(U 338-E)

Southern California Edison
Q4 2020 Quarterly Data Report

February 5, 2021

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GUIDANCE-10
DATA ISSUES – GENERAL

Southern California Edison Company
2020 WMP - SCE Deficiency Guidance-10

Name: Data issues – general
Category (SCE defined): Grid Hardening / Vegetation Management / Inspections / GIS
Class: B

Deficiency:

Although the availability of data, including GIS data, provides unprecedented insight into utility infrastructure and operations, inconsistencies and gaps in the data present a number of challenges and hurdles. As it relates to GIS data, electrical corporation submissions often had inconsistent file formats and naming conventions, contained little to no metadata, were incomplete or missing many data attributes and utilized varying schema. These deficiencies rendered cross-utility comparisons impossible without substantive, resource and time-consuming manipulation of the data. Additional data challenges included varying interpretations of WMP Guideline data requirements, leading to inconsistency of data submitted.

Condition:

Electrical corporations shall ensure that all future data submissions to the WSD adhere to the forthcoming data taxonomy and schema currently being developed by the WSD. Additionally, each electrical corporation shall file a quarterly report providing that details:

i. locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and supported with GIS data,

ii. the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data

iii. the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative, and

iv. hardening, vegetation management, and asset inspection work scheduled for the following reporting period, with the detail in (i) – (iii).

Overview
SCE supports the WSD's focus on advancing data standardization, transparency, and sharing of data with stakeholders. Since the submittal of its second Quarterly Report on December 9, 2020, SCE has continued to focus on providing more data pursuant to the data requirements in the Draft WSD GIS Data Reporting Requirements and Schema for California Electric Corporations (Draft GIS Data

Schema).[1] Additionally, the Q4 2020 Quarterly Data Report (QDR) changes the former Quarterly Reports and includes both spatial and non-spatial data. As described in SCE's Cover Letter, given that this QDR is being submitted contemporaneously with the 2021 Wildfire Mitigation Plan (WMP) Update, the non-spatial table is being provided in Excel as well as a pdf version. The pdf version of Tables 1-12 is in Appendix 9.7 of the 2021 WMP Update. The description of the non-spatial data is also included in the 2021 WMP Update in Chapter 6. In this QDR, SCE has focused on adding spatial data that was not provided in the first and second Quarterly Reports, e.g., the Initiative Asset Log and Initiative Photo Log tables, and completing the non-spatial tables. For the spatial data, this QDR includes the Initiative,[2] Asset Point, Asset Line, PSPS Event, Risk Event, and Other Required Data datasets. SCE's submission does not have a complete set of all Draft GIS Data Schema requirements due to the volume of data and the fact that SCE does not currently capture some data elements, but has made progress since the last Quarterly Report. SCE appreciates the WSD acknowledging comments from the IOUs regarding the volume and scope of quarterly data reporting requirements and how WSD plans to continue to work with stakeholders to ensure the Draft GIS Data Schema requirements can be met. The spatial and non-spatial data in this QDR submission is still undergoing review. If there are material updates, SCE will provide them in subsequent QDR submittals or earlier, as applicable. SCE is also not providing metadata in this submission and will convey its plans once available. Additionally, some data elements within the datasets SCE is providing are not available due to either our inability to correlate data from multiple systems within the available times or because SCE does not currently capture the requested data. Also, SCE is providing some but not all employee confidential data due to the limited time from compiling end-of-quarter data and the filing deadline, system limitations, and/or because the work is performed by contractors and we do not track contractor employee names in our systems. SCE continues to recommend employee names be removed from the data requirements because it is unnecessary and creates needless administrative burdens. SCE is committed to provide more data and details in subsequent QDR submissions.

