



SDG&E TPR Stakeholder Meeting

2025 - Cycle 2





Welcome

Agenda

Item
Welcome, Agenda & Logistics
TPR Process Project Spreadsheet Data Quality and Management
Utility Prioritization Ranking (Filed #25)
AACE Class – Project Cost Estimate Maturity
Cost-Benefit Analysis Filed Utilization (Field #66)
Missing “Current Projected Total Cost” Data (Field #56)
SCADA and Telecommunications Program Coordination
Physical and Cyber Security-Related Projects
Supply Chain Constraints and Advance Procurement
Project Specific Inquiries
Wrap-Up

Virtual Meeting Logistics

Meeting Agreements

- No confidential information will be discussed.
- Please be mindful that others in this virtual meeting may also have questions.
- Mute your line if you are not speaking.
- Detailed questions that cannot be addressed in the meeting should be addressed via stakeholder questions and comments due on October 13.

Engaging in Discussion

- SDG&E SMEs will present and then take live questions.
- Please raise your hand (icon) and wait to be called on.
- When asking questions, please state your name and organization.

Important

- SDG&E welcomes stakeholder ideas and feedback on how to improve this meeting in written comments.

SDG&E TPR Process – Remaining Schedule

Event	Date
Stakeholder Meeting	September 26
Stakeholders' questions and comments related to Stakeholder Meeting	October 13
Written responses to questions and comments related to Stakeholder Meeting	November 3
Last day for Stakeholders to submit project-specific, follow-up questions to SDG&E	November 13
Written responses from SDG&E to Stakeholder project-specific follow-up questions	December 3
Last day for Stakeholders to submit comments to SDG&E. There is no expectation of written responses.	December 9



TPR Process Project Spreadsheet Data Quality and Management

TPR Process Project Spreadsheet Data Quality and Management

Process Overview:

- After the TPR financial data is entered into the TPR Project Spreadsheet it is reviewed for completeness, accuracy, and reasonableness.

Challenges:

- The review process for SDG&E's 2025 Cycle 2 TPR Project Spreadsheet was delayed due to an attempted process improvement that impacted the availability of the final financial data.
- The delays left SDG&E inadequate time to complete the typical full review of the financial data.

Future improvements:

- SDG&E is constantly looking for ways to improve and has had discussions internally to add additional controls to ensure that SDG&E will have sufficient time for a full review going forward.
 - More strict deadlines
 - Additional data pull on first day of the 60-day window
 - More efficient data entry



Utility Prioritization Ranking (Field #25)

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Prioritization Process and Ranking Explanation

- SDG&E used Project Drivers, current Stage Gate, Cost Category, a Benefit/Cost ratio, and a category encompassing Other Considerations to develop a comprehensive project ranking across the organization's portfolio of applicable projects.
 - Project Drivers include risk reduction, federal / state / local regulatory commitment, customer driven, and reliability.
 - Stage Gate status of a project is used to rank a project on highest value according to where the project is at in its lifecycle, with blanket budgets and projects in construction given the highest value, in descending order through project initiation at the lowest value.
 - Cost Category assigns weight according to the funding allocation on the project (FERC, WMP, CPUC Base, etc.)
 - Benefit / Cost Ratio assigns a priority based on SDG&E's internal calculation of a project's benefit in relation to its cost, separate and distinct from those cost/benefit ratios calculated for RAMP or GRC purposes.
 - Other Considerations are used to capture unique aspects of a project that may move a project's ranking up or down (e.g. project readiness, or ability to obtain land rights, regulatory approvals, applicable permitting, etc.)

Explanation of Drivers for Changes in Project Priority Scores

- SDG&E continues to collaborate interdepartmentally as its value framework evolves. Project priority scores may change based on an updated prioritization framework for investment portfolio optimization.



AACE Class – Project Cost Estimate Maturity (Field #48)

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Efforts to Implement AACE Classification and Plans/Timelines to Adopt the Practice

- SDG&E has progressed toward using AACE classification in transmission projects and have obtained some Class 5 estimates for newer projects. SDG&E's goal remains to gain alignment from other engineering disciplines in this method of cost estimating, and standardize across the organization using progressively more accurate Class estimates as the projects mature. There is no set timeline for finalizing this methodology.

Explanation Regarding Why No Projects Contain the Designation

- As the AACE methodology has not been completed or adopted across all engineering disciplines, they have not been assigned a designation for reporting purposes.



