# Health & Safety Plan

# TBC-HS-103

## Fire Prevention Plan

## Annex A

## Wildfire Mitigation Base Plan 2026-2028

## JULY 2025

**DOCKET NAME**: 2026-2028 ELECTRICAL CORPORATION WILDFIRE MITIGATION PLANS
**DOCKET NUMBER**: 2026-2028-BASE-WMPS
**VERSION NUMBER: R1**

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# 1 EXECUTIVE SUMMARY

***Instructions***[1]*: In the opening section of the Base WMP, the electrical corporation must provide an executive summary that is no longer than ten pages. The electrical corporation must summarize the primary goal, plan objectives, and framework for the development of the Base WMP for the three-year cycle. The electrical corporation may use a combination of brief narratives and bulleted lists.*

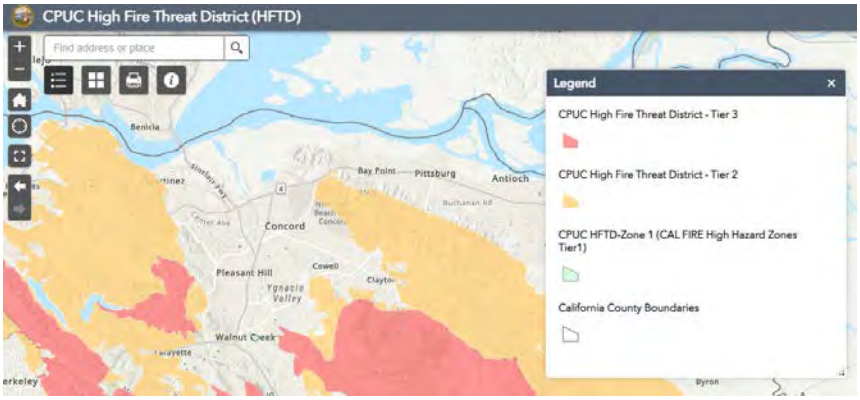
Trans Bay Cable LLC (U934-E) (TBC) is a transmission-only utility with no retail/end-use customers. TBC is the owner and operator of a 53-mile, approximately 400 MW, high voltage, direct-current (HVDC) submarine transmission cable buried at various depths beneath the San Francisco Bay Waters[2] (Bay Waters), with Alternating Current (AC) / DC converter stations at each end (Trans Bay System or System) (See Figure TBC 1-1). Specifically, the transmission system is comprised of the Pittsburg converter station, 230kV High Voltage AC (HVAC) Underground Cable, 200kV HVDC Underground Cable – Pittsburg Location, +/-200kV HVDC Submarine Cable, +/-200kV HVDC Underground Cable – San Francisco Location, Potrero converter station, and 115kV HVAC Underground Cable.

Based on its review, TBC has determined that its facilities located in San Francisco have minimal fire-threat risk as the area is fully developed and urbanized. The San Francisco facilities are also not located in a High Fire-Threat District (HFTD) or an area of increased wildfire risk per the California Public Utilities Commission's (CPUC or Commission) FireMap. The submarine cable has no wildfire risk because it is completely submerged beneath the Bay Waters for approximately 53 miles (85 km). TBC's Pittsburg Converter Station, however, is adjacent to a Tier 2 (Elevated) Fire-Threat area based on the CPUC's HFTD Map[3] (See Figure TBC 1-2). Additionally, TBC's Pittsburg station site also borders a decommissioned oil storage facility which is surrounded by land containing vegetative fuels. A portion of the TBC's HVDC and HVAC cable traverses this property underground and exits into the Suisun Bay and interconnects to the Pacific Gas & Electric's (PG&E) 230kV substation located there respectively. All aboveground transmission infrastructure is fully contained within the walls of the converter station.

[1] Text in blue italics are instructions, prompts, and clarifications from Office of Energy Infrastructure Safety Wildfire Mitigation Plan Guidelines dated February 2025.
[2] San Francisco Bay Waters is defined as the continuous waterway that includes the San Francisco Bay, San Pablo Bay, Carquinez Strait, Suisan Bay and Sacramento River delta.
[3] CPUC FireMap – https://ia.cpuc.ca.gov/firemap/

**Figure TBC 1-1. Trans Bay Cable System**


**Figure TBC 1-2. Tier 2 HFTD near Pittsburg, CA**




Catastrophic wildfires continue to have significant impact on people, wildlife, structures and the environment in California. Per California Department of Forestry and Fire Protection (CAL FIRE) an estimated 1,050,012 acres and 2,148 structures were damaged or destroyed as a result of fire in 2024, including 1 fatality[4]. Although not all wildfires are linked to instigation by electric utility equipment, it is important to maintain persistent focus on mitigating activities and endeavors to reduce the risk that such equipment may have on the instigation of wildfires.

As a result of TBC's limited footprint, the substantial hardening of its transmission infrastructure due to being underground or submerged, and having no transmission infrastructure in wildlands or in a wildland urban interface (WUI), TBC does not maintain a program specifically geared towards wildfire mitigation. However, TBC focuses on wildfire safety as part of its overall fire prevention program and is dedicated to having industry-leading fire mitigation capabilities.

[4] https://www.fire.ca.gov/incidents/2024

TBC's primary goal for the 2026-2028 is to comply with California Public Utilities Code Section 8386 in maintaining, operating its electrical equipment in a manner that minimizes the risk of catastrophic wildfire posed by such equipment. The plan objectives for the 2026-2028 WMP cycle are to (i) monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed and (ii) explore opportunities to further improve and advance its fire prevention, mitigation, and suppression capabilities to continue the reduction of the utility's overall fire risk.

Given the limited scope and scale of TBC's operations, it has adopted designed elements, operational, maintenance, vegetation management, and risk mitigation practices and programs which are commensurate with size of its operations yet provide effective reduction in fire risk. These include an inherent fire harden substation design, undergrounded/submerged transmission line, seismic improvements, real-time monitoring capabilities, monthly inspections, site cameras, asset maintenance schedules based on manufacturer recommendations and enterprise operational experience. TBC utilizes a failure modes and effects methodology to periodically assess the equipment failure or ignition potential and opportunities to mitigate and reduce risk. TBC has not experienced any ignitions in its operational history and continues to look for opportunities through collaboration with other utilities and Energy Safety to further enhance its fire risk reduction posture.

TBC participates in the CPUC wildfire mitigation workshops and continues to learn and implement applicable best practices in fire mitigation. TBC is committed to continuous improvement of its overall fire prevention plans and processes which have the added benefit of mitigating wildfire risk. TBC will continue review and assess its fire prevention program and include any new and applicable initiatives in its Wildfire Mitigation Plan (WMP) submissions.

# 2 RESPONSIBLE PERSONS

***Instructions:*** *The electrical corporation must list those responsible for executing the Base WMP,16 including:*

- *Executive-level owner with overall responsibility.*
- *Program owners with responsibility for each of the main components of the plan.*
- *As applicable, general ownership for questions related to or activities described in the Base WMP.*

*Electrical corporations may not redact titles, credentials, and components of responsible person(s). This information must be publicly available.*

**Executive-level owner with overall responsibility**

- Name and title: Jaime Hoffman, President – Trans Bay Cable
- Email: jaime.hoffman@nexteraenergy.com
- Phone number: 805-403-2417

**Section 1: Executive Summary**

Program owner (add additional program owners if separated by component in section)

- Name and title: Brian Johnson, Senior Director Operations – NextEra Energy Transmission
- Email: brian.johnson@nexteraenergy.com
- Phone number: 850-444-6441
- Component (if entire section, put “entire section”): Entire Section

**Section 2: Responsible Persons**

Program owner (add additional program owners if separated by component in section)

- Name and title: Lenneal Gardner, Senior Manager Regulatory Affairs – NextEra Energy Transmission
- Email: lenneal.gardner@transbaycable.com
- Phone number: 415-601-5858
- Component (if entire section, put “entire section”): Entire Section

**Section 3: Overview of WMP**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Campbell, Director Operations – NextEra Energy Transmission
- Email: michael.campbell2@fpl.com
- Phone number: 925-635-9966
- Component (if entire section, put “entire section”): Entire Section

**Section 4: Overview of the Service Territory**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Campbell, Director Operations – NextEra Energy Transmission
- Email: michael.campbell2@fpl.com
- Phone number: 925-635-9966

- Component (if entire section, put “entire section”): Entire Section

**Section 5: Risk Methodology and Assessment**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Blunt, Operations Manager – Trans Bay Cable
- Email: michael.blunt@transbaycable.com
- Phone number: 925-635-9922
- Component (if entire section, put “entire section”): Entire Section

**Section 6: Wildfire Mitigation Strategy Development**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Campbell, Director Operations – NextEra Energy Transmission
- Email: michael.campbell2@fpl.com
- Phone number: 925-635-9966
- Component (if entire section, put “entire section”): Entire Section

**Section 7: Public Safety Power Shutoff**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Campbell, Director Operations – NextEra Energy Transmission
- Email: michael.campbell2@fpl.com
- Phone number: 925-635-9966
- Component (if entire section, put “entire section”): Entire Section

**Section 8: Grid Design, Operations, and Maintenance**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Blunt, Operations Manager – Trans Bay Cable
- Email: michael.blunt@transbaycable.com
- Phone number: 925-635-9922
- Component (if entire section, put “entire section”): Entire Section

**Section 9: Vegetation Management and Inspections**

Program owner (add additional program owners if separated by component in section)

- Name and title:  Michael Blunt, Operations Manager – Trans Bay Cable
- Email: michael.blunt@transbaycable.com
- Phone number: 925-635-9922
- Component (if entire section, put “entire section”): Entire Section

**Section 10: Situational Awareness and Forecasting**

Program owner (add additional program owners if separated by component in section)

- Name and title: Dan Mayers, Director of Strategic Initiatives – NextEra Energy Transmission
- Email: d.j.mayers@nexteraenergy.com
- Phone number: 561-301-7613
- Component (if entire section, put “entire section”): Entire Section

**Section 11: Emergency Preparedness, Collaboration, and Public Awareness**

Program owner (add additional program owners if separated by component in section)

- Name and title: Dan Mayers, Director of Strategic Initiatives – NextEra Energy Transmission
- Email: d.j.mayers@nexteraenergy.com
- Phone number: 561-301-7613
- Component (if entire section, put "entire section"): Entire Section

**Section 12: Summary of Enterprise Systems**

Program owner (add additional program owners if separated by component in section)

- Name and title: Michael Blunt, Operations Manager – Trans Bay Cable
- Email: michael.blunt@transbaycable.com
- Phone number: 925-635-9922
- Component (if entire section, put "entire section"): Entire Section

**Section 13: Lessons Learned**

Program owner (add additional program owners if separated by component in section)

- Name and title: Lenneal Gardner, Senior Manager Regulatory Affairs – NextEra Energy Transmission
- Email: lenneal.gardner@transbaycable.com
- Phone number: 415-601-5858
- Component (if entire section, put "entire section"): Entire Section

As applicable, general ownership for questions related to or activities described in the Base WMP, contact Lenneal Gardner, Senior Manager Regulatory Affairs.

# 3 OVERVIEW OF WMP

## 3.1 Primary Goal

***Instructions:*** *Each electrical corporation must state the primary goal of its WMP. The primary goal must be consistent with California Public Utilities Code section 8386(a).*[5]

TBC's WMP goal has not changed from its initial CPUC-approved 2020 WMP report. The overarching goal of TBC's WMP is to comply with applicable provisions of California Public Utilities Code (PU Code) Section 8386[6] at TBC's facilities.

TBC considers the Trans Bay System to be significantly fire hardened and technologically advanced. In the past WMP cycle, TBC sought to and completed enhancements to the Pittsburg Converter Station and System elements to improve its risk assessment, situational awareness and grid hardening to reduce overall fire risk. In the 2023-2025 cycle, TBC's primary goal was to complete two site upgrades and maintain its emplaced processes and procedures with respect to fire safety, mitigation and preparedness. During the 2026-2028 cycle, TBC endeavors to (i) improve its situational awareness capabilities, (ii) maintain currently emplaced processes and procedures with respect to fire safety, mitigation and preparedness, and (iii) continue review and assessment of industry best practices and emerging technologies for potential applicability and inclusion in subsequent WMP planning

TBC has a vision of having class-leading fire-protected infrastructure and facilities that considers operational risks that include but are not limited to system faults, equipment failure, seismic events, flooding, wildfires, urban fires, tsunami, civil unrest, and insurgent action. TBC assesses that addressing fire risk in this larger context will include efforts related to wildfire mitigation. Lastly, TBC affirms its compliance with California Public Utilities Code section 8386(a) as stated in the Instructions for this Section 3.1.

## 3.2 Plan Objectives

***Instructions:*** *In this section, the electrical corporation must summarize its plan objectives over the three-year WMP cycle.*[7] *Plan objectives are determined by the portfolio of activities proposed in the Base WMP.*

*Plan objectives must address the electrical corporation's most highly prioritized categories of wildfire risk drivers, as listed in Section 3.4.*

[5] "Each electrical corporation shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment." (Pub. Util. Code § 8386(a).)
[6] https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PUC&sectionNum=8386.
[7] Pub. Util. Code § 8386(c)(2).

*Electrical corporations must tie plan objectives to targets (both quantitative and qualitative) and performance metrics..*

This WMP recognizes the following facts relevant to assessing wildfire risk and establishing effective objectives and mitigations:

- TBC only owns and operates transmission infrastructure with no distribution facilities.
- TBC's transmission line is entirely underground or submerged beneath the Bay Waters and its substations are located in urban areas outside of wildlands and wildland urban interfaces.
- TBC does not serve distribution or retail customers or any residential, commercial, or industrial interconnections.
- TBC's transmission facilities are monitored 24 hours a day, 7 days a week while in operation by a certified and qualified System Operator with full authority, responsibility, and requisite emergency response training to take appropriate action to mitigate any fire risk posed, including Emergency Shut-Off as a measure of last resort.
- The Trans Bay System is under the operational control of the CAISO.
- TBC completed all proposed mitigation objectives during the 2023-2025 WMP cycle.