SCE appreciates that the WSD, through its comprehensive Draft GIS Data Schema, intends to obtain and standardize significant amounts of wildfire-related data. SCE also understands WSD's desire to understand our current systems and data availability. To this end, SCE also provides updated responses in the Status Report in the Excel file template provided by the WSD that generally describe the status of the requested data fields, actions we plan to take if a particular data field is not

[1] SCE notes that the WSD issued an Updated GIS Data Reporting Standard after 4:00 p.m. on February 4, 2021 and has not had time to review changes to the Draft GIS Data Schema as of the time of this submission.
[2] The Initiative dataset includes grid hardening, vegetation management, and asset inspections initiatives where work was performed and/or projected to be performed in HFRA over the reporting periods and does not include the following: SH-2, Undergrounding Overhead Conductor because no work was or is anticipated to be performed for this initiative over the reporting periods; IN-7, Failure Modes and Effects Analysis and SH- 9, Transmission Overhead Standards Review because these initiatives are studies and standards (not work to be completed in field locations); PLP spatial data for December 2020 because of Quality Control review that is still in process; and SH-8, Transmission Open Phase Detection and SH-4, Distribution Branch Line Fuses because the work for these items was completed prior to October 2020 due to focus on other incremental data being provided. Also, data for IN-2, Quality Oversight / Quality Control is now included in the asset inspections dataset field "InspectionQA," where applicable.

being provided at this time, the timeline for completing those actions, and whether the data is confidential. SCE describes its approach to the Status Report template below.

As SCE has discussed with WSD, we continue to have reservations regarding confidentiality of data. Release of the precise location, age, and other attributes of SCE's assets alongside the precise location of critical facilities may significantly increase safety risk to the public. For example, knowledge of underground line routes and electrical equipment serving a critical facility could facilitate an attack on that critical facility's power supply. Also, knowledge of the location of specific SCE assets in areas with historical high-fire weather could make them vulnerable to attack during the worst possible time. Further, the precise locations of SCE's high voltage transmission lines and substations alongside the above mentioned confidential information, as well as the non-confidential information requested increases risk to the bulk power transmission system. The Commission recognizes the importance of safeguarding critical energy infrastructure information and although maps of varying detail of SCE's transmission system may be publicly available from other sources, SCE does not believe it is prudent to further propagate that information, in this level of detail, accompanying other information that, taken together, could prove to be useful to a bad actor. Notwithstanding these reasons, SCE has preliminarily designated confidentiality at the data field level even though it believes confidentiality should be applied at the feature class level for each provided dataset. For purposes of the non-confidential geodatabase, only non-confidential feature classes were included because SCE is not able to efficiently extract just the confidential data fields in the geodatabase at this time given the millions of data fields. Additionally, although SCE is providing confidential employee information for inspections, as applicable, we do not think this information is necessary to assess wildfire risk. SCE raised this issue in its Comments on the August 2020 Workshops and respectfully requests these employee data fields be removed in subsequent Draft GIS Data Schema iterations.

SCE also notes that it still does not capture several new data elements that will require time for our teams and subject matter experts to assess with respect to the labor, operational, system and technical requirements and to ensure these new data requirements could advance wildfire risk reduction prior to changing work methods, processes, tools and systems. SCE is still in process of assessing these data requirements and will provide updates in subsequent QDRs. SCE provides a general response in the Status Report that discusses this assessment in further detail. While SCE understands that the WSD desires specific timelines to address data gaps, we are not able to provide those with this QDR submission. Future submissions will look to include specific information after SCE establishes a formal project team and conducts internal SCE workshops with multiple stakeholders to better understand the complexities and level of effort to make process and technology changes.

Similar to its first and second Quarterly Reports, the requested spatial data is being provided in the geodatabase. Additionally, SCE is submitting an updated Status Report based on the included datasets, described above. SCE notes that it continues to take a phased approach to improve the data being provided. SCE looks forward to continued collaboration with the WSD, utilities, and stakeholders to refine and improve the Draft GIS Data Schema to further reduce wildfire risk.

Below, SCE responds to the Guidance-9 conditions. SCE also responds to the SCE-9 conditions after this section.

i. locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and supported with GIS data

Please see the geodatabase that includes grid hardening, vegetation management and asset inspection initiative data completed in HFRA from October 1, 2020 through December 31, 2020. As noted above, SCE also provides in the geodatabase other feature class datasets, not required as part of this deficiency but in support of WSD's direction to provide as much information as practicable and is readily available. The additional datasets include Asset Line, Asset Point, PSPS Event, Risk Event, and Other Required Data.