Cost-Benefit Analysis Field Utilization (Field #66)

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Overview of Cost-Benefit Analysis Process for Transmission Projects

- SDG&E employs the Copperleaf platform to calculate the Cost Benefit Ratio (CBR), which is used to understand the value of a project.
- Since the introduction of the Copperleaf platform within the context of FERC project analysis in 2023, SDG&E has been in the process of refining and developing a structured methodology for project evaluation. The integration of the Copperleaf platform into the FERC portfolio remains in its preliminary stages and is currently being analyzed for use in informing the decision-making process for the portfolio.

Examples

- As the process for scoring projects is currently being developed, SDG&E does not have an example project to provide an end-to-end walk through.



Missing “Current Projected Total Cost” Data (Field #56)

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Explanation Regarding Only a “Dash” in Field #56 and Their Statuses

- This data was unintentionally omitted. This column will be fully populated in future submissions.
 - Row 308 is 100% customer funded, resulting in \$0 total cost for ratepayers.
 - Row 367 was inadvertently added as it does not meet the \$1M threshold and should not have been broken out on a separate line.

How Should Stakeholders Interpret These Values?

- Stake holders should interpret the blanks as missing data and is providing the values below for Stakeholders.

Plans or Timelines for Supplying Complete Cost Data in Future Cycles

- SDG&E is providing the values below for Stakeholders and complete data will be included in all future cycles.

Missing “Current Projected Total Cost” Data (Field #56)

Row	Unique ID #3	Current Projected Total or Actual Final Cost (\$000)
16	925	
17	925	\$3,690
18	925	\$3,245
19	925	\$2,416
20	925	\$2,275
21	925	\$1,296
22	925	\$ -
226	20126	\$853,064
256	20127	\$268,336
308	21149	\$ -
355	24246	\$1,312
367	16138	\$554



SCADA and Telecommunications Program Coordination

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Relation Between SDG&E's SCADA, Telecommunications, and System Automation Projects

- SDG&E is executing a multi-pronged strategy to modernize its grid through a series of interrelated SCADA, telecommunications, and system automation projects. Together, these initiatives form a cohesive modernization framework aimed at improving grid reliability, safety, situational awareness, and operational efficiency, while enabling the integration of distributed energy resources and supporting wildlife mitigation.

SDG&E Strategy for these Programs Including Current State and Desired End State

- **Programmatic Fiber Build Initiative (Row 51)**
 - Fiber infrastructure is the backbone of SDG&E's communications strategy. This initiative supports:
 - High-speed data transmission for SCADA and EMS systems
 - Real-time telemetry for automation and protection schemes
 - Future technologies like synchrophasors and wide-area monitoring systems
 - Fiber deployment is essential for enabling the **EMS/SCADA Replacement** and **Substation SCADA Expansion**, ensuring low-latency, secure communications across the grid.

SCADA and Telecommunications Program Coordination

Transmission EMS/SCADA Replacement (Row 225)

- The Transmission EMS/SCADA system will leverage telecommunication infrastructure to provide Transmission System Operators the visibility, control, and awareness of the Transmission Grid.
- A robust and reliable telecommunication infrastructure is critical to the EMS/SCADA system.
- Transmission System Operators use real-time telemetry as a tool for day-to-day decision making on how to safely and reliably operate the Transmission Grid.
- High speed and high resolution synchrophasor data is collected by data concentrators and streamed to the Wide Area Situational Awareness System to provide additional visibility into the Transmission Grid.
- In the future, synchrophasor data will be used for Linear State Estimation.



Physical and Cyber Security-Related Projects

Physical and Cyber Security-Related Projects

Scope of SDG&E's Non-Confidential Security-Related Transmission Projects

- Installation of physical and electronic security systems with technologies that support access control, monitoring, intrusion detection and tracking, motion and thermal video capture, alarming, intelligent analytics; and equipment monitoring.
- Physical ballistics protection of transformer assets, as deemed necessary, and other physical barriers in a multi-layered security approach.

Update on Major Projects in the Category

- The Critical Asset Security Team (CAST) Program encompasses our most critical substations as defined by NERC-CIP standards. Major Projects, CAST Talega, and CAST San Luis Rey are Physical Security Projects in construction. Both sites include anti-cut/anti-climb fencing and secure gates, along with layered physical devices for electronic monitoring. There are no significant risks or challenges to completing these projects.
- Non-CAST Projects have a modified scope due to the lower security risk profiles. There are no significant risks or challenges to completing these projects.



