the Commission reject Cal Advocate's recommendation for adjusted recorded non-labor expenses. SDG&E provides a complete response to Cal Advocates' assertions in its SM2.0 capital and related O&M request, in Section IV of this rebuttal.

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[66] Ex. SDG&E-17-R (David Thai) at DHT-39; Ex. SDG&E-17-WP-R (Workpapers to Testimony of David Thai) at 80-83.

[67] Ex. CA-10 (Mariana Campbell) at 31.

b. TURN

TURN recommends a forecast of $9,060,000 for Smart Meter Operations which is $4,220,000 lower than SDG&E's request of $13,287,000. TURN recommended its adjustment based on its outright rejection of all SMO incremental O&M.

TURN asserts the following with the corresponding rebuttal below:

(1) TURN asserts SDG&E does not offer adequate justification for the SM2.0 Project, therefore O&M associated with the project should be rejected.[68]

(2) TURN asserts SDG&E should be reviewed for culpability for the experience meter or module failures. TURN states "SDG&E has not presented evidence that would permit the Commission to determine that the utility does not bear at least some of the responsibility for the need to engage in the proposed replacement project. In fact, SDG&E provides no explanation whatsoever for whether it has sought warranty coverage by the vendor or manufacturer, or whether the vendor or manufacturer has alleged improper operation or maintenance by SDG&E. This is critical information that the Commission needs in order to determine whether shareholders should bear some of the costs of the replacements."[69]

(3) TURN asserts, in regards to incremental O&M funding request, "SDG&E fails to support why incremental O&M expenses are necessary, since SDG&E has been conducting the same activities previously, including training, subject matter expert on safe work practices, monitoring electric meter performance, and managing returned merchandise processes. None of these 6 activities are new and incremental; hence, SDG&E's request for increased funding should be denied."[70]

SDG&E disagrees with TURN's rejection of SMO O&M related to or associated with SDG&E's capital request for SM2.0. SDG&E provides a response to TURN's above assertions in its SM2.0 Capital and related O&M request, in Section IV of this rebuttal.

For the reasons addressed in Section IV, SDG&E requests the Commission reject TURN's recommended forecast of $9,060,000 for SMO, resulting in disallowance of

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[68] Ex. TURN-09 (David Cheng) at 24-25.

[69] *Id*. at 23.

[70] *Id*. at 21.

$4,224,000. SDG&E's TY 2024 O&M forecast of $13,287,000 for SMO should be adopted by the Commission.

c. UCAN

UCAN recommends a forecast of $11,252,000 for Smart Meter Operations which is $2,035,000 lower than SDG&E's request of $13,287,000. UCAN recommended its adjustment based on its outright rejection of SM2.0 related incremental O&M.

UCAN asserts the following with the corresponding rebuttal below:

(1) SM2.0 presents limited value and the basis for rejection of all associated funding.[71] UCAN further elaborates that perceived outcomes of SM1.0 should dictate the decision-making for SM2.0[72]

(2) UCAN states, "traditional electro-mechanical electric meters that were widely used throughout the utility industry for many years operated for many years before they became obsolete."[73] UCAN utilizes this argument to contrast with a dubious conveyance that the Itron Openway Metering system is nearing end of its useful life after just thirteen years.[74]

(3) UCAN surmises IT assets such as SM2.0 will be "outmoded, obsolete, and stranded within this GRC period."[75]

(4) UCAN believes in, "merely managing expected failures by replacing specific equipment."[76]

SDG&E disagrees with UCAN's rejection of SMO O&M related to or associated with SDG&E's capital request for SM2.0. SDG&E provides a response to UCAN's above assertions in its SM2.0 Capital and related O&M request, in Section IV of this rebuttal.

For the reasons addressed in Section IV, SDG&E requests the Commission reject UCAN's recommended forecast of $9,217,000 for SMO, resulting in rejection of $2,035,000. SDG&E's TY 2024 request of $13,287,000 for SMO should be adopted by the Commission.

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71 Ex. UCAN (Eric Woychik) at 294.

72 *Id*. at 316.

73 *Id*. at 295.

74 *Id*.

75 *Id*. at 280.

76 *Id*. at 295.

IV. REBUTTAL TO PARTIES' CAPITAL PROPOSAL BUSINESS JUSTIFICATIONS

TABLE DT-9
Comparison of SDG&E and Intervenors
Estimated CS-Field Operations IT Capital Expenses

TOTAL IT CAPITAL - Constant 2021 ($000)					
	2022	**2023**	**2024**	**Total**	**Difference to SDG&E**
SDG&E	22,833	52,849	81,418	157,100	
CAL ADVOCATES	20,687	34,942	42,629	98,258	-58,842
JOINT CCAs	22,833	52,849	81,418	157,100	0
TURN	5,141	6,208	3,663	15,012	-142,088
UCAN	22,833	52,849	0	75,682	-81,418

A. Disputed Capital Project Cost for Smart Meter 2.0

TABLE DT-10
Comparison of SDG&E and Intervenors
Estimated CS-Field Operations SM2.0 IT Capital Expenses

SM2.0 IT CAPITAL - Constant 2021 ($000)					
	2022	**2023**	**2024**	**Total**	**Difference**
SDG&E	4,292	32,802	58,459	95,553	
CAL ADVOCATES	2,146	16,401	29,229	47,776	-47,777
TURN	0	0	0	0	-95,553
UCAN	4,292	32,802	0	37,094	-58,459

1. Cal Advocates

Cal Advocates proposes funding SM2.0 IT capital project at 50% of SDG&E's requested funding.[77] This results in a reduction of $2,146,000 in 2022, $16,401,000 in 2023, and $29,230,000 in 2024. Cal Advocates also proposes funding 50% of SDG&E's PTY capital exceptions revenue requirement for SM2.0.[78]

Cal Advocates asserts the following with the corresponding rebuttal below:

(1) Cal Advocates asserts it does not take issue with SDG&E's justification for the current meter replacement initiative. Cal Advocates states "Cal Advocates does not take issue with SDG&E's justification for the current meter replacement initiative, but the program's cost estimates must be reviewed and

[77] Ex. CA-10 (Mariana Campbell) at 34.

[78] Ex. CA-20 (Testimony of Stacey Hunter on behalf of Cal Advocates), March 27, 2023, at 22-23, 19 (Table 20-12).

adequately justified."[79] And further states "Although Cal Advocates does not oppose SDG&E moving forward with a program to replace meters as required, it proposes to moderate the level of funding requested by SDG&E."[80]

SDG&E disagrees with Cal Advocates' proposal to arbitrarily reduce the level of requested funding as it contradicts Cal Advocates' claim that it recognizes the need for the current meter replacement initiative. Cal Advocates' proposal to reduce SM2.0 capital and O&M funding necessary to remediate increasing failures, would effectively eliminate SDG&E's efforts to prevent significant and catastrophic levels of gas module and electric meter failures.

Without a planned and systematic scheduled replacement of the existing legacy smart meter system in advance of end-of-life gas module and smart meter failure, SDG&E customers, daily operations and CCA service providers will come to a grinding halt. Specifically, gas module battery life is due to expire on systemwide basis by years 2027-2028, consistent with the Smart Meter 1.0 project's useful life provided in D.07-04-043.[81] Smart electric meters are showing an increasing failure rate while approaching estimated life expectancy. (*See* Figure DT-2, above). If SDG&E's requested TY 2024, post-test year capital, and O&M requests are arbitrarily reduced, then a systemwide replacement would not be completed in time to prevent catastrophic levels of failures. Each and every gas module, smart electric meter and smart meter system breakdown will impact customer bills. Customer bills will need to be estimated and/or bills will be delayed. In addition, operational impacts will extend far beyond customer billing. For example, the following negative impacts would be inevitable if the current smart meter system fails:

<u>Operations</u>

- Outage detection and restoration sourced from smart meter power outage notifications will be discontinued.

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[79] Ex. CA-10 (Mariana Campbell) at 34.

[80] *Id*. at 34.

[81] D.07-04-043 at 90, Finding of Fact (FOF) 7.

- Illegal behind-the-meter generation backfeed detection apparatus would not function, resulting in potentially dangerous field worker and public safety conditions.
- Manual meter reading will be reinstated for gas at a high cost. There will be no manual meter reading for many failed electric meters and forced estimation in those instances.

Rates and Customer Programs

- Time-of-Use rates will not be possible without smart electric meters (interval meter reads).
- Online presentment of customer interval consumption data will be meaningless or not available for customers with failed meters.
- Remote connect and disconnect functionality will be lost and additional operating costs will be incurred. Customer move-in/move-out processes will revert to a manual process whereby field technicians will need to be dispatched.

SDG&E also notes key energy delivery transformation in recent years have created a greater dependency on smart meters. The following entities and their operation would be severely impacted by catastrophic levels of smart meter system failures:

- Community Choice Aggregators (CCA) require electric smart meter data to conduct day-to-day operations.
- Demand Response Providers (DRP) require smart meter data for measurement and verification.
- Rooftop and on-site solar and Net Energy Metering (NEM) customers require electric smart meters to enable net metering.

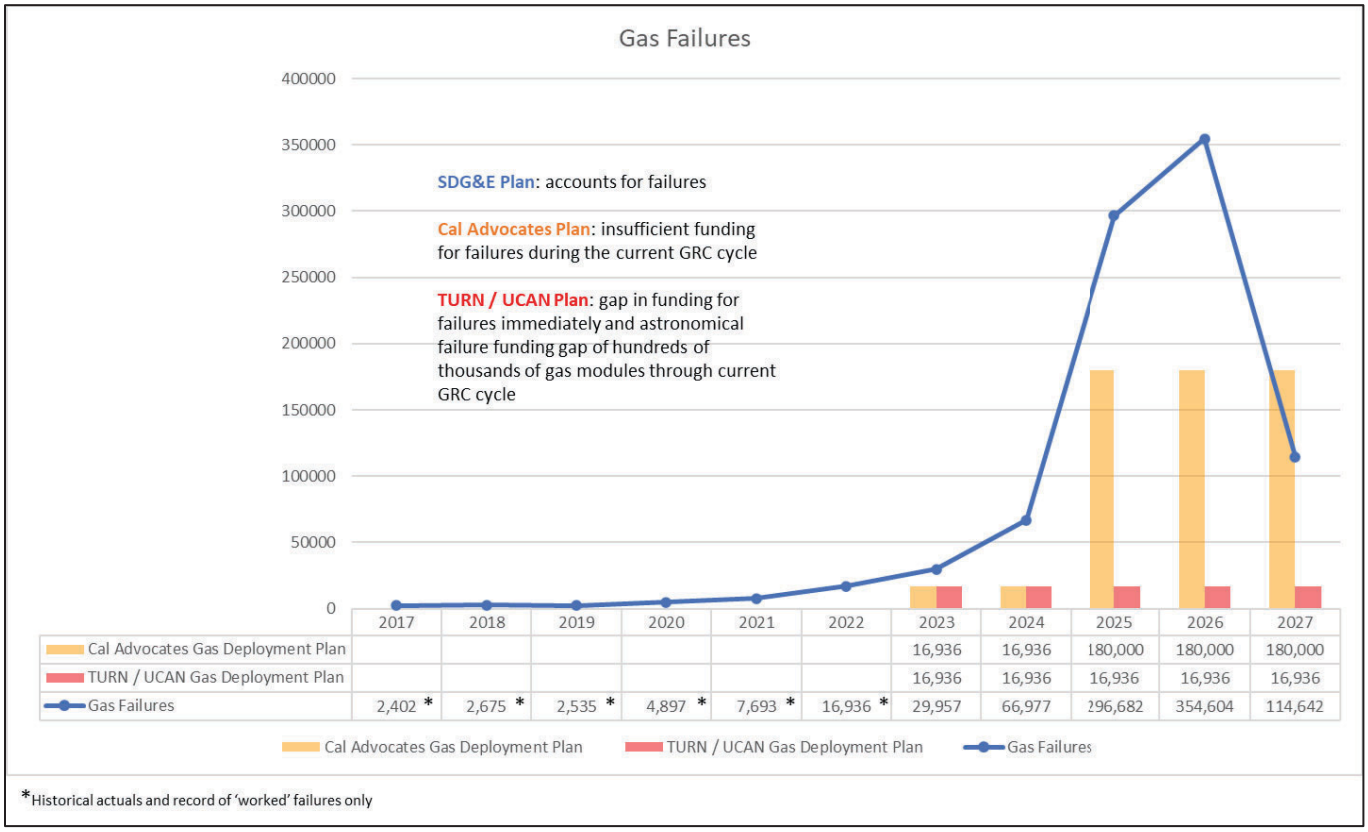
CCAs are key for customer choice. DRPs are key for grid reliability and operation. NEM is an opportunity for customers to monetize renewable energy resources and support California's decarbonization goals. Suffice to say, getting ahead of a Smart Meter 1.0 collapse is critical and necessary.

SDG&E's proposed deployment schedule and associated GRC funding request is planned and scheduled to replace gas modules and electric meters prior to failures at end of life. Any reduction to SM2.0 Program scope or costs would hinder SDG&E's ability to address failing

first-generation assets, that were deployed beginning in 2009, which would be devastating as significant O&M and capital expenditures have not been requested.

To illustrate SDG&E's growing number of gas and electric meter failures, SDG&E submits Figures DT-1 and DT-2 below which convey the historical and expected failures of gas modules and electric meters. Cal Advocates' proposal to reduce SM2.0 funding by 50% is infeasible as it would not provide adequate funding to remediate first-generation smart meter system failures, which were anticipated when the original Smart Meter 1.0 technology was authorized by the Commission in Decision (D).07-04-043.[82]

FIGURE DT-1
GAS FAILURE DIAGRAM



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Cal Advocates Gas Deployment Plan							16,936	16,936	180,000	180,000	180,000
TURN / UCAN Gas Deployment Plan							16,936	16,936	16,936	16,936	16,936
Gas Failures	2,402 *	2,675 *	2,535 *	4,897 *	7,693 *	16,936 *	29,957	66,977	296,682	354,604	114,642

*Historical actuals and record of 'worked' failures only

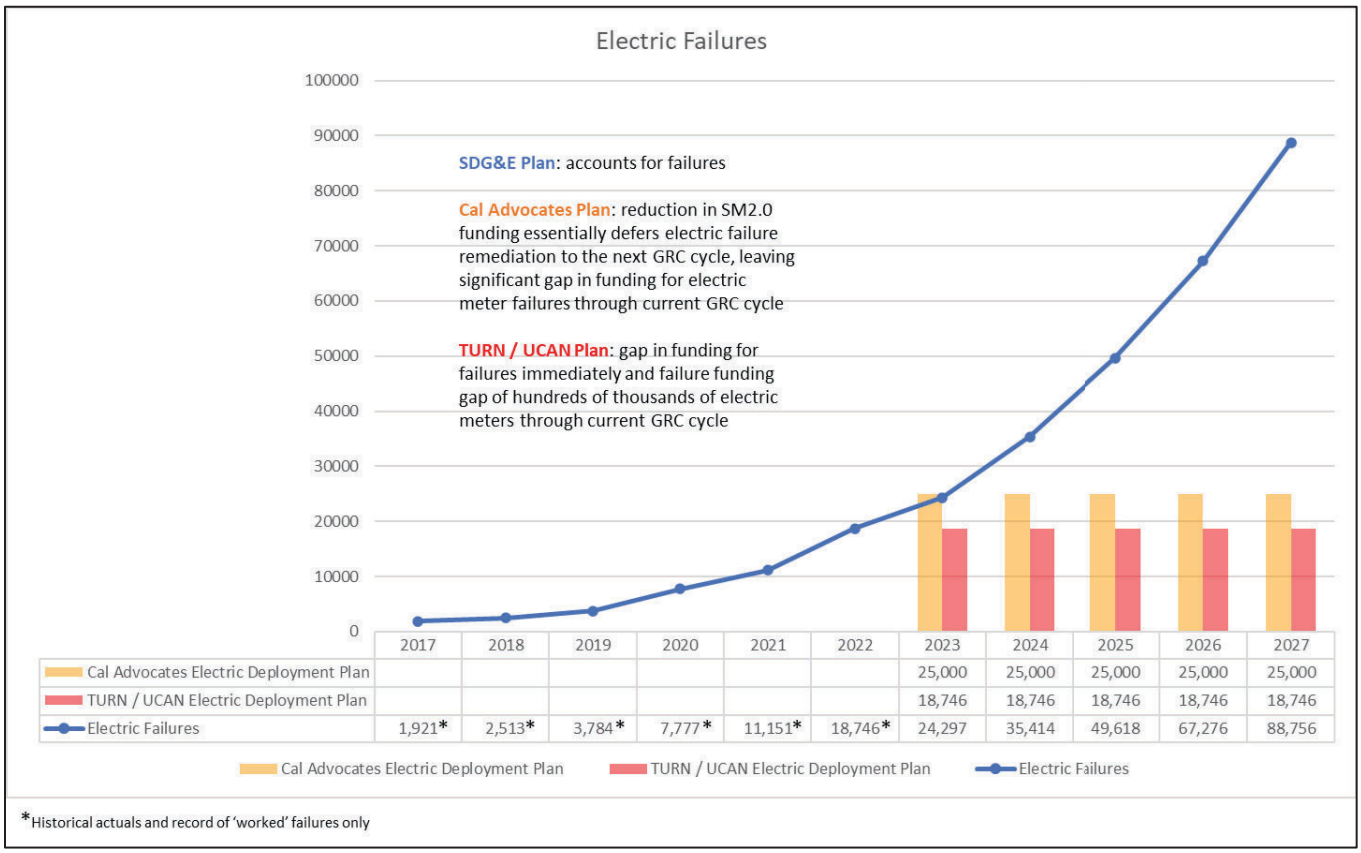
As illustrated in the Figure DT-1 above, with the anticipated gas module failures, Cal Advocates' recommendation results in unaddressed gas module failures before the end of the current GRC cycle. It is important to note that the primary mode of failure in a gas module is its battery, of which has a finite lifespan and the initial gas modules were installed beginning in

[82] D.07-04-043 at 30.

2009. SDG&E forecasts approximately 863,000 gas module failures from 2023-2027. Cal Advocates' arbitrary 50% reduction will replace only 573,872 gas modules during this same 2023-2027 timeframe. This difference means that approximately 289,000 SDG&E gas customers will either have estimated monthly bills or these failed gas modules will require a manual meter read. A manual meter read will require a customer services field technician scheduled, dispatched and routed to complete the meter read. In addition, a manual meter read could not be assured because of secured (locked) customer premises that would prevent SDG&E personnel from entering the property for a proper manual (visual) read.

Of equal concern is Cal Advocates' plan has the unintentional consequence of delaying electric meter failure remediation by eliminating funding essential for SM2.0 electric smart meter deployments in this current GRC cycle. Please see the Figure DT-2 below as reference.

FIGURE DT-2
ELECTRIC FAILURE DIAGRAM



	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Cal Advocates Electric Deployment Plan							25,000	25,000	25,000	25,000	25,000
TURN / UCAN Electric Deployment Plan							18,746	18,746	18,746	18,746	18,746
Electric Failures	1,921*	2,513*	3,784*	7,777*	11,151*	18,746*	24,297	35,414	49,618	67,276	88,756

As illustrated in the Figure DT-2 above, Cal Advocates' recommendation results in unaccounted for electric meter failures almost immediately and a significant funding gap to remediate electric meter failures shortly thereafter. Said another way, Cal Advocates' proposal

rejects the operational realities, whereby SDG&E would have on one hand reduced funding for SM2.0 and on the other hand reduced funding of O&M for its ability to remediate the growing number of failures associated with gas modules reaching the end of their battery life and electric meters at the end of their useful life. Per Figure DT-2 above, Cal Advocates' arbitrary reduction (moderation) of SDG&E's SM2.0 request will result in 125,000 first generation electric smart meters being replaced in the 2023-2027 timeframe. However, SDG&E forecasts approximately 265,000 electric smart meter failures during this same period (forecast year 2023, TY 2024 and post-test year 2025-2027). Cal Advocates' proposal will result in approximately 140,000 electric customers experiencing estimated bills during this period – and these are only the customer billing impacts. Unlike traditional diaphragm gas meters, a manual meter read is not an option for electric meter failures attributable to blank display, as described in my direct testimony (Ex. SDG&E-17-R at page DHT-36). This issue is substantially exacerbated by nonsensical proposals by TURN and UCAN that would freeze electric smart replacements to 2022 levels.

Further, as observed in the Figures DT-1 and DT-2 above, Cal Advocates' SM2.0 capital and O&M recommendations (if adopted), will result in significant harm to parties such as SDG&E's CCAs and DRPs. Customer meter consumption data or lack thereof is an untenable circumstance for referenced parties given customer energy consumption data is vital in their day-to-day operation. For context, SDG&E's service territory is forecasted to have over 1,000,000 CCA and Direct Access customers by 2024 or approximately over two-thirds of SDG&E's electric customer base.[83]

Joint CCA testimony states:

- While I ultimately agree that replacement of SDG&E's initial AMI is appropriate, the Commission should ensure that these replacement smart meters and supporting IT infrastructure are able to meet the readily foreseeable requirements of all stakeholders and California policy.[84]

[83] Ex. SDG&E-18 (Prepared Direct Testimony of Sandra F. Baule (Customer Services – Office Operations)), May 2022, at SFB-8 (Table SFB-5, showing Actual and Forecasted Growth of Community Choice Aggregation).

[84] Ex. CCA (Mark Fulmer) at 4.

- Data is necessary to support CCA operations and services.[85]
- …timely interval data will better inform the Joint CCA's California Independent System Operator ("CAISO") Estimated Settlement Quality Meter Data ("ESQMD") processes for their Day Ahead load forecasts, minimize load forecasting errors, and improve grid reliability.[86]

To ensure parties such as CCAs are not impaired by Cal Advocates' unsupported proposal, SDG&E reiterates the need to approve the SM2.0 Program and deployment schedule, as referenced in SDG&E's direct testimony (Exhibit SDG&E-17-R) starting at DHT-3. As failures are increasing, the need to address them will be separated into three phases.

- Phase 1 will be the need to continue to remedy failures within workforce capacity thresholds established by the O&M base funding request; and
- Phase 2 will be deploying gas modules systematically in advance of failures at a catastrophic level; and
- Phase 3 will be deploying electric meters systematically in advance of failures at a catastrophic level.

SDG&E's phased approach, over an 8-year deployment span, is "pivotal as it creates a glidepath for the discontinuation of legacy metering systems in a manner that will avoid impacts to existing integrations and processes. The timing also allows the operations groups to proactively deploy infrastructure to manage against expected failures occurring at the end of the technology's useful life – a key point when considering an inability to address failures accordingly will result in estimated customer bills and/or delayed bills. Further, the timing affords procurement teams an opportunity to manage a potential supply chain constraint that limits metering equipment availability and subsequent impacts to operations. Not addressing the meter system issues mentioned above can create a poor customer experience, increase the manual intervention needed to manage these billing exceptions, and create greater operational challenges."[87]

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[85] *Id*.

[86] *Id*. at 5.

[87] Ex. SDGE-17-R (David Thai) at DHT-4.

For continuity of smart meter system service, SDG&E is receptive to alternative proposals that address end of life systems and failures in a timely manner. To the extent the Commission does not approve SDG&E's SMO O&M and Capital allocation for SM2.0, SDG&E proffers the need to establish a two-way balancing account to track O&M and Capital-related expenditures attributable to failures.

A two-way balancing account establishes a means to deploy SM2.0 as necessary to mitigate first-generation meter system failure rates. These actions ensure accurate and timely billing of consumption, meter data acquisition for SDG&E operations and CCAs, customer programs, and other third-party energy service providers. SDG&E elaborates further on the alternative of a two-way balancing account in the conclusion of Section IV: Disputed Capital Project Cost for Smart Meter 2.0, and Section VI: the conclusion of the rebuttal testimony.

Finally, it is important to note, CCAs state "It would be highly inefficient for the Commission to approve and for SDG&E to install smart meters that soon become obsolete because they are not able to provide necessary data transfer capabilities needed by the Joint CCAs to adequately serve their customers."[88] SDG&E seeks its current funding request and associated SM2.0 deployment to achieve this end.

For the reasons stated above, SDG&E requests the Commission reject Cal Advocates' recommended SM2.0 capital and O&M reductions and approve SDG&E's proposal.

(2) Cal Advocates takes issue with capital forecast for Smart Meter 2.0 based on the response to Data Request (DR) PubAdv-SDG&E-LMW-043, Q1a. Cal Advocates states that "SDG&E's response regarding the Smart Meter 2.0 Project is insufficient as stated. SDG&E did not provide documentation to clearly show, review and evaluate the Smart Meters 2.0 Project costs. SDG&E's DR response does not support the funding request of $4.292 million for 2022, $32.802 million for 2023, and $58.459 million for 2024. Specifically, SDG&E fails to adequately support the significant level of funding requested in 2023 and 2024 for this program."[89]

SDG&E concedes it did not provide project cost support inclusive of calculations and support for those calculations clearly identifying how the amounts for each year (2022, 2023, and 2024) were determined. SDG&E responded as follows:

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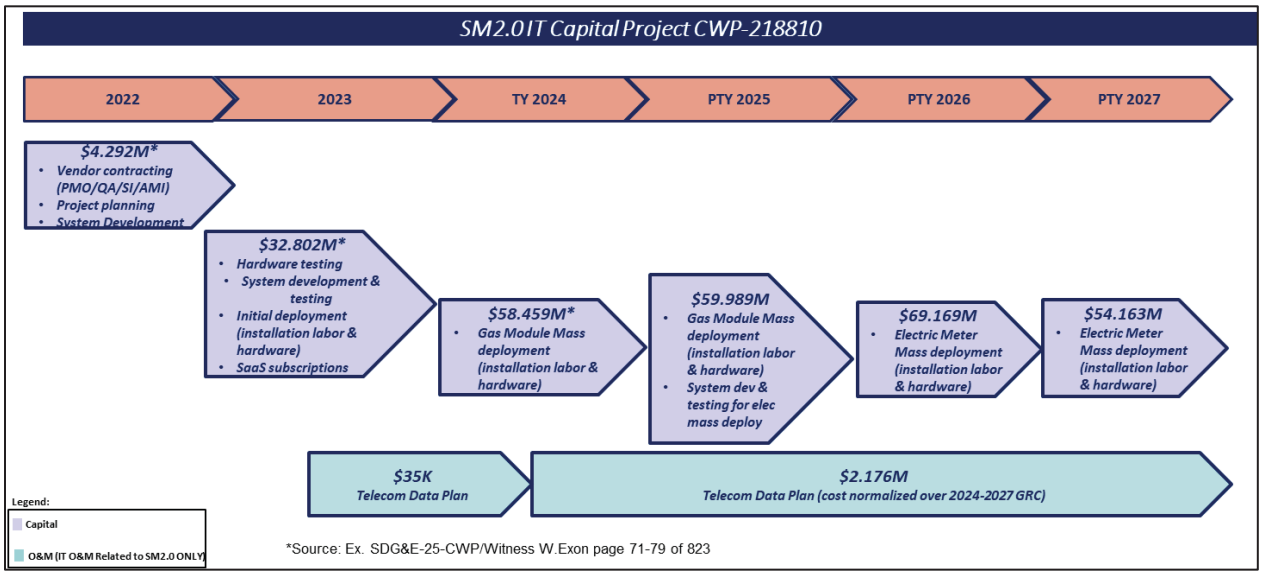
[88] Ex. CCA (Mark Fulmer) at 11.