In light of the aforementioned facts, TBC has the following proposed mitigation initiative for its WMP for the 2026-2028 WMP cycle. TBC's plan objectives are to:

- TBC will leverage enterprise level engagement of Technosylva to support situational awareness , forecasting and enhance wildfire spread modeling

In addition, TBC's plan objectives are to:

- maintain its currently emplaced processes and procedures with respect to fire safety, mitigation and preparedness to minimize the likelihood of an ignition event from its facility
- continued participation in industry conferences, seminars, etc. to gain exposure to new strategies, technologies and operational experience in fire risk mitigation
- periodically evaluate new technologies, materials, and methods for further reducing fire risk at TBC's Pittsburg Converter Station.

## 3.3 Utility Mitigation Activity Tracking IDs

***Instructions:*** *Each electrical corporation must use "Utility Mitigation Activity Tracking IDs" (Tracking IDs) throughout its WMP. Each electrical corporation must implement a tracking system using Tracking IDs, as specified in the applicable Energy Safety Data Guidelines, to tie targets,*

*narratives, initiatives, and activities together throughout its WMP. The electrical corporation must use consistent Tracking IDs in its WMP submission and data submissions. Each Tracking ID must remain consistent across the three-year WMP.*

**TBC Table 1-1. Utility Mitigation Activity Tracking IDs**

| Utility Initiative Tracking ID | Utility Initiative Name | WMP Initiative Category | WMP Initiative |
|---|---|---|---|
| N/A | | | |

## 3.4 Prioritized List of Wildfire Risks and Risk Drivers

***Instructions:*** *The electrical corporation must provide a list that identifies and prioritizes all wildfire risks, and drivers for those risks, throughout its service territory.[8] The electrical corporation must use the format outlined in Table 3-1 below. Additionally, the list must include, at a minimum, the specific risks and risk drivers provided in Table 3-1. The electrical corporation must also add to its list any wildfire risks and risk drivers applicable to its service territory not already provided in the below table. Prioritization within Table 3-1 must be listed from highest priority to lowest priority.*

*The electrical corporation must also note topographical or climatological risk factors associated with each risk and risk driver.[9] Topographical and climatological risk factors may include, but are not limited to, elevation, slope, aspect, heat, aridity, humidity, wind, airborne salinity, precipitation (snow, rain, hail, etc.), and lightning. The electrical corporation must include how it determined these topographical and climatological risk factors via narrative (i.e. evaluating short-term/current conditions, long-term/future conditions).*

*Additionally, the electrical corporation must describe in a narrative accompanying Table 3-1 its basis for prioritizing these risks and risk drivers (e.g., "priority is assigned based on frequency, location with regard to the High Fire Threat District (HFTD), and the expected consequence pertaining to the location"). This must also include a description of the timeframes used to evaluate the risks and risk drivers.*

**Table 3-1. List of Risks and Risk Drivers to Prioritize**

| Priority | Risk | Risk Driver | x% of ignitions in HFTD | Topographical and Climatological Risk Factors |
|---|---|---|---|---|
| | | | | |

[8] Pub. Util. Code § 8386(c)(12).
[9] Pub. Util. Code § 8386(c)(12)(B).

| | | | | |
|---|---|---|---|---|
| 1 | Equipment / facility failure or damage | Transformer | 0% | Extreme Weather, Airborne Salinity |
| 2 | Dig-in | Dig-in | 0% | N/A |
| 3 | Contact from object | Animal contact | 0% | N/A |
| 3 | Contact from object | Ballon contact | 0% | Wind |
| 3 | Equipment / facility failure or damage | Lightning arrestor | 0% | Extreme Weather, Airborne salinity |
| 3 | Lightning | Lightning | 0% | Extreme Weather, Lightning |
| 4 | Contact from object | Aircraft vehicle contact | 0% | Extreme Weather, Elevation |
| 4 | Equipment / facility failure or damage | Anchor/guy | 0% | Extreme Weather |
| 4 | Equipment / facility failure or damage | Conductor | 0% | Extreme Weather |
| 4 | Equipment / facility failure or damage | Cutout | 0% | Extreme weather |
| 4 | Vandalism/ theft | Vandalism / theft | 0% | N/A |
| 5 | Contact from object | Land vehicle contact | 0% | Extreme Weather |
| 5 | Contact from object | Other contact from object | 0% | N/A |
| 5 | Contact from object | Third-party contact | 0% | N/A |

| | | | | |
|---|---|---|---|---|
| 5 | Contact from object | Unknown | 0% | N/A |
| 5 | Contamination | Contamination | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Capacitor bank | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Connector device | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Cross arm | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Fuse | 0% | N/A |
| 5 | Equipment / facility failure or damage | Insulator and bushing | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Other | 0% | N/A |
| 5 | Equipment / facility failure or damage | Pole | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Relay | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Switch | 0% | Extreme Weather, Airborne salinity |
| 5 | Equipment / facility failure or damage | Unknown | 0% | N/A |

| | | | | |
|---|---|---|---|---|
| 5 | Protective device operation | Protective device operation | 0% | Extreme Weather, Airborne salinity |
| 5 | Vegetation contact | Blow-in | 0% | Extreme Weather |
| 5 | Vegetation contact | Fall-in (trunk failure) | 0% | N/A |
| 5 | Vegetation contact | Fall-in (root failure) | 0% | N/A |
| 5 | Wire-to-wire contact | Wire-to-wire contact | 0% | Extreme Weather |
| 5 | Unknown | Unknown | 0% | N/A |
| N/A | Equipment / facility failure or damage | Recloser | 0% | N/A |
| N/A | Equipment / facility failure or damage | Sectionalizer | 0% | N/A |
| N/A | Equipment / facility failure or damage | Splice | 0% | N/A |
| N/A | Equipment / facility failure or damage | Tap | 0% | N/A |
| N/A | Equipment / facility failure or damage | Tie wire | 0% | N/A |
| N/A | Equipment / facility failure or damage | Voltage regulator / booster | 0% | N/A |
| N/A | Vegetation contact | Fall-in (branch failure | 0% | N/A |
| N/A | Vegetation contact | Grow-in | 0% | N/A |

With TBC's transmission infrastructure being fully underground or submerged, and outside wildlands and wildland urban interface locations, weather has minimal capacity to increase the potential risk of ignition from TBC's infrastructure. TBC's perspective on these trends is shaped by its limited scale and scope of operations in comparison to other reporting utilities whose expansive service territories encompass wildlands and WUI and have infrastructure more susceptible to these trends. TBC's approach to determining risk priority and drivers is driven by its Failure Modes and Effects Analysis of its equipment (discussed in Section 5 of this WMP), in addition to being informed by industry best practices, work with experienced internal and external SMEs, third party site risk analyses, and lessons learned through the annual WMP update process.

## 3.5 Performance Metrics

***Instructions: :*** *In this section, the electrical corporation must list the performance metrics, beyond those required by Energy Safety[10], that the electrical corporation uses to evaluate the effectiveness of the plan in reducing wildfire and outage program risk.[11]*

*For each of these self-identified performance metrics, the electrical corporation must provide the following information in tabular form:*

- *Associated WMP section (self-identified performance metrics can apply to the entire WMP; e.g. number of ignitions, number of acres burned, etc.)*
- *The assumptions that underlie the use of the metric*

*Metrics listed in this section (including each metric's name and values) must match those reported in the applicable quarterly data submissions.*

*Table 3-2 provides an example of the minimum acceptable level of information and the required format.*

***Table 3-2. Example of Self-Identified Performance Metrics Table***

| ***Performance Metric*** | ***Assumption that underlies the use of the metric*** | ***Section associated with the Performance Metric (state "WMP" if the metric applies to entire plan)*** |
|---|---|---|
| | | |

Given TBC's limited scope and scale of operations and the performance metrics, including initiatives targets that TBC reports to Energy Safety in accordance with the Energy Safety Data Guidelines, TBC asserts that the foregoing information is sufficient to enable TBC to evaluate the effectiveness of the plan in reducing wildfire and outage program risk. As a result, TBC has no

[10] The performance metrics identified by Energy Safety are included in the applicable Energy Safety Data Guidelines.
[11] Pub. Util. Code §§ 8386(c)(4), (5).

additional self-identified performance metrics and therefore Table 3-2 is marked N/A meaning "Not Applicable".

**Table 3-2. Self-Identified Performance Metrics Table**

| Performance Metric | Assumption that underlies the use of the metric | Section associated with the Performance Metric (state "WMP" if the metric applies to entire plan) |
|---|---|---|
| None | N/A | N/A |

## 3.6 Projected Expenditures

***Instructions:*** *The electrical corporation must summarize its projected expenditures in thousands of U.S. dollars per year for the activities set forth in its three-year WMP cycle in both tabular and graph form. For tabular form, the electrical corporation must follow the provided format in Table 3-3.*

*Energy Safety's WMP evaluation, resulting in either approval or denial, is not an approval of, or agreement with, costs listed in the WMP.*

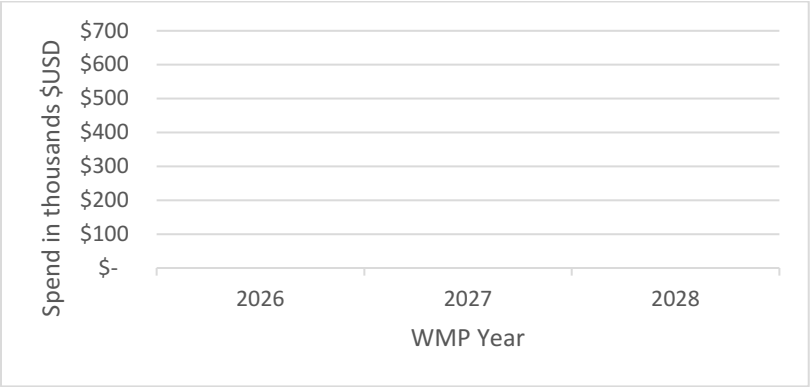
***Table 3-3 Example of Summary of Projected WMP Expenditures***

| *Year of WMP Cycle* | *Spend (thousands $USD)* |
|---|---|
| *[Year 1]* | *[Year 1] Projected =* |
| *[Year 2]* | *[Year 2] Projected =* |
| *[Year 3]* | *[Year 3] Projected =* |

**Table 3-3. Summary of Projected WMP Expenditures**

| Year of WMP Cycle | Spend (thousands $USD) |
|---|---|
| 2026 | 2026 Projected = $0 |
| 2027 | 2027 Projected = $0 |
| 2028 | 2028 Projected = $0 |

**Figure TBC 3-1. Summary of Projected WMP Expenditures**




TBC does not currently anticipate any specific WMP expenditures during the 2026-2028 cycle. However, if TBC does have any planned activities for which there is WMP expenditure, TBC will update this plan and any annual or quarterly reporting as required by applicable WMP Guidelines.

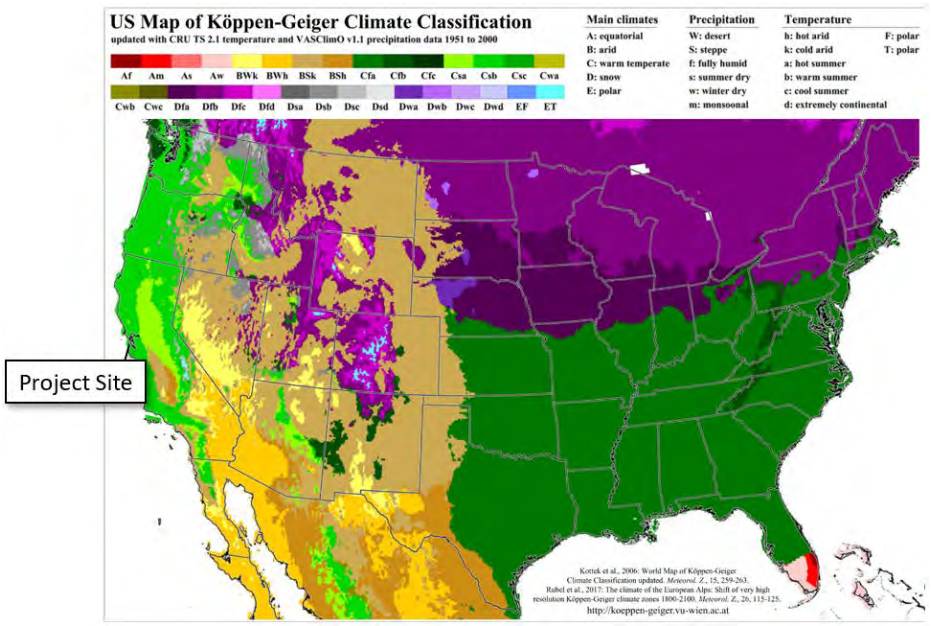
## 3.7 Climate Change

***Instructions*: :** *In this section, the electrical corporation must describe how it has considered dynamic climate change risks in writing its WMP.[12] This description must include reference to the electrical corporation's most recent climate vulnerability assessment addressing new or exacerbated risks related to wildfire. This section is limited to two pages.*

TBC is an ITO that has transmission-only assets and does not have a service territory. The land elements of the Trans Bay System are located in San Francisco, CA and Pittsburg, CA. The only system element considered for wildfire mitigation is the Pittsburg Converter Station, which is adjacent to, but not located in, a Tier 2 HFTD. The climate where the Pittsburg station is sited is classified as "Mediterranean" – warm temperate with dry, warm/hot summers – according to the Koppen-Geiger Climate Classification System.[13]