ii. the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data

SCE is providing data associated with its system hardening, vegetation management, and asset inspection initiatives described in our 2021 WMP Update. The specific WMP initiatives are shown in the table in Appendix A of this deficiency. Most wildfire initiatives are not planned, managed or executed based on the number of circuit miles (or miles) and thus line geometry for these initiatives is not available. This is consistent with the WSD's WSD-011 Resolution, Attachments 2.1 and 2.3 that describe how the number of circuit miles unit of measurement is not applicable for certain types of work. The limited initiatives that do have line geometry, circuit miles or miles are available in the geodatabase. SCE notes that line geometry for covered conductor is available at the project scoping level, which has been replicated for each of the resulting work orders (which is the lower level at which dates are managed and the level of detail provided in this GIS submission) and shows that SCE completed approximately 232 circuit miles of covered conductor from October 1, 2020 through December 31, 2020. For circuit-based distribution and transmission inspections, the entire circuit geometry has been included.

iii. the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative, and

SCE provided its risk-based analyses for how it determines and targets deployment for its wildfire-related initiatives in its July 27, 2020 Remedial Compliance Plan (RCP) to Guidance-3 for work planned and completed in 2020. The Guidance-3 RCP explains how we analyze and prioritize work for grid hardening, vegetation management and asset inspection initiatives. In the table in Appendix A of this deficiency, SCE summarizes the analysis that led it to target the areas where its system hardening, vegetation management and asset inspection initiatives were completed from October 1, 2020 through December 31, 2020. Please also see Section 4.3 of SCE's 2021 WMP Update that describes SCE's improvements to its risk modeling. Additionally, See Section 7.3.2 of SCE's 2021 WMP Update that provides current information on SCE's system hardening, vegetation management, and asset inspection wildfire mitigation initiatives.

iv. hardening, vegetation management, and asset inspection work scheduled for the following reporting period, with the detail in (i) – (iii).

Please see the geodatabase that includes grid hardening, vegetation management and asset inspection initiatives planned in HFRA from January 1, 2021 through March 31, 2021 pursuant to the Draft GIS Data Schema. Similar to part (ii) above, limited initiatives have line geometry (i.e., circuit miles or miles). Initiatives with line geometry are available in the geodatabase. SCE notes that line

geometry for covered conductor is available at the project scoping level, which shows approximately 400 circuit miles planned for January 1, 2021 through March 31, 2021. Also, line geometry for planned circuit-based distribution and transmission inspections includes the entire circuit geometry, not just partial geometry of the circuit. Please see the table in Appendix A of this deficiency and Sections 4.3 and 7.3.2 of SCE's 2021 WMP Update with the detail for condition (iii).

Guidance-10 Appendix A

Guidance-10 Appendix A
Analysis That Led SCE To Target Specific Areas For Initiatives in 2020