[89] Ex. CA (Mariana Campbell) at 34.

> "SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it is vague and ambiguous to the phrase "Project cost support." Notwithstanding the objection noted above, for purposes of this data response, SDG&E interprets project cost support as costs broken down between labor and non-labor. Subject to and without waiving this objection, SDG&E responds by answering Question 1(a) as follows: SDG&E developed its project cost estimates based on subject matter experts and proprietary vendor input."[90]

SDG&E clarifies, its project cost estimates contain commercially sensitive information as it is currently in an active Request for Proposals (RFP). Proprietary vendor input and responses to the RFP must be safeguarded by SDG&E so that the RFP process is not jeopardized, and ratepayers receive the greatest value from vendor negotiations. SDG&E adds its protection of this commercially sensitive information is consistent as evidenced in its response to Cal Advocates' data request PAO-SDGE-043, where SDG&E took a similar position that the release of commercially sensitive bid information, regardless of intention, subjects ratepayers to undue risk and could influence market participant bidding strategies which could be adverse to ratepayer interests. Notwithstanding SDG&E's desire to protect sensitive information, SDG&E does provide the following Gantt chart below (Figure DT-3) to depict the criticality of the capital funding request and the work to be completed for SM2.0:

FIGURE DT-3
SMART METER 2.0 IT CAPITAL PROJECT (CWP 218810)



[90] Appendix B, at DHT-B-3, SDG&E Response to DR PubAdv-SDG&E-LMW-043, Q1a.

Cal Advocates has stated "Cal Advocates does not take issue with SDG&E's justification for the current meter replacement initiative,"[91] referenced in testimony as the SM2.0 Program. SDG&E asserts it has provided sufficient justification for replacement of SDG&E's first-generation smart meter system.

For the reasons stated above, SDG&E requests the Commission reject Cal Advocates' recommended SM2.0 IT capital project forecast and adopt SDG&E's forecast of $4,292,000 in 2022, $32,802,000 in 2023, and $58,459,000 in 2024.

(3) Cal Advocates does not oppose some Post-Test Year (PTY) funding for incremental costs related to SDG&E's Smart Meter 2.0 program. Cal Advocates proposes 50% funding for SDG&E request which is consistent with its proposed test year adjustments of 50% funding for this program.[92]

This rebuttal testimony provides the business justification for SDG&E's SM2.0 IT capital project. PTY exceptions are addressed in the Rebuttal Testimony of Melanie E. Hancock (Exhibit SDG&E-245).

2. TURN / UCAN

TURN recommended rejecting SDG&E's SM2.0 IT capital project request in 2022, 2023, and 2024 in its entirety of $4,290,000, $32,802,000, and $58,459,000, respectively. UCAN recommended rejecting SDG&E's SM2.0 IT capital project request in 2024 of $58,460,000. UCAN did not address SDG&E's SM2.0 IT capital project request in 2022 and 2023.

TURN rejects SM2.0 IT capital project O&M impacts of $2,035,000 within the Smart Meter Operations only. UCAN recommended rejecting all SM2.0 IT capital project O&M impacts of $4,421,000. TURN and UCAN recommended its rejections based on its outright rejection of SM2.0.

TURN and UCAN assert the following with the corresponding rebuttal below:

(1) TURN and UCAN assert SDG&E does not offer adequate justification for the SM2.0 Project, therefore capital costs and associated O&M with the project should be rejected. [93]

SDG&E strongly disagrees with both TURN and UCAN regarding the burden of proof not being met for the funding of SM2.0 Capital and associated O&M. SDG&E's smart meter

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[91] Ex. CA-10 (Mariana Campbell) at 34.

[92] Ex. CA-20 (Stacey Hunter) at 22-23.

[93] Ex. TURN (David Cheng) at 22-23; Ex. UCAN (Eric Woychik) at 296.

system is reaching end of life and expected failures will require addressing. See above Figures DT-1 and DT-2 for failure data.

TURN and UCAN's proposals fundamentally exclude the notion of technology reaching end of useful life, the timeframe by which was previously acknowledged by the CPUC in D.07-04-043. This is evident in TURN and UCAN electing not to fund SM2.0 Capital, post-test year capital exception, and associated O&M. Nor does TURN or UCAN propose a practical or feasible alternative to address smart meter gas module, electric smart meter, and system failures. TURN and UCAN are essentially in deep denial by taking the position that technology reaching end of useful life is not of concern, especially for customers.

Moreover, TURN and UCAN's failure to acknowledge operational realities, backed by empirical data, reinforces their unreasonable position. SDG&E makes clear the nonsensical proposals by TURN and UCAN have an opportunity cost such as:

- Community Choice Aggregators and Demand Response Programs may be rendered inoperative if timely customer electric usage data is not available;
- Solar customers and the solar industry would experience the loss of net energy metering;
- Illegal backfeed from behind-the-meter generation would not be detected, potentially creating safety hazards for electric field workers and the public;
- Customers would experience increased estimated and/or delayed bills;
- Increased customer complaints and degradation of online data presentment would be inevitable;
- Delayed electric outage detection and restoration would hamper electric distribution operations; and
- Truck rolls required for move-in and move-out events, delaying service to customers.

The outcome of TURN and UCAN's proposals are effectively turning back the clock to pre-2009, or pre-smart metering. If TURN and UCAN, in effect, want to return to yester-year without dynamic pricing (TOU), demand response programs, Community Choice Aggregators and customer solar net energy metering, then they should state this position. Effectively, TURN and UCAN are dismantling the smart meter infrastructure by denying funding for SM2.0 and efforts to maintain its existing smart meter system. TURN and UCAN's testimonies

exhaustively denigrate SDG&E's SM2.0 Program and attempts to confuse readers over issues irrelevant to the burden at hand. SDG&E's first-generation smart meter program, which was deployed beginning in 2009, is coming to the end of its useful life. Gas modules are failing because of end of battery life and electric smart meters are experiencing increasing annual failures as they reach their 17-year expected life. Moreover, smart meter systems will be almost two decades old during the TY 2024 GRC cycle.

SDG&E emphatically asserts, funding is required to remediate first-generation smart meter system failures. At stake are SDG&E customers, CCAs, DRPs, and all NEM participants (both existing and prospective).

SDG&E equally supports, the replacement of first-generation smart meter systems with current-day technologies. As such, SDG&E requests replacement of failing infrastructure with SM2.0 as the most prudent remediation.

As additional context, since the original deployment of smart meters, SDG&E has prudently pursued and implemented incremental modernization efforts to the existing system. However, there is no way around technology reaching the end of its useful life. SDG&E reaffirms failures are to be expected as infrastructure and technology reach end of life. This is supported by the Department of Ratepayer Advocates (formerly DRA, currently Cal Advocates), who stated in D.07-04-043 Opinion Approving Settlement on San Diego Gas & Electric Company's Advanced Metering Infrastructure Project:

> "Projects have a clear start date and, if well run, a clear end date; the SDG&E AMI system will be substantially (if not wholly) be replaced after 17 years."[94]

Further, as addressed in D.07-04-043:

> "DRA recommends the use of a 17-year analytical timeframe, based on the longest useful life of the components of the Project. DRA's recommendation is consistent with the analytical approach we used for PG&E in D.06-07-027."[95]

> "SDG&E would likely install a second generation of AMI starting after 17 years. By 2026 (the last year of the expected system lifetime of the current project), the AMI system as a whole would likely be overtaken by a faster,

[94] D.07-04-043 at 29.

[95] *Id*. at 27.

> cheaper and higher functioning AMI system that uses a different communications system."[96]

SDG&E cannot understate that reduced levels of O&M and capital funding for Smart Meter 2.0 as proposed by TURN and UCAN subject hundreds of thousands of gas and electric customers to failures without a remedy. Figures DT-1 and DT-2 show that under TURN/UCAN proposed levels for gas module replacements, SDG&E forecasts approximately 863,000 gas module failures (end of battery life) in the 2023-2027 timeframe. TURN/UCAN's proposal replaces only 84,680 gas modules during this same period. SDG&E forecasts approximately 265,000 electric smart meter failures during the 2023-2027 period. TURN/UCAN proposes to replace only 93,730 of these failed electric smart meters. SDG&E refers the Commission to examine its SM2.0 justification response to Cal Advocates above (Section IV) addressing SDG&E's disagreement with Cal Advocates' proposal to reduce capital and incremental O&M funding, to examine how TURN and UCAN proposals lead to an even larger likelihood of catastrophic smart meter system failures.

Further, SDG&E has concerns regarding TURN's positions and stated perspective "Based on PG&E's own analysis, its Smart Meter 1.0 is now projected to be woefully ineffective -- costing $576.676 million but only resulting in $286.381 million of benefits. Thus, ratepayers are projected to be far worse off than if the project never took place, but shareholders will walk away with hundreds of millions of profit."[97]

TURN rejects SDG&E's continuing support efforts for its existing first-generation smart meter system and rejects SDG&E's SM2.0 Program in totality. In addition to TURN's comments regarding PG&E's metering infrastructure (stating "ratepayers are projected to be far worse off than if the project never took place"), TURN has demonstrated its negative predisposition about advanced metering infrastructure. TURN's proposal essentially returns SDG&E to manual in-person meter reading. SDG&E cannot return to a manual meter reading process. Manual meter reading devices and systems are no longer readily available for electric meter reads nor prudent to implement.

SDG&E urges the Commission to not re-litigate the need for smart metering. Advanced metering infrastructure (AMI) or smart metering has been and is fully incorporated and

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[96] *Id*. at 31.

[97] Ex. TURN-09 (David Cheng) 24.

integrated as part of SDG&E's business infrastructure, operational processes, and customer service. SDG&E, its customers and other market participants (CCA's, DRPs, solar providers) cannot turn back the clock to a 20th century utility.

For the reasons addressed above, SDG&E requests the Commission reject TURN and UCAN's proposed rejection of SM2.0 and all associated O&M. SDG&E requests the Commission adopt SDG&E's SM2.0 IT capital, PTY and associated O&M proposals.

(2) TURN states "SDG&E never reveals the total cost of Smart Meter 2.0, and when TURN asked for the total revenue requirement of the project, SDG&E refused to provide it. Not only that, it appears that SDG&E went to great lengths to guard the information from the Commission and the public." [98]

SDG&E disagrees with TURN's assertion that "SDG&E went to great lengths to guard the information from the Commission and the public."[99] SDG&E is obligated to protect commercially sensitive, proprietary and confidential bid information from the public due to SDG&E's active RFP for SM2.0. TURN omits it received substantial feedback regarding the commercial sensitivity of the information. SDG&E reiterates, it is currently in an active RFP and with key competitive, critical, and proprietary bid data. SDG&E must safeguard information where possible so that the competitive RFP process is not jeopardized, bidders are not compromised, and ratepayers receive the greatest value from vendor negotiations. Release of commercially sensitive bid information, regardless of intention, subject ratepayers to undue risk and could influence market participant bidding strategies.

For the reasons addressed above, SDG&E requests the Commission ignore TURN's accusations.

(3) TURN asserts SDG&E should be reviewed for culpability for the experience meter or module failures. TURN states "SDG&E has not presented evidence that would permit the Commission to determine that the utility does not bear at least some of the responsibility for the need to engage in the proposed replacement project. In fact, SDG&E provides no explanation whatsoever for whether it has sought warranty coverage by the vendor or manufacturer, or whether the vendor or manufacturer has alleged improper operation or maintenance by SDG&E. This is critical information that the Commission needs in order to determine

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98 *Id*. at 22.

99 *Id*.

whether shareholders should bear some of the costs of the replacements."

SDG&E disagrees with TURN and contends that TURN has not proven any SDG&E culpability for the referenced failures. SDG&E clearly addressed and refuted TURN's "culpability" argument in its response to data request TURN-SEU-066. TURN inquired whether the vendor or manufacturer of the failed modules or meters has asserted that the failures were due to improper handling, use, operation or maintenance of the modules or meters by SDG&E. SDG&E specifically stated:

> "No. SDG&E's meter vendor of the failed modules or meters has not asserted that the failures were due to improper handling, use, operation or maintenance of the modules or meters by SDG&E."[100]

Further, SDG&E contends meter failures were addressed in its response to TURN's data request TURN-SEU-066, whereby SDG&E conveys efforts of on-going management of the vendor. TURN's former inquiry requests whether SDG&E attempted to work with the vendor or manufacturer of the failed modules or meters, SDG&E stated:

> "SDG&E has exercised its rights to obtain credits, refunds, or warranty replacements where applicable and consistent with the meter vendor agreement." [101]

SDG&E's advanced metering infrastructure was implemented in 2009/2010. Most modules or meters have eclipsed their warranty period. SDG&E has continued to manage the vendor in accordance with their contractual obligations. SDG&E holds the meter vendor or manufacturer to high standards and will diligently continue to do so. Additionally, SDG&E provided the following in response to TURN's inquiry (amended response to TURN-SEU-066) regarding how SDG&E addressed out of warranty failed meters:

> "SDG&E adds, although devices fail(ed) outside of warranty, an effort was spurred to investigate mitigation opportunities within our contractual rights with the meter vendor or manufacturer. Specifically, SDG&E sought alternative paths we could take to help offset some of the costs associated with the increase in smart meter failures out of warranty."[102]

A common theme has emerged that TURN denies the facts. TURN data request TURN-SEU-066 demonstrates TURN's reluctance to accept or understand meter warranty periods,

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[100] Appendix B, at DHT-B-19, SDG&E response to TURN-SEU-066, Question 1d.

[101] *Id.*, at DHT-B-15, SDG&E response to TURN-SEU-066, Question 1a.

[102] *Id.*, at DHT-B-17, SDG&E response to TURN-SEU-066, Question 1b.

negates key factual failure analysis provided by the meter vendor, and borders on the non-sensical.

First, SDG&E conducted its due diligence review of failures as evidenced in its response to data request TURN-SEU-066[103], whereby SDG&E shared presentations provided by the meter vendor for dates of March 16, 2021, April 15, 2021, May 7,2021, June 3, 2021, September 2, 2021, and April 18, 2023. Moreover, the referenced documentation illustrates the great lengths SDG&E managed its meter vendor or manufacturer primarily for meters outside of warranty – yet TURN negates these facts.

Secondly, every failure requires immediate attention of field meter operations (schedule and dispatch of a field technician) and thus, SDG&E would incur undesired incremental costs and therefore would make every effort to hold the vendor accountable. SDG&E's response to TURN-SEU-066[104], provides back-and-forth correspondence with the meter vendor regarding the return merchandise authorization (RMA) process, initiated to address and analyze meter issues and to better understand meter failures. This effort is indicative of the high standards to which SDG&E holds its meter vendor as it is incentivized to do so, but perhaps more critically, inaction would create customer service issues for our customers. For every failed meter or module, there would be a corresponding bill with estimated reads. Estimated bills become a customer service issue and an issue for agencies that require meter data. SDG&E has an incentive to prevent meter failures at the gas module and electric smart meter level.

TURN has not stated legitimate or factual reasons for rejecting Smart Meter 2.0. TURN is now resorting to baseless assertions that SDG&E is causing gas module, smart electric meter and system failures. Should the Commission give credence to TURN's motives and assertions, it would cascade into negative ramifications for ratepayers as future meter vendors or manufacturers will contend it is not commercially sound to agree to ratepayer favorable terms with SDG&E. Any future agreement would embed premiums for potential harm of not addressing products that are out of warranty. It should be stressed, good-faith negotiations rendered the existing executed agreement with the meter vendor or manufacturer but as did the settlement that approved the initial AMI deployment.

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[103] *Id.*, at DHT-B-20, SDG&E response to TURN-SEU-066, Question 1b.

[104] *Id*., at DHT-B-45, SDG&E response to TURN-SEU-066, Question 1b.

As TURN has no basis or evidence for its culpability claim, the Commission should reject TURN's argument.

(4) TURN and UCAN make strong claims regarding useful life unsubstantiated by facts. TURN claims that gas modules designed for a 20-year useful life should last that long.[105] UCAN states, "It should be noted that traditional electro-mechanical electric meters that were widely used throughout the utility industry for many years operated for many years before they became obsolete. The same cannot be said of the first generation of smart meters"[106]

SDG&E clarifies TURN's assumption that gas modules designed for a 20-year useful life will last 20-years. When SDG&E responded to TURN-SEU-052, it also added, "various factors such as design, infant mortality, random failures and wear out can contribute to expected life less than the manufacturer's stated 20-years."[107] SDG&E clarifies, if one or two gas register reads or interactive transmissions are initiated a day, battery life can range from 15-20 years. In other words, if gas modules do not transmit gas usage data in a daily frequency, then the gas module battery is expected to last 20 years. Of course, not transmitting gas usage data in a daily manner defeats the purpose of a smart meter system. In practice, all deployed gas modules attempt to transmit gas usage data twice daily.

Regarding UCAN's comparison of advanced metering infrastructure useful life to that of "traditional electro-mechanical electric meters," SDG&E objects to comparing any industry to the way it used to do business before digitization (analog to digital). UCAN's argument regarding electro-mechanical meters is irrelevant. UCAN's attempt to compare smart meters with electro-mechanical meters is similar to comparing rotary dial phones utilizing in-home wireline telephone carriers to current day smart phones with wireless communications. SDG&E refers the Commission to examine its SM2.0 justification response above, addressing useful life as discussed in D.07-04-043.[108]

For the reasons addressed above, SDG&E requests the Commission reject TURN and UCAN's assertions on useful life.

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[105] Ex. TURN-09 (David Cheng) at 23.

[106] Ex. UCAN (Eric Woychik) at 295.

[107] Appendix B, at DHT-B-53, SDG&E response to TURN-SEU-052, Question 1d.

[108] D.07-04-043 at 30 and 90, FOF 7.

(5) TURN and UCAN believe 'Smart Meter 1.0' outcomes should influence the decision-making associated with the SM2.0 Program. TURN states, "the Commission needs to first consider whether SDG&E's Smart Meter 1.0 achieved the intended benefits to the public, and whether the earlier project turned out to be cost effective," [109] before the Commission consider whether the utility should engage in Smart Meter 2.0. UCAN asserts, perceived outcome of SM1.0 should result in the rejection of all SM2.0 funding requests.[110]

SDG&E disagrees with TURN that the Commission should review Smart Meter 1.0 to determine if it achieved its intended benefits and is cost effective, prior to engaging on SM2.0. SDG&E also disagrees with UCAN that perceptions of the outcome of the first iteration of advanced metering infrastructure deployment should influence decisions for SM2.0.

First, SDG&E's cost-effectiveness has already been litigated in A.05-03-015 and the Advanced Meter Infrastructure Project, Decision 07-04-043.[111] Division of Ratepayer Advocates (formerly DRA, currently Cal Advocates), estimated the 17-year analysis resulted in a -$98 M net present value of benefits. SDG&E in the same application computed a -$6 M net present value of benefits over 17-years.[112] SDG&E does not support relitigating this issue.

Second, SDG&E smart meter benefits have been realized. Contrary to the statements that TURN and UCAN have posited in intervenor testimony, benefits were achieved and are well-documented on the Commission's public website, detailing the initial deployment outcomes of advanced metering infrastructure.[113] Some examples referenced on the Commission website include, but are not limited to, faster outage detection and restoration via power outage notifications from advanced metering infrastructure, implementation of time-based rates, online presentment of customer interval consumption data, remote connect and disconnect, and the obviated need for traditional manual meter reading.[114] It cannot be understated, the elimination of truck rolls for manual meter reading have reduced field crew safety injuries significantly as

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[109] Ex. TURN-09 (David Cheng) at 24.

[110] Ex. UCAN (Eric Woychik) at 316.

[111] D.07-04-043 at 21.

[112] *Id.* at 23, Table 1.

[113] CPUC, *The Benefits of Smart Meters*, available at: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/the-benefits-of-smart-meters.

[114] *Id*.

manual meter reading travel was essentially eliminated. Please refer to Appendix C to this rebuttal testimony for excerpt from Commission website and additional use cases.

SDG&E also notes key energy delivery transformation in recent years has created a greater dependency and benefits for smart meters, not addressed by TURN or UCAN. SDG&E elaborates as follows:

1. Community Choice Aggregators require smart meter data to conduct day-to-day operations.
2. Demand Response Programs require smart meter data for measurement and verification.
3. Rooftop and on-site solar and NEM require smart meters to enable net energy metering.

Community Choice Aggregators are key for customer choice. Demand Response parties are key for grid reliability and operation. NEM is an opportunity for customers to monetize renewable energy resources. Suffice to say, benefits of Smart Meter 1.0 have been realized and continue to be realized.

As such, SDG&E requests the Commission reject TURN and UCAN's request to relitigate and deliberate the outcomes of the initial deployment of advanced metering infrastructure. In rejecting TURN and UCAN's positions, the Commission should address the SM2.0 Program based on the relevant facts addressed in this rebuttal testimony.

(6) TURN states "In addition, SDG&E fails to mention that there is still over $100 million of book value remaining for the electric smart meters and gas modules that SDG&E is seeking to replace."[115]

SDG&E clarifies TURN's citation regarding the book value of meters and modules in SDG&E's response to TURN-SEU-052 was representative of a point in time.[116] SDG&E asserts its systematic, eight-year deployment replaces first generation assets deployed in 2009 with new smart meter assets as they near or have eclipsed their book life.

TURN's generalization of book value across an eight-year program is inaccurate. Further, SDG&E is deploying with a first-in first-out (FIFO) approach to ensure the most aged

[115] Ex. TURN-09 (David Cheng) at 24.

[116] Appendix B, at DHT-B-54, SDG&E response to TURN-SEU-052, Question 1f.

average sectors are replaced first. For example, electric meters being replaced potentially beginning in 2026 would have been fully depreciated.

For the reasons addressed above, SDG&E requests the Commission reject TURN's statements on book value.

(7) TURN proposes no alternative to rejecting SM2.0 and UCAN proffers a contradictory alternative proposal in stating, IT assets such as SM2.0 will be "outmoded, obsolete, and stranded within this GRC period."[117] UCAN then goes on to propose an alternative to SM2.0 that will be outmoded and obsolete, stating "merely managing expected failures by replacing specific equipment."[118]

TURN provides no alternative or feasible solutions to replacing end of life failures. UCAN does propose a status quo alternative with the caveat it redeploys first generation technology in lieu of current-day technologies. Both proposals lack acknowledgement of smart meter system failures and the funding requirements. As currently proposed by TURN and UCAN, hundreds of thousands of gas and electric customers are subject to failures without funding for a remedy. TURN/UCAN proposals for Smart Meter Operations and the SM2.0 Program will only fund a small portion of gas module and electric smart meter failure replacements. This is analogous to a segment of the grid failing and being advised you do not have the funding necessary to rebuild the segment of the grid to reinstate and reconnect customers.

As a result, customer and operational conditions would worsen. SDG&E customers and CCAs will be harmed because of increases in bill estimations and delayed bills. SDG&E operations would also expect a deterioration of the efficacy of SDG&E's grid outage detection that is sourced from smart meter data power outage notifications. This is an untenable position for SDG&E operations and its customers.

SDG&E refers the Commission to examine its SM2.0 justification response to Cal Advocates above in Section IV, addressing SDG&E's disagreement with Cal Advocates' proposal to reduce capital and incremental O&M funding to observe scale and deficiency of TURN and UCAN proposals.

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[117] Ex. UCAN (Eric Woychik) at 280.

[118] *Id.* at 295.

Moreover, regarding UCAN's assertions SDG&E's SM2.0 project will be "outmoded, obsolete, and stranded within this GRC period,"[119] SDG&E rejects this argument as unfounded and contradictory to UCAN's alternative proposal. UCAN asserts as an alternative to SM2.0, that SDG&E should correctively maintain its first-generation smart meter system by replacing specific equipment. UCAN's proposal essentially replaces first-generation assets with other first-generation assets. This is analogous to replacing a failed iPhone (what existed back in 2010) with the same version in 2024. UCAN's proposal to deploy a technology that will soon become obsolete because they are not able to provide necessary data transfer capabilities is counter to the CCA's position.

Joint CCAs state:

> "It would be highly inefficient for the Commission to approve and for SDG&E to install smart meters that soon become obsolete because they are not able to provide necessary data transfer capabilities needed by the Joint CCAs to adequately serve their customers."[120]

To ensure SDG&E and parties such as CCAs are not impaired by TURN and UCAN proposals to reject SM2.0 capital and associated O&M, SDG&E seeks the Commission's approval of its current funding request for SM2.0 as just and reasonable. As such, SDG&E requests the Commission reject TURN and UCAN's wholesale rejection of SM2.0 funding.

(8) TURN and UCAN also recommend the Commission reject SDG&E's PTY SM2.0 IT capital project costs of $59,989,000 in 2025, 69,169,000 and $54,163,000 in 2027.[121] [122]

This rebuttal testimony provides the business justification for SDG&E's SM2.0 IT capital project. PTY exceptions are addressed in the rebuttal testimony of Melanie E. Hancock (Exhibit SDG&E-245).

3. Joint CCAs

Joint CCAs do not oppose the SM2.0 Program. Joint CCAs request certain criterion are met for SM2.0.

Joint CCAs state:

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[119] *Id*. at 280.

[120] Ex. CCA (Mark Fulmer) at 11.

[121] Ex. TURN-09 (David Cheng) at 25.

[122] Ex. UCAN (Eric Woychik) at 15, 316. UCAN misstates PTY of $69.2M in [2028] and $54.16M in [2029].