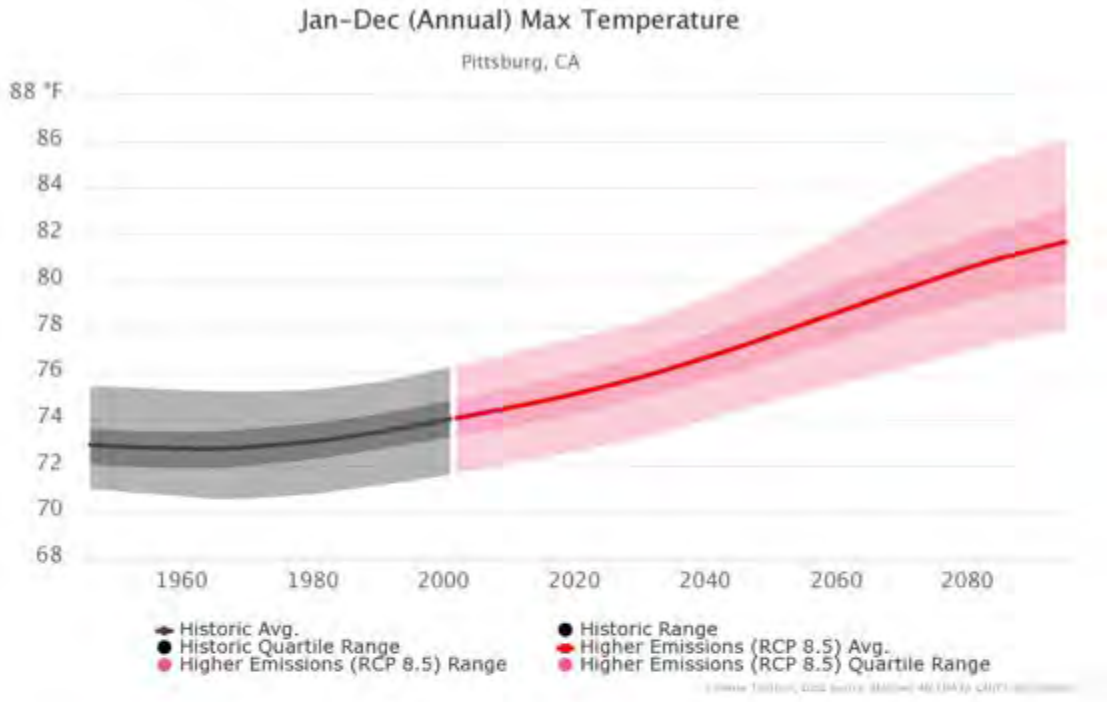
[12] Pub. Util. Code § 8386(c)(3).
[13] http://koeppen-geiger.vu-wien.ac.at/usa.htm

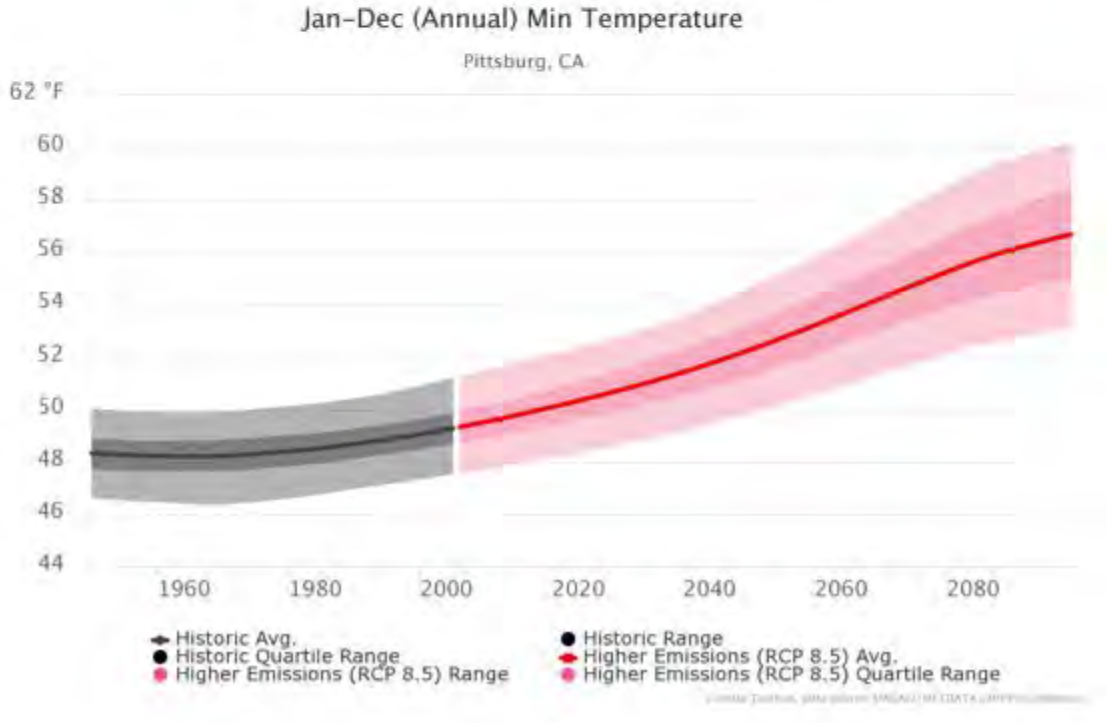
**Figure TBC 3-2. Climate Classification for Pittsburg, CA**




TBC notes that although the data reflects increased warming in the future, TBC is a transmission-only utility with no distribution system and no direct/retail customers and as such changes in climate have limited applicability to TBC's operations. Moreover, since the majority of TBC's transmission infrastructure is underground or submerged, TBC's operations are unlikely to be materially impacted by the anticipated changes in climate.

**Figure TBC 3-3. Projected Change in Maximum Temperature (Daytime Highs) and Minimum Temperature (Nighttime Lows) Through 2100 for the Service Territory**



# 4 OVERVIEW OF THE SERVICE TERRITORY

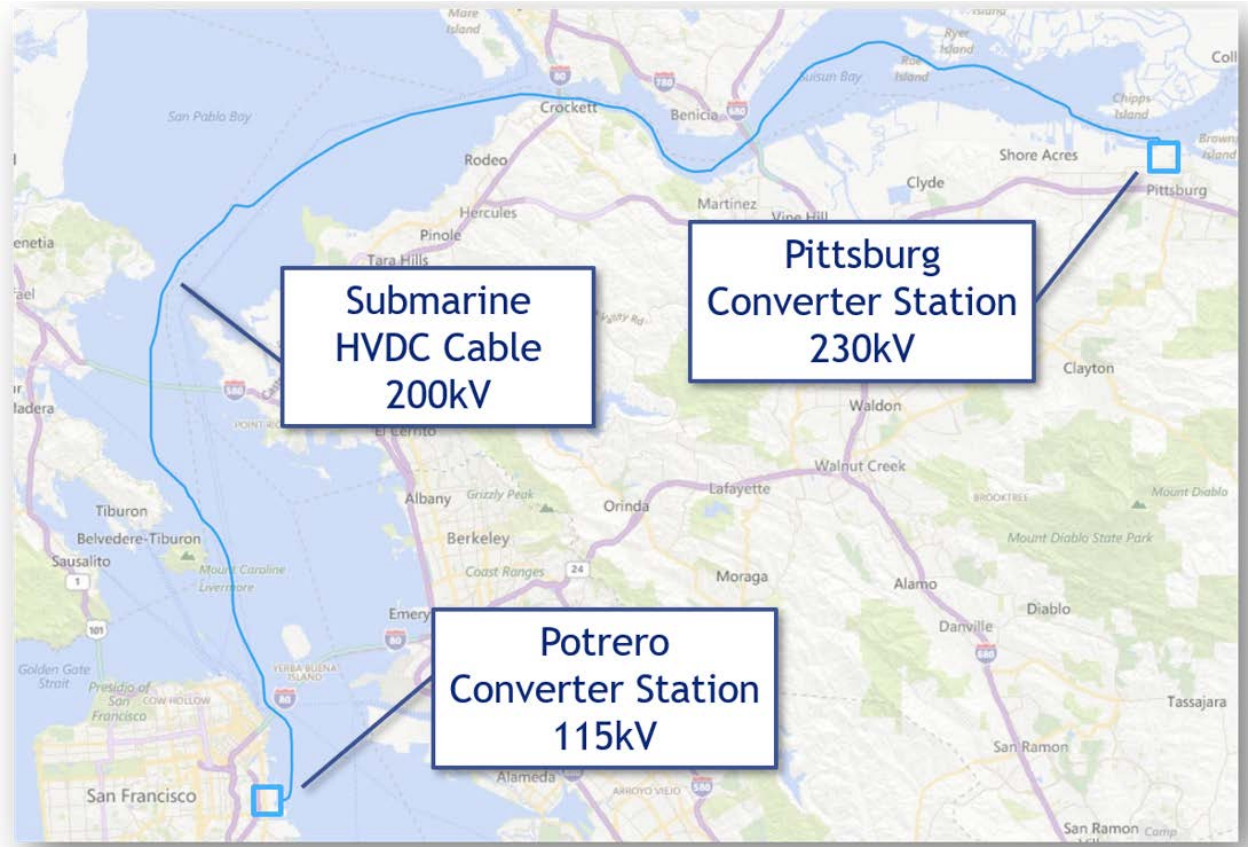
***Instructions:*** *In this section of the WMP, the electrical corporation must provide a high-level overview of its service territory and key characteristics of its electrical infrastructure.*[14] *This information must provide Energy Safety with an understanding of the physical and technical scope of the electrical corporation's WMP. Sections 4.1-4.3 below provide detailed instructions*

## 4.1 Service Territory

***Instructions:*** *The reporting requirements associated with Section 4.1 do not apply to ITOs.*

As noted on page 176 of The Office of Energy Infrastructure Safety's (Energy Safety) Wildfire Mitigation Plan Guidelines, ITOs do not have service territories. As such the reporting requirements for this Section 4.1 do not apply to ITOs such as TBC. However, TBC does include below images of its transmission system.

**Figure TBC 4-1. Overview of TBC Facilities and Operational Area**




[14] Pub. Util. Code §§ 8386(c)(3), (8).

**Figure TBC 4-2. TBC Potrero Station Transmission Elements and PG&E connection**

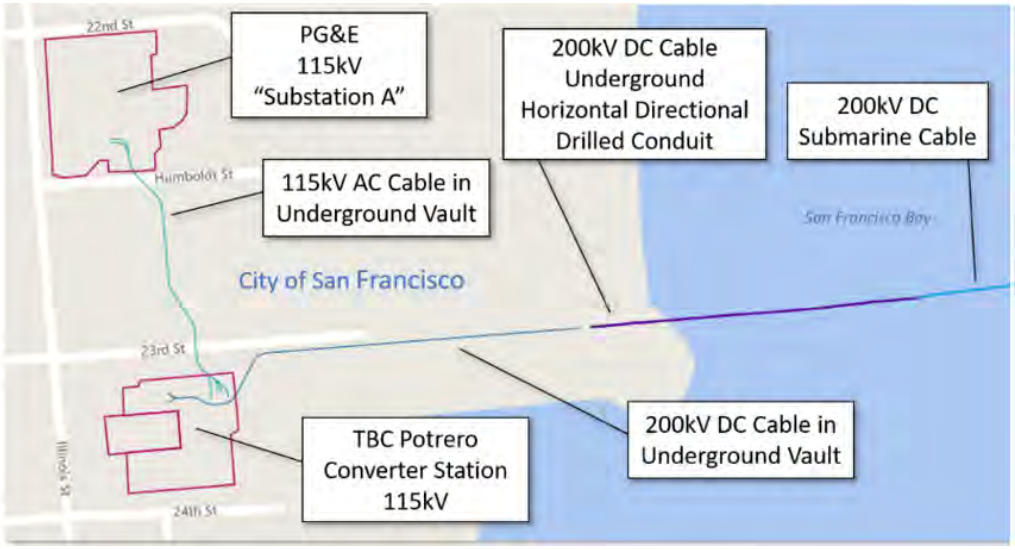



**Figure TBC 4-3. Overhead View of TBC Potrero Station**

**Figure TBC 4-4. TBC Pittsburg Station Transmission Elements and PG&E connection**

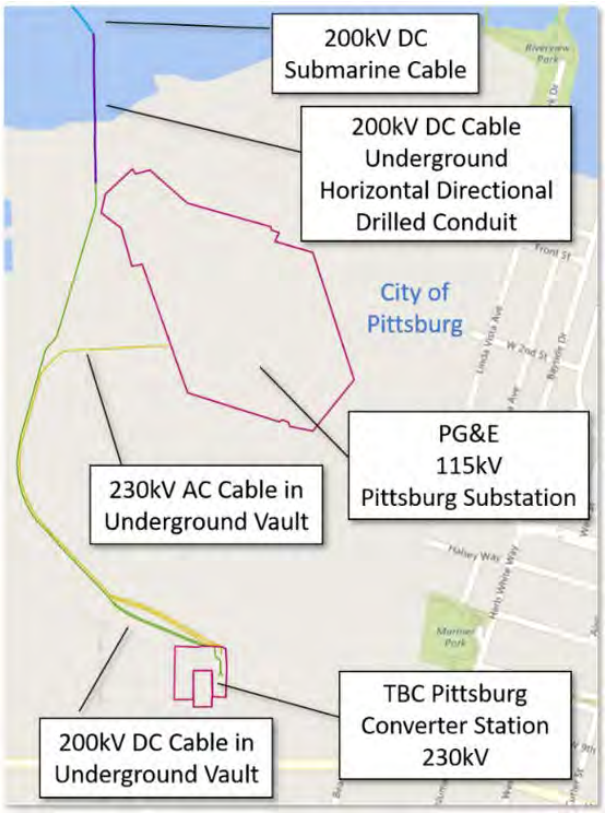



**Figure TBC 4-5. Overhead View of TBC Pittsburg Station**

## 4.2 Catastrophic Wildfire History

***Instructions:*** *The electrical corporation must provide a brief narrative summarizing its wildfire history for the past 20 years as recorded by the electrical corporation, CAL FIRE, or other authoritative government sources. For this section, wildfire history must be limited to electrical corporation ignited catastrophic fires (i.e., fires that caused at least one death, damaged over 500 structures, or burned over 5,000 acres). This includes catastrophic wildfire ignitions reported to the CPUC that may be attributable to facilities or equipment owned by the electrical corporation[15] and where the cause of the ignition is still under investigation by the CPUC, CAL FIRE, and/or other authoritative government sources. The electrical corporation must clearly denote those ignitions as still under investigation. In addition, the electrical corporation must provide catastrophic wildfire statistics in the tabular form provided below, including the following key metrics:*

- *Ignition Date*
- *Fire name*
- *Official cause (if known)*
- *Size (acres)*
- *Number of fatalities*
- *Number of structures damaged*
- *Estimate financial loss (U.S. dollars)*
- *Any lesson(s) learned*

*Table 4-2 provides the required format and the content for the tabulated historical catastrophic utility-related wildfire statistics.[16] The electrical corporation must cite to an authoritative government source (e.g., CPUC, CAL FIRE, U.S. Forest Service, or local fire authority) for all data provided to the extent this information is available.*

*Table 4-2: Example of Catastrophic Electrical Corporation Wildfires*

| *Ignition Date* | *Fire Name* | *Official Cause* | *Fire Size (acres)* | *No. of Fatalities* | *No. of Structures Destroyed and Damaged* | *Financial Loss (US$)* | *Lesson(s) Learned* |
|---|---|---|---|---|---|---|---|
| -- | -- | -- | -- | -- | -- | -- | -- |

TBC has not had any electric corporation equipment ignited fires in its operational history. As a result, Table 4-2 is marked N/A meaning “Not Applicable”.