Supply Chain Constraints and Advance Procurement

Supply Chain Constraints and Advance Procurement

SDG&E Supply Chain Issues for Critical Transmission Infrastructure

- Extended lead times and capacity constraints impacting key equipment:
 - Medium & high-voltage power transformers
 - Medium & high-voltage circuit breakers
 - Switchgear
 - Gas-Insulated substation equipment (GIS)

Actions Taken to Address Issues

- Continuous market assessment via index tracking, commodity price tracking, internet research and collaboration with manufacturers and distributors (e.g., lead time data gathering)
- Demand plan develop, recalibration, and sharing with suppliers
- Category plans and strategic sourcing
- Securing of slots through volume commitments and early slot reservation lock-ins
- Frequent assessment of foreign and domestic suppliers (e.g., new entrants, capacity expansion projects)
- Pricing adjustment mechanisms for long lead equipment
- Rigorous tariff review and validation process (e.g., customs clearance documents and detailed assessment of copper, steel, and aluminum Section 232 impacts)



Break



Project Specific Inquiries

“Umbriel IV Remote End “ 500kV Switchyard Project (Row 321)

The below information is for the overall Umbriel project

Current Development Timeline

- Execution of the Large Generator Interconnection Agreement (LGIA) is still awaiting interconnection customer signature (signed by SDG&E); no updates on timing from customer
- Original target ISD Dec 2028; subject to change based on timing of LGIA execution

Resolution of Data Inconsistencies

- SDG&E will address once the LGIA is executed

Project Risks and Contingency Plans if the Project is Delayed or Downsized

- Major scheduling risks (e.g., permitting) responsibility of the customer
- Reduction in scope will be addressed through amendments to LGIA

Oceanside and Escondido “Preliminary Support” Projects (Rows 348 & 353)

Activities Included Under the Oceanside and Escondido “Preliminary Support” Budgets and Resulting Deliverables

- Preliminary Support includes feasibility studies from different disciplines to assess existing load pocket substation potential to be either expanded and/or rebuilt (brownfield option) or, a new substation build (greenfield option)
 - Establish key points criteria and develop road map for preliminary studies execution
 - Perform preliminary engineering feasibility studies, including substation layout
 - Environmental desktop analysis
 - Land research and real estate market analysis.

Relationship Between the Projects as well as Timeline and Key Decision Milestones for Next Steps

- Row 348, Oceanside sub prelim support and Row 353, Escondido sub prelim support represent two distinct projects.
- Oceanside Electrification Load Pocket project scope of work decision is to build a new substation
- Escondido Electrification Load Pocket project scope of work is to rebuild existing ESCO substation
- SDG&E does not have a detailed description, scope and costs to share at this time for both Oceanside and Escondido Electrification Load Pocket projects

Wildfire Hardening Transmission C&M Program – HFTD (Row 300) vs. Non-HFTD Split (Row 311)

Confirmation Regarding Continuation of Prior Transmission C&M Blanket Program and Rationale for Splitting Program by Fire Zone

- The intent of splitting the Transmission Construction & Maintenance blanket program into separate HFTD and non-HFTD was to account for work and associated costs done in the HFTD vs. Non-HFTD zones. This is not a specific budget but rather a blanket budget.

Scope of Activities and Criteria Funded Under HFTD vs. Non-HFTD Along with Explanation for Budgets and Their Development

- Transmission Construction & Maintenance work categories include, but are not limited to: Road maintenance, work pads, drainage slope erosion, retaining walls, and insulator replacements.
- When reviewing each scope, anything requiring permitting and engineering usually becomes capital work. Road maintenance, work pads, and drainage erosion are the typical project scopes that get routed to the Transmission Construction & Maintenance program. Each access road included in the scope of the project is split into HFTD/ non-HFTD primarily due to other infrastructure asset allocations. The access road projects in this budget code are FERC and do not contain any WMP or CPUC funds.

“Captiva” 138 kV Battery Interconnection Project (Row 322)

Description of Captiva Including Location, Scope, and How it Connects into SDG&E’s Grid

- 250MW BESS (customer owned and operated) located approx. 2-3 miles north of San Juan Capistrano
- Interconnection Facilities and Network Upgrades designed, procured, and constructed by interconnection customer, including:
 - New 138kV Saddleback Switchyard (point of interconnection)
 - Transmission Loop-in on TL13833

Project Status, Timeline, and Clarification Regarding Cost Responsibility

- Design progress: 50-80%
- Target In-Service Date: Jan 2028
- SDG&E is responsible for the cost of the network upgrades up to the CAISO Reliability Network Upgrade Reimbursement Limits, which is \$27.4M

Substation Rebuilds with Cost Increases – Jamacha (Row 356)

Confirmation of Rows and which Projects They Correspond To

- Project is the same as previously shown in Row 132 of the 2025 TPR Spreadsheet, which only reflected the costs of the work order(s) reported. Row 356 replaces row 132 and captures all work orders (substation, transmission, distribution), including work required at remote substations such as relay upgrades to support the rebuild process.