(1) While I ultimately agree that replacement of SDG&E's initial AMI is appropriate, the Commission should ensure that these replacement smart meters and supporting IT infrastructure are able to meet the readily foreseeable requirements of all stakeholders and California policy.[123]

(2) Data is necessary to support CCA operations and services.[124]

(3) …timely interval data will better inform the Joint CCA's California Independent System Operator ("CAISO") Estimated Settlement Quality Meter Data ("ESQMD") processes for their Day Ahead load forecasts, minimize load forecasting errors, and improve grid reliability.[125]

(4) "It would be highly inefficient for the Commission to approve and for SDG&E to install smart meters that soon become obsolete because they are not able to provide necessary data transfer capabilities needed by the Joint CCAs to adequately serve their customers."[126]

4. Alternative Regulatory Recovery Mechanism

SDG&E maintains its Smart Meter 2.0 (SM2.0) Program is fundamental to daily SDG&E customer and field operations. As such, SDG&E recommends the Commission approve its SM2.0 funding request for capital, post-test year capital exception, and related O&M. Should the Commission not adopt SDG&E's funding request, corrective maintenance procedures will ensue to remediate failures, as evidenced throughout my rebuttal testimony. SDG&E stresses, it would not be judicious to chase unit by unit failures throughout its service territory over the long-term in a corrective maintenance or "run to failure" approach, as such inefficiencies will have a paramount effect on its operations and overall cost.

Even so, significant levels of corrective maintenance activities require funding, which is not currently contemplated within SDG&E's 2024 GRC request. Therefore, should the Commission decide to not adopt SDG&E's funding request, in the alternative, the Commission

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123 Ex. CCA (Mark Fulmer) at 4.

124 *Id*.

125 *Id*. at 5.

126 *Id*. at 11.

could establish a two-way balancing account to track SM2.0 Program O&M and capital-related expenditures to remediate first generation smart meter failures over the TY 2024 GRC cycle, including corrective maintenance efforts. Due to the variability of activities and costs associated with the SM2.0 Program, the two-way balancing account mechanism would allow for reasonable recovery of SDG&E's costs. Should the balance in the SM2.0 balancing account exceed the adopted forecast, recovery above authorized levels could be requested through an advice letter, as described in Exhibit SDG&E-243 (Rebuttal Testimony of Jason Kupfersmid – Regulatory Accounts), at the end of the GRC cycle. This way if failures do not occur at the rate anticipated by SDG&E (either more or less failures), the balancing account will address such differences in assumptions through spending variances.

SDG&E emphasizes a two-way balancing account provides the greatest transparency and accurate level of revenue needed for SDG&E to provide service at a reasonable cost. SDG&E recovers recorded costs incurred or returns to ratepayer's excess revenues collected which are greater than costs incurred. The regulatory recovery mechanism ensures accurate and timely billing of consumption, meter data acquisition for SDG&E operations and CCAs, customer programs, and other third-party energy service providers.

B. Disputed Budget Code or Capital Project Cost for Field Service Delivery (FSD)

TABLE DT-11
Comparison of SDG&E and Intervenors
Estimated CS-Field Operations FSD IT Capital Expenses

FSD IT Capital - Constant 2021 ($000)					
	2022	**2023**	**2024**	**Total**	**Difference**
SDG&E	13,400	13,839	19,296	46,535	
CAL ADVOCATES	13,400	13,400	13,400	40,200	-6,335
TURN	0	0	0	0	-46,535
UCAN	13,400	13,839	0	27,239	-19,296

1. Cal Advocates

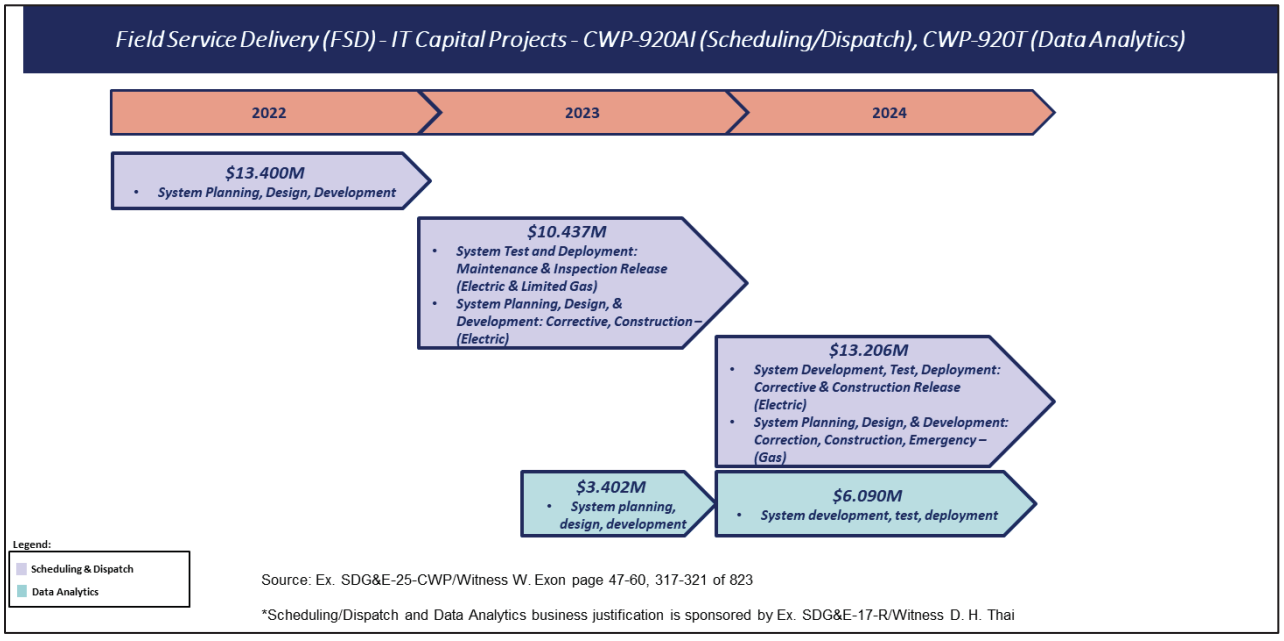
Cal Advocates recommends adopting SDG&E's FSD IT capital project 2022 request of $13,400,000 for years 2022-2024. For year 2022 this is on par SDG&E's request, for year 2023 this represents a $439,000 reduction from SDG&E's request of $13,839,000, for year 2024 this represents a $5,896,000 reduction from SDG&E's request of $19,296,000. Cal Advocates recommends its adjustment to capital as it takes issue with FSD Program justification based on two data request responses.

Cal Advocates asserts the following with the corresponding rebuttal below:

(1) Cal Advocates takes issue with capital forecast for FSD. Cal Advocates states that "SDG&E's DR response do not support the funding request of $13.400 million for 2022, $13.839 million for 2023 and $19.296 million for 2024 for this capital project."[127]

SDG&E appreciates Cal Advocates' support for the FSD program. However, SDG&E disagrees with Cal Advocates' conclusion to reduce capital funding for FSD in 2023, and 2024 by taking issue that SDG&E's DR response does not support the funding requested. The multi-year program will implement integrated, cohesive, and modern technology solutions for field operations and supporting business organizations. Key objectives and value drivers for the FSD platform include replacing end of life and unsupported software, consolidating software applications, and improving the customer experience and satisfaction. SDG&E provided further FSD project detail in its amended response to TURN-SEU-052.[128] Without adequate funding, challenging operational conditions may ensue due to an inability to support system development and test deployment activities as depicted in the Gantt chart for FSD, Figure DT-4 below.

FIGURE DT-4



[127] Ex. CA-10 (Mariana Campbell) at 36.

[128] Appendix B, at DHT-B-55, SDG&E response to TURN-SEU-052 Question 2b.

For example, Cal Advocates not opposing the funding of the program in 2022 and 2023, and the on-going efforts, makes little sense to not complete support of the project through 2024 to optimize implemented functionality and tracking of benefits with data analytics. The data results in decisions to better improve functionality and track efficiencies. The data will also help inform functional enhancements supporting reliability and customer service. SDG&E is committed to identifying field device synergies and centralizing where efficiencies are possible, and the decisions will be backed by data.

Further, SDG&E, since the original deployment of field systems such as Click software in 2010, has prudently pursued and implemented incremental modernization efforts to the existing system. However, enhancement to these field systems have reached diminishing returns under the original technology platforms and design. Please see Table DT-12, below, depicting the following enhancements conducted over the past 3-years:

TABLE DT-12
FSD Enhancements

Year	
2022	- Integration with Verizon Telematics. Using the Click, Service Order Routing Tool (SORT) and Verizon systems, we can now identify the drivers and arrival times of the first-response vehicles at the scene of an emergency.
2021	- Deploying Sempra Maps for Mobile Touch / Improvements in Map Package - Auto cancellation of outage orders meeting certain criteria - Enhancements to Crew Callout integration enabling better synchronization across systems

2020	- Integration with Arcos. The following data in Arcos now synchronizes to Click:
	  - Crew/Callout Assignments
	  - Click Allocations and Foreman assignment.
	  - Schedule Exceptions (Sick, Training, etc)
	  - Click Non-Availabilities
	- Added Neptune support in ClickMobile for Gas users to allow for Damage Report completion

SDG&E provides the table above to illustrate its due diligence in its upkeep of critical field tools and systems. The decision to request funding in this GRC to replace such systems was not taken lightly, but given scheduling, field dispatch, work and safety ramifications SDG&E found it just and reasonable. Nevertheless, continuing maintenance and enhancements to the current field systems have reached the point of diminishing returns.

For the reasons stated above, SDG&E requests the Commission reject Cal Advocates' recommended disallowances for SDG&E's requested FSD IT capital project forecast in years 2023-2024. SDG&E seeks the Commission's approval of its FSD IT capital project forecasts of $13,839,000 and $19,296,000, in years 2023 and 2024, respectively, as just and reasonable.

2. TURN / UCAN

TURN recommends rejecting SDG&E's FSD IT capital project forecast in 2022, 2023, and 2024 in its entirety of $13,400,000, $13,839,000, and $19,296,000, respectively. UCAN recommends rejecting SDG&E's requested FSD IT capital project forecast in 2024 of $19,296,000. UCAN did not address capital project forecast in 2022 and 2023.

TURN rejects FSD IT capital project O&M impacts of $912,000 within Customer Field Operations Support. UCAN also recommends rejecting all FSD IT capital project O&M impacts of $1,490,000, of which include embedded base year costs of $578,000 within Customer Field Operations Support. TURN and UCAN recommended its disallowance based on its outright rejection of FSD.

TURN and UCAN assert the following with the corresponding rebuttal below:

(1) TURN and UCAN assert SDG&E does not offer adequate justification for the FSD Project. TURN states "In order to approve spending of more than $104 million, the Commission needs to ensure that the spending is cost-effective, which is not possible without a cost-benefit analysis."[129] UCAN states "SDG&E's existing FS[D] is obsolete, SDG&E's proposed next round of FS[D] expenditures would finance a platform that will soon be obsolete and outmoded, are not economically justified, and should not be approved by the Commission."[130]

SDG&E disagrees with TURN and UCAN's positions and proposed recommendation to not fund FSD. SDG&E, since the original deployment of field systems in 2010, has prudently pursued and implemented incremental enhancements to the existing system. The legacy or current field systems have reached end of life usefulness and support. At this juncture, inaction or retaining the status quo of an aging and unsupported system could only lead to increased inefficiencies in operations and customer service. SDG&E has provided justification for FSD in response to Cal Advocates above in Section IV. SDG&E's prudently pursued and implemented

[129] Ex. TURN (David Cheng) at 26.

[130] Ex. UCAN (Eric Woychik) at 300.

incremental modernization efforts to the existing system, satisfying the burden of proof that SDG&E makes the decision to pursue FSD as reasonable and just.

For the reasons stated above, SDG&E requests the Commission reject TURN an UCAN's rejection of FSD. SDG&E seeks the Commission's approval of its current funding request.

(2) UCAN asserts FSD presents obsolescence and stranded cost issues.[131] Further UCAN asserts FSD is unlikely to fulfill its promises of replacing end of life and unsupported software, consolidating software applications, improve customer experience and satisfaction.[132]

UCAN has presented no evidence that would suggest the FSD program deploys an obsolete technology and creates stranded cost issues. Additionally, SDG&E contends it has every intention to replace end of life and unsupported software, consolidating software applications, and improving customer experience and satisfaction. For instance, in April 2023, SDG&E successfully implemented a maintenance and inspection release for electric and limited gas work types in the new field service platform setting the foundation for a complete replacement of Click.

For the reasons stated above, SDG&E requests the Commission reject UCAN's claims as inaccurate.

(3) TURN and UCAN provide no alternatives for rejecting FSD.

TURN and UCAN's lack of alternative will default SDG&E to the use of an obsolete system and subsequently result in limiting functionality and operability for SDG&E and its customers. In rejecting the FSD Project, TURN and UCAN subject SDG&E and its customers to technology obsolescence. As described in Exhibit SDG&E-225 (Information Technology Rebuttal Testimony), failure to address technology obsolescence increases the risk to SDG&E's business. Risks include, but are not limited to, unavailability of systems critical to the way SDG&E conducts base business. Such an outcome could result in scenarios where work is scheduled and dispatched manually creating inefficiencies which will subsequently impact customer service. Operating technologies that are unsupported also increase the cyber risk and potential unauthorized breaches to systems and customer data. TURN's position to reject SDG&E's investment in technology will not only lead to increased risks and cybersecurity

[131] *Id*. at 298.

[132] *Id*. at 299.

threats but will also have a direct impact in the delivery of reliable, safe, efficient, and secure services to customers.

For the reasons stated above, SDG&E requests the Commission reject TURN and UCAN's recommended wholesale disallowance of capital and associated O&M. SDG&E seeks the Commission's approval of its current funding request for FSD.

C. Disputed Budget Code or Capital Project Cost for Smart Meter Upgrade / Product

TABLE DT-13
Comparison of SDG&E and Intervenors
Estimated Smart Meter Product / Upgrade IT Capital Expenses

Smart Meter Product / Upgrade IT Capital - Constant 2021 ($000)					
	2022	**2023**	**2024**	**Total**	**Difference**
SDG&E	5,141	6,208	3,663	15,012	
CAL ADVOCATES	5,141	5,141	0	10,282	-4,730
TURN	5,141	6,208	3,663	15,012	0
UCAN	5,141	6,208	0	11,349	-3,663

1. Cal Advocates

Cal Advocates recommends no change to SDG&E's Smart Meter Product/Upgrade IT capital project forecast in 2022 of $5,141,000. Cal Advocates recommends a reduction of $1,067,000 for year 2023 from $6,208,000 to $5,141,000. Cal Advocates recommends no funding for year 2024, whereas SDG&E forecasted $3,663,000. Cal Advocates recommends its adjustment to capital as it takes issue with Smart Meter Product/Upgrade justification based on testimony, revised workpapers, numerous data requests responses, and information provided in virtual meetings for capital projects.

Cal Advocates assert the following with the corresponding rebuttal below:

(1) Cal Advocates takes issue with capital forecast for Smart Meter Product/Upgrade Project. Cal Advocates states: "the business rationale of the Smart Meter Product / Upgrade [is] unjustified."[133]

SDG&E disagrees with Cal Advocates' disallowances and outright rejection of funding in 2024 for Smart Meter Product / Upgrade. SDG&E distinguishes Smart Meter Product / Upgrade into two functions: (A) the Smart Meter Product and (B) the Smart Meter Upgrade.

[133] Ex. CA-10 (Mariana Campbell) at 37.

(A) SDG&E contends Cal Advocates' rejection of SDG&E's funding request for the Smart Meter Product is unreasonable. The efforts of the teams are required to support existing first-generation smart meter systems. The duties include, but are not limited to developing numerous reporting, analytics, workflow, and process automation apparatuses to align with significant changes in the enterprise and operation. The Smart Meter Product teams will also implement numerous technical investments in Application Test Automation and system monitoring and reporting.

A sample list of on-going activities is displayed in Table DT-14 below, denoted by the team's name "Smart Meter Product." Successfully accomplishing such efforts ensure customers have online access and presentment of interval data, ensures successful third-party data sharing to demand response providers and CCAs. These efforts also continue to support Time-of-Use rates and utilization of remote connects and disconnects to avoid unnecessary truck rolls. Finally, the efforts provide support for the remote meter configuration for net metering and ensure reliable smart meter power outage notification transmission to grid operators to support customer outage detection.

TABLE DT-14
Smart Meter Product / Upgrade Activities

Team	Feature/Enhancement	2022	2023	2024
Smart Meter Product	Meter Deregistration Automation		X	
Smart Meter Product	Field Area Router Business Operation Enhancements		X	
Smart Meter Product	MV 90 Upgrade			X
Smart Meter Product	Enhancement of Center Operations KPIs and Exceptions (COKE) and Datamart to support improved reliability, security and performance		X	X
Smart Meter Product	Enhancement of Customer Energy Network (CEN) to support improved reliability, security and performance		X	X
Smart Meter Product	Migration of Meter Shop Watthour Engineering Company (WECO) database to improve security, reliability and performance of the operational database		X	
Smart Meter Product	Automated testing of all new code to the COKE and Datamart applications to reduce manual work		X	X
Smart Meter Product	Creation and enhancements of automated reports that will track the		X	X

	reliability and performance of the AMI system and Smart Meter 2.0			
Smart Meter Product	Creation and enhancement of automated reports that will identify non-communicating gas meters to supported improved reliability		X	
Smart Meter Product	Upgrades of software and servers to support enhanced security and improve performance by remediating redundant software		X	
Smart Meter Product	Creation and enhancement of automated reports that measure KPI's of AMI operational and billing metrics		X	
Smart Meter Product	Development of automated network stabilization application and webservice that will reduce manual work associated with AMI meter changes			X
Smart Meter Product	Creation and development of application that will monitor and report on the reliability and lifecycle of AMI hardware which will reduce manual work and improve reporting on meter performance			X
Smart Meter Upgrade (Production and Non-Production)	What's Up Gold (Network Monitoring Application) - Upgrades of application software version, servers, and database to support enhanced cyber security and performance.	X		
Smart Meter Upgrade (Production and Non-Production)	Certicom – Encryption and Encryption Key Server - Upgrades of application software version, servers, and database to support enhanced cyber security and performance.	X	X	
Smart Meter Upgrade (Production and Non-Production)	OpenWay Collection Engine (OWCE) - Upgrades of application software, servers, and database to support enhanced cyber security and performance.	X		
Smart Meter Upgrade (Production and Non-Production)	Meter Data Management System (MDMS) - Upgrades of application software version, servers, and database to support enhanced cyber security and performance.		X	X

Smart Meter Upgrade (Production and Non-Production)	Implement Test Automation for OpenWay Collection Engine (OWCE) and MDMS to enhance the reliability of the application software.	X	X	X

Given the criticality of operations support, SDG&E believes its Smart Meter Product funding request to be just and reasonable.

(B) SDG&E also disagrees with Cal Advocates' rejection of SDG&E's funding request for the Smart Meter Upgrade. SDG&E has an obligation to support and operate its first-generation smart meter system. Please see Table DT-14, Smart Meter Product/Upgrade Activities above, where SDG&E explains reoccurring upgrade activities denoted "Smart Meter Upgrade (Production and Non-Production)," executed since the inception of the initial advanced metering infrastructure project. The request SDG&E submits is consistent with its expectations that SDG&E's current smart meter system is supported in accordance with the vendor's specifications to ensure reliable and secure customer meter data acquisition.

As a matter of fact, and conveyed in Table DT-14 above, SDGE is currently undergoing a major upgrade endeavor. Major SM1.0 upgrades are performed regularly in order to keep critical apparatuses (Headend, MDMS) and the underlying infrastructure (hardware, Operating Systems, security technologies, etc.) current and ensure compatibility and interoperability. For example, the upgrade is currently refreshing the Certicom security appliances which have a five-year lifespan. These security appliances are critical to secure and encrypt communications to SDG&E's meter population. It cannot be understated, a failure in funding Smart Meter Upgrade, would be devastating to SDG&E operations and its customers. As it is currently planned, SDG&E's first-generation smart meter system will be operational through 2030 – the responsibility of supporting it until then is pivotal.

For the reasons stated above, SDG&E requests the Commission dismiss Cal Advocates' recommendation to reduce funding for Smart Meter Product / Upgrade and approve SDG&E's capital funding request of $5,140,000 in 2022, $6,210,000 in 2023, and $3,660,000 in 2024.

2. UCAN

UCAN recommended a rejection of Smart Meter Product/Upgrade IT capital forecast of $3,663,000 in 2024. UCAN does not address SDG&E's Smart Meter Product/Upgrade IT capital project forecast of $5,141,000 in 2022 and $6,208,000 in 2023. UCAN recommended its disallowance based on its outright rejection of Smart Meter Product/Upgrade.

(1) UCAN recommends SDG&E's Smart Meter Upgrade and Smart Meter Product TY 2024 capital project costs be denied.

SDG&E refers the Commission to examine its Smart Meter Product/Upgrade response to Cal Advocates above, addressing SDG&E's justification for the two distinguished endeavors - (A) the Smart Meter Product and (B) the Smart Meter Upgrade.

Moreover, SDG&E observes UCAN's rejections to be contradictory. UCAN does not address an objection to 2022 and 2023 capital project costs for Smart Meter Product/Upgrade, only to reject spend in TY 2024. If the notion of supporting the existing first-generation smart meter system applies in years 2022 through 2023, what is the premise it does not apply in TY 2024. UCAN has not provided evidence on-going support for the system should be discontinued. To the extent UCAN's review of Smart Meter Product/Upgrade was lackadaisical, SDG&E still contends UCAN's posited arguments in testimony are contradictory as evidenced by UCAN's statement as follows:

> "I believe it is the latter, merely managing expected failures by replacing specific equipment"[134]

In reference to the question:

> "Does SDG&E expect to more proactively deploy metering infrastructure to manage expected failures occurring at the end of meter technology useful life, or merely manage these expected failures by replacing specific metering equipment?"[135]

As stated, UCAN supports the on-going maintenance of the existing smart meter system in lieu of SM2.0 (of which it rejects in its entirety), however UCAN also rejects necessary costs to do just that – maintain the existing smart meter system. SDG&E asserts UCAN's contradictions and proposals put customers at risk. UCAN's proposals essentially returns SDG&E to meter reading as UCAN rejects the SM2.0 Program in its entirety and rejects Smart Meter Product/Upgrade to maintain its existing system. SDG&E stresses the return to a manual meter reading process is infeasible. Manual meter reading devices and systems are no longer readily available nor prudent to implement. If SDG&E's current first-generation smart meter systems cannot be enhanced and maintained, then the smart meter systems will become unusable. At stake are customers' online access and presentment of interval data, third party

[134] Ex. UCAN (Eric Woychik) at 295.

[135] *Id*.

data sharing, and major impacts to demand response providers and CCAs. Significant efforts to also standup Time-of-Use rates and utilization of remote connects and disconnects will go away in this construct. The solar industry would suffer significantly from loss of net metering and outage detection would be hampered by lack of smart meter power outage notifications. This outcome is bleak.

For the reasons stated above, SDG&E requests the Commission reject UCAN's recommendations to strike all funding for Smart Meter Product/Upgrade. SDG&E requests the Commission approve SDG&E's capital funding request for Smart Meter Product/Upgrade of $5,141,000 in 2022, $6,208,000 in 2023, and $3,663,000 in 2024.

V. SUPPORT FOR OTHER WITNESS AREAS: FLEET VEHICLES REQUESTED IN SDG&E-22-R.

A. TURN

TURN takes issue with capital forecast for Fleet Vehicles requested in Exhibit SDG&E-22-R. TURN denies all incremental vehicle requests.

SDG&E disagrees with TURN for the reasons and justification stated for labor expense within direct testimony (Exhibit SDG&E-17-R). SDG&E utilizes a 1:1 Full-Time Equivalent (FTE) to vehicle ratio as each employee is assigned a vehicle to complete primarily independent work orders throughout its service territory.

Please refer to Table DT-15 below for the CS-Field Operations assigned roles and associated work function requiring the vehicles. The vehicles support critical daily operational activities, without the vehicles below, CS-Field Operations would be limiting its field workload capacity.

TABLE DT-15
CS-Field Operations Fleet Vehicle Forecast

Fleet Vehicle Forecast		
CS-Field Operations Workpapers	**TY 2024 Incremental to Base Year 2021 Fleet Vehicles**	**Business Reasons Driving the Increase in Fleet Vehicles**
1FC001 Customer Field Operations	13	Incremental 8 Technicians due to SM2.0 deployment and 5 for all other O&M workload increase
1FC002 Customer Field Operations Supervision	1	Incremental 1 supervisor due to supervisor to employee span of control
1FC005 Smart Meter Operations	17	Incremental 6 Meter Tester Apprentices in preparation for SM2.0 deployment and 11 Single-Phase Technicians due to meter failure workload increase
Total	31	

VI. CONCLUSION

To summarize, for the reasons described above, the intervening parties (Cal Advocates, TURN, UCAN) have failed to articulate their proposals are just or reasonable recommendations that should be adopted by the Commission. SDG&E has provided substantial and detailed evidence supporting its forecasts in testimony, workpapers, and data requests.

Should the Commission materially reduce SDG&E's SM2.0 capital, post-test year, and associated O&M funding requests, a two-way balancing account is requested to track O&M and capital expenditures for SM2.0 to address first-generation smart meter failures. SDG&E proposes to record actual O&M and capital immediately following a Commission Decision on SM2.0.

This concludes my prepared rebuttal testimony.