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
1	IN-1.1	High Fire Risk Informed Inspections of Distribution Electric Lines and Equipment	Beginning in inspection year 2020, SCE embarked on an effort to reimage it's asset inspection programs, moving from a strictly compliance-based program to one that prioritizes the inspection of the highest risk assets throughout the service area consistent with regulatory compliance obligations. Specifically, in the Overhead Detailed Inspection (ODI) space, SCE implemented a risk characterization and prioritization schema so that the highest risk assets in SCE's High-Fire Risk Areas (HFRA) would be inspected earlier in the inspection cycle and on a more frequent basis. The primary objective of this program being to identify and mitigate any potential system issues prior to peak fire season. The risk model SCE deployed to prioritize asset inspections was based on the probability of asset failure and the potential consequence of destruction if that particular asset failure were to occur. Utilizing this risk model, the HFRA inspection scope was identified and prioritized for operational execution. The structures that were identified as the highest risk were individually identified, plotted, and scheduled for inspection. As opposed to inspecting entire grids as was the practice under the normal compliance-driven program, individual structures were prioritized for inspection based on their risk characteristics, thus allowing the company to inspect the highest risk assets throughout the entire service territory before peak fire season. The objective of this inspection methodology was to reduce the overall system risk in the most vulnerable areas by clustering the highest risk poles together in individual Work Orders for our Electrical System Inspectors (ESIs) to perform detailed inspections. Additionally, during the 2020 fire season, SCE identified 17 Areas of Concern (AOCs) in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity, as forecasts predicted for Fall 2020 in Southern California. In order to mitigate this emergent risk, SCE accelerated inspections, remediation and vegetation trimming in the identified AOCs. The methodology to identify the AOCs was based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc. The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.	Section 3 - Asset Management - A / pp. 10-11
2	IN-1.2	High Fire Risk Informed Inspections of Transmission Electric Lines and Equipment	The Transmission High Fire Risk Informed Inspection program utilizes the same approach as the Distribution High Fire Risk Informed Inspection program (IN-1.1) for prioritizing work based on consequence risk score with one exception. At the time of scoping Transmission (and Subtransmission) inspections, the WRM probability of ignition models were not completed for Transmission and Subtransmission assets. Therefore, consequence risk (Reax) was aggregated at a circuit level and voltage class was used as a proxy for probability of ignition. Each circuit was categorized as high, medium or low risk. In 2020, SCE is inspecting all high and medium risk Transmission circuits. Additionally, during the 2020 fire season, SCE identified 17 AOCs in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity, as forecasts predicted for Fall 2020 in Southern California. In order to mitigate this emergent risk, SCE accelerated inspections, remediation and vegetation trimming in the identified AOCs. The methodology to identify the AOCs was based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc. The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.	Section 3 - Asset Management - B / pp. 11-12
3	IN-3	Infrared Inspection of energized overhead Distribution facilities and equipment	The Distribution Infrared Scanning (DIRS) program targets inspecting / scanning 50% of aggregate HFRA each calendar year and 100% of overhead structures in HFRA every two calendar years. The 2019 and 2020 infrared inspection scope was based on Tier 2 and Tier 3 HFRA. The prioritization scheme for 2019-2020 DIRS scope was designed to ensure high-risk structures are inspected first based on the SCE consequence risk model. Utilizing the consequence prioritization method, DIRS scope was clustered into 124 clusters and each cluster is approximately 120 linear circuit miles. The total sum of structure consequence risk scores within each cluster determines the cluster risk score (#1 cluster represents the highest consequence risk score). The inspection execution objective was to reduce risk based on the cluster method; however, to ensure operational efficiency, e.g., minimizing travel, SCE also inspects some structures in close proximity of high consequence risk clusters where applicable. The recorded and projected areas included in the geodatabase are based on the methodology described above. Please also note that the prioritization / targeting approach for this initiative described in SCE's RCP for Guidance-3 was unintentionally misidentified as deployment of this initiative is prioritized based on risk, as described above.	Section 3 - Asset Management - D / pp. 13-14
4	IN-4	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	SCE risk-ranked all Transmission and Subtransmission circuits by Reax consequence scores. The recorded and projected areas included in the geodatabase are based on this risk-ranking sequenced by the highest risk circuits and operational constraints such as weather, e.g., because high ambient temperature can make it difficult to detect temperature differentials, inspections are scheduled and performed during cooler days of the year.	Section 3 - Asset Management - E / pp. 14-15