[15] CPUC emergency reporting instructions: https://www.cpuc.ca.gov/regulatory-services/safety/emergencyreporting.
[16] Annual information included in this section must align with the applicable data submission.

**Table 4- 1. Catastrophic Electrical Corporation Wildfires**

| Ignition Date | Fire Name | Official Cause | Fire Size (acres) | No. of Fatalities | No. of Structures Destroyed and Damaged | Financial Loss (US$) | Lesson(s) Learned |
|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## 4.3 Frequently Deenergized Circuits

***Instructions:*** *The electrical corporation must populate Table 4-3 and provide a map showing its frequently deenergized circuits.*[17] *Frequently deenergized circuits are circuits which have had three or more PSPS events per calendar year. The table and map must include frequently deenergized circuits from the previous six calendar years (i.e., circuits that have had three or more PSPS events in at least one of the six previous calendar years).*

*The table must contain the following; however, relevant information for an entry can be added as applicable:*

- *Circuit ID Number*
- *Name of Circuit*
- *Dates of Outages*
- *Number of Customers Hours of PSPS per Outage*
- *Measures Taken, or Planned to Be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit*
- *Estimated Annual Decline in PSPS Events and PSPS Impact on Customers*

*The map must show the following:*

- *All circuits listed in Table 4-3, colored or weighted by frequency of PSPS*
- *HFTD Tiers 2 and 3 contour overlay*

*Examples of the minimum acceptable level of information and the required format are provided in Table 4-3. If this table is longer than two pages, once populated, the electrical corporation must append the table as an appendix to the WMP.*

*Table 4-3. Example of Frequently Deenergized Circuits*

| *Entry #* | *Circuit ID* | *Name of Circuit* | *Date of Outages* | *Number of Customers Hours of PSPS per Outage* | *Measures Taken, or Planned to be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit* | *Estimated Annual Decline in PSPS Events and PSPS* |
|---|---|---|---|---|---|---|

[17] Pub. Util. Code, § 8386(c)(8).

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | *Impact on Customers* |
| *1* | *157* | *Panama* | *Dec 2–4, 2022*<br>*Dec 7–9, 2022*<br>*Dec 23–24, 2022* | *12,400*<br>*3,600*<br>*2,000* | • *34.26 miles of overhead hardening completed in 2024; 33 miles in scope for 2026*<br>• *Eight SCADA (supervisory control and data acquisition) sectionalizing devices added or replaced by 2027* | *1,200 fewer customer hours of PSPS per year* |
| *1* | *1215* | *Costa* | | | • *0.78 miles of overhead hardening completed in 2024*<br>• *Backup resiliency programs that have benefited 18 customers, completed 2024* | *800 fewer customer hours of PSPS per year* |

TBC has not had any deenergized circuits in its operational history. As a result, Table 4-3 is marked N/A meaning “Not Applicable”.

**Table 4-2. Frequently Deenergized Circuits**

| Entry # | Circuit ID | Name of Circuit | Date of Outages | Number of Customers Hours of PSPS per Outage | Measures Taken, or Planned to be Taken, to Reduce the Need for and Impact of Future PSPS of Circuit | Estimated Annual Decline in PSPS Events and PSPS Impact on Customers |
|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

# 5 RISK METHODLOGY AND ASSESSMENT

***Instructions Modified Instructions:*** *The ITO must comply with the requirements of Public Utilities Code sections 8386(c)(3), (8), (12), (13), (17), and (18).*[18]

*However, the level of detail required by Section 5 regarding risk modeling is not required for ITOs. Instead, the ITO must describe its methods for determining risk with the following minimum requirements for each subsection.*

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. As noted on page 176 of Energy Safety's WMP Guidelines, ITOs have significantly less infrastructure than large investor-owned utilities and small and multi-jurisdictional utilities (SMJUs) and do not have end-use customers or service territories. Energy Safety notes that ITOs must comply with the requirements of Public Utilities Code sections 8386(c)8, (12), (13), (17) and (18). However, Energy Safety states that the level of detail required by Section 5 regarding risk modeling is not required for ITOs. Instead ITOs must describe their own methods to determine risk.

Compliance with Public Utilities Code sections 8386(c)8

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. No portion of the System is sited in a HFTD. Since the beginning of its commercial operations, TBC has not deenergized any circuits to mitigate the risk of wildfire. TBC notes that its original system design included that all cable elements be either undergrounded or submerged.

Compliance with Public Utilities Code sections 8386(c)12

With respect to the CPUC's Risk Assessment Mitigation Phase (RAMP) and Safety Model and Assessment Proceedings (S-MAP), TBC is a transmission-only electrical corporation and public utility whose rates and cost recovery are regulated exclusively by the Federal Energy Regulatory Commission. As such, TBC does not utilize RAMP or S-MAP. TBC uses a failure modes and effects analysis (FMEA) methodology to assess wildfire risk, which was used to assess current processes/controls and inform wildfire mitigation measures.

[18] Pub. Util. Code § 8386(c) "…(3) A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.
…
(8) Identification of circuits that have frequently been deenergized pursuant to a deenergization event to mitigate the risk of wildfire and the measures taken, or planned to be taken, by the electrical corporation to reduce the need for, and impact of, future deenergization of those circuits, including, but not limited to, the estimated annual decline in circuit deenergization and deenergization impact on customers, and replacing, hardening, or undergrounding any portion of the circuit or of upstream transmission or distribution lines.

Compliance with Public Utilities Code sections 8386(c)13

As noted above TBC does not have a RAMP filing because it is a transmission-only electrical corporation and public utility whose rates and cost recovery are regulated exclusively by FERC. TBC uses a failure modes and effects analysis (FMEA) methodology to assess wildfire risk, which was used to assess current processes/controls and inform wildfire mitigation measures.

Compliance with Public Utilities Code sections 8386(c)17

As noted above TBC does not have a service territory because it is a transmission-only electrical corporation with no retail customers. TBC's Pittsburg substation is in mixed suburban/industrial area outside of an HFTD or wildland urban interface.

Compliance with Public Utilities Code sections 8386(c)18

Given the limited scope and scale of its operations, TBC utilizes a failure modes and effects analysis (FMEA) methodology to assess wildfire risk, which was used to assess current processes/controls and inform wildfire mitigation measures. TBC has utilized this methodology for each of its wildfire mitigation plans since its initial plan filing in 2019. A description of the methodology is provided below.

## 5.1 Methodology

***Modified Instructions:*** *The ITO must describe its risk methodology, including risk model components if applicable, using Table 5-1 as a template. No additional summary is required in Appendix B.*

To inform appropriate wildfire hardening initiatives, TBC conducts a comprehensive assessment of equipment using a Failure Modes and Effects Analysis (FMEA) and previously commissioned a third-party wildfire assessment that evaluated wildfire risk at the facility, modelled a hypothetical ignition event and associated wildfire propagation, and identified appropriate wildfire hardening improvements. The FMEA considers the potential failures from each System component and assesses and prioritizes the potential risk, along with providing potential mitigations.

The FMEA conducted by TBC specifically focuses on identifying and mitigating wildfire risks by considering potential failure modes at the asset. Each component of the TBC Systems is evaluated for its potential for failure, the effects from a failure, what typically causes a failure, what controls are in place to detect and prevent failure, what actions are taken to reduce the likelihood of failure and improve early detection, and who is responsible for implementing the improvement actions. The FMEA is a risk assessment method developed by NASA to identify potential failure modes, assess and prioritize the overall risk presented by each failure mode. Risks are identified and ranked along three dimensions:

- Occurrence (likelihood of an event taking place);
- Severity (degree of impact of an event once it occurs); and
- Detection (ability to know when an event has occurred).

**Figure TBC 5-1. FMEA Risk Assessment Process Cycle**


This risk assessment method has become a standard and best practice in many industries, in the areas of product and process design, as well as in quality management and continuous improvement frameworks, such as Lean Six Sigma. The general process of this methodology as applied by TBC to identify and prioritize wildfire risks, drivers and mitigation measures consists of the following five steps:

- **Risk Identification**: for each major equipment component, a group of experienced subject matter experts (SMEs) brainstorm and capture all potential ways that the component could cause an ignition event (failure modes).
- **Risk Driver Identification**: for each identified failure mode, the SMEs brainstorm and capture all potential root causes (drivers).
- **Risk Prioritization**: each risk driver identified is assessed against a pre-determined scale for each of the three dimensions of Occurrence, Severity and Detection, to calculate a Risk Priority Number (RPN). The drivers are then ranked by RPN, with the higher RPNs representing the higher overall risks.
- **Risk Mitigation**: for each of the risk drivers identified, starting with the highest RPNs, the SMEs brainstorm to identify and capture cost-effective mitigation measures, and determine how to implement each measure and when.
- **Risk Assessment and Re-prioritization**: once measures have been developed, and implementation plans established for each risk driver, the RPN is recalculated and a re-ranking is done to determine the new higher priority risk drivers.

This process can be applied iteratively, which allows for further improvements and refinement of a specific plan over time. TBC is committed to continuous improvement of its wildfire strategy and thus annually refreshes the FMEA to reflect operational learnings from the field, learnings and best practices from other entities, innovation in wildfire-related mitigation measures, and

participation in the CPUC's wildfire mitigation plan workshops. As directly applied to fire mitigation, TBC conducts risk analysis and identification of risk drivers regarding fires in the context of proximity to high fire-risk areas, existence of vegetative fuels, nature and location of its transmission assets, and the effectiveness of implemented processes, controls and mitigants.

As noted above, only TBC's Pittsburg converter station and connected underground AC and DC cables are adjacent to a Tier 2 HFTD. TBC has determined that its facilities location in San Francisco have minimal fire-threat risk as the area is fully developed and urbanized. The San Francisco facilities are also not located in a HFTD or an area of increased wildfire risk per the CPUC's Fire-Threat Map. The submarine cable has no wildfire risk because it is completely submerged beneath the Bay Waters for approximately 53 miles (85 km). There are no other "known local conditions" that TBC monitors per GO 95, Rule 31.1.

Based on the foregoing, TBC determines ignition probability drivers through use of FMEA and third-party wildfire mitigation assessments that were conducted prior WMP cycles. TBC's fire mitigation strategy focuses on minimizing the likelihood of utility-caused ignitions and reducing negative impact from an ignition should one occur. With TBC's transmission infrastructure being fully underground or submerged, and outside wildlands and wildland urban interface locations, weather has minimal capacity to increase the potential risk of ignition from TBC's infrastructure. TBC's perspective on these trends is shaped by its limited scale and scope of operations in comparison to other reporting utilities whose expansive service territories encompass wildlands and WUI and have infrastructure more susceptible to these trends.

TBC's facilities utilize no overhead transmission lines. As a result, TBC does not have a Vegetation Management Plan (VMP) and is not required to maintain a VMP under the North American Electric Reliability Corporation (NERC) Reliability Standards or any CAISO maintenance requirements. TBC does undertake abatement of vegetative fuels on its converter stations, the cost of which is incorporated into landscape maintenance. TBC makes use of cable monitoring equipment to monitor cable status in real-time. Additionally, TBC employs a Geographic Information System that provides high accuracy geo-plots of all TBC facilities. This GIS also plots excavation notifications which helps to minimize the likelihood of derangement due to uncoordinated excavations along the cable route. Lastly, the Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel.

TBC Operations and Maintenance Technicians (O&M Techs) perform monthly systems inspections in accordance with TBC's Monthly Inspection of Watch procedure (TBC-MP-004)[19], which includes general checks, visual inspections, general housekeeping, and a review of maintenance equipment. In Q3 2022, TBC installed a weather station to enhance its situational awareness and weather condition monitoring. TBC also receives seven day weather forecasts with a wildfire risk index. Due to the limited scale and scope of TBC's operations, TBC does not

[19] TBC-MP-004 Inspection of Watch (Attachment E) submitted confidentially per CCR Title 14, Section 29200

employ other additional models for ignition probability, wildfire, and public safety power shut-off (PSPS) risk.

## 5.2 Risk Analysis Framework

***Modified Instructions:*** *If using risk modeling, the ITO must list all modeling assumptions, input data and sources, and any modeling tools used. The ITO may provide a schematic similar to Figures 5-1 and 5- 2 if needed. No additional summary is required in Appendix B of the WMP Guidelines.*

Given TBC's limited scope and scale of operations, TBC does not utilize risk modelling as part of its risk methodology. As noted in Section 5.1, TBC utilizes the FMEA assessment method to evaluate fire risk. The general process of this methodology as applied by TBC to identify and prioritize wildfire risks, drivers and mitigation measures consists of the following five steps: Risk Identification, Risk Driver Identification, Risk Prioritization, and Risk Mitigation. In particular in the Risk Prioritization step, each risk driver identified is assessed against a pre-determined scale for each of the three dimensions of Occurrence, Severity and Detection, to calculate a Risk Priority Number (RPN). The drivers are then ranked by RPN, with the higher RPNs representing the higher overall risks. Figure TBC 5-2 below represents scale utilized by TBC to assess Occurrence, Severity and Detection.

