

Fast Trip, Unplanned Outages, and Distribution Reliability Workshop

17 March 2023

RULEMAKING 18-12-005: ORDER INSTITUTING RULEMAKING TO EXAMINE ELECTRIC UTILITY DE-ENERGIZATION OF POWER LINES IN DANGEROUS CONDITIONS.



California Public
Utilities Commission

Workshop Purpose

- The intention of this workshop is to gather and share information, as well as for parties and IOUs to discuss fast trip, unplanned outages, and distribution reliability issues.
- After each presentation, Commissioners and Commission Staff will pose questions to the presenters. Each IOU presentation will be 25 minutes with a 10 minute question period. Public comment will be held at the end of today's agenda.

Background

- On July 12, 2022, Pioneer Community Energy, Sonoma Clean Power Authority, East Bay Community Energy, Marin Clean Energy, and Rural County Representatives of California (Joint Parties) filed a motion requesting the Commission open an expedited track of the Public Safety Power Shutoff (PSPS) Rulemaking (R.) 18-12-005.
- The Joint Parties sought for the CPUC to review, evaluate, and regulate Fast Trip programs across the IOU territories to ensure consistency among the programs in reporting, cost tracking, operational guidelines for customer notifications, mitigation efforts, resiliency improvements, resource deployments, and communication with public safety partners.
- On February 23, 2023, the assigned Commissioner, President Alice Reynolds, made a ruling directing staff to conduct a workshop outside of this proceeding. The workshop will help identify issues and questions that will help the Commission make decisions related to IOUs' fast trip programs and other newly emergent reliability concerns.

Presentation by Joint Parties

17 March 2023

RULEMAKING 18-12-005



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Regulatory Context: Unplanned Outages & the General Rate Case (GRC)

- General Rate Cases (GRCs)
 - Where utilities request rate recovery for all expenditures (capital and O&M) and set utility rates
 - Where the utilities submit their forecasts for costs in the next cycle
 - Submitted to the CPUC every 4 years
- Each of the large IOUs have dedicated sections in their GRCs for reliability and outage response, where all capital expenditures (e.g., reclosers, transformers, outage indicators, etc.) and O&M expenditures (e.g., installation labor, outage patrols, etc.) are tracked.
 - **PG&E TY 2023 GRC:** Ex. PG&E-04, Ch. 13 Overhead and Underground Asset Management and Reliability & Ch. 4.6 EPSS
 - **SDG&E TY 2024 GRC:** Ex. SDG&E-11, Ch. V Sect. H Reliability Improvements

Regulatory Context: Unplanned outages & Risk Assessment and Mitigation Phase (RAMP)

- Risk Assessment Mitigation Phase of the GRC
 - RAMP report filed ahead of the GRC
 - Focused on the higher safety risks in corporate risk register
 - Calculates the baseline level of risk with current controls in effect
 - Identifies new mitigations planned for proposal in GRC
 - Forecasts the risk-spending efficiency (RSE) of those new mitigations
 - RSE will be expressed as cost/benefit in next RAMPs

Regulatory Context: Unplanned outages & Risk Assessment and Mitigation Phase (RAMP) (cont.)

- PG&E's EPSS Program
 - 2020 RAMP does not mention EPSS as a risk or a mitigation.
- SCE's Fast Curve Program
 - 2022 RAMP mentions Fast Curve as an existing control.
- SDGE's Sensitive Profile Relay Settings
 - 2021 RAMP mentions Sensitive Profile Relay Settings as existing control.

Regulatory Context: Unplanned Outages & Risk Spend Accountability Report (RSAR)

- Risk Spend Accountability Reports (RSARs) are annual reports submitted by the utilities that detail all spending related to RAMP mitigations in a given year.
 - This requirement grew out of the Safety Model Assessment Proceeding (SMAP, A.15-05-002 et al.) and was codified in D.19-04-020.
- Measures to mitigate unplanned outages, including preventative maintenance, and device replacement and upgrade efforts, are included in this report insofar as they are presented in the RAMP as mitigations.
- More information and historical reports can be found [here](#).