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
5	IN-5	Inspections of Generation Assets in HFRA	In 2020, SCE adopted a two-year cycle (2020-2021) where 50% of the assets targeted for inspections in 2020 are higher priority facilities in Tier 3 HFRA. Operational efficiencies and constraints are factored into the scheduling and execution of the work. Additionally, during the 2020 fire season, SCE identified 17 Areas of Concern (AOCs) in its HFRA, primarily driven by elevated dry fuel levels that pose increased fuel-driven and wind-driven fire risk. This threat is magnified during periods of high wind, high temperatures and low humidity, as forecasts predicted for Fall 2020 in Southern California. In order to mitigate this emergent risk, SCE accelerated inspections, remediation and vegetation trimming in the identified AOCs. The methodology to identify the AOCs was based on several factors including fire history, weather conditions, fuel type, exposure to wind, egress, etc. The methodologies described above were used to target the recorded and projected areas provided in the geodatabase.	Section 3 - Asset Management - F / p. 15
6	IN-6.1 & IN-6.2	Aerial Inspections – Distribution Aerial Inspections – Transmission	SCE completed Aerial asset inspections on a portion of targeted structures for both Distribution and Transmission. The targeted structures reside within Tier 2 and Tier 2 HFRA. The completed and projected structures included in the geodatabase were identified for inspection using risk modeling to assess high and medium risk structures. The data sources and predictive models SCE uses to understand the risk of its assets are described in its Guidance-3 RCP, Section III, IN-6.1 & 6.2. Aerial inspections involve the capture of high-quality photos of electrical structures by Helicopters and Unmanned Aerial Systems (UAS). The imagery captured by these Aerial platforms are delivered to SCE with associated metadata and inspected by a team of qualified contractor workers (inspectors). The inspectors assess each delivered structure using a standardized assessment form designed to identify and generate notifications for potential ignition risks, contact from objects, and equipment failures. The form also enables the collection of detailed structure data for future use. SCE also utilizes GIS tools to scope and plan work and conduct assessments. Work status and inspection results are recorded and tracked in GIS layers. All inspection work is tracked using structure point data (i.e., each point in GIS is a unique structure). Along with assessment form data, SCE also records the flight completion and inspection dates for record keeping. The Aerial asset inspection contributes to a 360-degree view of structures and equipment. SCE will continue to complete Aerial asset inspections in the following reporting period for structures remaining in the target structure lists described above. The inspections will continue to occur throughout HFRA as our Aerial capture vendors develop schedules in accordance with scope demands and airspace deconfliction requirements.	Section 3 - Asset Management - G / pp. 15-16
7	VM-1	Hazard Tree Management Program	SCE determines the trees to mitigate based on a two-step process, first selecting higher risk locations and then selecting higher risk trees within these locations. SCE prioritized higher risk locations based on HFRA tier, Tree Caused Circuit Outages (TCCI), and density of vegetation surrounding SCE's facilities, combined with REAX consequence scores. SCE also takes into account operational constraints such as permitting, access and weather conditions in scheduling and executing work. Hazard Trees were also mitigated as a result of the AOCs study described above. These methodologies were used for the recorded and projected areas included in the geodatabase.	Section 3 - Vegetation Management - A / pp. 17-19
8	VM-2	Expanded Pole Brushing	The recorded and projected areas included in the geodatabase are based on a geographical grid approach and prioritizing poles subject to PRC 4292 taking into account operational efficiencies and constraints.	Section 3 - Vegetation Management - B / pp. 19-20
9	VM-3	Expanded Clearances for Legacy Facilities	Inspections: For Generation's vegetation field inspections, we identified 155 sites and have prioritized sites based on location, focusing on Tier 3 HFRA. A desktop analysis was performed to prioritize 2020 work scope based on risk. Once the inspection is complete, we may change priorities based on any inspection findings that appear to need remediation sooner. Vegetation inspections were also conducted as a result of the AOCs study described above. Projects: Generation's vegetation projects (treatment of VM-3 sites) are prioritized based on the desktop analysis and field inspection results. Sites that have been treated so far are the locations in the most densely forested areas of our territory. Vegetation management was also conducted as a result of the AOCs study described above. The methodologies described above were used for the recorded and projected areas included in the geodatabase.	Section 3 - Vegetation Management - C / pp. 20-21
10	VM-4	Drought Relief Initiative (DRI) Inspections and Mitigations	DRI and associated mitigations cover SCE's full HFRA each year. SCE schedules and executes this work based on operational and resource efficiency and constraints. SCE does prioritize and mitigate hazards posed by dead trees or those that are identified as significantly compromised upon brief visual inspection taking into account constraints such as permitting, access and weather conditions. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Vegetation Management - D / pp. 21
11	VM-5	Vegetation Management Quality Control	Vegetation Management QC uses Reax consequence scores to segment the total vegetation population into risk tranches. 100% of the line miles with the top 20% of Reax consequence of ignition scores (highest risk) are inspected. For the remaining areas, line miles are sampled to achieve a 99% confidence level and 1.7% margin of error. For the line miles selected, all trees along overhead lines are inspected. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Vegetation Management - E / pp. 21-22
12	Table 25 / Section 5.3.5	Vegetation management to achieve clearances around electric lines and equipment	SCE used a grid-based approach for distribution lines and circuit-based approach for transmission lines. Supplemental and midcycle patrols are prioritized based on locations where the vegetation growth cycle, conditions, and/or Reax score drive the need for additional assurance. Vegetation Management was also conducted as a result of the AOCs study described above. These methodologies were used to target the recorded and projected areas provided in the geodatabase. Please also see SCE's RCP for deficiency SCE-12, condition ii for additional details.	Section 3 - Vegetation Management - F / pp. 22-23