APPENDIX A
GLOSSARY OF TERMS

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GLOSSARY OF TERMS

ACRONYM	DEFINITION
AMI	Advanced Metering Infrastructure
BY	Base Year
CAISO	California Independent System Operator
Cal Advocates	The Public Advocates Office of the California Public Utilities Commission
CCA	Community Choice Aggregators
CEN	Customer Energy Network
COKE	Central Operations KPI s and Exceptions
CPUC	California Public Utilities Commission
CS	Customer Services
CWP	Capital Workpaper
D	Decision
DR	Data Request
DRA	Division of Ratepayer Advocates
DRP	Demand Response Providers
ESQMD	Estimated Settlement Quality Meter Data
FIFO	First-In, First-Out
FSD	Field Service Delivery
FTE	Full Time Equivalent
GRC	General Rate Case
IT	Information Technology
Joint CCAs	San Diego Community Power and Clean Energy Alliance
MDMS	Meter Data Management System
NEM	Net Energy Metering
O&M	Operations and Maintenance
OLED	Organic Light-Emitting Diode
OWCE	OpenWay Collection Engine
QA	Quality Assurance
QLED	Quantum Light-Emitting Diode
RAMP	Risk Assessment Mitigation Phase
RFP	Request for Proposal
PTY	Post Test Year
SDG&E	San Diego Gas & Electric Company
SM	Smart Meter
SMO	Smart Meter Operations
SORT	Service Order Routing Tool
TOU	Time of Use
TURN	The Utility Reform Network
TY	Test Year
UCAN	The Utility Consumers' Action Network
WECO	Watthour Engineering Company
WP	Workpaper

Appendix B - SDG&E Response to Data Requests

Appendix B - SDG&E Response to PAO-SDGE-043 Questions 1a-g

1. Regarding the capital projects identified in the attached table please provide the following information:

Capital Project and Category (in $000's)	2022	2023	2024
00920AI RAMP Fld. Del. Schedule – Cat. C	13,400	10,437	13,206
00920T RAMP Fld. Del. Platform – Category C	0	3,402	6,090
218810 Smart Meter 2.0 – Category C	4,292	32,802	58,459
00903E CIS Reg. Enhance 2022 – Category D	19,233	0	0
00903F CIS Reg. Enhance 2023 – Category D	0	19,752	0
00903G CIS Reg. Enhance 2024 – Category D	0	0	23,768
00903B Contact Center of Future – Category D	0	11,285	9,789
00920BL RAMP Elec Dist Asset – Category M	3,314	5,694	3,731
00920BM RAMP Asset 360 – Category M	4,389	4,269	2,347
00920E Investment Priority – Category M	1,873	5,502	9,256
00907N Microsoft Agreement – Category O	27,900	0	0
00908X RAMP Cloud Foundations – Cat. O	5,968	4,812	5,312
00925I-K RAMP TCRI 2022-2024 – Category O	4,413	4,413	4,413
00920AR App Vulnerable – Category O	3,270	4,000	4,000
00925L RAMP LAN Refresh - Category O	3,734	4,245	4,945
00925M RAMP Fan Voice – Category O	10.357	0	0
00920BC RAMP Digital Process – Category O	4,950	4,950	4,853
00900D Smart Meter 2022-2024 – Category O	0	5,460	3,663
00920BD Found. Analytics – Category O	6,642	5,767	5,867
00920P RAMP Digital Asset – Category O	4,505	3,680	3,680

a. Project cost support (inclusive of calculations and support for those calculations) clearly identifying how the amounts for each year (2022, 2023, and 2024) were determined.

SDG&E Response 1a:

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it is vague and ambiguous to the phrase "Project cost support." Notwithstanding the objection noted above, for purposes of this data response, SDG&E interprets project cost support as costs broken down between labor and non-labor. Subject to and without waiving this objection, SDG&E responds by answering Question 1a as follows:

SDG&E developed its project cost estimates based on subject matter experts and proprietary vendor input.

Responses to Question 1a can be found in the individual attachment for each project in the table below, identified by the Project Work Paper.

Project Name	Work Paper	Project Status	If in Execution, what phase is it in?	File Name
RAMP Fld. Del. Schedule (FSD)	920AI	Execution	Requirements/Design	PAO-SDGE-043-LMW_SDGE-25_920AI_RAMP Fld. Del. Schedule-FSD
RAMP Fld. Del. Platform	920T	Concept		PAO-SDGE-043-LMW_SDGE-25_920T_RAMP Fld. Del. Platform
Smart Meter 2.0	218810	Business Case		PAO-SDGE-043-LMW_SDGE-25_218810_Smart Meter 2.0
CIS Reg. 2022	903E	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_903E_CIS Reg. 2022
CIS Reg. 2023	903F	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_903F_CIS Reg. 2023
CIS Reg. 2024	903G	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_903G_CIS Reg. 2024
Contact Center of the Future	903B	Concept		PAO-SDGE-043-LMW_SDGE-25_903B_Contact Center of the Future
RAMP Elec Dist Asset	920BL	Execution	Implementation	PAO-SDGE-043-LMW_SDGE-25_920BL_RAMP Elec Dist Asset
RAMP Asset 360	920BM	Execution	Implementation	PAO-SDGE-043-LMW_SDGE-25_920BM_RAMP Asset 360
Investment Priority	920E	Execution	Requirements/Design	PAO-SDGE-043-LMW_SDGE-25_920E_Investment Priority
Microsoft Agreement	907N	Concept		PAO-SDGE-043-LMW_SDGE-25_907N_Microsoft Agreement
RAMP Cloud Foundations	908X	Execution	Implementation	PAO-SDGE-043-LMW_SDGE-25_908X_RAMP Cloud Foundations
RAMP TCRI 2022	925I	Execution	Implementation	PAO-SDGE-043-LMW_SDGE-25_925I_RAMP TCRI 2022
RAMP TCRI 2023	925J	Concept		PAO-SDGE-043-LMW_SDGE-25_925J_RAMP TCRI 2023
RAMP TCRI 2024	925K	Concept		PAO-SDGE-043-LMW_SDGE-25_925K_RAMP TCRI 2024
App Vulnerable	920AR	Execution	Build/Testing	PAO-SDGE-043-LMW_SDGE-25_920AR_App Vulnerable
RAMP LAN Refresh	925L	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_925L_RAMP LAN Refresh
RAMP Fan Voice	925M	Execution	Implementation	PAO-SDGE-043-LMW_SDGE-25_925M_RAMP Fan Voice
RAMP Digital Process	920BC	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_920BC_RAMP Digital Process
Smart Meter 2022-2024	900D	Concept		PAO-SDGE-043-LMW_SDGE-25_900D_Smart Meter 2022-2024
Found. Analytics	920BD	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_920BD_Found. Analytics
RAMP Digital Asset	920P	Execution	Agile	PAO-SDGE-043-LMW_SDGE-25_920P_RAMP Digital Asset

b. Is the project approved by management indicating regardless of the outcome of this instant GRC that the project will be started and completed. Or is the project subject to management discretion and funding, indicating projects may or may not actually be started and completed within this current GRC cycle.

SDG&E Response 1b:

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it is vague and ambiguous. Subject to and without waiving this objection, SDG&E responds by answering Question 1b as follows:

As described in SDG&E Testimony (Chapter 2, section VI, subsection B) of Tia L. Ballard and William J. Exon (Ex. SDG&E-25) project approval may occur in various phases of the process to identify, develop, and proceed to execution of a project. Similarly, an identified project may not commence execution or achieve completion or may be deferred for various reasons after a Business Case has been approved. Those reasons include, but are not limited to, other competing business priorities, system vulnerabilities, scope changes, internal and vendor resources availability, and management discretion.

c. Does the project provide any cost savings? If no, then why not? If yes, the amount of savings, support for the calculation of those savings, and where in the current GRC those savings are recognized.

SDG&E Response 1c:

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it is vague and ambiguous as to the definition of "cost savings" and calls for speculation. Subject to and without waiving these objections, SDG&E responds by answering Question 1c as follows:

IT projects are developed to support the Company's operations and capture a variety of benefits for business operations and customers. See SDG&E testimony (Chapter 1, section I, subsection A; Chapter 2, section I, subsection A and C) of Ben W. Gordon, Tia L. Ballard and William J. Exon (Ex. SDG&E-25). By their nature, technology solutions are woven into everyday activities. To the extent savings may be present, any potential savings related to a particular project may be tangible and/or intangible and can range from avoided costs to enablement of business efficiencies. For example, users are forced to leverage less efficient workarounds when services are not available. By providing more reliable technology services, IT enables SDG&E business units to improve their operations rather than being less productive when the systems are not available and ready for their usage.

d. A project timeline showing start date, completion milestones, and completion date.

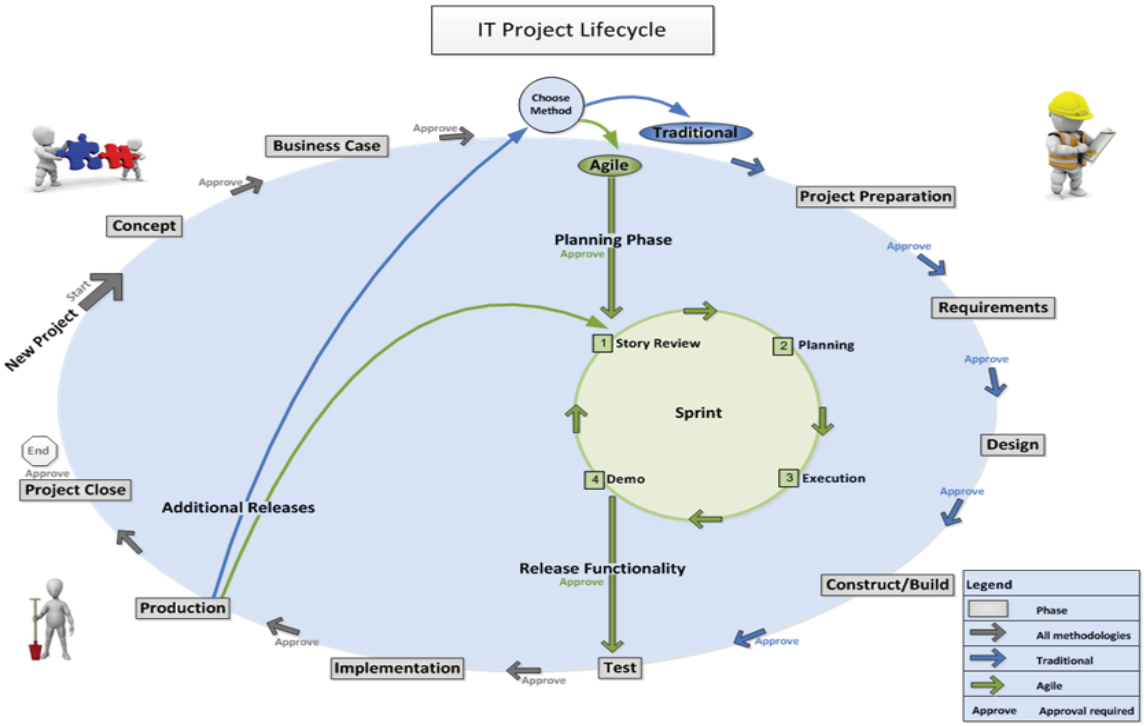
SDG&E Response 1d:

The estimated timeline provided for each identified project in response to Question 1d reflects the start date, completion milestones, and completion date where applicable. Please see the Attachment accompanying response to Question 1a for the related project. SDG&E developed its project timeline based on subject matter experts and proprietary vendor input.

e. At what stage is the project in its project life cycle? In providing an answer, please describe SDG&E's project life cycle process, phases, and a description of what each phase means.

SDG&E Response 1e:

Please see the "Project Status" field in the table provided in response to Question 1a above. SDG&E further provides the following a visual of the IT Project Lifecycle:



Below are descriptions of the activities that occur in various phases within the IT Project Lifecycle. This agile project timeline is represented in short cycles, as described in the SDG&E testimony (Chapter 1, section I, subsection B) of Ben W. Gordon, Tia L. Ballard, and William J. Exon (Ex. SDG&E-25).

Concept
Investigate technology and new business opportunities to recommend whether or not to develop and implement technology products. Provide early high-level analysis of potential solutions, costs, and benefits.

Business Case

Defines the scope of work and total cost of project. The primary purpose of this phase is to provide a detailed analysis to present the business value of a project along with its budget, schedule, and ongoing support requirements.

Execution

Project Preparation Phase:
Complete the preparations necessary to plan and mobilize resources needed for the completion of the project as approved in the Business Case.

Requirements Phase:
Develop detailed requirements to define and document client's needs. Obtain agreement from IT, the requestor(s), and the stakeholders. Define the risks and dependencies and, if necessary, update the estimated effort.

Design Phase:
Develop product design and operating specification in preparation for the Construct/Build Phase. Consider sourcing options Initiate security design. Evaluate the overall design effort for ability to trace requirements and any missing requirements needed to deliver the Business Case.

Construct/Build Phase:
Complete the steps necessary to establish a product which meets client requirement specifications and system design specifications. Complete the deliverables necessary to prepare for testing the product and for training personnel to use and support it.

Test Phase:
Test and verify end-to-end functionality of the product. Verify all requirements are implemented and at an acceptable level of quality. Perform test cases to assure that each component of the product executes without errors.

Implementation
Implement new and enhanced application systems and infrastructure hardware/software into production support environment. Provide storm period support as partnership between project team and production support organizations.

Production Phase:
Provides the baseline service level required to sustain normal operations of the production environment for application and infrastructure hardware and software.

Project Closeout:
Formally close out the project financials (work orders, invoices, etc.), review the project to determine best practices and lessons learned.

Agile software development:
Agile software development refers to a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

f. Were any alternatives considered? If no, then why not? If yes, then provide a description of the alternative considered, the cost, and why SDG&E chose not to adopt the alternative.

SDG&E Response 1f:

Pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure, SDG&E objects to this request on the grounds that the request seeks information not relevant to the subject matter involved in the pending proceeding and therefore, the burden, expense and intrusiveness of this request outweighs the likelihood that the information sought will lead to the discovery of admissible evidence. SDG&E also objects on the grounds that it is vague and ambiguous. In particular, this request seeks information concerning costs associated with "alternatives considered." Subject to and without waiving this objection, SDG&E responds as follows answering Question 1(f):

Please see the Attachment accompanying response to Question 1a for the related project for the response to Question 1f.

g. Were any of the project costs subject to competitive bidding? If no, then why not? If yes, then please provide the metrics used and results of the bidding process.

SDG&E Response 1g:

Pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure, SDG&E objects to this request on the grounds that the request seeks information not relevant to the subject matter involved in the pending proceeding and therefore, the burden, expense and intrusiveness of this request outweighs the likelihood that the information sought will lead to the discovery of admissible evidence. In particular, this request seeks information concerning "project costs subject to competitive bidding," "metrics used" and "results of the bidding process." Subject to and without waiving this objection, SDG&E responds as follows answering Question 1(g):

Please see the Attachment accompanying response to Question 1a for the related project for the response to Question 1g.

h. In reference to project 218810 Smart Meter 2.0, were SDG&E's previous Smart Meter projects subject to memorandum account treatment. If yes, what were the reasons for recording the costs to a memorandum account as opposed to inclusion in a GRC?

PAO-SDGE-043-LMW_SDGE-25_218810_Smart Meter 2.0

1a. Project cost support (inclusive of calculations and support for those calculations) clearly identifying how the amounts for each year (2022, 2023, and 2024) were determined.

Response 1a:

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it is vague and ambiguous to the phrase "Project cost support." Notwithstanding the objection noted above, for purposes of this data response, SDG&E interprets project cost support as costs broken down between labor and non-labor. Subject to and without waiving this objection, SDG&E responds by answering Question 1(a) as follows:

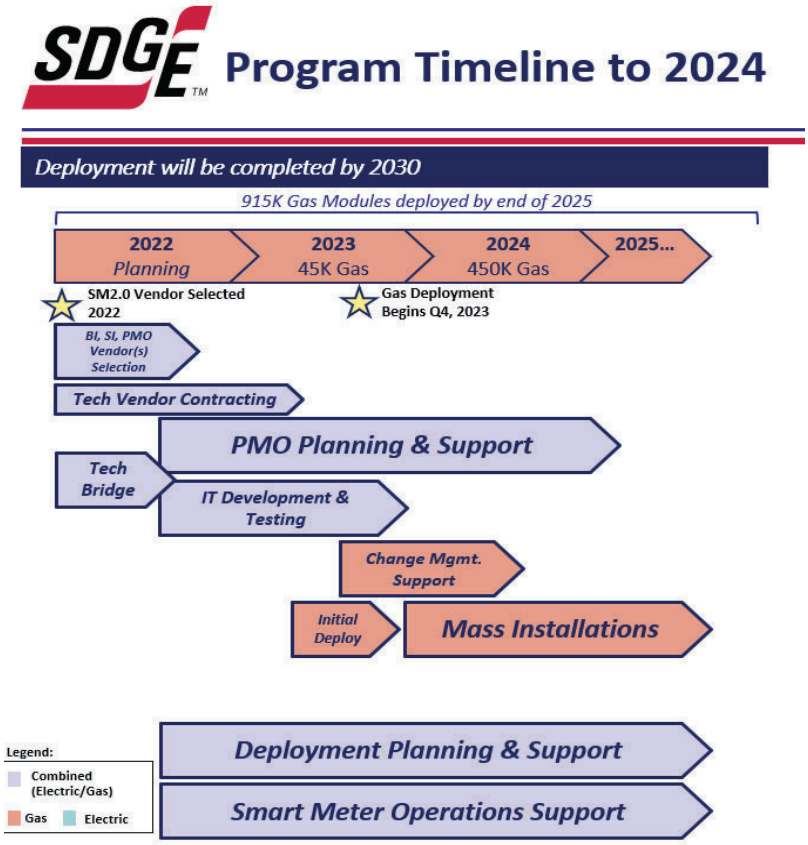
SDG&E developed its project cost estimates based on subject matter experts and proprietary vendor input.

Smart Meter 2.0 Capital Workpaper (CWP-218810)	(In 2021 $000s)			Testimony Workpaper Reference
	2022	2023	2024	
Labor	1,762	6,499	5,367	SDG&E-25 Prepared Direct Testimony of Tia L Ballard (O&M) and William J. Exon (Capital) (Chapter 2: Information Technology), pg. TLB/WJE-21 and SDG&E-25-CWP/Witness: W. Exon pgs. 49-50 of 88. SDG&E-17R Revised Direct Testimony of David H. Thai, Section D. Policy pgs. DHT-3 thru DHT-5, and Section V. Capital pgs. DHT-40 thru DHT-44.
Non-Labor	2,530	26,303	53,092	
Total	**4,292**	**32,802**	**58,459**	
FTE	14.7	54.2	44.8	

d. A project timeline showing start date, completion milestones, and completion date.

Response 1d:

The estimated timeline shows: start date, completion milestones, and completion date where applicable. SDG&E developed its project timeline based on subject matter experts and proprietary vendor input.



f. Were any alternatives considered? If no, then why not? If yes, then provide a description of the alternative considered, the cost, and why we chose not to adopt the alternative.

Response 1f:

Pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure, SDG&E objects to this request on the grounds that the request seeks information not relevant to the subject matter involved in the pending proceeding and therefore, the burden, expense and intrusiveness of this request outweighs the likelihood that the information sought will lead to the discovery of admissible evidence. In particular, this request seeks information concerning costs associated with "alternatives considered." Subject to and without waiving this objection, SDG&E responds as follows answering Question 1(f):

Yes, alternatives were considered. SDG&E developed its alternative project cost estimates based on subject matter experts and proprietary vendor input. One such alternative was a corrective maintenance approach. Under this approach, costs may increase for a variety of reasons, including but not limited to an increase in labor attributable to higher unit costs to replace devices. In addition, the customer experience may be impacted. The Smart Meter 2.0 program remains the preferred technology for

futureproofing, and long-term secure and accurate relay of customer meter data information.

g. Were any of the project costs subject to competitive bidding? If no, then why not? If yes, then please provide the metrics used and results of the bidding process.

Response 1g:

Pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure, SDG&E objects to this request on the grounds that the request seeks information not relevant to the subject matter involved in the pending proceeding and therefore, the burden, expense and intrusiveness of this request outweighs the likelihood that the information sought will lead to the discovery of admissible evidence. In particular, this request seeks information concerning "project costs subject to competitive bidding", "metrics used" and "results of the bidding process." Subject to and without waiving this objection, SDG&E responds as follows answering Question 1(g):

Yes. SDG&E is currently in an active Request for Proposal (RFP) for SM 2.0. To the extent the request seeks metrics and results concerning the active RFP, commercially sensitive bids in process with terms that have not been accepted have no probative value. SDG&E developed its project cost estimates based on subject matter experts and proprietary vendor input.

Appendix B - SDG&E Response to PAO-SDGE-115 Question 5d

5. Referring to Ex. SDG-17-W, p. DHT-68, the Forecast Adjustment Details explanation for year 2022 states: "Field Service Delivery (FSD) non-labor costs for the 2022 pilot program of $500k in contract labor less $578k in base year = -78 cost reduction."

a. Provide documentation that clarifies SDG&E's calculation total of -78 cost reduction associated with the non-labor costs for the FSD Project for year 2022.

b. Provide supportive documentation that explains if the FSD Project is a pilot program and if this pilot program was approved in a prior general rate case. If so, provide the GRC decision number.

c. Provide documentation that explains if SDG&E included $578K in base year 2021 as an incurred non-labor cost associated to the FSD Project.

d. Provide supportive documentation and explain the increase in Non-labor from $234,000 in year 2019 to $1.331 million in year 2020.

e. Provide supportive documentation and explain the decrease in Non-labor from $1.331 million in year 2020 to $715,000 in year 2021.

SDG&E Response 5:

a. Please see Exhibit SDG&E-14-WP page 68 for the description of the cost reduction.

2022 Estimate	**CLICK REPLACEMENT**	**$500,000**
2021 BY Actual	**SRV-CONSULTING (Accenture LLP)**	**$577,863**
Difference		**-$77,863**

b. FSD is not a pilot program authorized in a previous general rate case cycle or decision as it is required to replace software that has recently reached its end-of-life after the filing and decision of the last general rate case. FSD has minimum scope releases planned under phases to minimize operational and delivery risk, which SDG&E internally refers to as "pilots".

c. Please see Exhibit SDG&E-17-WP-R/Witness: D. Thai, page 76.

d. The increase related to FSD ($857K) from 2019 to 2020 is primarily due to scope of work and timing of payments based on consulting agreements for pre-foundational preparation including; overall roadmap development; foundational work including operational process development and organizational planning, vendor RFP prep, and development of technology proof of concept.

e. The decrease related to FSD (-$289K) from 2020 to 2021 is primarily due to invoice timing.

6. Referring to Ex. SDG&E-17-W, p. 67, Workpaper: 1FC004.000 Customer Field Operations Support, Summary of results. In Excel format (with active cells, source and links), provide the recorded historical labor and non-labor costs (2017-2021).

Appendix B - SDG&E Response to TURN-SEU-066 Questions 1a, 1b, and 1d

Data Request Number: TURN-SEU-066

Proceeding Name: A2205015_016 - SoCalGas and SDGE 2024 GRC

Publish To: The Utility Reform Network

Date Received: 4/6/2023

Date Responded: 4/18/2023

Date Amended: 4/27/2023

1. On Ex. SDG&E-17-R, page DHT-iv, SDG&E states, "Incremental funding for electric meter and gas module failure replacements because of aging metering infrastructure." Furthermore, on page DHT-36, SDG&E states:

In recent history, SDG&E has observed a significant increase in meter failures with an average increase of 58% since 2018. The majority (70% of the total) of meter failures are driven by a condition SDG&E has termed "Blank Display." SDG&E has removed over 11,000 meters due to this condition since the beginning of Smart Meter deployment in 2009. This failure has been traced back to component failure on the circuit board used to supply power for the meter. After a thorough root cause analysis (RCA) our smart meter manufacturer has determined this condition primarily exists on single-phase residential smart meters that were manufactured in the 2009/2010 timeframe. Smart meters built during that timeframe represent about 60% of SDG&E's installed meter population (700K total).

a. Please indicate whether SDG&E attempted to work with the vendor or manufacturer of the failed modules or meters to obtain credits, refunds, or warranty replacements for the failures. If so, please detail these activities and outcomes.

SDG&E Response 1a:

SDG&E clarifies that failed modules or meters are observed in two categories. Category 1 - Failed modules or meters under warranty. Category 2 – Failed modules or meters out of warranty.

For Category 1, SDG&E has exercised its rights to obtain credits, refunds, or warranty replacements where applicable and consistent with the meter vendor agreement.

For Category 2, SDG&E completed a comprehensive review of its meter vendor agreement and electric meter specifications and could not find language holding the meter vendor financially responsible for electric meter failures out of warranty.

Data Request Number: TURN-SEU-066

Proceeding Name: A2205015_016 - SoCalGas and SDGE 2024 GRC

Publish To: The Utility Reform Network

Date Received: 4/6/2023

Date Responded: 4/27/2023

Date Amended: 5/10/2023

1. On Ex. SDG&E-17-R, page DHT-iv, SDG&E states, "Incremental funding for electric meter and gas module failure replacements because of aging metering infrastructure." Furthermore, on page DHT-36, SDG&E states: In recent history, SDG&E has observed a significant increase in meter failures with an average increase of 58% since 2018. The majority (70% of the total) of meter failures are driven by a condition SDG&E has termed "Blank Display." SDG&E has removed over 11,000 meters due to this condition since the beginning of Smart Meter deployment in 2009. This failure has been traced back to component failure on the circuit board used to supply power for the meter. After a thorough root cause analysis (RCA) our smart meter manufacturer has determined this condition primarily exists on single-phase residential smart meters that were manufactured in the 2009/2010 timeframe. Smart meters built during that timeframe represent about 60% of SDG&E's installed meter population (700K total).

b. Please provide written communication (including emails, memorandum, presentations, agreements, or others) between SDG&E and the vendor or manufacturer of the failed modules or meters regarding the premature failure of the meters or components.

SDG&E Response 1b:

SDG&E objects to this request on the grounds that the request for "a written communication (including emails, memorandum, presentations, agreements, or others) between SDG&E and the vendor or manufacturer of the failed modules or meters regarding the premature failure of the meters or components" is overly broad and unduly burdensome and vague and ambiguous as to time. Subject to and without waiving the forgoing objection, SDG&E responds as follows:

SDG&E's advanced metering infrastructure (AMI) was implemented in 2009/2010. Since that time, prudent efforts to manage the vendor in accordance with their contractual obligations have occurred. SDG&E holds our meter vendor partner to high standards.

As noted in response to Question 1 of this request:

SDG&E clarifies that failed modules or meters are observed in two categories. Category 1 - Failed modules or meters under warranty. Category 2 – Failed modules or meters out of warranty.

For Category 1, SDG&E has exercised its rights to obtain credits, refunds, or warranty replacements where applicable and consistent with the meter vendor agreement.

Question 1b – Continued

For Category 2, SDG&E completed a comprehensive review of our meter vendor agreement and electric meter specifications and could not find language holding the meter vendor financially responsible for electric meter failures out of warranty.

For warranty information, see Itron Warranty (Schedule J) produced in response to TURN-SEU-070, Q1.