**Figure TBC 5-2. Risk Prioritization Scale**

| RATING | DEGREE OF SEVERITY | PROBABILITY OF OCCURRENCE | | ABILITY TO DETECT | |
|---|---|---|---|---|---|
| | | | Frequency ( 1 in ... ) | | Detection certainty |
| 1 | Customer will not notice the adverse effect or it is insignificant | Likelihood of occurrence is remote | 1,000,000 | Sure that the potential failure will be found or prevented before reaching the next customer | 100% |
| 2 | Customer will probably experience slight annoyance | Low failure rate with supporting documentation | 20,000 | Almost certain that the potential failure will be found or prevented before reaching the next customer | 99% |
| 3 | Customer will experience annoyance due to the slight degradation of performance | Low failure rate without supporting documentation | 5,000 | Low likelihood that the potential failure will reach the next customer undetected | 95 |
| 4 | Customer dissatisfaction due to reduced performance | Occasional failures | 2,000 | Controls may detect or prevent the potential failure from reaching the next customer | 90 |
| 5 | Customer is made uncomfortable or their productivity is reduced by the continued degradation of the effect | Relatively moderate failure rate with supporting documentation | 500 | Moderate likelihood that the potential failure will reach the next customer | 85 |
| 6 | Warranty repair or significant manufacturing or assembly complaint | Moderate failure rate without supporting documentation | 100 | Controls are unlikely to detect or prevent the potential failure from reaching the next customer | 80 |
| 7 | High degree of customer dissatisfaction due to component failure without complete loss of function. Productivity impacted by high scrap or rework levels. | Relatively high failure rate with supporting documentation | 50 | Poor likelihood that the potential failure will be detected or prevented before reaching the next customer | 70 |
| 8 | Very high degree of dissatisfaction due to the loss of function without a negative impact on safety or governmental regulations | High failure rate without supporting documentation | 20 | Very poor likelihood that the potential failure will be detected or prevented before reaching the next customer | 60 |
| 9 | Customer endangered due to the adverse effect on safe system performance with warning before failure or violation of governmental regulations | Failure is almost certain based on warranty data or significant DV testing | 10 | Current controls probably will not even detect the potential failure | 50 |
| 10 | Customer endangered due to the adverse effect on safe system performance without warning before failure or violation of governmental regulations | Assured of failure based on warranty data or significant DV testing | 2 | Absolute certainty that the current controls will not detect the potential failure | < 50 |

## 5.3 Risk Scenarios

***Modified Instructions:*** *If using risk modeling, the ITO must describe the different vegetation, weather, or other type scenarios that were used in the modeling presented in Section 5.1 and/or Section 5.2. Table 5-2 serves as a template.*

*Section 5.3 does not apply if the ITO did not model more than one scenario.*

Given TBC's limited scope and scale of operations, TBC does not utilize risk modelling as part of its risk methodology. As noted in Section 5.1, TBC utilizes the FMEA assessment method to evaluate fire risk.

## 5.4 Summary of Risk Models

***Instructions:*** *In this section, the electrical corporation must summarize the calculation approach for each risk and risk component identified in Section 5.2.1. This documentation is intended to provide a quick summary of the models used. The electrical corporation must provide the following information:*

- ***Identification (ID)****: Unique shorthand identifier for the risk or risk component.*
- ***Risk component:*** *Unique full identifier for the risk or risk component.*
- ***Design scenario(s)****: Reference to design scenarios evaluated with the model to calculate the risk or risk component. These must be defined in Section 5.3.*
- ***Key inputs****: List of key inputs used to evaluate the risk or risk component. These can be in summary form (e.g., the electrical corporation may list "equipment properties" rather than listing out equipment age, maintenance history, etc.).*
- ***Sources of data inputs****: List of sources for each input parameter. These must include data sources (such as LANDFIRE) and modeling results (such as wind predictions) as relevant to the calculation of the risk or risk component. If the inputs come from multiple sources, each source should be on a new line.*
- ***Key output results****: List of outputs calculated for the risk or risk component.*
- ***Units****: List of the units associated with the key outputs.*

*Table 5-4 provides a template for the required information. The electrical corporation must provide a summary of each model in Appendix B.*

Given TBC's limited scope and scale of operations, TBC does not utilize risk modelling as part of its risk methodology. As noted in Section 5.1, TBC utilizes the FMEA assessment method to evaluate fire risk. Therefore, there is no summary of risk models.

## 5.5 Risk Analysis Results and Presentation

***Modified Instructions:*** *The ITO must identify a list of the highest risk-contributing asset(s) along its system based on risk analysis. The ITO must also report on if its risk analysis triggers proposed*

*changes across its system to the California Public Utilities Commission's (CPUC's) current High Fire Threat Districts (HFTDs).*

Based on TBC's FMEA analysis the highest risk contributing assets are its transformers, three of which are in-service and one spare. There are no wildlands within the immediate vicinity of the Pittsburg Converter Station, which is sited in a Non-HFTD. As such, TBC does not propose any changes.

TBC's Pittsburg Converter Station is in a Non-HFTD area but within 5 miles of a Tier 2 (Elevated) HFTD. TBC determines ignition probability drivers through use of FMEA and a third-party wildfire mitigation assessment conducted in 2020 and 2022. Due to the limited scale and scope of TBC's operations, the substantial hardening of TBC's transmission infrastructure to wildfire risks due to being underground or submerged and having no transmission infrastructure in wildlands or in a wildland urban interface (WUI), TBC does not maintain programs specifically geared towards wildfire mitigation. However, TBC does conduct operational safety and overall fire prevention planning which in some instances has the added effect of mitigating wildfire risk. TBC's fire mitigation strategy focuses on minimizing the likelihood of utility-caused ignitions and reducing negative impact from an ignition should one occur.

In its decision on TBC's 2022 WMP, Energy Safety observed that TBC should evaluate adding a weather station to enhance its weather conditions monitoring capabilities. Although, weather conditions do not have material impact on TBC's operations and TBC does not have any asset in a HFTD, TBC took the recommendation as an opportunity to enhance its situational awareness. TBC does not use a fire potential index, however, TBC completed install of its weather station in Q4 2022 and also has access to the Firecaster Wildfire Risk Index (WRI). The Firecaster WRI uses multiple data sources to assess the relative risk of explosive wildfires. The index considers wildfire growth based on vegetation, weather and active wildfires as factors. The resulting WRI is displayed in the Optos user interface providing a scale of low, elevated, high and extreme risk of fire. The automated model produces visualizations that can be used internally for validation, refinement, and customer Q&A. Forecast emails are provided twice daily. Due to the limited scale and scope of TBC's operations, TBC does not employ other additional models for ignition probability, wildfire, and public safety power shut-off (PSPS) risk.

## 5.6 Quality Assurance and Control

***Modified Instructions:*** *The ITO must report on:*

- *The procedures for independent review of the data and model(s) used*
- *The quality controls in place for the data and model(s).*

Given the limited scope and scale of operations and static nature of the TBC System, TBC does not employ an extensive QA/QC process. TBC Operations staff conduct annual review of the FMEA with participation from senior operations leadership and managerial operations leaders

from affiliates who provide review and input into the FMEA process, discuss potential improvements and recommendations.

## 5.7 Risk Assessment Improvement Plan

***Modified Instructions:*** *The ITO must identify any improvements to programmatic and technical aspects of its wildfire risk assessment. Improvements should be categorized under one of the four key areas listed in Section 5.7. Table 5-6 serves as a template.*

*Table 5-6. Example of Utility Risk Assessment Improvement Plan*

| ***Key Risk Assessment Area*** | ***Proposed Improvement*** | ***Type of Improvement*** | ***Expected Value Add*** | ***Timeframe and Key Milestones*** |
|---|---|---|---|---|
| *RA-1, risk assessment methodology* | *RA-1-A. Increase validation of local wind gusts in statistical weather modeling in the HFTD.* | *Improved likelihood-of-ignition calculations.* | *Pilot system, 2026–2027 Integrate system throughout HFTD, 2026–2028* | *RA-1, risk assessment methodology* |
| *RA-1, risk assessment methodology* | *RA-1-B. Develop verification and validation documentation for ignition models.* | *Improved quantitative understanding of the accuracy of the sub-models. This will help identify where our model has the highest areas of uncertainty that need to be addressed in future activities.* | *Conduct initial development, 2026 Expand validation basis, 2026–2028* | *RA-1, risk assessment methodology* |
| *RA-2, design basis* | | | | |
| *RA-3, risk presentation* | | | | |
| *RA-4, risk event tracking* | | | | |

TBC does not have any current Risk Assessment Improvement plans for the 2026-2028 WMP cycle. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or improvements as needed.

# 6 WILDFIRE MITIGATION STRATEGY DEVELOPMENT

***Instructions:*** *The ITO must comply with Public Utilities Code section 8386(c)(3), (12), (13) and (14).[20] The ITO does not have to use modeling to develop its wildfire mitigation strategy. However, the ITO must describe its wildfire mitigation strategy, including the process it uses to select mitigations, and any interim mitigation initiatives as indicated in Section 6.2.2. Tables 6-3 and 6-4 serve as templates. The reporting requirements in Section 6.2.1.3 do not apply to ITOs.*

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. As noted on page 179 of Energy Safety's WMP Guidelines, ITOs have significantly less infrastructure than large investor-owned utilities and SMJUs and do not have service territories. Energy Safety notes that ITOs do not have to utilize modeling to develop their wildfire mitigation strategy. However, Energy Safety states that ITOs must describe their wildfire mitigation strategy, including the process they utilize to select mitigations.

TBC's asset footprint has not changed since the commencement of operations in 2010. As a result, TBC's wildfire mitigation strategy has not materially changed since the first iteration of its WMP in 2019. TBC's current approach to wildfire mitigation and overall fire prevention remains consistent with its previous WMP cycle approach. Due to the limited scope and scale of TBC's operations, TBC makes no specific distinction between efforts to manage wildfire risk and those to ensure the overall safety and reliability of its operations. While informed by industry wildfire mitigation efforts, the activities TBC undertakes to ensure that fire protection and safety is maintained and enhanced in its facilities and infrastructure, are not exclusively undertaken for wildfire mitigation. TBC maintains no programs, staff, equipment, or infrastructure solely dedicated to wildfire mitigation. In the alternative, TBC maintains a robust Fire Prevention Program and operational practices in conjunction with the risk assessment and mitigation elements detailed in this plan that have the desired preventive/mitigative effect.

As noted above, Trans Bay has assessed its transmission infrastructure and determined that its Pittsburg substation and locally connected infrastructure have the most relevant wildfire risk. Based on this determination, in 2020 TBC engaged a third-party wildfire mitigation assessment of its Pittsburg substation to augment its overall fire prevention strategy. TBC utilized this study to provide an initial baseline assessment of the fire harden capabilities of its substation design and equipment and review of planned initiatives to enhance fire protection and certain seismic upgrades to its main transformers. The study also afforded TBC with additional recommendations for consideration to enhance control measures for improvement of its fire protection schema and philosophy. TBC reviewed and included appropriate recommendations in its short term and mid-term capital program to improve operational safety and fire risk mitigation. In Q1 2022, TBC

[20] Pub. Util. Code § 8386(c) "… (14) A description of the actions the electrical corporation will take to ensure its system will achieve the highest level of safety, reliability, and resiliency, and to ensure that its system is prepared for a major event, including hardening and modernizing its infrastructure with improved engineering, system design, standards, equipment, and facilities, such as undergrounding, insulating of distribution wires, and replacing poles."

contracted with another third-party to provide second level review of the 2020 study to verify the effectiveness and further prioritize fire identified mitigation initiatives.

Due to the limited scale and scope of TBC's operations, the substantial hardening of TBC's transmission infrastructure to wildfire risks due to being underground or submerged and having no transmission infrastructure in wildlands or in a wildland urban interface (WUI), TBC does not maintain programs specifically geared towards wildfire mitigation. However, TBC does conduct operational safety and overall fire prevention planning which in some instances has the added effect of mitigating wildfire risk. TBC maintains a fire prevention plan, and associated procedures and training. These activities reflect the preventative strategies and actions currently emplaced for fire prevention, suppression, and operational response to emergency situations.

## 6.1 Risk Evaluation

### 6.1.1 Approach

***Instructions:*** *In this section, the electrical corporation must provide a brief narrative of its risk evaluation approach, based on the risk analysis outcomes presented in Section 5. This narrative helps inform the development of a wildfire mitigation strategy that meets the goal(s) and plan objectives stated in Sections 3.1–3.2. The electrical corporation must indicate and describe in the narrative whether its risk evaluation approach meets or uses any industry-recognized standards (e.g., ISO 31000), best practices, and/or research.*

*The electrical corporation must describe the risk evaluation approach in a maximum of two pages, inclusive of all narratives, bullet point lists, and any graphics.*

TBC's approach to determining how to manage wildfire risk is informed by industry best practices, work with experienced internal and external SMEs, and lessons learned through the annual WMP update process. TBC has additionally utilized third-party wildfire mitigation assessment of its Pittsburg Converter Station to augment its overall fire prevention strategy. TBC's strategies to manage wildfire risk are similar or related to strategies it undertakes to manage overall operational risks related to safety and reliability. Trans Bay uses the FMEA process to identify and mitigate wildfire-related risks potentially instigated by its transmission infrastructure. Given that TBC's Pittsburg substation is located near a Tier 2 HFTD, proximate to vegetative fuels (See Figure TBC 6-1) and in a seismically active area, TBC's fire and wildfire-related initiatives are primarily focused on infrastructure hardening, increased situational awareness, and effectiveness of fire-suppression capabilities.

**Figure TBC 6-1. Vegetative Fuels Proximate to Pittsburg Station**


TBC's asset footprint has not changed since the commencement of operations in 2010. As a result, TBC's wildfire mitigation strategy has not materially changed since the first iteration of its WMP in 2019. TBC's current approach to wildfire mitigation and overall fire prevention remains consistent with its previous WMP cycle approach. Due to the limited scope and scale of TBC's operations, TBC makes no specific distinction between efforts to manage wildfire risk and those to ensure the overall safety and reliability of its operations. While informed by industry wildfire mitigation efforts, the activities TBC undertakes to ensure that fire protection and safety is maintained and enhanced in its facilities and infrastructure, are not exclusively undertaken for wildfire mitigation. TBC maintains no programs, staff, equipment, or infrastructure solely dedicated to wildfire mitigation. In the alternative, TBC maintains a robust Fire Prevention Program and operational practices in conjunction with the risk assessment and mitigation elements detailed in this plan that have the desired preventive/mitigative effect. In Q3 2025, TBC will also engage in benchmarking with another California utility and begin to leverage Technosylva's Wildfire Analyst Platform projected in Q2 2026. These activities may provide additional opportunities for TBC to enhance its approach and any changes would be reflected in subsequent WMP reporting.