Explanation for Cost Increases, New/Expanded Scope of Work, and Clarity on Projects

- Transmission scope has not expanded significantly
- Costs adjusted to reflect all project transmission scope into a single row for reporting going forward.

How These Rebuilds Align with Wildfire Mitigation or Reliability Goals

- Project driven by reliability and wildfire mitigation scope, not capacity
- Substation surrounded by sensitive wildland/riparian habitat less than one mile from two housing developments.
- Fire harden substation, prepare distribution circuits feeding into HFTD for falling conductor protection.
- Replacement of:
 - All oil circuit breakers to mitigate failure and possible ignition sources.
 - 69kV bus structure to meet current seismic requirements
 - Four transmission poles to align with new overhead getaways
 - All electromechanical relays with modern digital devices

Substation Rebuilds with Cost Increases – North Valley (Row 357)

Confirmation of Rows and which Projects They Correspond To

- SDGE Confirms that the project listed as “A North Valley 69/12kV Sub” is the same project in the January 2025 TPR.

Explanation for Cost Increases, New/Expanded Scope of Work, and Clarity on Projects

- Cost increases can be attributed to the scope change from existing transmission OH loop-in to UG loop-in, higher estimates for the new relay panel, and additional substation and distribution scope.
- The primary purpose of this project is to address reliability issues due to EOL bank and OCBs. Scope includes engineering, design and construction of a new substation on existing SDG&E property. Installation 30MVA transformer, (7) 2000A & (2) 1200A disconnects, (4) GCB's, (1) VCB, (3) single phase PT's, (1) 69kV switch rack with lightning masts, (1) ¼ section 12kV switchgear, (1) 12kV capacitor bank, (2) 69kV terminal and arrestor support structures.

How These Rebuilds Align with Wildfire Mitigation or Reliability Goals

- North Valley is a reliability driven project

Projects with Major Cost Discrepancies (Original vs. Current)

Explanation for Cost Differences Between the Original and Current Values for Projects in Rows 203, 281, and 225

- **Row 203, A TL23022/23023 MISSION EL (Miguel - Los Coches) R2**
 - The difference in costs is due to TL23022/23 originally being a 39.57-mile project estimated at \$19.5M that was operationally & financially split into Phase 1 (~15.5 miles) and Phase 2 (~19 miles) for improved tracking. Phase 1 has incurred ~\$3.5M of PTD-2024 costs and approximately ~\$6M in costs YTD-Jul 2025 for a total of ~\$9.5M and is currently in Closeout. Phase 2 is currently in Design.
 - The Fiber Build program began in 2016 and is expected to complete all planned projects by 2032 (16 years).
- **Row 281, Aviation Firefighting Program**
 - The difference in cost is due to the asset being a common asset. The amount in column 54 is from the Work Order Authorization and represents the entire cost of the asset, which includes amounts not recovered through transmission rates.

Projects with Major Cost Discrepancies (Original vs. Current)

Explanation for Cost Differences Between the Original and Current Values for Projects in Rows 203, 281, and 225

- **Row 225, Electric Transmission EMS/SCADA Replacement**
 - The difference in cost is due to timing. The efforts related to this project started in 2019, working with consultants to create the requirements for the new EMS/SCADA system. A budget of \$16.373M was approved at that time based on estimates. In early 2020, prior to putting a proposal out for bidding, the project was suspended due to the Covid-19 pandemic. The project resumed in early 2023. After reviewing bids from various vendors, a winner was selected in late 2023. The cost was adjusted based on the proposal provided by the vendor in late 2023, compared to the original 2019 estimate.
 - The project is currently at 50% completion.
 - Expected cutover of the new EMS/SCADA system is Q2 2026.

Valley Center 69 kV System Improvement (Row 359)

Reliability Issues in the Valley Center Area that the Project Addresses

- Thermal overloads in the 69kV transmission system around Valley Center area due to the charging/discharging of Valley Center energy storage.
- P0, P1, P3 & P6 contingencies were identified in the near-term and long-term planning assessments that resulted in thermal overloads on the TL682 Warners-Rincon, TL683 Rincon – Lilac, TL6926 Rincon-Valley Center, TL681B Valley Center – Ash Tap, and TL 681A Ash-Ash Tap 69 kV transmission lines.