SDG&E adds, although devices fail(ed) outside of warranty, an effort was spurred to investigate mitigation opportunities within our contractual rights with the meter vendor or manufacturer. Specifically, SDG&E sought alternative paths we could take to help offset some of the costs associated with the increase in smart meter failures out of warranty. This is evidenced in the emails attached here as "TURN-SEU-066_ATTACH_Q1B_2 CONFIDENTIAL" and "TURN-SEU-066_ATTACH_Q1B_2 PUBLIC"

Further, the outlined high-level insights below affirm the management of the meter vendor to their contractual obligations and SDG&E's efforts to identify and resolve the meter failure issues with Itron and determine acceptable options.

<u>AMI Vendor Management Process:</u>

- Vendor management meetings with the meter vendor or manufacturer are on-going. Discussions regarding system performance and failures are discussed with regular cadence. Root cause, impacted population, and remediation are deliberated. See attached Itron Blank Display meeting slide decks for meetings (attached here as "TURN-SEU-066_ATTACH_Q1B_CONFIDENTIAL" and "TURN-SEU-066_ATTACH_Q1B_PUBLIC")) that took place on:
    - September 2, 2021,
    - June 3, 2021,
    - May 7, 2021,
    - April 15, 2021,
    - March 16, 2021

  Further as requested by TURN, the email associated with the slide deck dissemination above, are attached here as "TURN-SEU-066_ATTACH_Q1B_3 CONFIDENTIAL" and "TURN-SEU-066_ATTACH_Q1B_3 PUBLIC".

Question 1b – Continued

Additionally, see TURN-SEU-066_ATTACH_1b_11 CONFIDENTIAL and TURN-SEU-066_ATTACH_1b_11 PUBLIC, which contain slides from a more recent meeting, dated April 18, 2023.

- SDG&E's process generates Return Merchandise Authorization (RMA) receipts for meters both in and out of warranty, to demonstrate a continued effort to better understand the meter failures. Please see the attached files titled TURN-SEU-066_ATTACH_Q1B_10 CONFIDENTIAL and TURN-SEU-066_ATTACH_Q1B_10 PUBLIC addressing blank display meter analysis with Itron. Additionally, see the following attached RMA receipts demonstrating SDG&E sent certain meters to Itron for review and analysis in Q1c.

  TURN-SEU-066_ATTACH_Q1B_4 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_4 PUBLIC

  TURN-SEU-066_ATTACH_Q1B_5 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_5 PUBLIC

  TURN-SEU-066_ATTACH_Q1B_6 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_6 PUBLIC

  TURN-SEU-066_ATTACH_Q1B_7 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_7 PUBLIC

  TURN-SEU-066_ATTACH_Q1B_8 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_8 PUBLIC

  TURN-SEU-066_ATTACH_Q1B_9 CONFIDENTIAL
  TURN-SEU-066_ATTACH_Q1B_9 PUBLIC

- Additional monthly reoccurring meetings hosted by the meter vendor and other utilities leveraging the meter vendor's solutions began at the onset of the initial deployment of advanced metering infrastructure. SDG&E submits the latest meeting notice series that began on December 14, 2020, and are on-going. See attached example of meeting invitation. See attached files TURN-SEU-066_ATTACH_Q1B_12 CONFIDENTIAL and TURN-SEU-066_ATTACH_Q1B_12 PUBLIC.

Question 1-Continued

d. Please explain whether the vendor or manufacturer of the failed modules or meters has asserted that the failures were due to improper handling, use, operation or maintenance of the modules or meters by SDG&E. If yes, please provide related written communications between SDG&E and the vendor or manufacturer.

SDG&E Response 1d:

No. SDG&E's meter vendor of the failed modules or meters has not asserted that the failures were due to improper handling, use, operation or maintenance of the modules or meters by SDG&E.

SDG&E Blank Display Update

FIELD DATA & SUPPLIER ANALYSIS

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
  - [redacted].
- [redacted]
  - [redacted].
- [redacted]
  - [redacted].
- [redacted]
  1. [redacted]
  2. [redacted]
  3. [redacted]

DHT-B-21

THANK YOU

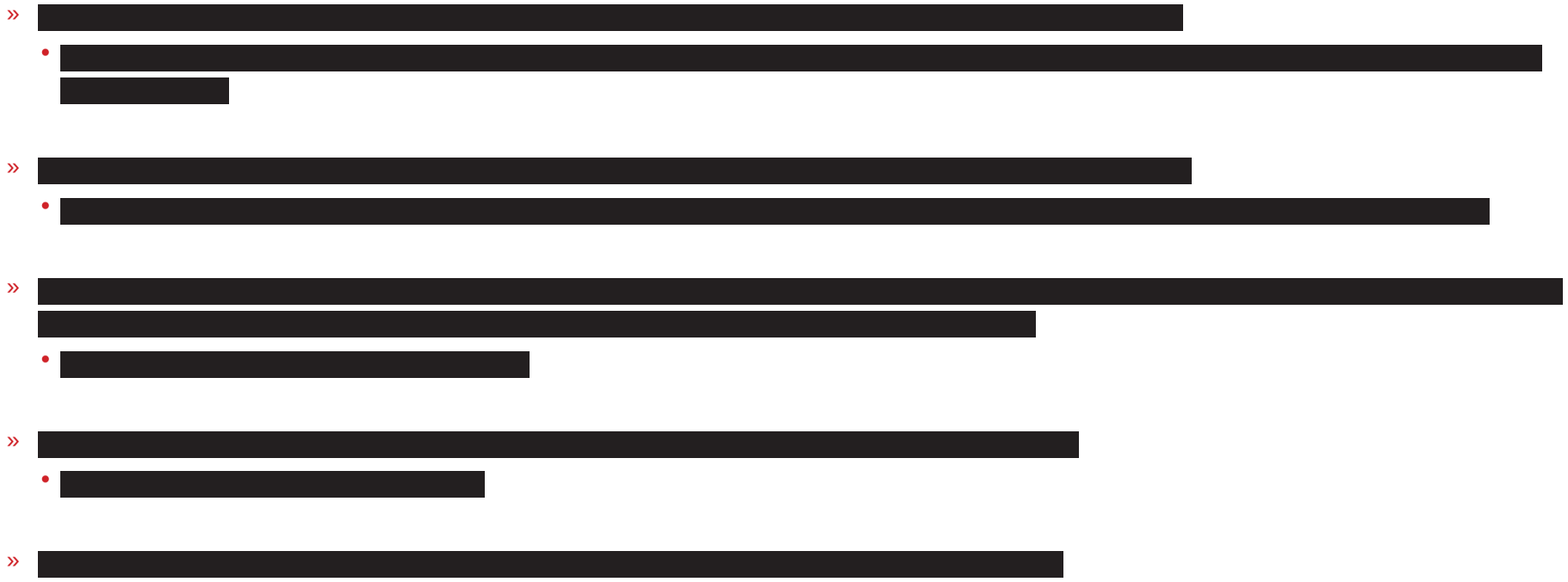
Archive

June 3, 2021 Update

FIELD DATA

DHT-B-24

SUPPLIER ANALYSIS



DHT-B-25

Archive

May 7, 2021 Update

FIELD DATA

[redacted]

DHT-B-27

FIELD DATA

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

[redacted]

DHT-B-28

FIELD DATA

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

- [redacted]
  - [redacted]
  - [redacted]
  - [redacted]

DHT-B-29

FIELD DATA

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

- [redacted]
- [redacted]
- [redacted]

- Next Steps:

1. [redacted]
2. [redacted]
3. [redacted]

DHT-B-30

SUPPLIER ANALYSIS

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

[redacted]

Archive

April 15, 2021 Update

DHT-B-32

TURN-SEU-066_ATTACH_Q1b_PUBLIC.pdf

FIELD DATA

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DHT-B-33

FIELD DATA

» [redacted]

[redacted]

DHT-B-34

FIELD DATA

»

DHT-B-35

FIELD DATA

» Next Steps:

- [redacted]
- [redacted]

SUPPLIER ANALYSIS

» [redacted]

» [redacted]

- [redacted]

Focal points:

1. [redacted]
   - [redacted]
2. [redacted]

» [redacted]

DHT-B-37

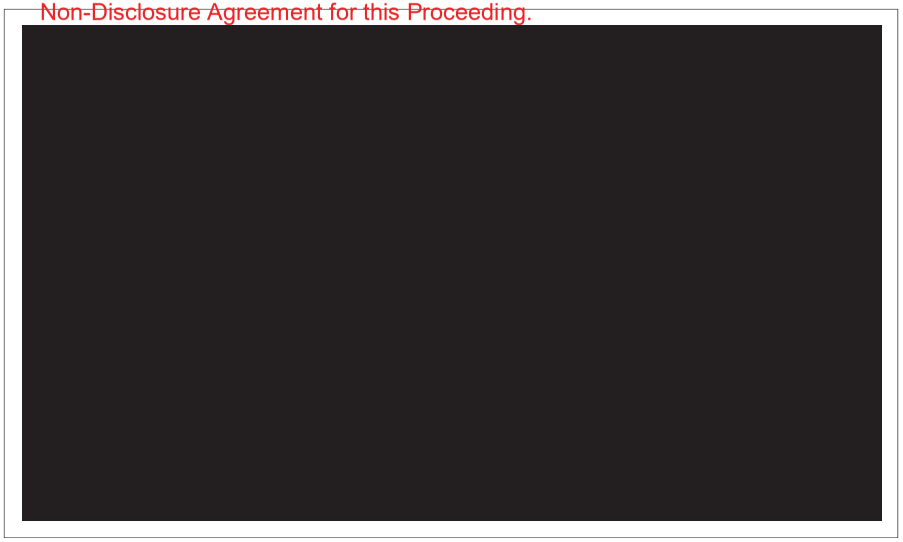
Archive

March 26, 2021 Update

FIELD DATA

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
- [redacted]

DHT-B-39



DHT-B-40

FIELD DATA

Observations

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
- [redacted]
  - [redacted]

DHT-B-41

DHT-B-42

FIELD DATA

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

- [redacted]
- [redacted]
- [redacted]

DHT-B-43

SUPPLIER ANALYSIS

This document contains Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding.

- [redacted]
- [redacted]
  - [redacted]
  - [redacted]
- [redacted]
- [redacted]
- [redacted]
- [redacted]
  - [redacted]
  - [redacted]
    - [redacted]

DHT-B-44

From: [redacted]
To: [redacted]
Subject: [EXTERNAL] FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data
Date: Tuesday, August 2, 2022 2:45:53 PM
Attachments: image001.png
image002.png
image003.png
image004.png
image005.png
image006.png
image007.png
[redacted]

CAUTION! EXTERNAL SENDER STOP, ASSESS, AND VERIFY

Do you know this person? Were you expecting this email, any links or attachments? Does the content make sense? If suspicious, do not click links, open attachments, or provide credentials. Don't delete it. **Report it by using the REPORT SPAM option!**

[redacted]

[redacted]

Rgds,

[redacted]

[redacted]
Account Executive
Customer & Market Experience
Office [redacted] | Mobile: [redacted]
www.itron.com [itron.com]
Itron Inspire 2022

[itron.com]

[twitter.com] [facebook.com] [linkedin.com] [youtube.com] [instagram.com]

From: [redacted]
Sent: Monday, April 25, 2022 8:15 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Correction made for SDGE RMA 1648

From: [redacted]
Sent: Friday, April 15, 2022 11:48 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Good morning,
Attached are the meter numbers and forms that are being sent back for the analysis. I will send a tracking number once the pallet is picked up.

From: [redacted]
Sent: Thursday, April 14, 2022 11:59 AM
To: [redacted]
Cc: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Great, thank you.

From: [redacted]
Sent: Thursday, April 14, 2022 11:54 AM
To: [redacted]
Subject: [EXTERNAL] Re: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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Do you know this person? Were you expecting this email, any links or attachments? Does the content make sense? If suspicious, do not click links, open attachments, or provide credentials. Don't delete it. **Report it by using the REPORT SPAM option!**

That should work. Gaby

Get Outlook for iOS [aka.ms]

From: [redacted]
Sent: Thursday, April 14, 2022 11:06:53 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

What failure do you want because they are not blank...maybe just engineer evaluation for these meters?

From: [redacted]
Sent: Thursday, April 14, 2022 10:26 AM
To: [redacted]
Cc: [redacted]
Subject: [EXTERNAL] Re: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

CAUTION! EXTERNAL SENDER - STOP, ASSESS, AND VERIFY

Do you know this person? Were you expecting this email, any links or attachments? Does the content make sense? If suspicious, do not click links, open attachments, or provide credentials. Don't delete it. **Report it by using the REPORT SPAM option!**

Process as a stAndard RMA, then let me know the RMA number so I can work in the background to get directed to Engineering

Get Outlook for iOS [aka.ms]

From: [redacted]
Sent: Thursday, April 14, 2022 9:47:53 AM
To: [redacted]
Cc: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

[redacted]

We've finally rounded these meters up!

We're going to put a label (1-3) on them according to your original request.....

1. 8 – 10 Samples from the time period in questions (Nov'09 – Mar'10 capacitor date codes). Both meters that have failed and not failed. Previously, I had sent you the 4 spreadsheets for each of the months in question listing out serial numbers. **– I think there are 15-20 of these meters**
2. 8 – 10 Samples from the time period before the Nov'09 date code that have not failed. These meters would be manufactured prior to 11/09 as noted on the nameplate and would not be on the meters in the attached spreadsheets. – **Think there are 8 – 10 of these meters**
3. 8 – 10 Samples from the time period after the Mar'10 date code that have not failed. These meters would be manufactured prior to 11/09 as noted on the nameplate and would not be on the meters in the attached spreadsheets. – **Think there are 8-10 of these meters.**

There will be between 30-40 meters total.

How do you want to process the RMA?>

From: [redacted]
Sent: Thursday, March 24, 2022 11:24 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

CAUTION! EXTERNAL SENDER - STOP, ASSESS, AND VERIFY

Do you know this person? Were you expecting this email, any links or attachments? Does the content make sense? If suspicious, do not click links, open attachments, or provide credentials. Don't delete it. **Report it by using the REPORT SPAM option!**

Did these get pulled yet?

From: [redacted]
Sent: Monday, March 14, 2022 5:23 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

I just put a list together and had orders generated. When we are done I'll send you a note and we can get an RMA going.

From: [redacted]
Sent: Tuesday, March 8, 2022 12:02 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

From [redacted]

> **From:** [redacted]
> **Sent:** Friday, March 4, 2022 1:57 PM
> **To:** [redacted]
> **Cc:** [redacted]
> **Subject:** RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data
>
> I've analyzed the new data from SDG&E. That is, their Blank Displays from April 2021 thru January 2022. The conclusions are remarkably the same as before. 50% of the failures have caps from the Dec'09 date code, and 85% of the failures have caps from Nov'09 – Mar'10 date codes. The problem is still bounded in the same time period.
>
> [redacted]

Still good to get those extra meters (either side of the window) so they can validate.

Rgds,
[redacted]

From: [redacted]
Sent: Thursday, February 24, 2022 2:05 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Update.

From: [redacted]
Sent: Thursday, February 24, 2022 12:34 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

If painful, then the meter S/N and the removal date at minimum

MTR_ID	MTR_REMV_DT

From: [redacted]
Sent: Thursday, February 24, 2022 12:29 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Yes. these fields:

MTR_ID	MTR_MANUFCTR_DT	MTR_REMV_DT	CD_REG_FW_VER	CD_REG_HW_VER	CD_COMM_FW_VER	CD_HAN_FW_VER	FIELD_TECH_REMARK_TEXT	FAIL REASON	Month	Month2	FAILED OUT OF WARRANTY	STK_NUM	MTR_HW	MTR TYPE	PLATFORM

From: [redacted]
Sent: Thursday, February 24, 2022 12:25 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Does SDGE Meter Number work?

From: [redacted]
Sent: Thursday, February 24, 2022 12:22 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

One more ask: *can we get them to send us the list of S/N's that have failed for Blank Display over the past 12 months?*

Attached is what you send previously, so same format if possible.

Thanks,
[redacted]

From: [redacted]
Sent: Thursday, February 24, 2022 12:19 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

We wanted to get additional meters on inside and both sides of the window.

1. 8 – 10 Samples from the time period in questions (Nov'09 – Mar'10 capacitor date codes). Both meters that have failed and not failed. Previously, I had sent you the 4 spreadsheets for each of the months in question listing out serial numbers.
2. 8 – 10 Samples from the time period before the Nov'09 date code that have not failed. These meters would be manufactured prior to 11/09 as noted on the nameplate and would not be on the meters in the attached spreadsheets.
3. 8 – 10 Samples from the time period after the Mar'10 date code that have not failed. These meters would be manufactured prior to 11/09 as noted on the nameplate and would not be on the meters in the attached spreadsheets.

Thanks,
[redacted]

From: [redacted]
Sent: Thursday, February 24, 2022 12:14 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

I have a guy evaluating these updated lists and showing how many have been removed and how many are still installed. What did I need to pull from the field?

From: [redacted]
Sent: Thursday, February 24, 2022 12:05 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

CAUTION! EXTERNAL SENDER, STOP, ASSESS, AND VERIFY

Do you know this person? Were you expecting this email, any links or attachments? Does the content make sense? If suspicious, do not click links, open attachments, or provide credentials. Don't delete it. **Report it by using the REPORT SPAM option!**

[redacted]

Did you ever get these meters pulled from the field?

From: [redacted]
Sent: Friday, January 7, 2022 4:05 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Gave up waiting on Oconee and I think I stumbled through Excel well enough to eliminate the duplicates. I sent you 2 separate emails. Both under 5 MB (1 with 1 attachment and 1 with 4 attachments). Let me know if it works.

Left you a voicemail re the manual meter reading. Give me a call back.

Thanks,
[redacted]

From: [redacted]
Sent: Friday, January 7, 2022 1:01 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

What happened to you?

From: [redacted]
Sent: Wednesday, January 5, 2022 11:50 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Happy New Year [redacted]

Can you check again on this?

Also, I've been looking at options to relieve the manual meter reading we are down here. You have any ideas? Do you know any contractors that read meters?

From: [redacted]
Sent: Thursday, December 2, 2021 7:19 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

You got it right! Surf's been small for weeks.

From: [redacted]
Sent: Thursday, December 2, 2021 7:17 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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What are you up so early for? Surf no good today? My excuse is that I have east coast factory people who don't realize that the entire country is not on EST.

From: [redacted]
Sent: Thursday, December 2, 2021 6:33 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

[redacted]

I'll ping again. My apologies these are taking so long.

From: [redacted]
Sent: Thursday, December 2, 2021 5:41 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

?

From: [redacted]
Sent: Thursday, November 18, 2021 4:00 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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Figured it was me not forwarding something in my inbox, but did not get back yet. I'll ping again.

From: [redacted]
Sent: Thursday, November 18, 2021 3:42 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Any luck?

From: [redacted]
Sent: Wednesday, November 3, 2021 3:42 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

I'll try to get new files with the duplicates removed.

From: [redacted]
Sent: Wednesday, November 3, 2021 3:30 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

I'm trying to understand why it's on me to figure out the duplicates Itron sent me?

From: [redacted]
Sent: Tuesday, November 2, 2021 3:21 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

[redacted]

From Oconee:

> [redacted] and I took a look at the meters listed below. These meters are "duplicates" likely because they have been returned via RMA at once. Is it possible to look at the date on the nameplate of the meter? Looking at the data below, the column that most likely relates to this is the DT_MTR_FIRST_SET (we think this is when it was first put into the socket – which is probably several months after original manufacturing date). The DT_MANUFCTR column seems to indicate the new date after being returned from RMA. The part in question could have been repaired at that later date.
>
> Would it be possible to get meters that have NOT been returned back to Itron? If they send me serial numbers in advance, Mark and I can sanity check them before you do a truck roll to pull the meters.

So, probably best to not use the duplicate ones.

Rgds,
[redacted]

From: [redacted]
Sent: Tuesday, October 26, 2021 1:39 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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Not yet. I'll ping again.

From: [redacted]
Sent: Tuesday, October 26, 2021 1:35 PM
To: Sieben, Mark <Mark.Sieben@itron.com>
Subject: [EXTERNAL] Re: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Learn anything yet?

Get Outlook for iOS

From: [redacted]
Sent: Friday, October 22, 2021 3:57:50 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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I'm trying. Will follow up next week

From: [redacted]
Sent: Monday, October 11, 2021 12:34 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

[redacted]

I have a lot of duplicates (160k) within the lists. I'm not sure what "date code" I should be using on these dups? Here are a few examples:

ID_MTR	DT_MTR_FIRST_SET	DT_MTR_LAST_SET	DT_MTR_LAST_REMV	CD_CLASS	DT_MANUFCTR	CD_MTR_MFG_TYPE	CD_MTR_STAT	DATE_CD	DUPLICATES
05146622	10-Nov-09	20-Jan-20	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05146622	10-Nov-09	20-Jan-20	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE
05162884	25-Nov-09	28-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05162884	25-Nov-09	28-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE
05164103	04-Dec-09	14-Jan-19	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05164103	04-Dec-09	14-Jan-19	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE
05185425	18-Nov-09	03-Jul-19	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05185425	18-Nov-09	03-Jul-19	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE
05198239	24-Nov-09	24-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05198239	24-Nov-09	24-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE
05212361	21-Dec-09	08-Sep-17	31-Dec-99	200	7/20/2010	CNSODL12	A	Feb_10	TRUE
05212361	21-Dec-09	08-Sep-17	31-Dec-99	200	7/20/2010	CNSODL12	A	Jan_10	TRUE
05214257	21-Dec-09	29-Jul-14	31-Dec-99	200	6/28/2010	CNSODL12	A	Feb_10	TRUE
05214257	21-Dec-09	29-Jul-14	31-Dec-99	200	6/28/2010	CNSODL12	A	Jan_10	TRUE
05215080	10-Jan-11	22-Feb-13	31-Dec-99	200	1/28/2011	C2SOL1	A	Dec_09	TRUE
05215080	10-Jan-11	22-Feb-13	31-Dec-99	200	1/28/2011	C2SOL1	A	Nov_09	TRUE
05220421	09-Dec-09	23-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Feb_10	TRUE
05220421	09-Dec-09	23-Aug-12	31-Dec-99	200	6/13/2010	C2SODL2	A	Jan_10	TRUE

From: [redacted]
Sent: Friday, October 8, 2021 6:24 AM
To: [redacted] >
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

"N/A" by manufacturer month/yr:

Years 2010

Count of DATE CD Column Labels
Row Labels Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Grand Total
#N/A 296 573 853 1739 829 252 365 353 652 934 325 138 7309
Grand Total 296 573 853 1739 829 252 365 353 652 934 325 138 7309

From: [redacted]
Sent: Friday, October 8, 2021 6:21 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

I just bounced the Itron Date Code list (630K meters) against my failures (15K) and this is the percent per date code:

Dec_09	916	6%
Feb_10	502	3%
Jan_10	1936	13%
Mar_10	662	4%
Nov_09	2245	15%
#N/A	8548	58%
Grand Total	14809	

Sure are a lot of meters not with these date codes?

From: [redacted]
Sent: Wednesday, October 6, 2021 4:21 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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Let me get clarity from Oconee

From: [redacted]
Sent: Wednesday, October 6, 2021 4:07 PM

To: [redacted]
Subject: [EXTERNAL] FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Just finally got this together today.

You want me to pull meters from the field or look for failures? I can't remember!

From: [redacted]
Sent: Wednesday, October 6, 2021 3:58 PM
To: [redacted]
Subject: FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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From: [redacted]
Sent: Wednesday, September 22, 2021 8:00 AM
To: [redacted]
Subject: FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

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From: [redacted]
Sent: Wednesday, August 4, 2021 11:59 AM
To: [redacted]
Cc: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Thanks

[redacted]

[redacted]
Account Executive
Office: [redacted]4 | Mobile: [redacted] | eFax: [redacted]

[redacted] [itron.com]

[redacted] [twitter.com] [redacted] [facebook.com] [redacted] [linkedin.com] [redacted] [youtube.com] [redacted] [instagram.com]

From: [redacted]
Sent: Friday, July 16, 2021 1:37 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

And, finally, Mar 2010

From: [redacted]
Sent: Friday, July 16, 2021 11:44 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Feb 2010 attached.

From: [redacted]
Sent: Friday, July 16, 2021 11:04 AM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Jan 2010 attached as well

From: [redacted]
Sent: Friday, July 16, 2021 8:16 AM
To: [redacted]
Subject: FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Here is the list for the Nov'09 date codes. He's still working on Jan'10 – Mar'10.

From: [redacted]
Sent: Wednesday, June 9, 2021 12:02 PM
To: [redacted]
Subject: FW: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

So, ~172K are installed and 8613 Not Installed.

From: [redacted]
Sent: Wednesday, June 9, 2021 8:29 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Here's the breakdown for SDGE:

Type	Number
C2SOL1	461
C2SODL1	2119
C2SOL2	4542
C2SODL2	124868
C2SOL2E	1452
CNSOL12	736
CNSODL12	37516
Total Installed	171694
Itron Total	180307
Total not installed:	8613

From: [redacted]
Sent: Wednesday, June 2, 2021 12:43 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

[redacted]

From: [redacted]
Sent: Wednesday, June 2, 2021 12:37 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Hi [redacted]

[redacted].

Regards,
[redacted]

[redacted]

[redacted]

Thanks
[redacted]

[redacted]
Account Executive
Office: [redacted] Mobile: [redacted] eFax: [redacted]

[itron.com]

[twitter.com] [facebook.com] [linkedin.com] [youtube.com] [instagram.com]

From: [redacted]
Sent: Monday, May 24, 2021 3:02 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Still not happening. I'm hopeful by month end or mid-June.

From: [redacted]
Sent: Monday, May 24, 2021 2:55 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

Not yet. Will ping. Any update on the April data?

From: [redacted]
Sent: Monday, May 24, 2021 2:54 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Any luck?

From: [redacted]
Sent: Friday, May 14, 2021 1:13 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

From [redacted]

From: [redacted]
Sent: Friday, May 14, 2021 1:13 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Where's my list?

From: [redacted]
Sent: Thursday, May 13, 2021 1:32 PM
To: [redacted]
Subject: RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Not yet.

From: [redacted]
Sent: Thursday, May 13, 2021 12:13 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

[redacted]

Do you have the April data?

From: [redacted]
Sent: Sunday, April 11, 2021 4:25 PM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

Here are the Feb and Mar Blank Display meters.....

From: [redacted]
Sent: Friday, April 9, 2021 8:57 AM
To: [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

*** EXTERNAL EMAIL - Be cautious of attachments, web links, and requests for information ***

Correct.