### 6.1.2 Risk-Informed Prioritization

***Instructions:*** *In making decisions involving risk mitigation, the electrical corporation must identify and evaluate where it can make investments and take actions to reduce its overall utility risk. The electrical corporation must develop a prioritization list based on overall utility risk.*

*In this section, the electrical corporation must:*

- *Describe how it selects circuit segments of its service territory at risk from wildfire for potential activities, including, at a minimum, the following:*

- *Geographic scale used in prioritization (i.e., regional, circuit, circuit segment, span, asset)*
- *Statistical approach used to select prioritized areas (e.g., circuit segments in top 20 percent for risk, circuit segments in top 20 percent for consequences)*
- *Feasibility constraints (e.g., limitations on data resolution, jurisdictional considerations, accessibility)*

- *Present a list that identifies, describes, and prioritizes circuit segments of its service territory at risk from wildfire for potential activities based solely on overall utility risk, including the associated risk drivers. Associated risk drivers must be ranked in order of most impactful to risk.*

*Examples of the minimum acceptable level of information and the required format are provided in Table 6-1.*

*Table 6-1. Example of List of Prioritized Areas in an Electrical Corporations Service Territory Based on Overall Utility Risk*

| Priority | Circuit Segment and/or Span ID | Length (miles) | Overall Utility Risk | Wildfire Risk | Outage Program Risk | Percent of Overall Utility Risk | Associated Risk Drivers |
|---|---|---|---|---|---|---|---|
| 1 | ID001 | 6.8 | 34.065 | 32.451 | 1.614 | 1.4% | Transformer failure<br>Vegetation contact |
| 2 | ID002 | 7.3 | 26.193 | 22.331 | 3.862 | 0.8% | Conductor failure<br>Pole failure<br>Animal contact |

TBC's operational assets are limited to the Trans Bay System which is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 HFTD. All aboveground transmission infrastructure is fully contained within the 12-foot walls of the system's converter stations. To inform appropriate wildfire hardening initiatives, TBC conducts a comprehensive assessment of equipment using a FMEA and utilizes previously commissioned third-party wildfire assessments which evaluated wildfire risk at the Pittsburg Converter Station, modelled a hypothetical ignition event and associated wildfire propagation, and identified appropriate wildfire hardening improvements. The FMEA considers the potential failures from each System component and assesses and prioritizes the potential risk, along with providing potential mitigations. Given the limited scope and scale of TBC's operations and the inherent fire-hardened grid design, the annual FMEA, operation experience of affiliates, and industry best practices are effective in providing means to prioritize opportunities for risk reduction efforts. As TBC is a single line transmission system it does not prioritize circuit or spans but its Pittsburg Converter Station as asset which is considered for wildfire mitigation initiatives. Therefore Table 6-1 is marked N/A meaning "Not Applicable".

**Table 6-1. List of Prioritized Areas in an Electrical Corporations Service Territory Based on Overall Utility Risk**

| Priority | Circuit Segment and/or Span ID | Length (miles) | Overall Utility Risk | Wildfire Risk | Outage Program Risk | Percent of Overall Utility Risk | Associated Risk Drivers |
|---|---|---|---|---|---|---|---|
| N/A | | | | | | | |

### 6.1.3 Activity Selection Process

***Instructions:*** *After the electrical corporation creates a list of top-risk contributing circuits/segments/spans (Section 5.5.2) and prioritized circuit segments based on overall utility risk (Section 6.1.2), the electrical corporation must then identify potential mitigation strategies. It must also evaluate the benefits and drawbacks of each strategy at different scales of application (e.g., circuit, circuit segment, system-wide). In this section of the WMP, the electrical corporation must provide the basis for its decisions regarding which activities to pursue.*

*The electrical corporation must consider appropriate activities depending on the local conditions, physical setting, and the risk components that create the high-risk conditions. There may be a wide variety of potential activities, such as:*

- *Engineering changes to grid design*
- *Discretionary inspection and/or maintenance of existing assets*
- *Vegetation clearances beyond minimum regulatory requirements*
- *Alternative operational policies, practices, and procedures*
- *Improved emergency planning and coordination*

*The electrical corporation must also evaluate mitigating risk through a portfolio of combined multiple activities.*

*The electrical corporation is expected to use its procedures discussed in Section 5 to:*

- *Develop potential activity approaches to address each risk*
- *Characterize the potential activities to provide internal decision makers with information required to support decision making (e.g., costs, material availability), including an assessment of uncertainties*
- *Document the results of the evaluation*

*The electrical corporation must develop a proposed schedule for implementing each activity and proposed metrics to monitor implementation and effectiveness of the activities. The following subsections provide specific requirements.*[21]

As the operator of a single transmission line which is either undergrounded or submerged, TBC does not have a list of top-risk contributing circuits/segments/spans and prioritized circuit

[21] Annual information included in this section must align with the applicable data submission.

segments. Instead, TBC prioritizes activities that reduce risk based on its annual FMEA, or other opportunities from review of industry best practices or operational experience of its affiliates which may have applicability at TBC's Pittsburg Converter Station. See Section 5 for discussion of FMEA framework and process.

#### 6.1.3.1 Identifying and Evaluating Activities

***Instructions:*** *The electrical corporation must describe how it identifies and evaluates options for mitigating wildfire and outage program risk at various analytical scales, consistent with the CPUC guidelines associated with the Risk-Based Decision-Making Framework (RDF) established in the RDF Proceeding.[22] The electrical corporation must present the risk mitigation identification procedure it plans on using during the course of the three years filed in the Base WMP. If the electrical corporation is required to submit a RAMP filing to the CPUC, the risk mitigation procedure provided must be consistent with either its most recent RAMP filing or its upcoming RAMP filing. The electrical corporation must describe the following:*

- *The procedures for identifying and evaluating activities (comparable to Risk-Based Decision-Making Framework, row 26[23]), including the use of risk buy-down estimates (e.g., risk-spend efficiency, benefit-cost ratio) and evaluating the benefits and drawbacks of activities*

- *To the extent possible, multiple potential locally relevant activities that address local wildfire risk drivers (see Risk-Based Decision-Making Framework, rows 11 and 14)[24]*

- *The approach the electrical corporation uses to characterize uncertainties and how the electrical corporation's evaluation and decision-making process incorporates these uncertainties (see Risk-Based Decision-Making Framework, rows 26 and 30)[25]*

- *Two or more potential initiative or activity portfolios for each risk driver included in the list of prioritized circuit segments (Table 6-1 in Section 6.1.2), including the following information:*

[22] The CPUC initially adopted its Risk-Based Decision-Making Framework in D.18-12-014 (see RDF, step 2, rows 15–25), https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M250/K281/250281848.pdf. The CPUC updated its Risk-Based Decision-Making Framework in December 2022 in D.22-12-027, https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M500/K014/500014668.PDF and June 2024 in D.24-05-064 https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K099/533099839.PDF. These Decisions changed the risk evaluation framework from Multi-Attribute Value Function (MAVF) to Cost-Benefit Analysis (CBA). The RDF builds on the requirements established in the Safety Model Assessment Proceeding (S-MAP, A.15-05-002) and the Risk-Based Decision-Making proceeding (R.13-11-006).

[23] Risk-Based Decision-Making Framework, Appendix A to D.24-05-064, California Public Utilities Commission, June 2024 at A-17: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K206/533206241.PDF.

[24] Risk-Based Decision-Making Framework, Appendix A to D.24-05-064, California Public Utilities Commission, June 2024 at A-10 to A-15: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K206/533206241.PDF.

[25] Risk-Based Decision-Making Framework, Appendix A to D.24-05-064, California Public Utilities Commission, June 2024 at A-17 and A-20: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K206/533206241.PDF.

- *The initiatives and activities*
- *Expected risk reduction and impact on individual risk components*
  - *Where mitigations can be feasibly deployed in combination, the electrical corporation must compare these portfolios of activities (e.g., covered conductor, vegetation management, asset inspections, and protective device and equipment settings versus undergrounding, secondary hardening, and asset inspections).*
- *Estimated implementation costs*
  - *Where activities can be feasibly deployed in combination, the utility must compare these portfolios of activities (e.g., covered conductor, vegetation management, and protective device and equipment settings versus undergrounding and secondary hardening).*
- *Relevant uncertainties and associated potential impacts, including solutions on how to reduce the potential impacts*
- *Implementation schedule*

- *How the electrical corporation uses multi-attribute value functions (MAVFs), cost-benefit analysis (CBA), and/or other specific risk factors (as identified in relevant CPUC Decisions) in evaluating different activity alternatives.*
  - *This must include how the electrical corporation considers cost efficiencies when evaluating activities, including overlap with planned or projected upgrades due to future grid needs (e.g., load capacity, peak demand, system flexibility).*[26]
- *How the electrical corporation defines different aspects of risk considerations, including: Risk Scaling, Risk Tolerance, Uncertainty, and Tail Risk in its risk mitigation strategies.*[27]
  - *Must break out each by safety and reliability (PSPS and PEDS), as applicable*
  - *Must include a discussion of how each aspect impacts mitigation selection and prioritization*

[26] These considerations must be in alignment with the CPUC's Decision Adopting Improvements to Distribution Planning and Project Execution Process, Distribution Resource Planning Data Portals, and Integration Capacity Analysis Maps, D.24-10-030 and with the CPUC's Rulemaking to Modernize the Electric Grid for a High Distributed Energy Resources Future, R.21-06-017.
[27] D.24-05-064 at 35-48, 54-57, and 97-99. See also California Public Utility Commission, Assigned Commissioner's Phase 4 Scoping Memo and Ruling, September 13, 2024, at 3.

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. TBC's rates and cost recovery are regulated exclusively by FERC. As such, TBC does not utilize RAMP or S-MAP. TBC uses a failure modes and effects analysis (FMEA) methodology to assess wildfire risk, which was used to assess current processes/controls and inform wildfire mitigation measures.

TBC's operational assets are limited to the Trans Bay System which is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 HFTD. All aboveground transmission infrastructure is fully contained within the 12-foot walls of the system's converter stations. To inform appropriate wildfire hardening initiatives, TBC conducts a comprehensive assessment of equipment using a FMEA and utilizes previously commissioned third-party wildfire assessments which evaluated wildfire risk at the Pittsburg Converter Station, modelled a hypothetical ignition event and associated wildfire propagation, and identified appropriate wildfire hardening improvements. The FMEA considers the potential failures from each System component and assesses and prioritizes the potential risk, along with providing potential mitigations. Given the limited scope and scale of TBC's operations and the inherent fire-hardened grid design, the annual FMEA, operation experience of affiliates, and industry best practices are effective in providing means to prioritize opportunities for risk reduction efforts. TBC therefore prioritizes activities that reduce risk based on its annual FMEA, or other opportunities from review of industry best practices or operational experience of its affiliates which may have applicability at TBC's Pittsburg Converter Station. See Section 5 for discussion of FMEA framework and process.

#### 6.1.3.2 Activity Prioritization

***Instructions:*** *The electrical corporation must seek to implement the best integrated portfolio of activities using its project prioritization framework to meet its plan objectives, optimize its resources, and maximize risk reduction. Objectives may be based on quantified risk assessment results (see Section 5), or other values prioritized by the electrical corporation or broader stakeholder groups (e.g., Tribal interests, environmental protection, public perception, resilience, cost). The electrical corporation must do the following:*

- *Evaluate its potential activities. This evaluation will yield a prioritized list of activities. The objective is for the electrical corporation to identify the preferable activities for specific geographical areas. (Comparable to Risk Based Decision-making Framework, rows 12 and 29).*[28]

[28] Risk-Based Decision-Making Framework, Appendix A to D.24-05-064, California Public Utilities Commission, June 2024 at A-12 and A-21: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K206/533206241.PDF.

- *Identify the best activities for all geographical areas at a location-specific level to create a portfolio of projects expected to provide maximal benefits within known limitations and constraints. (Comparable to Risk Based Decision-making Framework, rows 12 and 26).*[29] *Explain when subject matter expertise is used as a part of activity selection, including the process used by subject matter experts (SMEs) to provide their judgement.*

- *Explain how the electrical corporation is optimizing its resources to maximize risk reduction. Describe how the proposed activities are an efficient use of electrical corporation resources and focus on achieving the greatest risk reduction with the most efficient use of funds and workforce resources.*

- *Discuss the interrelationships between different activities, in terms of how activities influence and impact implementation and respective effectiveness for risk reduction, and how the electrical corporation evaluates trade-offs between activities.*

- *Describe how grid needs, including future projected needs, (e.g., load capacity, peak demand, system flexibility)*[30] *influence activity prioritization.*

*The electrical corporation must describe how it prioritizes activities to reduce both wildfire and PSPS risk. This discussion must include the following:*

- *A high-level schematic showing the procedures and evaluation criteria used to evaluate potential activities. At a minimum, the schematic must demonstrate the roles of quantitative risk assessment, resource allocation, evaluation of other plan objectives (e.g., cost, timing) identified by the electrical corporation, and SME judgment. Where specific local factors, which vary across the service territory, are considered in the decision-making process (e.g., the primary risk driver in a region is legacy equipment), they must be indicated in the schematic. The electrical corporation must explain why those local conditions are part of the decision process (i.e., there should not be simply one box in the schematic that is labeled "local conditions," which is then connected to the rest of the process).*

- *Summary description (no more than five pages) of the procedures and evaluation criteria for prioritizing activities, including the three minimum requirements listed above in this section.*

TBC's operational assets are limited to the Trans Bay System which is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal

[29] Risk-Based Decision-Making Framework, Appendix A to D.24-05-064, California Public Utilities Commission, June 2024 at A-12 and A-21: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M533/K206/533206241.PDF.

[30] These considerations should be in alignment with the CPUC's Decision Adopting Improvements to Distribution Planning and Project Execution Process, Distribution Resource Planning Data Portals, and Integration Capacity Analysis Maps, D.24-10-030 and with the CPUC's Rulemaking to Modernize the Electric Grid for a High Distributed Energy Resources Future, R.21-06-017.

wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 HFTD. All aboveground transmission infrastructure is fully contained within the 12-foot walls of the system's converter stations. To inform appropriate wildfire hardening initiatives, TBC conducts a comprehensive assessment of equipment using a FMEA and utilizes previously commissioned third-party wildfire assessments which evaluated wildfire risk at the Pittsburg Converter Station, modelled a hypothetical ignition event and associated wildfire propagation, and identified appropriate wildfire hardening improvements. The FMEA considers the potential failures from each System component and assesses and prioritizes the potential risk, along with providing potential mitigations. Given the limited scope and scale of TBC's operations and the inherent fire-hardened grid design, the annual FMEA, operation experience of affiliates, and industry best practices are effective in providing means to prioritize opportunities for risk reduction efforts. As TBC operates a single line transmission system it does not prioritize circuit or spans but its Pittsburg Converter Station as asset which is considered for wildfire mitigation initiatives.