“Explanation Regarding the Justification as to Why Operational Mitigations or Non-Wire Alternatives Were Not Sufficient”

- Valley Center RAS is not effective to mitigate the overload issue due to multiple three -terminal lines in the area. Valley Center RAS in P0 conditions contradicts the ISO S-RAS standard as defined under NERC and CAISO criteria.

Direct Buried Cable Replacement Initiative

Enumerate Projects in the TPR Spreadsheet that are Part of SDG&E's Direct Buried Cable Replacement Program

- The Direct Buried Cable Replacements are comprised of the following projects:
 - Row 98: TL615/TL659
 - Row 178: TL611
 - Row 182: TL690
 - Row 183: TL628
 - Row 184: TL698
 - Row 185: TL697
 - Row 186: TL667
 - Row 187: TL673
 - Row 189: TL691
- Total direct-buried footage identified: ~109,000 feet, of which, ~47,000 feet have been replaced, and ~62,000 feet remain. Various projects are in the planning, design, and construction phases.

Imperial Valley 230 kV Short-Circuit Mitigation (Row 354)

Description Regarding Imperial Valley Short-Circuit Mitigation Project and Reliability Issues it Addresses

- SDG&E anticipates that the 63 kA circuit breakers at IV Substation will exceed their ratings by 2035 during short circuit conditions when considering previously approved transmission projects and the CPUC base resource portfolio (see 2023-2024 CAISO TPP study plan).
- CAISO approved the installation of two sets of current limiting reactors (CLRs) on the 230kV buses to address this concern. This will require expansion of IV Substation and rearrangement of interconnecting transmission lines to accommodate the new layout with the CLRs.
- Please refer to the response to CPUC ED-SDGE_TPRJULY2025-001 question 01-31 for additional detail.

Expected Timelines and Whether In-Service Dates Could be Affected

- The project is in the preliminary engineering phase in which we are capturing the current condition and evaluating the layout for the CLRs and the new bay positions for the ICs, transmission line alignments, etc.
- In addition to the engineering complexities, SDG&E anticipates permitting will be required from both the BLM and CPUC, along with new land rights from the BLM for both the IV Substation expansion and the relocated transmission lines.
- SDG&E will strive to accelerate the in-service date but, given the complexities and stage of the project we cannot commit to an earlier date at this time.

Explanation Regarding Planned Solution, the Preliminary Engineering Budget, and How SDG&E is Coordinating with IID and Other Parties

- SDG&E has developed a preliminary budget (see next slide) that is subject to change given the current project phase.
- A select few interconnecting customers (ICs) will be impacted by the need to relocate their transmission lines (three existing, one future). SDG&E is in the process of meeting with existing ICs to discuss the project, cost responsibility, design/permitting/easement acquisition, and construction responsibility.
- Other ICs will be impacted only by outages during construction; it's premature to begin these conversations.

Imperial Valley 230 kV Short-Circuit Mitigation (Row 354)

The \$92.5M represents an estimate of the *total project cost* currently (subject to change).

Category	Total
Materials, Substation	\$21,000,000
Materials, Transmission Overhead	\$3,500,000
Materials, Cable	\$2,000,000
Contract Services	\$44,431,999
Internal Labor, non-union	\$2,111,667
Internal Labor, union	\$2,604,999
Vehicle Utility	\$521,000
Property Tax	\$2,731,535
Indirects	\$10,585,347
Easements / Right of Way	\$3,054,978
Total	\$92,541,524

Golden Pacific Powerlink Project (Imperial Valley – North of SONGS 500kV Line Project)

- **Q37:** Can SDG&E confirm that the Imperial Valley – North of SONGS 500kV Line Project is the same as the Golden Pacific PowerLink project?
- **Q38:** Please provide an overall description of the project. Include the status, scope of SDG&E portion, route, cost breakdown of SDG&E portion, and project timeline. If the project description is not available, when does SDG&E expect it to be available?
- **Q39:** On August 29, 2025, CAISO posted a notice that specified Horizon West Transmission (HWT) has exercised its right to assign responsibility to construct, finance, and own the IV-NoS 500 kV Transmission Line portion of the IV-NoS Project to San Diego Gas & Electric Company (SDG&E).
 - Was SDG&E aware that HWT had the ability to re-assign the project to SDG&E? Please explain.
 - Did HWT give SDG&E any indication as to why the project was re-assigned?
 - CAISO indicated that SDG&E will honor the cost containment provisions in HWT’s proposal. Is this true? If no, explain.
 - Does SDG&E anticipate the project will travel through high fire threat areas? If so, are there any concerns?



Thank you