From: [redacted]
Sent: Friday, April 9, 2021 8:29 AM

To [redacted]
Subject: [EXTERNAL] RE: Placeholder for Review of SDG&E's Latest Blank Display Failure Data

What was my deliverable again? I need to send you an update through March?

From: [redacted]
Sent: Friday, March 26, 2021 1:06 PM
To: [redacted]
Cc: [redacted]
[redacted] [redacted] SDG&E's Latest Blank Display Failure Data

All-

[redacted]

Thanks
[redacted]

[redacted]
Account Executive
Office [redacted] | Mobile: [redacted]

[itron.com]

[twitter.com] [facebook.com] [linkedin.com] [youtube.com] [instagram.com]

-----Original Appointment-----
From: [redacted]
Sent: Thursday, February 25, 2021 6:16 PM
To: [redacted]
Cc: [redacted]
Subject: Placeholder for Review of SDG&E's Latest Blank Display Failure Data
When: Friday, March 26, 2021 12:00 PM-1:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

Join on your computer or mobile app
[redacted]

Join with a video conferencing device
[redacted]

Or call in (audio only)
[redacted]

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Appendix B - SDG&E Response to TURN-SEU-052 Questions 1d, 1f, and 2b

Question 1-Continued

d. SDG&E states on p. DHT-41 that "SDG&E's current meters are nearing the end of their useful life." Please describe the number of years of useful life for SDG&E's current meters and provide supporting documentation that indicates the useful life.

SDG&E Response 1d:

Pursuant to Decision 07-04-043, Findings of Fact 7, the useful life of the project is 17 years. As stated in response to the following data requests: CCUE-SDGE-003, Q8c, UCAN-SEU-004, Q1b, and CCAS-SDGE-010, Q1 and Q8, SDG&E clarifies the expected life for its current Itron gas modules and electric meters is provided by the manufacturer. Itron gas modules and electric meters are designed for a 20-year total life. Various factors such as design, infant mortality, random failures and wear out can contribute to expected life less than the manufacturer's stated 20-years.

Question 1-Continued

f. For the meters that SDG&E is seeking to replace, please describe and provide the dollar amounts that were/are still in ratebase associated with the meters being replaced for each year, starting with the year 2022 through 2027.

SDG&E Response 1f:

SDG&E has not forecasted the net book value for 2023 through 2027. The following net book values are for the entire group-depreciated account.

The net book value as of December 31, 2022, of the electric smart meter account E370.11 in 2022 $ (000's): $57,894.

The net book value as of December 31, 2022, of the gas modules account G381.01 in 2022 $ (000's): $45,272.

Question 2-Continued

b. Please identify each level of SDG&E management review and approval obtained for the project and associated costs, the job title of each person whose approval or review was obtained in the management approval process, and the date on which each approval was provided.

SDG&E Amended Response 2b:

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that the request is not relevant to the subject matter involved in the pending proceeding and therefore, the burden, expense and intrusiveness of this request outweighs the likelihood that the information sought will lead to the discovery of relevant and admissible evidence. In particular, this request seeks information regarding each person whose approval or review was obtained in the management approval process. Knowing who approved or reviewed the project and associated costs is not probative of whether the request is reasonable. Under the GRC procedures, the process allows the company to sponsor a witness to answer questions about the project request and does not allow for non-sponsoring witnesses to be called in for cross-examination. Therefore, each person who approved and reviewed the project and associated costs is not relevant and has no probative value. Notwithstanding the foregoing objection, SDG&E responds as follows:

See response to 1(b) for an explanation of the IT capital project approval process described above. Field Service Delivery is at the WOA phase of the approval process. See the following attachments used to justify the business need and management approvals, including the concept document, Portfolio Governance Committee deck and WOA.

Please see the following documents which contain Confidential and Protected Materials which are provided pursuant to PUC Section 583, D.21-09-020 and GO 66-D (Revision (Rev.) 2) and/or an executed Non-Disclosure Agreement for this Proceeding:

TURN-SEU-052_ATTACH_2B CONFIDENTIAL.pdf

TURN-SEU-052_ATTACH_2B_2 CONFIDENTIAL.pdf

TURN-SEU-052_ATTACH_2B_3 CONFIDENTIAL.pdf

Question 2 - Continued

TURN-SEU-052_ATTACH_2B_4 CONFIDENTIAL.pdf

TURN-SEU-052_ATTACH_2B PUBLIC.pdf

TURN-SEU-052_ATTACH_2B_2 PUBLIC.pdf

TURN-SEU-052_ATTACH_2B_3 PUBLIC.pdf

TURN-SEU-052_ATTACH_2B_4 PUBLIC.pdf

SDG&E qualifies that an identified project may not commence execution or achieve completion or may be deferred for various reasons after a Business Case has been approved. Those reasons include, but are not limited to, other competing business priorities, system vulnerabilities, scope changes, internal and vendor resources availability, and management discretion. In addition, submitted budget documentation to the PGC and in the WOA is different from the GRC request as the financial computations included in the attachments and the GRC forecasts in this proceeding are not calculated the same. GRC capital requests include labor and non-labor directs, and GRC Vacation and Sick (V&S) on internal labor only. The WOA forms include, but are not limited to; directs, indirects, overheads and AFUDC.

WORK ORDER AUTHORIZATION
Specific Budget QS00491

Project Information

Request Number:
2903

Status:
Completed

Date Prepared:
8/17/2020

Preparer:
[redacted]

Start Date:
7/1/2020

Estimated Completion Date (ECD):
10/31/2022

Project Name:
Field Service Delivery

Company Code:
2100 - SDGE

Project Type:
Budget

Budget Code:
20895

Billing Code:
A - SDGE Internal Projects

Business Unit/Functional Area:
Information Technology

Project ID:

DPSS Number:
S00491

Is this a multiple jurisdiction budget:
No

Responsible Cost Center:
2100-3900 - IT PORTF MGMT

Work Order Type:
Specific

Project Manager/First Level Approver:
[redacted]

Shared Asset: No

Operating Area/District:
XX - N/A

City:
SAN DIEGO COUNTY

SEU Approval Policy:
Category 1 (Base Business)

Does this WOA request create a new financial commitment for SDG&E?
No

Affiliate Support Required?:
No

Additional Users to be notified:

Parent Internal Order No:

Internal Order Number:
QS00491

Job Scope Summary

Implement cohesive, modern technology solutions for the field which focus on improved processes, consolidation of applications, improved data accessibility. Deliver enterprise-wide technology which is intuitive, improves employee productivity and satisfaction, and, where possible, provides a single view of work. The first phase will build the broad vision of the program and implement the new scheduling and dispatching solution for SDGE, executing the following tasks and priorities:
Examine existing operating models and business processes in order to build the future vision and implement changes in the near term where possible
Stand up Agile team and implement quick win mobility and integration solutions
Develop Field Service Delivery Program Roadmap
Vendor evaluation and selection
Replace Click software (technology solution to be finalized within first 8 months of program)

Estimate Sub Totals

GROSS ESTIMATED CAPITAL INSTALLATION COSTS	GROSS ESTIMATED CAPITAL REMOVAL COSTS	GROSS ESTIMATED O&M COSTS	TOTAL NET ESTIMATED COSTS (Excld. ITCCA)
$24,616,666.40	$0.00	$0.00	$24,008,252.39

Estimated Costs

ESTIMATED COSTS	CAPITAL INSTALLATION ($)	CAPITAL REMOVAL ($)	O&M ($)	TOTAL ($)
Company Labor:	$1,890,941.00	$0.00	$0.00	$1,890,941.00
Contract Costs:	$0.00	$0.00	$0.00	$0.00
Material:	$18,387,424.00	$0.00	$0.00	$18,387,424.00
Other Direct Charges:	$0.00	$0.00	$0.00	$0.00
TOTAL DIRECT COST	$20,278,365.00	$0.00	$0.00	$20,278,365.00
Company labor Indirects:	$1,458,104.61	$0.00	$0.00	$1,458,104.61
Material Indirects:	$0.00	$0.00	$0.00	$0.00
Other Indirects:	$0.00	$0.00	$0.00	$0.00
Ad Valorem Tax (per GRC decision):	$762,950.08			$762,950.08
AFUDC:	$2,117,246.70			$2,117,246.70
TOTAL INDIRECT COST:	$1,458,104.61	$0.00	$0.00	$4,338,301.39
GROSS ESTIMATED COST	$21,736,469.61	$0.00	$0.00	$24,616,666.40

Contingency Cost:		($608,414.00)
Total Gross Estimated Costs:		**$24,008,252.40**
Customer payments(CIAC):		$0.00
TOTAL NET ESTIMATED COSTS:		$24,008,252.39
ITCCA: 0.00%		$0.00

Multiple Years Cash Flow Distribution

Year:	Prior Years	2020	2021	2022	Remaining Years	WOA Total
Percentage(...	0	16.27	42.32	41.41	0	100
Amount($):	$0.00	$4,005,131.62	$10,417,773.22	$10,193,761.55	$0.00	$24,616,666.39

Request Approval

Approver Name	User Type	Approver Level	Approver Title	Approval Date
[redacted]	Project Manager			8/25/2020 1:47 PM
[redacted]	Accounting User			8/25/2020 5:43 PM
[redacted]	Accounting User			8/25/2020 4:04 PM
[redacted]	Accounting Supervisor			8/25/2020 5:43 PM
[redacted]	Financial Review	[redacted]	IT Prgm Mgr	8/25/2020 1:47 PM
[redacted]	Financial Review	[redacted]	Dir - Digital Acceleration	8/25/2020 5:56 PM
Gordon, Ben	Financial Review	[redacted]	SVP, CIO & Chief Digital Ofcr	9/18/2020 7:22 AM
[redacted]	Work Order Coordinator			9/18/2020 10:48 AM
[redacted]	Work Order Coordinator			
[redacted]	Work Order Coordinator			

07/15/20 Notes

Business Cases

Funding	Project Name	Notes	Approved or Rejected
SDG&E Enterprise App.	Field Service Delivery	• Action: Update slide to match scope of business case and differentiate future initiatives	Approved
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Re-Authorizations

Funding	Project Name	Notes	Approved or Rejected
[redacted]	[redacted]		[redacted]
[redacted]	[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

Portfolio Governance Committee (PGC) Meeting

July 15th, 2020

Agenda

Capital Update (5 min):

- [redacted]

Business Cases (30 min):

- SDG&E Application – For Approval
  - Field Service Delivery ([redacted])
  - [redacted] ([redacted])
- [redacted]
  - [redacted]
- [redacted]
  - [redacted]

Reauthorizations (10 min):

- [redacted]
  - [redacted]
- [redacted]
  - [redacted]
- [redacted]
  - [redacted])

Reminders

- [redacted]

2020 SDG&E and SCG Outlooks

SDG&E	2020 Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Business	[redacted]			
Total		[redacted]		

SCG	2020 Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Capital	[redacted]			
Total		[redacted]		

PGC Meeting - July 6th

SDG&E	2020 Budget	2020 Outlook	Over/Under	Variance (%)
[redacted]				
Total		[redacted]		

PGC Meeting - July 6th

SCG	2020 Budget	2020 Outlook	Over/Under	Variance (%)
[redacted]				
Total		[redacted]		

PGC Meeting - June 17th

SDG&E	2020 Budget	2020 Outlook	Over/Under	Variance (%)
[redacted]				
Total		[redacted]		

PGC Meeting - June 17th

SCG	2020 Budget	2020 Outlook	Over/Under	Variance (%)
[redacted]		[redacted]		

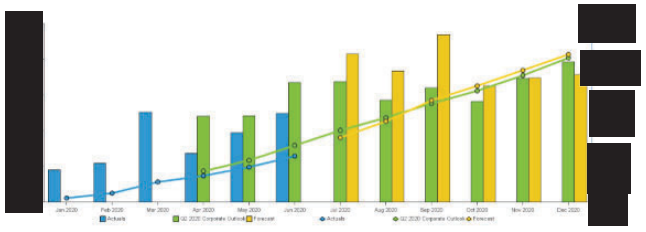
Enterprise Business Cases Approvals

Included in the current forecast:

Funding	Project Name	Director	Portfolio Manager	2020 Plan	2020 Outlook	2021 Outlook	Planned Start Dt	Planned End Dt
SDG&E Enterprise App.	Field Service Delivery	[redacted]		$7.0M	$3.7M	$9.7M	08/15/20	09/30/22
[redacted]								

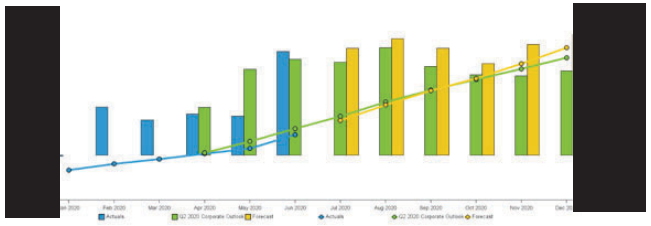
SDG&E IT Portfolio

Budget Selection: Q2 2020 Outlook
Outlook Selection: Forecast
Portfolio: All IT
Last Actuals Month: June



SCG IT Portfolio

Budget Selection: Q2 2020 Outlook
Outlook Selection: Forecast
Portfolio: All IT
Last Actuals Month: June

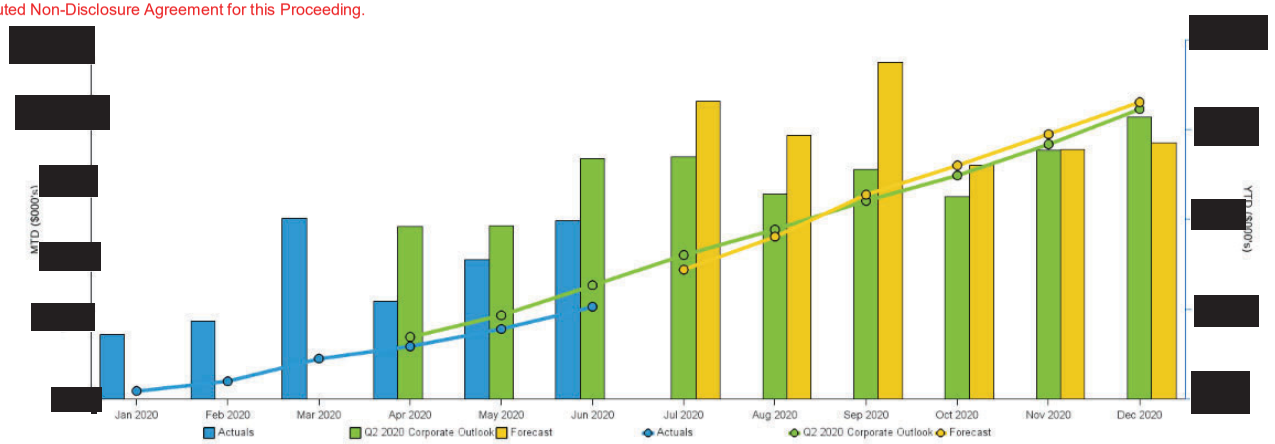


Re-Authorizations

Funding	Project Name	Director	Portfolio Manager	Re-Auth Amt	Project EAC	Project Approved Budget	Planned Start Dt	Planned End Dt
[redacted]								

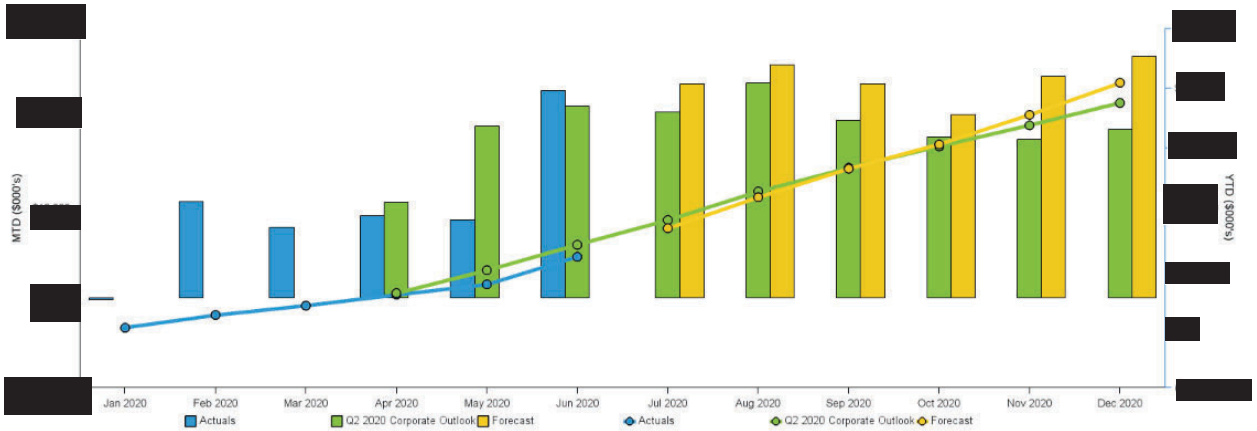
SDG&E IT Portfolio

Budget Selection: Q2 2020 Outlook
Outlook Selection: Forecast
Portfolio: All IT
Last Actuals Month: June



SCG IT Portfolio

Budget Selection: Q2 2020 Outlook
Outlook Selection: Forecast
Portfolio: All IT
Last Actuals Month: June



2020 Capital Outlooks

2020 SDG&E and SCG Outlooks

SDG&E	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Business	[redacted]			
Total	[redacted]			

SCG	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Capital	[redacted]			
Total	[redacted]			

PGC Meeting - July 6th

SDG&E	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Business	[redacted]			
Total	$ [redacted]			

PGC Meeting - July 6th

SCG	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Capital	[redacted]			
Total	$ [redacted]			

PGC Meeting - June 17th

SDG&E	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Business	[redacted]			
Total	[redacted]			

PGC Meeting - June 17th

SCG	Budget	2020 Outlook	Over/Under	Variance (%)
CPUC Base Capital	[redacted]			
Total	[redacted]			

Business Cases for Approval
Above the line – currently in outlook

Enterprise Business Cases Approvals

Included in the current forecast:

Funding	Project Name	Director	Portfolio Manager	2020 Plan	2020 Outlook	2021 Outlook	Planned Start Dt	Planned End Dt
SDG&E Enterprise App.	Field Service Delivery	[redacted]	[redacted]	$7.0M	$3.7M	$9.7M	08/15/20	09/30/22
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	11/01/20	03/31/23
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	06/30/20	09/30/20
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	07/1/20	06/30/21

Enterprise

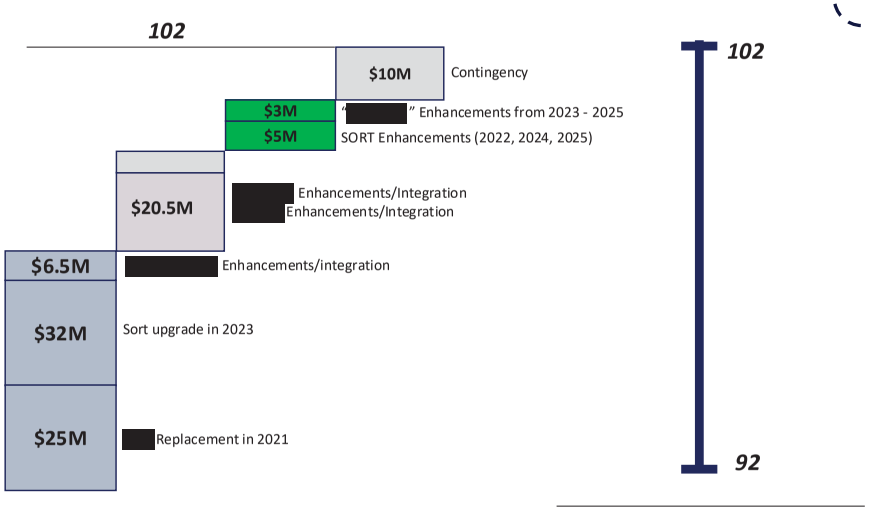
SDG&E IS ON TRACK TO SPEND ~$100M BY 2025, IN ABSENCE OF THE FSD PROGRAM

Siloed solutioning has lead to a complex tool ecosystem and significant Capital / O&M costs

Instead of investing strategically to transform & consolidate the landscape

A) Status Quo – Tactical Solutioning

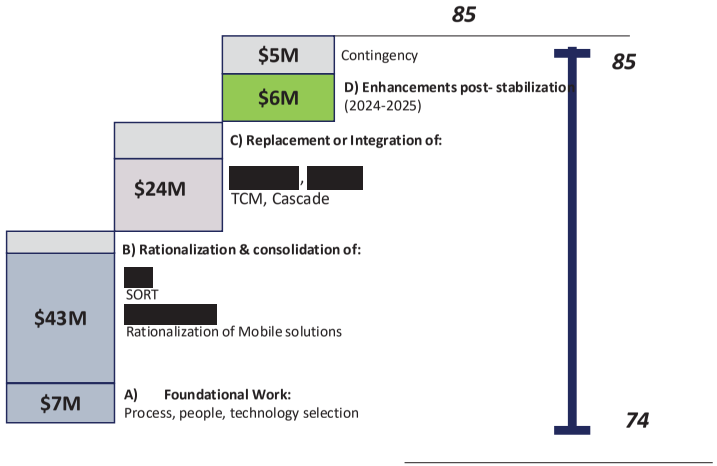
$92M–$102M



- ✓ Consolidation of applications
- ✓ Simpler integrations
- ✓ Synergy in program delivery

B) FSD Strategic Investment

$74M-$85M

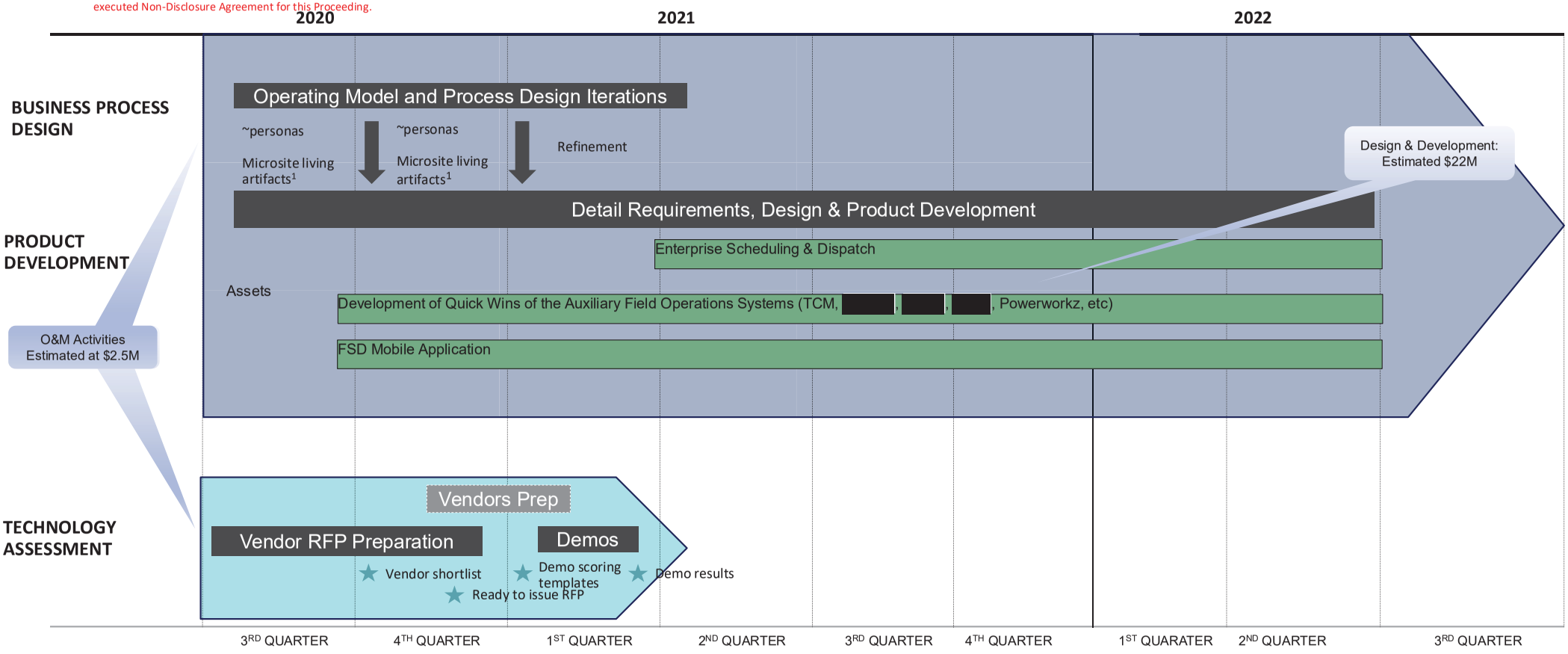


Legend

- SORT, [redacted]
- Other Apps annual incremental enhancements
- [redacted] & SORT annual incremental enhancements
- New System (X) incremental enhancements
- Contingency/unknown

DHT-R-69

FSD PROJECT – SCHEDULING & DISPATCH PHASE



DHT-B-70

Field Service Delivery - Executive Summary

Project Name **Project ID**	Field Service Delivery BD2037	**Business PM**	[redacted]	**IT PM**	[redacted]	**IT Capital Funding Portfolio**	SDGE IT Applications
Business VP Sponsor(s)	[redacted]	**Business Director Sponsor(s)**	[redacted]	**IT Director Sponsor(s)**	[redacted]	**Prioritization Category**	Strategic

Project Capital Cost *(loaded NO afudc)*	$24M	**Project O&M Cost**	$2.8M	**Project Contingency**	$2M	**2020 $** *(loaded NO afudc)* **2021 $** *(loaded NO afudc)* **2022 $** *(loaded NO afudc)*	$3.7M $9.7M $9.5M	**Agreement**	<Fixed/ T&M>	**Start Dt** **End Dt**	08/15/2020 09/30/2022

Compliance Proj	N	**SaaS**	TBD	**Cloud Soln**	TBD	**Meet Cap Rqmts**	Y	**IRB Sent**	TB D	**Info Security Engmnt #**	Requested	**Primary Vendor(s)**	TBD

Project Scope:

Implement cohesive, modern technology solutions for the field which focus on improved processes, consolidation of applications, improved data accessibility. Deliver enterprise-wide technology which is intuitive, improves employee productivity and satisfaction, and, where possible, provides a single view of work. **The first phase will build the broad vision of the program and implement the new scheduling and dispatching solution for SDGE, executing the following tasks and priorities:**

- Examine existing operating models and business processes in order to build the future vision and implement changes in the near term where possible
- Stand up Agile team and implement quick win mobility and integration solutions
- Develop Field Service Delivery Program Roadmap
- Vendor evaluation and selection
- Replace [redacted] software (technology solution to be finalized within first 8 months of program)