Regulatory Context: Unplanned Outages & Annual Reliability Report

- CPUC jurisdictional IOUs are required to report annually on unplanned outage frequency and duration on system and division levels.
 - More granular reliability information is available on request from the utilities.
 - Previous years' reports can be found [here](#).
- [D.16-01-008](#) lays out the current annual reliability reporting standard that IOUs must follow. The report includes information such as system and division level metrics, top 1% of worst performing circuits on the system, summary lists of Major Event Days, and historical outage information for large outages.
- Because Fast Trip outages are by definition unplanned, they are included in the metrics reported by the utilities.
 - There is no existing requirement for the IOUs to report on this outage type specifically and separately.

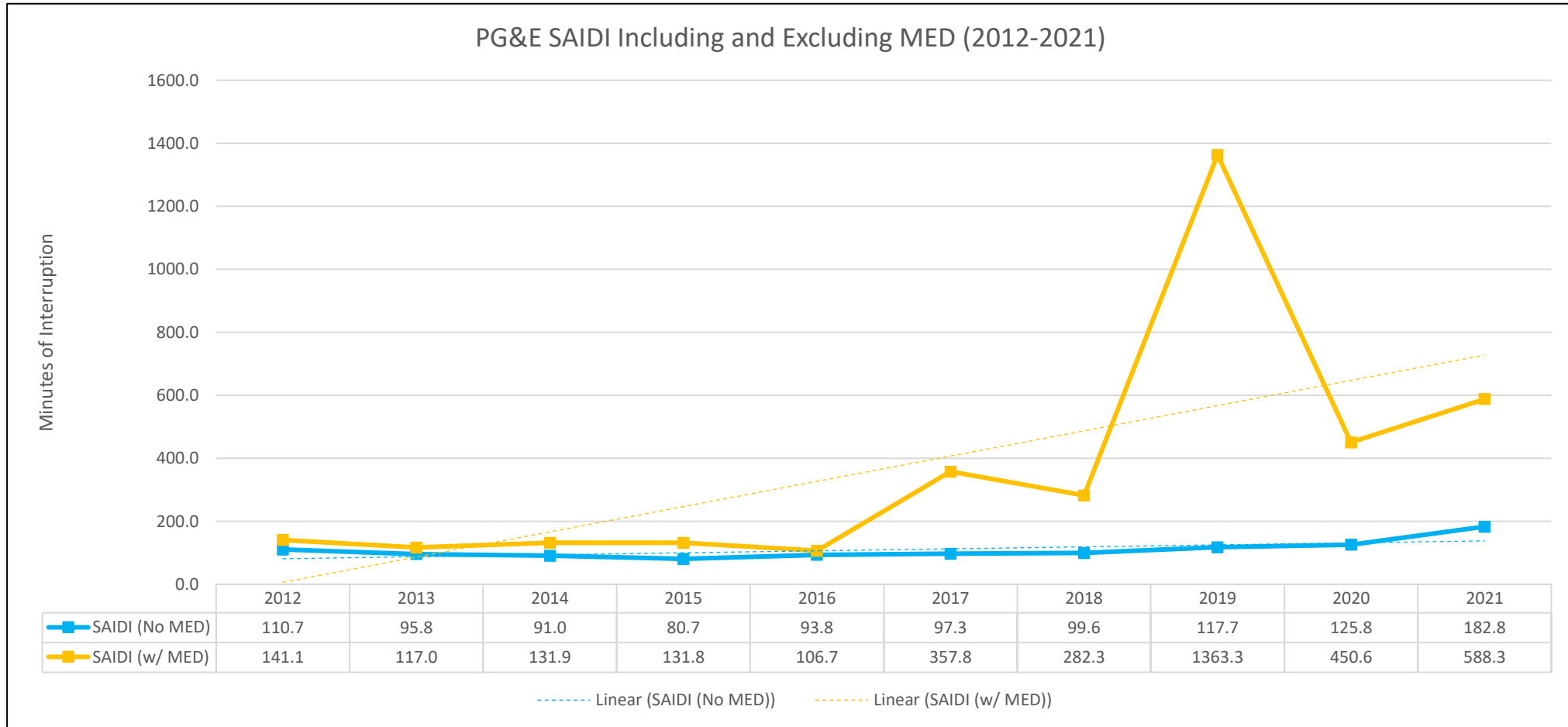
Regulatory Context: Unplanned Outages & Annual Reliability Report (2021 CA IOU Reliability vs. National Averages)