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
13	SH-1	Covered Conductor	Beginning in 2019, SCE used the risk scores from the WRM to prioritize the circuit segments for replacing bare conductor with covered conductor. The underlying Potential of Ignition (POI) and consequence score models have undergone several refinements and SCE continues to incorporate these enhanced risk scores into its deployment strategy to the extent practicable. In scheduling and executing covered conductor, SCE also considers crew efficiencies and constraints. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Grid Hardening - A / pp. 23-24
14	SH-3	WCCP Fire Resistant Poles	The locations for fire-resistant (FR) pole installation follow the prioritization of the initiative through which the poles are replaced in HFRA (e.g., WCCP) and SCE's Distribution Design Standards. The recorded and projected areas included in the geodatabase are thus based on other initiative prioritization methods.	Section 3 - Grid Hardening - C / pp. 25-26
15	SH-4	Branch Line Protection Strategy	For 2020, SCE is first targeting expulsion fusing in conventional cutouts and liquid fuses as these are considered higher risk. SCE will then replace, where appropriate, the remaining Cal Fire "Exempt" fusing focusing on reduced energy with current limiting fusing. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Grid Hardening - D / pp. 26-27
16	SH-5	Installation of System Automation Equipment – RAR/RCS	The recorded and projected areas included in the geodatabase were generally prioritized based operational and crew efficiencies and constraints.	Section 3 - Grid Hardening - E / pp. 27-28
17	SH-6	Circuit Breaker Relay Hardware for Fast Curve	The program identified electrical circuits in HFRA that had old mechanical relays or could reduce risk through relay upgrades and/or fast curve settings. While scoping the projects via job walks and desk top reviews, the locations were evaluated for scope complexity and grouped accordingly. To facilitate successful execution and provide the greatest opportunity for the fastest and most impactful risk reduction, the group of projects with multiple relays and least complexity was released first. This approach also allows engineering sufficient time to address the groups with more complex scopes and provide quality engineering for future year execution. In the construction space, projects are being executed in a first in first out manner with consideration being given to locations that have operational constraints. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Grid Hardening - F / p. 28
18	SH-8	Transmission Open Phase Detection	The Transmission Open Phase Detection (TOPD) effort targeted Transmission lines in HFRA. To minimize the complexity for a pilot, we targeted lines with two terminals and single conductor (wire) per phase. The Transmission lines selected were within a geographical area to avoid impacting multiple locations across SCE's service territory. Pilot locations also needed to have existing Protection devices (Relays) with the ability to harness open phase detection settings/logic files as developed. This methodology was used for the recorded and projected areas included in the geodatabase.	Section 3 - Grid Hardening - G / pp. 29-30
19	SH-10	Tree Attachment Remediation	The recorded and projected areas included in the geodatabase used a risk-informed method to prioritize tree attachment relocations by circuit based on REAX scores, conductor type (primary voltages were considered higher risk compared to secondary), potential to damage structures (the greater the number of structures, the higher the priority) and tree mortality (the more severe the condition, the higher the priority). Additionally, tree attachment remediation over the reporting periods was also prioritized due to fires that caused damage to SCE facilities.	Section 3 - Grid Hardening - J / pp. 31-32
20	SH-11	Legacy Facilities	The recorded and projected areas included in the geodatabase are based on the assets that have the highest potential of wildfire risk and where remediation would provide the most risk reduction possibilities than any other options. SCE used Reax consequence scores, the legacy asset's age, last major overhaul date, and operating voltage and other factors such as HFRA Tier and years since last assessment as part of its risk ranking assessment.	Section 3 - Grid Hardening - K / pp. 32-33
21	SH-12.1	Remediations – Distribution	Inspection results (from IN-1.1) are prioritized based on expected risks (including risks identified in AOCs study described above) and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	Section 3 - Grid Hardening - L / pp. 33-34
22	SH-12.2	Remediations – Transmission	Inspection results (from IN-1.2) are prioritized based on expected risks (including risks identified in AOCs study described above) and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	
23	SH-12.3	Remediations – Generation	Inspection results (from IN-5) are prioritized based on expected risks (including risks identified in AOCs study described above) and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	