Benefits/Outcomes:

- Improved Work Quality and Safety
  - Enhanced real-time visibility of field employee locations
  - Increased field supervision time
  - Increased skills retention
  - Reduced frustration with technology
- Increased Employee and Customer Satisfaction
  - Reduced manual and redundant activities
  - Reduced frustration with task accountability
  - Reduced unnecessary interruptions and mis-communication to the customers
- Improved Data Quality
  - Improved data collection accuracy and completeness with intuitive and automated tools.
  - More timely financial reporting due to less frequent errors and corrections.
  - More accurate capital vs. O&M allocations.
- Reinvestment of O&M dollars to Capital

Critical Risks & Issues and Dependencies:

- **Resources** - Stakeholder availability may be limited due to: multiple, competing initiatives; priority year-end field activities (Fire Weather Events, etc.); and COVID limitations
- **Change Management** - Client engagement is critical to the success of the program due to historical negative feedback regarding mobile solutions for the field.
- **Multiple Technology Workstreams** - Multiple initiatives and workstreams implementing solutions for the field must be coordinated in order to ensure the broader vision of enterprise solutions is realized and impact to field organizations is minimized.
- **Unknown Vendor/Software Selection –** Software costs documented are based on industry knowledge, therefore these are subject to change once finalized

Field Service Delivery – Financials

Project Costs

Project Totals	Project Capital (Rounded in Thousands)		Project O&M (Rounded in Thousands)	
	(Loaded)	(Unloaded)	(Loaded)	(Unloaded)
Internal Labor	$3,494	$1,891	$714	$386
Contract Labor	$0	$0	$0	$0
Hardware	$0	$0	$0	$0
Software	$0	$0	$0	$0
Vendor Services	$18,490	$18,387	$2,489	$2,475
Other (Incidentals)	$0	$0	$0	$0
Administrative & General Loader	$975	N/A	$138	N/A
SubTotal Estimate	$22,960	$20,278	$3,340	$2,861
AFUDC	$1,048	Start Date:	7/1/20	Completion Date: 10/31/22
SubTotal Estimate + AFUDC	$24,008	In Service Date:	10/31/22	Payback Calc (in yrs): None

Annual Totals (Rounded in Thousands)	2020	2021	2022	2023	2024	Remaining Years Total	Total
Project O&M (Unloaded+Congtingency, no A&G, no AFUDC)	$745	$1,332	$784	$0	$0	$0	**$2,861**
Self Dev Software (Loaded+A&G+Contingency,no AFUDC)	$0	$0	$0	$0	$0	$0	**$0**
Project Capital (Loaded+A&G,no contingency,no AFUDC)	$3,410	$8,870	$8,681	$0	$0	$0	**$20,961**
Capital Contingency (Loaded, no A&G, no AFUDC)	$325	$846	$828	$0	$0	$0	**$1,999**
Capital Contingency % (as a % of Project Capital)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Capital + Capital Contingency Total	**$3,735**	**$9,716**	**$9,509**	**$0**	**$0**	**$0**	**$22,960**

Post Project Annual Hard / Avoided Cost Benefits and O&M Cost

Annual Totals (Rounded In Thousands)			Functional Area / Cost Center(s) $	2022	2023	2024	2025	2026	No O&M or Benefit Est.	Total
O&M Cost (Unloaded, no A&G, no AFUDC)	Business	Labor	xxxx-xxxx $K	$0	$0	$0	$0	$0	$0	**$0**
		Non Labor		$300	$300	$300	$300	$300	$0	**$1,500**
	IT	Labor		$0	$0	$0	$0	$0	$0	**$0**
		Non Labor		$0	$0	$0	$0	$0	$0	**$0**
Benefits (Unloaded, no A&G, no AFUDC)	Business	Labor		$0	$0	$0	$0	$0	$0	**$0**
		Non Labor		$0	$0	$0	$0	$0	$0	**$0**
	IT	Labor		$0	$0	$0	$0	$0	$0	**$0**
		Non Labor		$0	$0	$0	$0	$0	$0	**$0**
									Asset Life (in yrs):	5

Field Service Delivery – Financials

Financial Estimation Template Executive Summary

Version 3.1

Project Name:	Field Service Delivery (FSD) - Foundation Phase	**Prepared By:**	

Funding, Loaders & Contingency

Primary Funding Source:	CPUC GRC SDGE		**Loader Scenario:**	SDGE	**SDGE**	**SCG**
Asset Allocation:	SDGE	100%		**Total Costs:**	100%	0%
	SCG	0%		**Labor Loader:**		
	Corp	0%		**Non-Labor Loader:**		
	Total	100%		**Admin & General Loader:**		
				AFUDC:		
Contingency for New and Change (Business)	Internal Labor %:		**Contingency For Growth (Technology)**	Internal Labor %:		
	Non Labor %:			Non Labor %:		
	Capital $ (loaded,thousands):	$999		Capital $ (loaded,thousands):		$999

Project O&M (with SDGE Loaders)

Base Estimate					2020					2021	2022	2023	2024	Remaining	O&M
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total				Years Total	Total
Internal Labor	$0	$0	$14,413	$43,240	$57,653	$81,056	$54,037	$48,400	$48,400	$231,893	$96,800	$0	$0	$0	$386,346
Non-Labor	$0	$0	$171,875	$515,625	$687,500	$412,500	$275,000	$206,250	$206,250	$1,100,000	$687,500	$0	$0	$0	$2,475,000
SubTotal Direct	**$0**	**$0**	**$186,288**	**$558,865**	**$745,153**	**$493,556**	**$329,037**	**$254,650**	**$254,650**	**$1,331,893**	**$784,300**	**$0**	**$0**	**$0**	**$2,861,346**
Internal Labor + Loaders (no A&G)	$0	$0	$26,633	$79,899	$106,532	$149,775	$99,850	$89,434	$89,434	$428,492	$178,867	$0	$0	$0	$713,891
Non-Labor + Loaders (no A&G)	$0	$0	$172,838	$518,513	$691,350	$414,810	$276,540	$207,405	$207,405	$1,106,160	$691,350	$0	$0	$0	$2,488,860
Admin and General Loader	$0	$0	$8,960	$26,881	$35,842	$23,740	$15,827	$12,249	$12,249	$64,064	$37,725	$0	$0	$0	$137,631
Total Estimate	**$0**	**$0**	**$208,431**	**$625,293**	**$833,723**	**$588,325**	**$392,217**	**$309,087**	**$309,087**	**$1,598,716**	**$907,942**	**$0**	**$0**	**$0**	**$3,340,382**

Capital (with SDGE Loaders)

Base Estimate					2020					2021	2022	2023	2024	Remaining	Capital
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total				Years Total	Total
Internal Labor	$0	$0	$144,450	$144,450	$288,901	$87,120	$0	$261,360	$401,720	$750,200	$851,840	$0	$0	$0	$1,890,941
Non-Labor	$0	$0	$756,250	$2,268,750	$3,025,000	$1,650,000	$1,100,000	$1,450,574	$3,670,128	$7,870,702	$7,491,722	$0	$0	$0	$18,387,424
SubTotal Direct	**$0**	**$0**	**$900,700**	**$2,413,200**	**$3,313,901**	**$1,737,120**	**$1,100,000**	**$1,711,934**	**$4,071,848**	**$8,620,902**	**$8,343,562**	**$0**	**$0**	**$0**	**$20,278,365**
Internal Labor + Loaders (no A&G)	$0	$0	$266,915	$266,915	$533,831	$160,980	$0	$482,941	$742,298	$1,386,220	$1,574,030	$0	$0	$0	$3,494,080
Non-Labor + Loaders (no A&G)	$0	$0	$760,485	$2,281,455	$3,041,940	$1,659,240	$1,106,160	$1,458,698	$3,690,681	$7,914,778	$7,533,675	$0	$0	$0	$18,490,394
Admin and General Loader	$0	$0	$43,324	$116,075	$159,399	$83,555	$52,910	$82,344	$195,856	$414,665	$401,325	$0	$0	$0	$975,389
Total Estimate	**$0**	**$0**	**$1,070,724**	**$2,664,445**	**$3,735,170**	**$1,903,776**	**$1,159,070**	**$2,023,983**	**$4,628,835**	**$9,715,663**	**$9,509,031**	**$0**	**$0**	**$0**	**$22,959,863**

Self Developed Software	2020	2021	2022	2023	2024	Remaining	Self Developed
Direct						Years Total	Total
Internal Labor	$0	$0	$0	$0	$0	$0	$0
Non-Labor - CL,VS	$0	$0	$0	$0	$0	$0	$0
Non-Labor - Other (Incidentals)	$0	$0	$0	$0	$0	$0	$0
SubTotal Direct	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Internal Labor + Loaders	$0	$0	$0	$0	$0	$0	$0
Non-Labor + Loaders	$0	$0	$0	$0	$0	$0	$0
Admin and General Loader	$0	$0	$0	$0	$0	$0	$0
Total Estimate	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Supporting Documents

Field Service Delivery – Schedule & Awareness

2020-2021

Design new ways of working: new operating model and processes

Build quick wins around mobility and integrations

Select vendor for schedule/dispatch/mobility

Scheduling & Dispatch System

2022

SORT Consolidation

SORT Mobile Consolidation

[redacted] Replacement / Enhancement Build

[redacted] Replacement (Contractor Mobility)

Roll Out of New Operating Model and Processes

2023

Other Work Management Replacement / Enhancements

Mobility Continuous Enhancements

Mobility Application Consolidation

The following have been Informed of the content of the Business Case. These interactions are in addition to the IRB submittal.

Group	Name	Date
IT Director Sponsor	[redacted]	06/10/2020
IT Program Manager	[redacted]	06/10/2020
Business Director Sponsor	[redacted]	06/10/2020
Capital Spending	[redacted]	06/10/2020

Group	Name	Date
Supply Management	[redacted]	7/20
VMO	[redacted]	7/20
Cybersecurity		
Architecture Review Board		
ITQA		

FSD STRATEGIC INVESTMENT – BUSINESS CASE

80k

Annual value add hours gained.

~1.5m annual shift from O&M to capital work for internal resources by re-investing a portion of the unlocked productivity.

$17M

Reduction in FSD-related spend, by shifting from working on organizational silos, to a strategic approach focused on common capabilities.

Soft Benefits

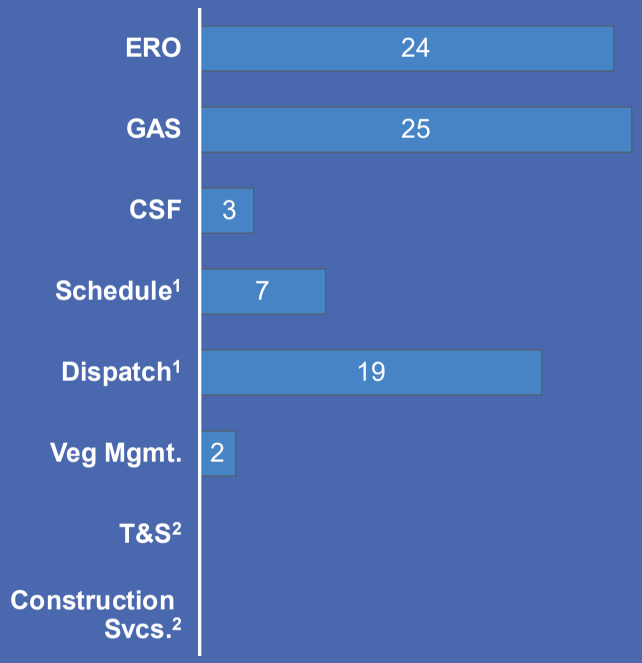
In line with the executive vision for the program:

- ✓ **Increased Employee and Customer Satisfaction**
- ✓ **Increased Safety**
- ✓ **Improved Work Quality**
- ✓ **Improved Data Accuracy and Availability**
- ✓ **Improved Emergency Events Response**

DHT-B-76

SHIFT TIME TO HIGHER VALUE ACTIVITIES

80k Hours Productivity Gain by Business Unit ('000hrs)



Bottom Line Benefits (35%)

- ✓ ~$1.5M annual shift from O&M to capital work for internal resources given added throughput

Additional Hours to Reinvest (65%)

- ✓ Reduce canceled jobs & minimize customer impact
- ✓ Offset cost of hiring additional resources
- ✓ Potential OT reduction

1 – Dispatch & Scheduling hard savings will be committed at the completion of foundational phase, and the completion of the To-Be Operating Model design
2 – For T&S and Construction Services, some of the key pain points have been identified, but benefit quantification requires further analysis during foundational phase

FSD hard benefits are delivered via a shift from O&M to capital work for ERO internal resources given added throughput

Job Type	Avg Job Duration (hours)	Total Job Volume (Annual)	Total Duration (hours)	% Allocation to Contractors	Total Contractor Job Volume (hours)
FiRM Pole Replacements	75	2,000	150,000	90%	135,000
PRiME Pole Replacements	75	800	60,000	35%	21,000
Fuse Replacements	12	1,200	14,400	40%	5,760
Hot Line Clamps (HLC)	10	800	8,000	75%	6,000
				Total (hours)	**167,760**

Potential Increased Throughput (hrs) in ERO via FSD		17,400
Hours re-invested		17,400
Employee Rate	$	55.00
Benefit (Shift from O&M work to Capital)	$	**957,000.00**
Remaining hours available to be re-invested		0

Electric Capital Work that can be internalized

Bring-in up to 17,000 hours of capital work (e.g. HLC, Fuse Replacements & a portion of Pole Replacements)

~$950k

Annually

There may be an additional ~$1m in annual capital benefit, due to price arbitrage between the cost of contractors and the internal workforce. The current $1M assumes no price difference between internal and external cost per job

DHT-B-78

FSD hard benefits are delivered via a shift from O&M to capital work for GAS internal resources given added throughput

Job Type	Avg Job Duration (hours)	Total Job Volume (Annual)	Total Duration (hours)	% Allocation to Contractors	Total Contractor Job Volume (hours)
Customer-dug New Business	2	1,300	2,600	100%	2,600
SDGE-dug New Business	40	70	2,800	100%	2,800
Tie-in jobs	4	150	600	100%	600
Gas masters (per service)	1	1,800	1,800	100%	1,800
DIMP/RAMP (potential volume to be brought in)	60	65	3,900	100%	3,900
				Total (hours)	**11,700**

Potential Increased Throughput (hrs) in ERO via FSD		23,000
Hours re-invested		11,700
Employee Rate	$	55.00
Benefit (Shift from O&M work to Capital)	**$**	**643,500.00**
Remaining hours available to be re-invested		11,300

Gas Capital Work that can be internalized

Bring-in ~ 11,700 hours of capital work

~$640k

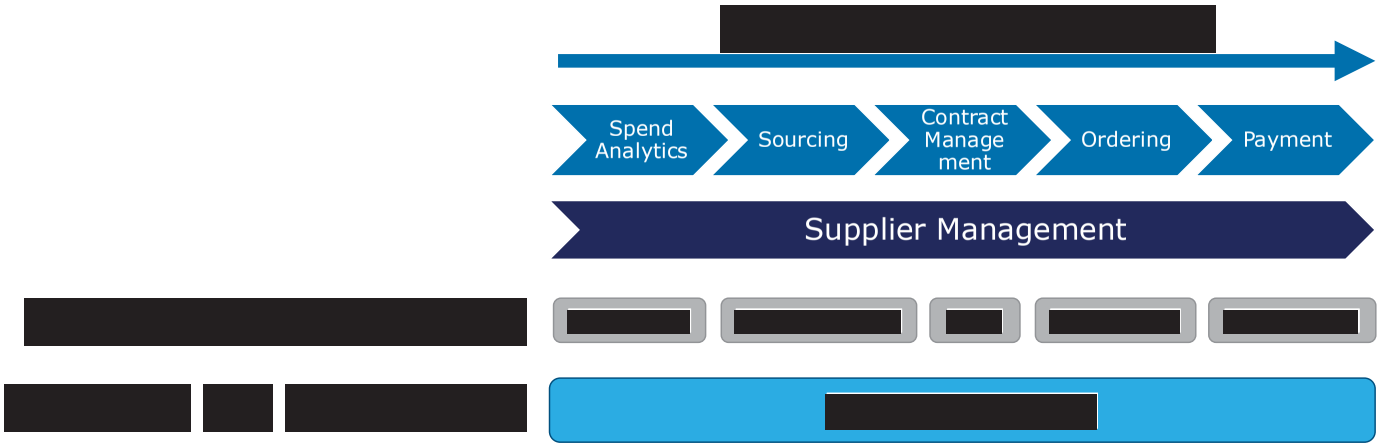
Annually

The current $640k assumes no price difference between internal and external cost per job

DHT-B-79

[redacted]

- [redacted]
  - [redacted]
  - [redacted]
- Requesting capital spend approval
  - [redacted]
  - [redacted]
- [redacted]



[redacted] - Executive Summary

Project Name **Project ID**	ES2P BSCG59	**Business PMs**	[redacted]	**IT PM**	[redacted]	**IT Capital Funding Portfolio**	[redacted]
Business VP Sponsor(s)	Denita A. Willoughby Christy H Ihrig	**Business Director Sponsor(s)**	[redacted]	**IT Director Sponsor(s)**	[redacted]	**Prioritization Category**	[redacted]

Project Capital Cost *(loaded NO afudc)*	[redacted]	**Project O&M Cost**	[redacted]	**Project Contingency**	[redacted]	**2020 $**(loaded NO afudc) **2021 $**(loaded NO afudc) **2022 $**(loaded NO afudc) **2023 $**(loaded NO afudc)	[redacted]	**Agreement**	[redacted]	**Start Dt** **End Dt**	11/01/2020 03/31/2023

Compliance Proj	Y	**Annual SaaS**	3.3M	**Cloud Soln**	Y	**Meet Cap Rqmts**	Y	**IRB Sent**	Y	**Info Security Engmnt #**	ISE-3005398	**Primary Vendor(s)**	[redacted] for software TBD for SI, Pending RFP process

Implementation Scope:

[redacted]

- [redacted]
- [redacted]
- [redacted]
- [redacted]

Post Project O&M Cost Description:

[redacted]

Benefits/Outcomes:

- [redacted]
- [redacted]
- [redacted]
- [redacted]

Critical Risks & Issues and Dependencies:

- [redacted].
- [redacted].
- [redacted] product demand.

* [redacted]

DHT-B-81

[redacted] – Financials & Risks

Project Costs

Project Totals	Project Capital (Rounded in Thousands)		Project O&M (Rounded in Thousands)	
	(Loaded)	(Unloaded)	(Loaded)	(Unloaded)
Internal Labor	[redacted]	[redacted]	[redacted]	[redacted]
Contract Labor	[redacted]	[redacted]	[redacted]	[redacted]
Hardware	[redacted]	[redacted]	[redacted]	[redacted]
Software	[redacted]	[redacted]	[redacted]	[redacted]
Vendor Services	[redacted]	[redacted]	[redacted]	[redacted]
Other (Incidentals)	[redacted]	[redacted]	[redacted]	[redacted]
Administrative & General Loader	[redacted]	N/A	[redacted]	N/A
SubTotal Estimate	[redacted]			
AFUDC	[redacted]	Start Date:	11/1/20	Completion Date: 3/31/23
SubTotal Estimate + AFUDC	[redacted]	In Service Date:	12/1/21	Payback Calc (in yrs): None

Annual Totals (Rounded in Thousands)	2020	2021	2022	2023	2024	Remaining Years Total	Total
Project O&M (Unloaded+Congtingency, no A&G, no AFUDC)	[redacted]						
Self Dev Software (Loaded+A&G+Contingency,no AFUDC)	[redacted]						
Project Capital (Loaded+A&G,no contingency,no AFUDC)	[redacted]						
Capital Contingency (Loaded, no A&G, no AFUDC)	[redacted]						
Capital Contingency % (as a % of Project Capital)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Project Capital + Capital Contingency Total	[redacted]						

Post Project Annual Hard / Avoided Cost Benefits and O&M Cost

Annual Totals (Rounded In Thousands)			Functional Area / Cost Center(s) $	2021	2022	2023	2024	2025	No O&M or Benefit Est.	Total
O&M Cost (Unloaded, no A&G, no AFUDC)	Business	Labor		[redacted]						
		Non Labor		[redacted]						
	IT	Labor		[redacted]						
		Non Labor	SaaS Sbscripts	[redacted]						
Benefits (Unloaded, no A&G, no AFUDC)	Business	Labor		[redacted]						
		Non Labor		[redacted]					[redacted]	[redacted]
	IT	Labor		[redacted]						
		Non Labor	SaaS Sbscripts	[redacted]						

DHT-B-82 Asset Life (in yrs):

Financial Estimation Template Executive Summary

Version 3.1

Project Name:	[redacted]	Prepared By:	[redacted]

Funding, Loaders & Contingency

Primary Funding Source:	[redacted]		Loader Scenario:	SCG	SDGE	SCG
Asset Allocation:	SDGE	[redacted]	Total Costs:		31%	69%
	SCG	[redacted]	Labor Loader:			[redacted]
	Corp	[redacted]	Non-Labor Loader:			[redacted]
	Total	100%	Admin & General Loader:			[redacted]
			AFUDC:			[redacted]
Contingency for New and Change (Business)	Internal Labor %:	[redacted]	Contingency For Growth (Technology)	Internal Labor %:		[redacted]
	Non Labor %:	[redacted]		Non Labor %:		[redacted]
	pital $ (loaded,thousands):	[redacted]		Capital $ (loaded,thousands):		[redacted]

Project O&M (with SCG Loaders)

Base Estimate					2020					2021	2022	2023	2024	Remaining	O&M
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total				Years Total	Total
Internal Labor	[redacted]														
Non-Labor															
SubTotal Direct															
Internal Labor + Loaders (no A&G)															
Non-Labor + Loaders (no A&G)															
Admin and General Loader															
Total Estimate															

Capital (with SCG Loaders)

Base Estimate					2020					2021	2022	2023	2024	Remaining	Capital
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total				Years Total	Total
Internal Labor	[redacted]														
Non-Labor															
SubTotal Direct															
Internal Labor + Loaders (no A&G)															
Non-Labor + Loaders (no A&G)															
Admin and General Loader															
Total Estimate															

Self Developed Software	2020		2021	2022	2023	2024	Remaining	Self Developed
Direct							Years Total	Total
Internal Labor	[redacted]		[redacted]					
Non-Labor - CL,VS								
Non-Labor - Other (Incidentals)								
SubTotal Direct								
Internal Labor + Loaders								
Non-Labor + Loaders								
Admin and General Loader								
Total Estimate								

[redacted] Server Replacement- Executive Summary

Project Name **Project ID**	Cybersecurity CIP Team [redacted] server replacement project	**Business PM**	[redacted]	**IT PM**	[redacted]	**IT Capital Funding Portfolio**	[redacted]
Business VP Sponsor(s)	Ben Gordon	**Business Director Sponsor(s)**	[redacted]	**IT Director Sponsor(s)**	[redacted]	**Prioritization Category**	[redacted]

Project Capital Cost *(loaded NO afudc)*	[redacted]	**Project O&M Cost**	[redacted]	**Project Contingency**	[redacted]	**2020 $** *(loaded NO afudc)* **2021 $** *(loaded NO afudc)*	[redacted]	**Agreement**	[redacted]	**Start Dt** **End Dt**	06/30/2020 09/30/2020

Compliance Proj	N	**SaaS**	N	**Cloud Soln**	N	**Meet Cap Rqmts**	Y	**IRB Sent**	N	**Info Security Engmnt #**	N/A Cybersecurity CIP Team [redacted] servers	**Primary Vendor(s)**	[redacted]

Project Scope:

- [redacted]

Post Project O&M Cost Description:

[redacted]

Benefits/Outcomes:

- [redacted]
- [redacted]

Critical Risks & Issues and Dependencies:

- [redacted]

[redacted] Server Replacement-– Financials & Risks

Project Costs

Project Totals	Project Capital (Rounded in Thousands) (Loaded)	(Unloaded)	Project O&M (Rounded in Thousands) (Loaded)	(Unloaded)
Internal Labor				
Contract Labor				
Hardware				
Software				
Vendor Services				
Other (Incidentals)				
Administrative & General Loader				
SubTotal Estimate	[redacted]	$[redacted]	[redacted]	[redacted]
AFUDC	[redacted]	Start Date:	6/30/20	Completion Date: 9/30/20
SubTotal Estimate + AFUDC	[redacted]	In Service Date:	9/30/20	Payback Calc (in yrs): Undefined

Annual Totals (Rounded in Thousands)	2020	2021	2022	2023	2024	Remaining Years Total	Total
Project O&M (Unloaded+Congtingency, no A&G, no AFUDC)	[redacted]						
Self Dev Software (Loaded+A&G+Contingency,no AFUDC)							
Project Capital (Loaded+A&G,no contingency,no AFUDC)							
Capital Contingency (Loaded, no A&G, no AFUDC)							
Capital Contingency % (as a % of Project Capital)							
Project Capital + Capital Contingency Total							

Post Project Annual Hard / Avoided Cost Benefits and O&M Cost

Annual Totals (Rounded In Thousands)			Functional Area / Cost Center(s) $	2020	2021	2022	2023	2024	No O&M or	Total
O&M Cost (Unloaded, no A&G, no AFUDC)	Business	Labor	xxxx-xxxx $K	[redacted]						
		Non Labor								
	IT	Labor								
		Non Labor								
Benefits (Unloaded, no A&G, no AFUDC)	Business	Labor								
		Non Labor								
	IT	Labor								
		Non Labor								

[redacted] Server Replacement-– Financials & Risks

Financial Estimation Template Executive Summary

Version 3.1

Project Name:	[redacted]	Prepared By:	[redacted]

Funding, Loaders & Contingency

Primary Funding Source:	[redacted]		Loader Scenario:	SDGE	SDGE	SCG
Asset Allocation:	SDGE	[redacted]	Total Costs:		100%	0%
	SCG	[redacted]	Labor Loader:		[redacted]	
	Corp	[redacted]	Non-Labor Loader:		[redacted]	
	Total	100%	Admin & General Loader:		[redacted]	
			AFUDC:		[redacted]	
Contingency for New and Change (Business)	Internal Labor %:	[redacted]	Contingency For Growth (Technology)	Internal Labor %:	[redacted]	
	Non Labor %:	[redacted]		Non Labor %:	[redacted]	
	Capital $ (loaded,thousands):	[redacted]		Capital $ (loaded,thousands):	[redacted]	

Project O&M (with SDGE Loaders)

Base Estimate					2020
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total
Internal Labor	[redacted]				
Non-Labor					
SubTotal Direct					
Internal Labor + Loaders (no A&G)					
Non-Labor + Loaders (no A&G)					
Admin and General Loader					
Total Estimate					

Capital (with SDGE Loaders)

Base Estimate					2020
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	Total
Internal Labor	[redacted]				
Non-Labor					
SubTotal Direct					
Internal Labor + Loaders (no A&G)					
Non-Labor + Loaders (no A&G)					
Admin and General Loader					
Total Estimate					

Self Developed Software		2020
Direct		
Internal Labor		[redacted]
Non-Labor - CL,VS		
Non-Labor - Other (Incidentals)		
SubTotal Direct		
Internal Labor + Loaders		
Non-Labor + Loaders		
Admin and General Loader		
Total Estimate		

[redacted] Server Replacement-– Schedule & Awareness

Project Roadmap

High Level Schedule	2020											
	Q1			Q2			Q3			Q4		
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Business Case Approved and Project Kickoff												
Receive new replacement servers												
Configure new servers												
Test and deploy new servers												
Close project												

The following have been Informed of the content of the Business Case.