	MED Included			MED Excluded		
	SAIDI (Minutes per Year)	SAIFI (Interruptions per Year)	CAIDI (Minutes per Interruption)	SAIDI (Minutes per Year)	SAIFI (Interruptions per Year)	CAIDI (Minutes per Interruption)
PG&E	588.31	1.688	348.5	182.81	1.178	155.2
SCE	179.74	1.11	161.71	103.77	0.96	108.09
SDG&E	76.93	0.67	114.84	71.64	0.665	107.66
BVES	398.3	5.7	70.4	93.1	1.5	61.5
Liberty Utilities	1837.12	5.36	342.74	916.28	4.6	199.19
PacifiCorp	441.1	3.886	114	115.6	1.665	69
National Average 2021	475.8	1.436	331.2	125.7	1.039	120.9

- SAIDI = System Average Interruption Duration Index
- SAIFI = System Average Interruption Frequency Index
- CAIDI = Customer Average Interruption Duration Index
- MAIFI = Momentary Average Interruption Frequency Index
- MED = Major Event Day

Note: Red squares indicate that the metric exceeds the national average. National average is calculated from U.S. Energy Information Administration data on annual reliability figures.

Regulatory Context: Unplanned Outages & Annual Reliability Report (2012 – 2021 PG&E SAIDI Performance)



SAIDI = System Average Interruption Duration Index

ESRB Enforced General Orders

General Order (GO) 95 – Rules for Overhead Electric Line Construction

- Establishes strength requirements (Sections 44.1 – 44.3) for design, installation, maintenance and reconstruction of electric and communication facilities
- Establishes Minimum Clearances
 - Vertical, horizontal, radial, and between conductors
 - Clearances from vegetation, railroads, other wires

GO 128 – Rules for Construction of Underground Electric Supply and Communication Systems

- Establishes uniform requirements for design and construction
 - Underground structures (i.e. underground vaults)
 - Pad-mounted structures

GO 165 – Inspection Requirements for Electric Distribution/Transmission Facilities

- Sets minimum inspection intervals for distribution equipment (poles, transformers, switching/protective devices, regulators / capacitors). Inspection intervals include:
 - Patrols (annually);
 - Detailed (every 3-5 years); and
 - Intrusive (wood poles 10 years/20 years)

ESRB Enforced General Orders (continued)

- **GO 166 – Standards for Operation, Reliability, and Safety During Emergencies and Disasters**
 - Requires utilities' emergency plans to comply with 14 Standards.
 - SPD currently oversees GO 166, SED enforces when utilities are noncompliant.
 - Standard 5 requires the utility within an hour of identifying a major outage to begin coordinating its internal resources as set forth in its emergency plan.
 - Standard 6 requires the CPUC to be notified within an hour of a major outage.*
 - Ongoing discussion on whether the “Major Outage” threshold is set too high since it has never been triggered by a large utility and only once by a small IOU (Bear Valley, 2017).
- **GO 174 – Rules for Electric Utility Substations**
 - Establishes uniform requirements for substation inspection and maintenance programs.
 - July 1st annual report Inspection Plan Summary for completed and past due Inspections.

ESRB Audits and Investigations

ESRB enforces the General Orders through compliance audits and incident investigations to ensure utilities comply with safety rules.

- **Compliance Audits**

- Transmission and Distribution (GOs 95, 128, 165)
- Communication Infrastructure Providers (CIPs) (GOs 95 and 128)
- Substation (GO 174)

- **Electric Incident Investigations**

- Utilities submit incident reports to us based on certain criteria set forth in Resolution E-4184.
- Review inspection and maintenance records
- Interview operation and maintenance staff
- Attend field inspections and equipment testing/examinations

- **Enforcement Action Options for Utility Non-Compliance**

- ESRB can require utilities to submit a corrective action plan or can initiate other types of enforcement actions if a utility is found to be non-compliant.
 - NOV, Staff Citation, OII, ACO, AEO
- 2015 Long Beach outages in I.16-07-007 – SCE failed to perform critical maintenance and inspection on critical circuit componentry and SCE staff lacked adequate training.

Presentation by Pacific Gas & Electric

17 March 2023

RULEMAKING 18-12-005



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Presentation by Southern California Edison

17 March 2023

RULEMAKING 18-12-005



California Public
Utilities Commission

Presentation by San Diego Gas & Electric

17 March 2023

RULEMAKING 18-12-005



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Break

Presentation by Public Advocates Office

17 March 2023

RULEMAKING 18-12-005



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Public Comment Section

Closing remarks