#### 6.1.3.3 Activity Scheduling

***Instructions:*** *The electrical corporation must report on its schedule for implementing its portfolio of activities. The electrical corporation must describe its preliminary schedules for each activity and its iterative processes for modifying activities (Section 6.1.3.1).*

*Activities may require several years to implement. For example, relocating transmission or distribution capabilities from overhead to underground may require substantial time and resources. Since activities are undertaken in high-risk regions, the electrical corporation may need interim activities to mitigate risk while working to implement long-term strategies. Some examples of interim activities include more frequent inspections, fire detection and monitoring activities, and PSPS usage. If the electrical corporation's activities require more than one year to implement,[31] the electrical corporation must evaluate the need for interim activities, as discussed in Section 6.2.2.*

*In its WMP submission, the electrical corporation must provide a summary description of the procedures it uses in developing and deploying activities. This discussion must include the following:*

- *How the electrical corporation schedules activities*
- *How the electrical corporation incorporates the amount of time it takes to implement the activities when determining initiative effectiveness and prioritization. This must include evaluations of cumulative risk exposure while the initiative is being implemented, as well as interim activities.*

[31] Meaning that it will take the electrical corporation more than one year to electrify or implement a given activity from the time it determines it will utilize that activity in a given location.

- *How the electrical corporation evaluates whether an interim activity is needed and, if so, how an interim activity is selected (see Section 6.2.2)*

- *How the electrical corporation monitors its progress toward its targets within known limitations and constraints. This should include descriptions of mechanisms for detecting when an activity is off track and for bringing it back on track.*

- *How the electrical corporation measures the effectiveness of activities (e.g., tracking the number of PEDS deenergizations that had the potential to ignite a wildfire due to observed damage/contact prior to re-energization). The mitigation category sections of these Guidelines (Sections 8–12) include specific requirements for each activity.*

Given the limited scope and scale of TBC's operations, TBC does not typically have an extensive list of initiatives. Therefore, initiatives are typically scheduled to be completed in an expedited manner except for those initiatives that require the transmission system to be offline. Initiatives that require the transmission system to be offline are typically scheduled for the next available extend outage during which TBC completes capital upgrades and scheduled maintenance. These outages are typically on a one to two year cycle. Thus, projects are typically completed between 12-36 months depending on complexity, permitting, vendor availability, and approved CAISO outage window.

#### 6.1.3.4 Key Stakeholders for Decision Making

***Instructions:*** *In this section, the electrical corporation must identify all key stakeholder groups that are part of the decision-making process for developing and prioritizing activities. Table 6-2 provides an example of the required information and format. At a minimum, the electrical corporation must do the following:*

- *Identify each key stakeholder group (e.g., electrical corporation executive leadership, the public, state/county/Tribal Nation public safety partners)*

- *Identify the decision-making role of each stakeholder group (e.g., decision maker, consulted, informed)*

- *Identify method of engagement (e.g., meeting, workshop, written comments)*

- *Identify engagement methods that describe how it communicates decisions to key stakeholders*

- *Identify what type of activity (i.e. system hardening, vegetation management) the stakeholder is engaged with*

- *Identify the level of engagement (i.e. local, tribal, federal) for activities for any projects that are within stakeholder jurisdictions*

*Table 6-2. Example of Stakeholder Roles and Responsibilities in the Decision-Making Process*

| ***Stakeholder*** | ***Stakeholder Point of Contact*** | ***Electrical Corporation Point of Contact*** | ***Stakeholder Role*** | ***Engagement Methods*** | ***Activity*** | ***Level of Engagement for Activity*** |
|---|---|---|---|---|---|---|
| *County* | *Director of Emergency Management* | *Director of Transmission / Distribution Northeast Region* | *• County provides electrical corporation with information on infrastructure improvement*<br>*• Electrical corporation provides information on wildfire mitigations within county* | *• Monthly phone conversations*<br>*• Quarterly public meetings* | *• System Hardening (covered conductor installation, undergrounding)* | *• Local* |

TBC does not serve end-use customers, have a traditional service territory or a distribution system. As a result, TBC does not engage external parties in the decision-making process for developing and prioritizing activities. TBC notes that for improvements which require the system to be offline, TBC engages the CAISO and PG&E, the neighboring interconnected utility, to coordinate outage times; however, those parties are not part of the decision-making or prioritization process. Internally, executive leadership and senior operational leadership participate via meetings and/or review of capital authorization requests to approve projects and prioritize activities.

**Table 6-2. Stakeholder Roles and Responsibilities in the Decision-Making Process**

| Stakeholder | Stakeholder Point of Contact | Electrical Corporation Point of Contact | Stakeholder Role | Engagement Methods | Activity | Level of Engagement for Activity |
|---|---|---|---|---|---|---|
| Executive leadership | Company President | Director Operations<br><br>Operations Manager | • Executive level review of wildfire mitigation activities and plan, and capital authorization of projects | • Meetings<br>• Emails | • All capital improvements | • N/A |
| Senior Operations Leadership | VP NEET Operations<br><br>Sr. Director Operations | Director Operations<br><br>Operations Manager | • Operations level review of wildfire mitigation activities and plan, and capital authorization of projects<br>• Operations Prioritization | • Meetings<br>• Emails | • All capital improvements | • N/A |

## 6.2 Wildfire Mitigation Strategy

***Instructions:*** *Each electrical corporation must provide an overview of its proposed wildfire mitigation strategies based on the evaluation process identified in Section 6.1.*[32]

### 6.2.1 Anticipated Risk Reduction

***Instructions:*** *In this section, the electrical corporation must present an overview of the expected risk reduction of its wildfire activities.*

*The electrical corporation must provide:*

- *Projected overall risk reduction*
- *Projected risk reduction on highest-risk circuits over the three-year WMP cycle*

The design of TBC's transmission infrastructure provides inherent system hardening against wildfire risk. TBC's transmission infrastructure, in its simplest form, consists of two converter station sites connected by an underground/submerged armored cable bundle. Outside of the converter station sites, the cable is completely underground or submerged beneath the Bay Area waters for approximately 53 miles. The Trans Bay System is sited fully outside any HTFD or any reasonably foreseeable expansion of a HTFD. As such the cables are hardened or immune from causing a wildfire to occur as a result due to a fault or contact except in the circumstance of derangement due to uncoordinated excavations. The facility received upgrades in the 2020-2023 WMP cycle to improve situational awareness capabilities, significantly enhance seismic resiliency of its transformers and stationed onsite fire suppression resources. TBC completed two additional site improvement projects in 2023 which provided fire suppression capability to its spare parts building and an outdoor enclosure for compress gas cylinders. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed. TBC has current initiatives to mature its situational awareness but there are no currently planned projects for physical upgrades to its transmission system. TBC does not anticipate material change in its risk profile.

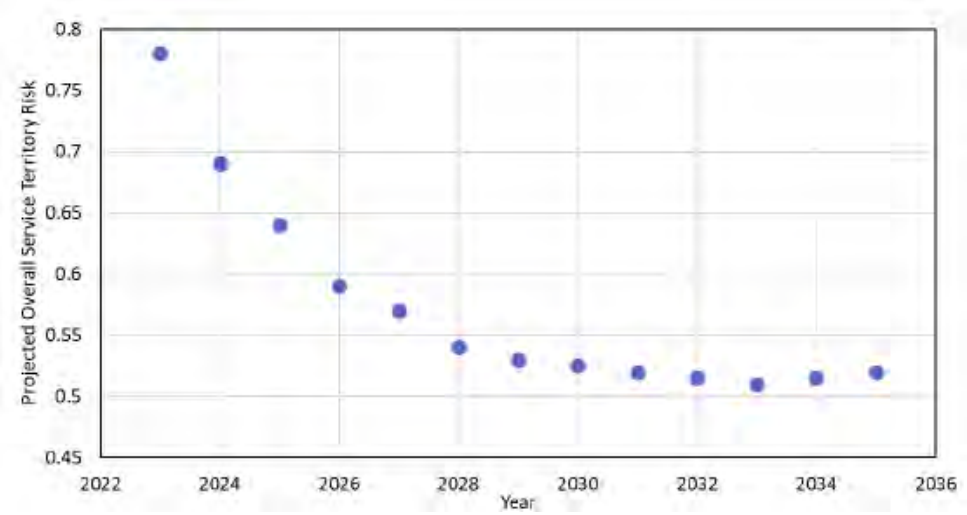
#### 6.2.1.1 Projected Overall Risk Reduction

***Instructions:*** *In this section, the electrical corporation must provide a figure showing the projected overall utility risk in its service territory as a function of time, assuming the electrical corporation meets the planned timeline for implementing the activities. The figure is expected to cover at least ten years. If the electrical corporation proposes risk reduction strategies for a duration longer*

[32] Pub. Util. Code § 8386(c)(3).

*than ten years, this figure must show that corresponding time frame. Figure 6-1 is an example of a graph showing the long-term projected changes in overall risk.*

*Figure 6-1. Example of Projected Overall Service Territory Risk*




TBC is an independent transmission operator that has transmission-only assets and does not have a service territory or end-use customers. The design of TBC's transmission infrastructure provides inherent system hardening against wildfire risk. TBC's transmission infrastructure, in its simplest form, consists of two converter station sites connected by an underground/submerged armored cable bundle. Outside of the converter station sites, the cable is completely underground or submerged beneath the Bay Area waters for approximately 53 miles. The Trans Bay System is sited fully outside any HTFD or any reasonably foreseeable expansion of a HTFD. As such the cables are hardened or immune from causing a wildfire to occur as a result due to a fault or contact except in the circumstance of derangement due to uncoordinated excavations. The facility received upgrades in the 2020-2023 WMP cycle to improve situational awareness capabilities, significantly enhance seismic resiliency of its transformers and stationed onsite fire suppression resources. TBC completed two additional site improvement projects in 2023 which provided fire suppression capability to its spare parts building and an outdoor enclosure for compress gas cylinders. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed. TBC has current initiatives to mature its situational awareness but there are no currently planned projects for physical upgrades to its transmission system. TBC does not anticipate material change in its risk profile.

#### 6.2.1.2 Risk Impact of Activities

***Instructions:*** *The electrical corporation must calculate the overall expected effectiveness for risk reduction of each of its activities. The overall expected effectiveness is the expected percentage for the average amount of risk reduced by the activity. This must be calculated for overall utility*

*risk, being a summation for wildfire risk and outage program risk, as well as wildfire risk and outage program risk respectively.*

*The electrical corporation must provide the cost benefit score,[33] broken out by overall utility risk, wildfire risk, and outage program risk. The score should be calculated for the activity overall based on overall average activity effectiveness and average unit costs.*

*The electrical corporation must calculate the expected % HFTD/HFRA[34] covered for each of its initiative activity targets over the WMP cycle. The expected % HFTD/HFRA covered is the percentage of HFTD and HFRA being worked on by the given activity from the first year of the Base plan to the last year of the Base plan. This could include the number of circuit miles or the number of assets. For example:*

> *For covered conductor installations, the expected installations from Jan. 1, 2026, through Dec. 31, 2028 = 600 circuit miles*
>
> *The total number of miles within the HFTD and HFRA = 4,250 circuit miles*
>
> *The expected % HFTD/HFRA covered for the covered conductor installations activity from 2026 to 2028 is:*

$$\frac{\text{units of activity}}{\text{units within HFTD/HFRA}} \times 100$$

$$\frac{600}{4.250} \times 100 = 14.12\%$$

*The electrical corporation must calculate the expected % risk reduction of each of its activity targets over the WMP cycle. The expected % risk reduction is the expected percentage risk reduction for the last day for Base WMP implementation compared to the first day for Base WMP implementation. For example:*

> *For protective devices and sensitivity settings, the total risk on Jan. 1, 2026 = $2.59 \times 10^{-1}$*
>
> *After meeting its planned activity targets for protective devices and sensitivity settings, the total risk on Dec. 31, 2028 = $1.29 \times 10^{-1}$*
>
> *The expected x% risk reduction for the protective devices and sensitivity settings activity in 2026 is:*

[33] "Cost benefit score" in this instance is the calculation performed by the electrical corporation to determine the cost effectiveness in comparison to risk reduction as it aligns with the current CPUC decision.
[34] If an electrical corporation has identified areas outside of the HFTD to include within the HFRA, then this includes both areas. Otherwise, this would only include HFTD.

$$\frac{\text{risk before} - \text{risk after}}{\text{risk before}} \times 100$$

$$\frac{2.59 \times 10^{-1} - 1.29 \times 10^{-1}}{2.59 \times 10^{-1}} \times 100 = 50\%$$

*The electrical corporation must discuss how it determined the total risk after implementation (the "risk after" component above). For instance, this could include estimating based on subject matter expertise, calculating based on historical observed reduction of ignitions, or using established understandings of effectiveness based on industry usage.*

*The expected % risk reduction numbers must be reported for each planned activity, when required, in the specific mitigation category sections of Sections 8–12 (see example tables in these Sections). Table 6-3 provides an example of a summary of reporting on the expected % risk reduction of activities.*

*The electrical corporation must also provide a step-by-step calculation showing how it derived the values provided below, similar to the examples shown above.*

TBC is an independent transmission operator that has transmission-only assets and does not have a service territory or end-use customers. The design of TBC's transmission infrastructure provides inherent system hardening against wildfire risk. TBC's transmission infrastructure, in its simplest form, consists of two converter station sites connected by an underground/submerged armored cable bundle. Outside of the converter station sites, the cable is completely underground or submerged beneath the Bay Area waters for approximately 53 miles. The Trans Bay System is sited fully outside any HTFD or any reasonably foreseeable expansion of a HTFD. As such the cables are hardened or immune from causing a wildfire to occur as a result due to a fault or contact except in the circumstance of derangement due to uncoordinated excavations. TBC has current initiatives to mature its situational awareness but there are no currently planned projects for physical upgrades to its transmission system. TBC does not anticipate material change in its risk profile.