Group	Name	Date
IT Director Sponsor	[redacted]	
IT Program Manager	[redacted]	[redacted]
Business Director Sponsor	[redacted]	
Capital Spending	[redacted]	

Group	Name	Date
Supply Management	[redacted]	
VMO	[redacted]	[redacted]
Cybersecurity	[redacted]	
Architecture Review Board	[redacted]	[redacted]
ITQA	[redacted]	

[redacted] - Executive Summary

Project Name	[redacted]		**Business PM**	[redacted]	**IT PM**	[redacted]	**IT Capital Funding Portfolio**	[redacted]		
Business VP Sponsor	Ben Gordon		**Business Director Sponsor**	[redacted]	**IT Director Sponsor**	[redacted]	**Prioritization Category**	[redacted]		
Project Capital Cost *(loaded NO afudc)*	[redacted]	**Project O&M Cost** [redacted]	**Project Contingency** [redacted]	**2020 $** *(loaded NO afudc)* [redacted]	**Agreement** [redacted]		**Start Date**	7/1/2020		
				2021 $ *(loaded NO afudc)* [redacted]			**End Date**	6/30/2021		
Compliance Project	N	**SaaS** N	**Cloud Solution** N	**Meet Cap Reqmts** Y	**IRB Date Sent**	TBD	**InfoSec Engmnt #**	Requested	**Primary Vendor(s)**	[redacted]

Project Scope:

- [redacted]
- [redacted]
- [redacted]

Benefits/Outcomes:

- [redacted]
- [redacted]
- [redacted]

Method of Measurement:

- [redacted]
- [redacted]

Critical Risks & Issues and Dependencies:

- [redacted]

[redacted]

[redacted] – Financials & Risks

Project Costs

Project Totals	Project Capital (Rounded in Thousands)		Project O&M (Rounded in Thousands)	
	[redacted]			(Unloaded)
Internal Labor	[redacted]		[redacted]	[redacted]
Contract Labor	[redacted]		[redacted]	[redacted]
Hardware	[redacted]		[redacted]	[redacted]
Software	[redacted]		[redacted]	[redacted]
Vendor Services	[redacted]		[redacted]	[redacted]
Other (Incidentals)	[redacted]	$0	[redacted]	[redacted]
Administrative & General Loader	[redacted]	N/A	$0	N/A
SubTotal Estimate	[redacted]		[redacted]	[redacted]
AFUDC	[redacted]	Start Date:	8/1/20	Completion Date: 6/30/21
SubTotal Estimate + AFUDC	[redacted]	In Service Date:	2/15/21	Payback Calc (in yrs): Undefined

Annual Totals (Rounded in Thousands)	2020	2021	2022	2023	2024	Remaining Years Total	Total
Project O&M (Unloaded+Congtingency, no A&G, no AFUDC)							
Self Dev Software (Loaded+A&G+Contingency,no AFUDC)							
Project Capital (Loaded+A&G,no contingency,no AFUDC)							
Capital Contingency (Loaded, no A&G, no AFUDC)							
Capital Contingency % (as a % of Project Capital)							
Project Capital + Capital Contingency Total							

Post Project Annual Hard / Avoided Cost Benefits and O&M Cost

Annual Totals (Rounded In Thousands)			Functional Area / Cost Center(s) $	2021	2022	2023	2024	2025	No O&M or Benefit Est.	Total
O&M Cost (Unloaded, no A&G, no AFUDC)	Business	Labor	xxxx-xxxx $K							
		Non Labor								
	IT	Labor								
		Non Labor								
Benefits (Unloaded, no A&G, no AFUDC)	Business	Labor								
		Non Labor								
	IT	Labor								
		Non Labor								
									Asset Life (in yrs):	

[redacted] – Financials & Risks

Business Case Estimate Executive Summary

Version 3.1

Project Name:	[redacted]		Prepared By:	[redacted]	
Funding, Loaders & Continge					
Primary Funding Source:	Choose One		Loader Scenario:	SCG	
Asset Allocation:	SDGE	0%	Total Costs:	0%	100%
	SCG	100%	Labor Loader:		
	Corp	0%	Non-Labor Loader:		
	Total	100%	Admin & General Loader:		
			AFUDC:		
Contingency for New and Change (Business)	Internal Labor %:	[redacted]	Contingency For Growth (Technology)	Internal Labor %:	
	Non Labor %:	[redacted]		Non Labor %:	
	Capital $ (loaded,thousands):	$74		Capital $ (loaded,thousands):	

Project O&M (with SCG Loaders)

Base Estimate															
Direct	1ST QTR	2ND QTR	3RD QTR	4TH QTR	2020 Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	2021 Total	2022	2023	2024	Remaining Years Total	O&M Total
Internal Labor	[redacted]														
Non-Labor															
SubTotal Direct															
Internal Labor + Loaders (no A&G)															
Non-Labor + Loaders (no A&G)															
Admin and General Loader															
Total Estimate															

Capital (with SCG Loaders)

Base Estimate															
Direct	1ST QTR	[redacted]		4TH QTR	2020 Total	1ST QTR	2ND QTR	3RD QTR	4TH QTR	2021 Total	2022	2023	2024	Remaining Years Total	Capital Total
Internal Labor															
Non-Labor															
SubTotal Direct															
Internal Labor + Loaders (no A&G)															
Non-Labor + Loaders (no A&G)															
Admin and General Loader															
Total Estimate															

Self Developed Software					2020					2021	2022	2023	2024	Remaining	Self Developed
Direct															
Internal Labor															
Non-Labor - CL,VS															
Non-Labor - Other (Incidentals)															
SubTotal Direct															
Internal Labor + Loaders															
Non-Labor + Loaders															
Admin and General Loader															
Total Estimate															

[redacted] – Schedule & Awareness

Project Timeline	2020						2021		
July 2020 – June 2021	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar-Jun
Key Activities	**Project set up and design**			**Hardware replacement**			**Decommissioning and support**		
Project set up									
Business case development									
Vendor engagement									
Hardware procurement									
Prep and design									
Requirements gathering									
Design									
Installation and testing									
HW installation and migration									
UAT									
Post-implementation									
Old HW decommission									
Post-implementation support									

[redacted]

Group	Name	Date
IT Director Sponsor	[redacted]	[redacted]
IT Program Manager	[redacted]	[redacted]
Capital Spending	[redacted]	[redacted]

Group	Name	Date
Supply Management	[redacted]	
VMO	[redacted]	
Cybersecurity	[redacted]	
Architecture Review Board	[redacted]	
ITQA	[redacted]	

Re-Authorizations

Re-Authorizations

Funding	Project Name	Director	Portfolio Manager	Re-Auth Amt	Project EAC	Project Approved Budget	Planned Start Dt	Planned End Dt
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Re-authorization – [redacted]

Project Scope	Reason for Reauthorization	Impact of Not Approving Re-Auth
[redacted]	• [redacted]	[redacted]

As of April 2019 (with AFUDC)			Project Start Date	Project End Date
Project Approved Budget	Project Estimate at Completion	Variance (Re-Auth Amt)		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

PTD Actuals (with AFUDC)	% Spend of Approved Budget
[redacted]	[redacted]

2019 Planned	2019 Outlook	2020 Outlook
[redacted]	[redacted]	[redacted]

Re-Authorization – [redacted]

Project Information	
TM1 Project ID	[redacted]
Budget Code (SDGE Only)	[redacted]
Company	[redacted]
Portfolio	[redacted]
WOA Project Start Date	[redacted]
WOA Project End Date	[redacted]

Project Scope

[redacted]

- [redacted]
- [redacted] accommodate 15 additional [redacted]
- [redacted]

Reason for Re-Authorization

- [redacted]

Impact of Not Approving Re-Authorization

[redacted]

Project Summary (with AFUDC)				
Project WOA Amount	Project EAC	Re-Auth Amount	% Spend of Approved WOA	PTD Actuals
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Project Current Year Summary (w/o AFUDC)				
Annual Plan	Monthly Outlook	Quarterly Outlook	Variance to Plan	Variance to Quarter
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Re-Authorization – [redacted]

Project Information	
TM1 Project ID	[redacted]
Budget Code (SDGE Only)	
Company	[redacted]
Portfolio	[redacted]
WOA Project Start Date	[redacted]
WOA Project End Date	[redacted]

Project Scope

[redacted]

Reason for Re-Authorization

[redacted]

Impact of Not Approving Re-Authorization

[redacted]

Project Summary (with AFUDC)

Project WOA Amount	Project EAC	Re-Auth Amount	% Spend of Approved WOA	PTD Actuals
[redacted]	$[redacted]	[redacted]	[redacted]	[redacted]

Project Current Year Summary (w/o AFUDC)

Annual Plan	Monthly Outlook	Quarterly Outlook	Variance to Plan	Variance to Quarter
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Description	Work-ID	Scheduled Start	Scheduled Finish	SMI	Seq-ID
Project FSD - Scheduling & Dispatch Phase	1000376	9/21/2020	9/21/2020	0	68016

Basic History Update

Project Status:	Open/Active	Requested Start:	1/1/2020	Lifecycle Administrator:	[redacted]
Investment Approval:	Analyze	Requested Finish:	12/31/2021	Allow Support Tickets:	No
Internal Priority:		Requester Priority:		Status Work with Percent Complete:	Yes
Work Type	2. Large	Calendar:	Standard	Do Not Progress	No
				Progress As Planned	Yes

PROJECT INFORMATION Update

Title	FSD - Scheduling & Dispatch Phase
Description	SDG&E's current scheduling and dispatch functions have three critical issues; the current scheduling system is highly customized, the users have adopted manual process workarounds, and the work management systems are not fully integrated. The [redacted] Software version currently in use at SDG&E (v8.1.10) goes out of vendor support at the end of 2020. The current [redacted] mobile solutions (Classic and Touch) are integrated with the current software version and must be upgraded or replaced. This project will leverage this opportunity to transform the scheduling and dispatching functions by implementing leading technology and processes. We propose a migration either directly to the cloud-based solution for schedule and dispatch or replacement with an alternate product. A final decision on mobile strategy will be made during the course of this Concept.
Company (Business Unit)	SDG&E
Department	SDG&E Application
Sub-Department	SDG&E Applications
Requested Start	1/1/2020
Requested Completion	12/31/2021
Sempra Project ID	T000016
Concept Target Year	2020
Concept Status	Approved
Concept Decision	Approved

Concept Point of Contact	N/A
IRB Date Sent	9/22/2020
Company Lifecycle Stage	SDG&E - Execution
Lifecycle Stage	Execution
CONTACTS	
IT Project Manager	[redacted]
Program Manager	
IT Director Sponsor	
IT VP Sponsor	Gordon, Ben W
Business Project Manager	[redacted]
Business Director Sponsor	
Business VP Sponsor	Schneider, Michael M.
Business Organization	Clean Transp & Asset Mgmt
Primary IT Service Manager	[redacted]
Enterprise Architect	
Software Component Architect	
SCOPE / BENEFITS / DEPENDENCIES	
Scope	Upgrade or replace SDG&E's enterprise scheduling and dispatch system with the following capabilities: (1) Provide automated scheduling and dispatch functions. (2) [redacted] design changes to enable automatic scheduling. (3) Data clean-up and conversions (e.g. pole segments, maintenance plans). (4) Replace all Gas and Electric mobile forms including Inspections, Construction, and Emergency. (5) Upgrade existing system integrations and reports. (6) Timesheets for field personnel
Measurable Units	Applications
Benefits	Improved workforce utilization and productivity and efficiency. Improved data integrity and accuracy. Improved process compliance. Simplified architecture. Avoid future upgrade costs and maintenance costs. Reduced customizations. Saved costs on redundant servers and infrastructure. Increased agility in form development.

Risks	Without defined Governance Model, decisions affecting workforce enablement may continue to be tactical in nature and enacted reactively or in a siloed fashion. Existing processes, operating, and organizational models are not aligned with an automated schedule & dispatch system, and will require assessment and re-engineering prior to any technical implementation. This is crucial of the proposed move to a cloud-based solution where the ability to implement customizations is greatly reduced. Failure to address these could lead to a repeat of the current challenges. Capital funding for Cloud based solution also remains uncertain.
Dependencies TO	Clearly defined Operating Model to assess and redesign processes, roles and responsibilities to align with a revised automated workforce enablement capability; a Change Management framework to enact, enforce and drive adoption of new system(s) and process(es); and the CMP Improvement Project for the Electric M&I forms.
Dependencies FROM	Enterprise solution for potential SORT replacement
Internal Dependencies	
External Dependencies	

STRATEGIC ALIGNMENT

Prioritization Category	04. Responsive
Importance	1. Must Do
Align to IT Strategy	
[redacted]	
Reduces Technical Debt	

RAMP, GRC & COMPLIANCE

If you have questions or need clarification in this area, contact your Business Planner:

[redacted]

Included as RAMP?	No
RAMP Chapter	N/A
Included in GRC?	No
GRC Year	N/A
GRC Workpaper Reference	N/A
Accountability Driver	Reliability
Mandatory or Compliance Related?	No
Percent Compliance Work	N/A
Mandatory/Compliance Deadline	N/A
Mandatory/Compliance Driver	N/A

DOCUMENTS

Upload your Financial Estimation Document to the SharePoint List linked, and provide the URL to your document in the field below

[redacted]

Financial Estimation URL	
Business Case URL	
Solution Document URL	

FINANCIALS

Funding Type	Capital - GRC
Who is funding the work?	IT

SDG&E / SCG / CORP Asset Allocations must total 100%

SDG&E Asset Allocation Percentage		100
SCG Asset Allocation Percentage		0
Corp Asset Allocation Percentage		0
Asset Allocation Method	N/A - Not Shared Asset	
Asset Allocation Explanation & Contact	NA	
Is this SaaS, PaaS, or IaaS?	TBD	
Is this a Cloud Solution?	TBD	

Remember to enter Financial Information in TM1 application:

[redacted]

CYBERSECURITY

Remember to contact the Cybersecurity team and request a consultation:

[redacted]

Obtain the IS Engagement Number from your assigned consultant.

IS Engagement Number	ISE-3072886

PRIVACY

Does the project involve Creating, Storing, Sharing, Disposing, or Accessing/Allowing another to access customer information?

If NO, enter N/A in the field below.

- **SDGE**: If YES, complete a Privacy Impact Assessment (PIA) and provide the number below.

[redacted]

- **SCG**: If YES, contact mailto:[redacted], copy mailto:[redacted], and enter 'SCG' in the field below.

[redacted]

Privacy Impact Assessment (PIA) Number	
Technical Reference Model Solution	
EA Alignment Notes	
EA Alignment Score	
Affected Application Count	
Overlapped Project Count for Applications	
Capability Importance	

SDG&E Field Service Delivery

DHT-B-103

June 4th, 2020

EXECUTIVE WORKSHOP – Jan 6th

FSD Vision Statement

Provide a safe, easy and modern field service experience for our customers and employees.

- Provide our people the things they need to safely and easily get things done.
- Make work smarter through intuitive and efficient tools our people want to use.
- Operate as an organization with a holistic view of all work and people.
- Improve customer relationships with easier and flexible interactions.

DHT-B-104

ACTIONS TO ACHIEVE BENEFITS

PEOPLE & PROCESS

- Re-imagine the new way of working across organizations (e.g. veg, ERO, Dispatch, etc.) and design the new operating model
- Streamline business processes within and across organizations to foster cooperation and coordination

TECHNOLOGY

- Consolidate and rationalize siloed technology solutions
- Deploy simpler and more intuitive mobile solutions to field employees
- Build modern architecture with advanced integrations and data accessibility

FSD STRATEGIC INVESTMENT – BUSINESS CASE

80k

Annual value add hours gained.

~1.5m annual shift from O&M to capital work for internal resources by re-investing a portion of the unlocked productivity.

$17M

Reduction in FSD-related spend, by shifting from working on organizational silos, to a strategic approach focused on common capabilities.

Soft Benefits

In line with the executive vision for the program:

- ✓ **Increased Employee and Customer Satisfaction**
- ✓ **Increased Safety**
- ✓ **Improved Work Quality**
- ✓ **Improved Data Accuracy and Availability**
- ✓ **Improved Emergency Events Response**

DHT-B-106

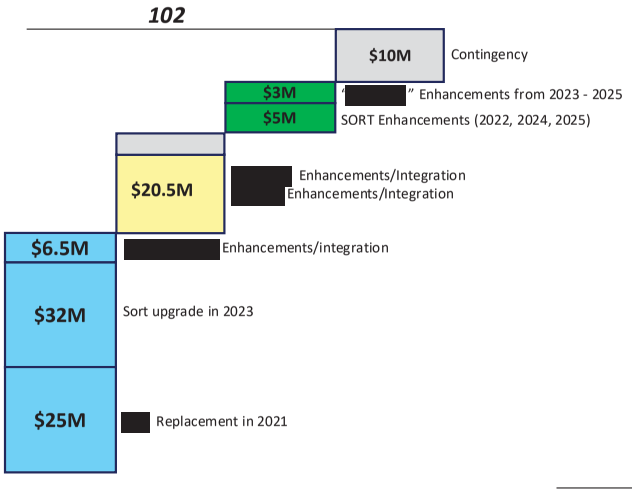
SDG&E IS ON TRACK TO SPEND ~$100M BY 2025, IN ABSENCE OF THE FSD PROGRAM

Siloed solutioning has lead to a complex tool ecosystem and significant Capital / O&M costs

Instead of investing strategically to transform & consolidate the landscape

A) Status Quo – Tactical Solutioning

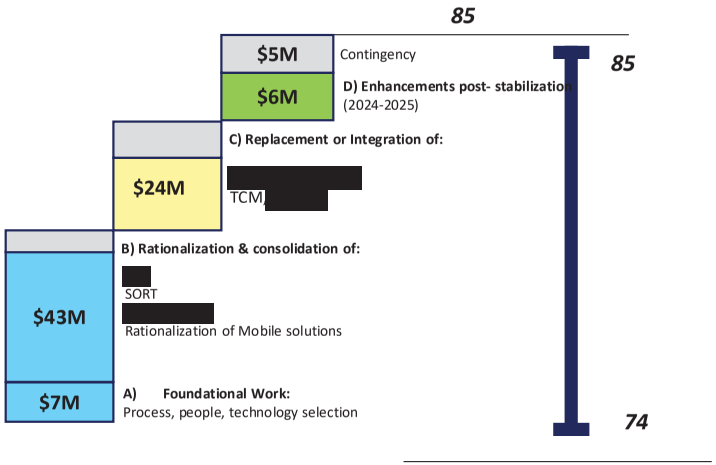
$92M–$102M



- ✓ Consolidation of applications
- ✓ Simpler integrations
- ✓ Synergy in program delivery

B) FSD Strategic Investment

$74M-$85M



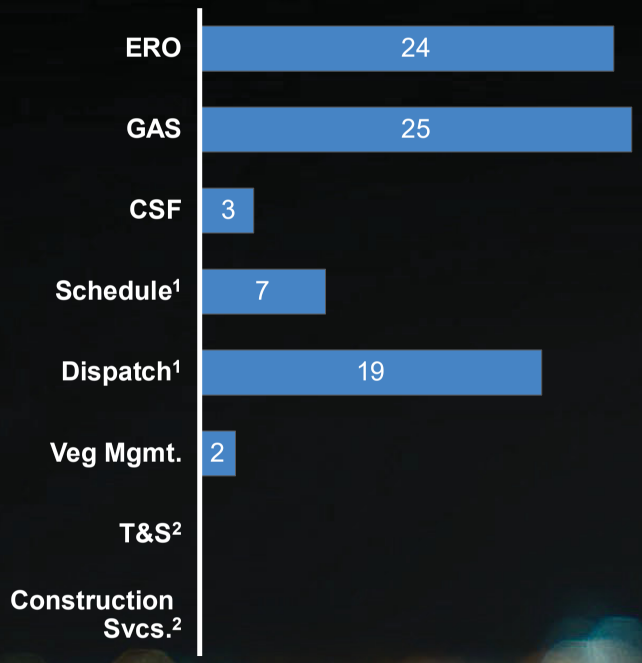
Legend

DHT-B-107

- SORT, [redacted]
- Other Apps annual incremental enhancements
- [redacted] & SORT annual incremental enhancements
- New System (X) incremental enhancements
- Contingency/unknown

SHIFT TIME TO HIGHER VALUE ACTIVITIES

80k Hours Productivity Gain by Business Unit ('000hrs)



80k Hours Identified

Bottom Line Benefits (35%)

- ✓ ~$1.5M annual shift from O&M to capital work for internal resources given added throughput

Additional Hours to Reinvest (65%)

- ✓ Reduce canceled jobs & minimize customer impact
- ✓ Offset cost of hiring additional resources
- ✓ Potential OT reduction

DHT-B-108

1 – Dispatch & Scheduling hard savings will be committed at the completion of foundational phase, and the completion of the To-Be Operating Model design
2 – For T&S and Construction Services, some of the key pain points have been identified, but benefit quantification requires further analysis during foundational phase

FSD WILL UNLOCK BENEFITS IN LINE WITH THE SDG&E EXECUTIVE WORKSHOP VISION STATEMENT

WORK SAFETY & QUALITY

- Enhanced real-time visibility of field employee locations
- Increased field supervision time
- Increased skills retention
- Reduced frustration with technology

EMPLOYEE SATISFACTION

- Reduced frustration with technology
- Reduced manual and redundant activities
- Reduced frustration with task accountability

CUSTOMER SATISFACTION

- Reduced unnecessary repeat visits
- Reduced unnecessary interruptions and mis-communication to the customers

HOW?

- Consolidate and rationalize siloed technology solutions and processes
- Utilize the productivity gain to have supervisors spend more time supervising work in the field vs. back-office manual work
- Utilize the productivity gain to take on more capital work internally that drives field employee skills retention

HOW?

- Design and deploy the future operating model along with the cross-organizational processes
- Consolidate and rationalize siloed technology solutions and processes
- Deploy simple and intuitive tools
- Utilize the productivity gain to perform more capital work vs. routine compliance work

HOW?

- Consolidate and rationalize siloed technology solutions and processes
- Bundle jobs more efficiently with increased organizational awareness from modern architecture with advanced integrations and data accessibility.

DHT-B-109

OUR ASK IS TO CONTINUE FORWARD WITH THE MOMENTUM

Approval for the 2020 scope of work and additional guidance as we move forward

Work with Directors to secure required resources

APPENDIX C

EXCERPT FROM CPUC WEBSITE: THE BENEFITS OF SMART METERS

APPENDIX C

EXCERPT FROM CPUC WEBSITE: THE BENEFITS OF SMART METERS

The benefits of Smart Meters to customers, the state, and utilities, include: [136]

- ***Allows for faster outage detection and restoration of service*** *by a utility when an outage occurs and therefore, less disruption to a customer's home or business.*
- ***Provides customers with greater control over their electricity use when coupled with time-based rates,*** *increasing the range of different pricing plans available to customers and giving them more choice in managing their electricity consumption and bills.*
    - *Smart Meters enable a utility to measure a customer's electricity usage in hourly increments.*
    - *If a customer elects to participate in time-based rates offered by the utility, they have the opportunity to lower their electricity demand during "peak" periods (the peak period for most utilities are summer afternoons) and potentially save money on their monthly electric bill.*
- ***Allows customers to make informed decisions by providing highly detailed information*** *about electricity usage and costs. Armed with a better understanding of their energy use, consumers can make informed decisions on how to optimize their electricity consumption and reduce their bills.*
    - *Customers with Smart Meters today can access their prior day's electricity usage through their utility's website.*
    - *In the near future, by installing an in-home display device that communicates wirelessly with a Smart Meter, a customer could monitor their electricity usage and costs in real-time (similar to the price and quantity displays on a gas pump), allowing them to adjust their usage instantaneously in response to changes in prices or system reliability events, for example by delaying the use of ahigh-energy appliance or shutting it off. This could be done manually or automatically by pre-programming the device or appliance.*
    - *In the near future, it may be possible for a customer to receive automatic alerts (via emails or text messages) to notify them of when the electricity consumption exceeds a pre-determined threshold.*
- ***Helps the environment by reducing the need to build power plants, or avoiding the use of older, less efficient power plants as customers lower their electric demand.***

[136] Available at: https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/infrastructure/the-benefits-of-smart-meters.

- *This is beneficial for all utility customers because the costs of building new power plants or relying on older, less-efficient power plants are eventually passed on to customers in retail rates.*
- *Building power plants that are necessary only for occasional peak demand is very expensive. A more economical approach is to enable customers to reduce their demand through time-based rates or other incentive programs.*
- *When the utilities avoid the use of "peaker" plants to meet high demand, the environment benefits because peaker plants typically have higher greenhouse gas and other air emissions.*

- ***Increases privacy because electricity usage information can be relayed automatically to the utility for billing purposes without on-site visits by a utility** to check the meter. This also results in lower operational costs for the utility, which means savings for customers as utility rates reflect the utility's cost to operate. In addition, as technology improves and changes over time, customers can receive the benefit of those changes without the utility having to replace the meter itself.*
- ***Smart Meters are the first step toward creating a Smart Grid in California.** With a Smart Grid, digital technologies are applied to every aspect of the industry, from generation, to transmission, to distribution, to the customer interface. This will help the grid sense what is happening to the energy flow, keep it in balance, and improve reliability and make the grid more resilient in the face of outages and other problems.*