SCE-9
LACK OF DETAIL REGARDING
POLE LOADING ASSESSMENT PROGRAM

Southern California Edison Company
2020-2022 WMP - SCE Deficiency
SCE-9

Name: Lack of detail regarding Pole Loading Assessment Program.
Category: Asset Management and Inspections
Class: B

Deficiency:

In its WMP, SCE indicates the goal of its Pole Loading Assessment Program (PLP) is to assess the structural integrity of approximately 1.4 million poles by 2021. SCE's WMP did not include any detail regarding it's PLP. SCE's WMP did not include any detail regarding how much of this work is complete nor how, when and where SCE intends to complete this work during this plan period. This lack of detail impedes WSD's ability to evaluate the program's feasibility or audit its progress and likelihood of completion.

Condition:

In a quarterly report, SCE shall submit GIS files detailing:

i. areas where PLP assessments have been completed during the prior reporting period, and
ii. areas where PLP assessments are planned for the following quarter.

Response:
For purposes of this QDR, SCE is providing information related to PLP assessments in HFRA given that these areas constitute the WSD's direction for wildfire mitigation efforts. Please see the geodatabase that includes the PLP assessments completed in HFRA from October through December 2020 and forecast PLP assessments in HFRA from January through March 2021. SCE also responds to each condition below.

SCE's Pole Loading Program (PLP) predates WMPs by several years. SCE initiated its PLP in 2013 and included it in its 2015 GRC request. It was subsequently authorized in Decision (D.) 15-11-021, and re-authorized in its 2018 GRC in D.19-05-020. As described in Section 5.3.4.13 of our 2020-2022 WMP, the PLP is a comprehensive program to assess pole loading of all poles in SCE's service area (HFRA and non-HFRA) for General Order 95 safety compliance, and repair, remediate or replace poles that do not meet the adequate safety factors. Please also see Section 7.3.2.4.13 in SCE's 2021 WMP Update for further details.

A pole can be overloaded due to, for example, added electrical equipment, degradation over time or added load from third-party attachments such as telecommunication lines. Though PLP improves safety and reliability including reducing ignition risks associated with pole failure from overloading, PLP is primarily a compliance program and not one driven by wildfire risk reduction or one of SCE's wildfire mitigation initiatives included in our 2020-2022 WMP and

2021 WMP Update. However, SCE prioritized pole assessments in high-fire and high-wind areas when PLP was initiated in 2014. SCE has completed over 1.3 million pole assessments since 2014 and expects to complete assessments on the entire system in 2021 at which time this program will cease. For purposes of this deficiency, SCE is providing information related to PLP assessments in HFRA given that these areas constitute the Commission's direction for wildfire mitigation efforts. Please see the geodatabase that includes the PLP assessments completed in HFRA from October through November 2020 and forecast PLP assessments in HFRA from January through March 2021, pursuant to the draft GIS Data Schema. SCE also responds narratively to each condition below.

i. areas where PLP assessments have been completed during the prior reporting period
Preliminary results indicate SCE completed 281 pole assessments in HFRA between October 1 and December 31, 2020. As noted above, work completed in December 2020 is still under review.

ii. areas where PLP assessments are planned for the following quarter
SCE forecasts to assess approximately 1,375 pole assessments in HFRA between January 1 and March 31, 2020 but notes this approximate 90-day plan may not be fully executed due to operational constraints. As SCE nears the end of PLP assessments, the remaining poles present customer and other access challenges along with data cleanup on structures and locations, which increase scheduling and planning uncertainty. SCE is actively resolving these challenges. Customers sometimes deny admission to their properties where poles are located or are not available when needed, requiring additional process steps to negotiate access or resolve disputes, sometimes through litigation. SCE has also experienced access issues due to customer COVID-19 concerns and anticipates these concerns will continue to manifest until the pandemic has subsided.

Additionally, hard-to-access poles that are unsafe to patrol by foot require an aerial assessment. The PLP team has collaborated with SCE's Aerial Operations team to develop a schedule to conduct these aerial assessments but notes that aerial operations can be diverted to higher priority work that can require re-scheduling these PLP assessments.