#### 6.2.1.3 Projected Risk Reduction on Highest-Risk Circuits Over the Three-Year WMP Cycle

***Instructions:*** *The objective of the service territory risk reduction summary is to provide an integrated view of wildfire risk reduction across the electrical corporation's service territory. The electrical corporation must provide the following information:*

- *Tabular summary of numeric risk reduction for each high-risk circuit within the top 20 percent of overall utility risk, showing risk levels before and after the implementation of activities. This must include the same circuits, segments, or span IDs presented in Section 5.5.2. The table must include the following information for each circuit:*

- ***Circuit, Segment, or Span ID**: Unique identifier for the circuit, segment, or span.*
  - *If there are multiple activities per ID, each must be listed separately, using an extender to provide a unique identifier.*
- ***Overall Utility Risk**: Numerical value for the overall utility risk before and after each activity.*
- ***Activities by Implementation Year**: activities the electrical corporation plans to apply to the circuit in each year of the WMP cycle.*

*Table 6-4 provides an example and required format of a summary of risk reduction for top-risk circuits.*

*Table 6-4. Example of Summary of Risk Reduction for Top-Risk Circuits*

| Circuit, Segment, or Span ID | Initial Overall Utility Risk | [Year 1] Activities | [Year 1] Overall Utility Risk | [Year 2] Activities | [Year 2] Overall Utility Risk | [Year 3] Activities | [Year 3] Overall Utility Risk |
|---|---|---|---|---|---|---|---|
| ID001 | 1.1x10E-3 | Undergrounding | 0 | - | 0 | - | 0 |
| ID002 | 9.5x10E-2 | Undergrounding | 0 | - | 0 | - | 0 |
| ID003 | 9.2x10E-2 | Protective devices and sensitivity settings | 4.6x10E-2 | - | 4.7x10E-2 | Undergrounding | 0 |
| ID004 | 8.7x10E-2 | Protective devices and sensitivity settings | 4.3x10E-2 | - | 4.7x10E-2 | Undergrounding | 0 |
| ID005 | 8.0x10E-2 | Protective devices and sensitivity settings | 4.0x10E-2 | Covered conductor installation | 2.0x10E-2 | - | 2.0x10E-2 |
| ID006 | 7.5x10E-2 | Vegetation management | 3.5x10E-2 | - | 3.5x10E-2 | - | 3.5x10E-2 |

As noted on page 179 of Energy Safety's WMP Guidelines, the requirements of Section 6.2.1.3 do not apply to ITOs. TBC is an ITO and therefore this section is not applicable.

### 6.2.2 Interim Activities

***Instructions:*** *For each activity that will require more than one year to implement,[35] the electrical corporation must evaluate the need for interim activities that will reduce risk until the primary or permanent activity is in place. In this section of its WMP, the electrical corporation must provide a description of the following:*

- *The electrical corporation's procedures for evaluating the need for interim risk reduction. If an electrical corporation determines that interim activities are not necessary for a given activity, it must explain why and how it is monitoring wildfire and PSPS risk while working to implement the activity*
- *The electrical corporation's procedures for determining which interim activities to implement*
- *The electrical corporation's characterization of each interim activity and evaluation of its specific capabilities to reduce risks, including:*
    - *Potential consequences of risk event(s) addressed by the improvement/activity*
    - *Frequency of occurrence of the risk event(s) addressed by the improvement/activity*
- *The electrical corporation's procedures for evaluating and implementing any changes in initiative effectiveness and prioritization based on time for implementation and use of interim activities, including:*
    - *The cumulative risk exposure of its activity portfolio, accounting for the time value of risk as part of activity comparisons*

*Each interim activity planned by the electrical corporation for implementation on high-risk circuits must be listed as an activity in Sections 8–12. In addition, the electrical corporation must discuss interim activities in the relevant mitigation initiative (initiative) sections of the WMP and include the activities in the related target tables.*

TBC has no applicable interim activities.

[35] See Section 6.1.3.3. A length of one year was selected given the need to reduce wildfire risk in areas identified as high risk during active fire seasons that would otherwise be unaddressed while the primary activity is being implemented.

# 7 PUBLIC SAFETY POWER SHUTOFF

***Modified Instructions:*** *The ITO must comply with Public Utilities Code section 8386(c)(8) in regard to wildfire emergencies and Public Safety Power Shutoff (PSPS) events. Beyond that, the reporting requirements associated with Section 7 do not apply to ITOs.*

Compliance with Public Utilities Code sections 8386(c)8

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable, wholly sited in Non-HFTD areas. Since the beginning of its commercial operations, TBC has not deenergized any circuits to mitigate the risk of wildfire.

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. TBC anticipates that it will never be necessary to issue a PSPS. TBC expects that the Interconnecting Transmission Owner, PG&E's, doctrine regarding PSPS that impacts the PG&E Pittsburg Substation would be the prevailing driver of any PSPS impacts on TBC's operational area. Any PSPS issued by PG&E that impacted the Pittsburg Substation to the extent that TBC's interconnection would be de-energized would take the Trans Bay System offline.

# 8 GRID DESIGN, OPERATIONS, AND MAINTNANCE

***Instructions:*** *Each electrical corporation's WMP must include plans for grid design, operations, and maintenance programmatic areas.*[36]

## 8.1 Targets

***Instructions:*** *In this section, the electrical corporation must provide qualitative and quantitative targets for each year of the three-year WMP cycle.*[37] *The electrical corporation must provide at least one qualitative or quantitative target for the following initiatives:*

- *Grid Design and System Hardening (Section 8.2)*
- *Asset Inspections (Section 8.3)*
- *Equipment Maintenance and Repair (Section 8.4)*
- *Work Orders (Section 8.6)*
- *Grid Operations and Procedures (Section 8.7)*
- *Workforce Planning (Section 8.8)*

*Quantitative targets are required for Quality Assurance (QA) and Quality Control (QC). See Section 8.5, for detailed quantitative target requirements for QA and QC. Reporting of QA and QC quantitative targets is only required in section 8.5.*

### 8.1.1 Qualitative Targets

***Instructions:*** *The electrical corporation must provide qualitative targets for its three-year plan for implementing and improving its grid design, operations, and maintenance,*[38] *including the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *A target completion date*
- *Reference(s) to the WMP section(s) or appendix, including page numbers, where the details of the target(s) are documented and substantiated*
- *This information must be provided in Table 8-1 below*

Initiatives with qualitative targets in the Grid Design, Operations, and Maintenance category are listed in Table 8-1 Grid Design, Operation, and Maintenance Targets by Year below.

[36] Pub. Util. Code §§ 8386(c)(3), (10), (14).
[37] All end of year targets in all sections of the WMP must follow the calendar year.
[38] Annual information included in this section must align with the applicable data submission.

### 8.1.2 Quantitative Targets

***Instructions:*** *The electrical corporation must list all quantitative targets it will use to track progress on its grid design, operations, and maintenance in its three-year plan, broken out by each year of the WMP cycle. Electrical corporations will show progress toward completing quantitative targets in subsequent reports, including data submissions and WMP Updates.*[39] *For each target, the electrical corporation must provide the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *Projected targets and totals for each of the three years of the WMP cycle and relevant units for the targets*
- *The percentage of each activity planned to be performed within HFTD and HFRA (if applicable)*
- *The expected % risk reduction for each of the three years of the WMP cycle*[40]

*The electrical corporation's quantitative targets must provide enough detail to effectively inform efforts to improve the performance of the electrical corporation's grid design, operations, and maintenance initiatives. Each activity must have distinct, trackable targets associated with the activity, even if the electrical corporation tracks targets internally with activities combined. Only inspection-related activities are required to have quarterly targets, with all other activities only requiring end of year total targets. At its discretion, the electrical corporation may provide further granularity as available.*

*Table 8-1 below provides examples of the minimum acceptable level of information.*

[39] Annual information included in this section must align with applicable data submission.
[40] The expected % risk reduction is the expected percentage risk reduction per year, as described in Section 6.2.1.2.

*Table 8-1.Example of Grid Design, Operation, and Maintenance Targets by year*[41]

| *Initiative* | *Quantitative or Qualitative Target* | *Activity (Tracking ID #)* | *Previous Tracking ID (if applicable)* | *Target Unit* | *[Year 1] Target / Status* | *% Planned in HFTD for [Year 1]* | *% Planned in HFRA for [Year 1]* | *% Risk Reduction for [Year 1]* | *[Year 2] Target / Status* | *% Planned in HFTD for [Year 2]* | *% Planned in HFRA in [Year 2]* | *% Risk Reduction for [Year 2]* | *[Year 3] Target / Status* | *% Planned in HFTD for [Year 3]* | *% HFRA planned in [Year 3]* | *% Risk Reduction for [Year 3]* | *Three-Year Total* | *Section; Page Number* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Grid Design and System Hardening* | *Quantitative* | *Install covered conductor (GH- 4)* | *GH-4* | *Circuit Miles* | *175* | *87%* | *93%* | *3.75%* | *150* | *92%* | *96%* | *2.85%* | *200* | *95%* | *11%* | *3.57%* | *525* | *8.2; p. x* |
| *Grid Design and System Hardening* | *Quantitative* | *Install underground lines (GH-2)* | *GH-2* | *Circuit Miles* | *34* | *92%* | *96%* | *4.23%* | *44* | *90%* | *91%* | *4.87%* | *50* | *89%* | *94%* | *5.70%* | *128* | *8.2; x* |
| *Asset Inspection* | *Quantitative* | *Detailed distribution inspections (AI- 5)* | *AI-5* | *Inspections* | *6,700* | *90%* | *94%* | *0.2%* | *6,800* | *91%* | *93%* | *0.2%* | *6,750* | *90%* | *92%* | *0.4%* | *20,250* | *8.3; p. x* |
| *Asset Inspection* | *Qualitative* | *Update asset inspection protocols (AI-1)* | *AI-2; AI-6* | *n/a* | *Not started* | *n/a* | *n/a* | *Started; March 2027* | *n/a* | *n/a* | *n/a* | *Completed; February 2028* | *n/a* | *n/a* | *n/a* | *n/a* | *8.3; p. x* | *Asset Inspection* |

[41] Example calculations for % HFRA covered and % risk reduction provided in Section 6.2.1.2.

Initiatives with qualitative targets in the Grid Design, Operations, and Maintenance category are listed in Table 8-1 Grid Design, Operation, and Maintenance Targets by Year below.

**Table 8-1. Grid Design, Operation, and Maintenance Targets by year**

| Initiative | Quantitative or Qualitative Target | Activity (Tracking ID #) | Previous Tracking ID (if applicable) | Target Unit | 2026 Target / Status | % Planned in HFTD for 2026 | % Planned in HFRA for 2026 | % Risk Reduction for 2026 | 2027 Target / Status | % Planned in HFTD for 2027 | % Planned in HFRA in 2027 | % Risk Reduction for 2027 | 2028 Target / Status | % Planned in HFTD for 2028 | % HFRA planned in 2028 | % Risk Reduction for 2028 | Three-Year Total | Section; Page Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Covered conductor installation | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Undergrounding of electric lines and/or equipment | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Distribution pole replacements and reinforcements | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Transmission pole/tower replacements and reinforcements | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Traditional overhead hardening | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Emerging grid hardening technology installations and pilots | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Microgrids | N/A | TBC does not have any current | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | projects under this initiative | | | | | | | | | | | | | | | |
| Installation of system automation equipment | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Line removal (in the HFTD) | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Other grid topology improvements to minimize risk of ignitions | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Other grid topology improvements to mitigate or reduce PSPS events | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Other technologies and systems not listed above | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Status updates on additional technologies being piloted | N/A | TBC does not have any current projects under this initiative | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## 8.2 Grid Design and System Hardening

***Instructions:*** *In this section the electrical corporation must discuss how it is designing its system to reduce overall utility risk and what it is doing to strengthen its distribution, transmission, and substation infrastructure to reduce the risk of utility-related ignitions resulting in catastrophic wildfires.*[42]

*The electrical corporation is required to discuss grid design and system hardening for each of the following individual activities:*

1. *Covered conductor installation*
2. *Undergrounding of electric lines and/or equipment*
3. *Distribution pole replacements and reinforcements*
4. *Transmission pole/tower replacements and reinforcements*
5. *Traditional overhead hardening*
6. *Emerging grid hardening technology installations and pilots*
7. *Microgrids*
8. *Installation of system automation equipment*
9. *Line removal (in the HFTD)*
10. *Other grid topology improvements to minimize risk of ignitions*
11. *Other grid topology improvements to mitigate or reduce PSPS events*
12. *Other technologies and systems not listed above*
13. *Status updates on additional technologies being piloted*

*In Sections 8.2.1–8.2.13, the electrical corporation must provide a narrative that supports the qualitative targets identified in Section 8.1.1 including the following information for each grid design and system hardening activity:*

- ***Overview of the activity:*** *A brief description of the activity including reference to related objectives and targets. Additionally, the overview must identify whether the activity is a program, project, pilot, or study.*
- ***Impact of the activity on wildfire risk***
    - *The expected percent wildfire risk reduction/effectiveness, with level of granularity included, (e.g., service territory, HFTD, circuit segment, etc.) for the activity, including an explanation of the calculation, a list of assumptions, and justifications for each assumption. A risk reduction/effectiveness of 100% means no risk remains after the electrical corporation completes the activity.*
    - *A trend analysis showing how implementation of the activity has reduced risk over time for each relevant risk and/or risk driver (e.g. vegetation contact for covered conductor installation).*
    - *A discussion of how the activity impacts the likelihood and consequence of ignitions.*

[42] Pub. Util. Code §§ 8386(c)(3), (6), (14)-(15).

- ***Impact of the activity on outage program risk***
  - *The expected percent reliability risk reduction/effectiveness for the activity, including an explanation of the calculation, a list of assumptions, and justifications for each assumption. A risk reduction/effectiveness of 100% means no risk remains after the electrical corporation completes the activity.*
  - *A discussion of how the electrical corporation considers and evaluates the hardened status of upstream circuits/segments/spans to determine the impact of the activity on reliability risk.*
  - *A discussion of how the activity impacts the likelihood and consequence of outage program events, including whether an area would still be subject to PSPS events after the electrical corporation completes the activity.*
  - *A discussion of how the activity impacts overall reliability, including how trends are being observed. This must include evaluation of number of outages occurring, the duration for those outages, and the number of customers affected during those outages.*
- ***Updates to the activity:***
  - *A list of the changes the electrical corporation made to the activity since its last WMP submission.*
  - *Justification for each of the changes, including references to lessons learned.*
  - *A list of planned future improvements and/or updates to the activity, including a timeline for implementation.*
  - *As applicable, a discussion of the status of any undergrounding work plans and progress, as required by Public Utilities Code section 8388.5(f)(2).*
  - *As applicable, a discussion of any evaluations related to scoping grid hardening projects to account for future grid needs (e.g., load capacity, peak demand, system flexibility).*[43]
- ***Compatible activities:***
  - *A list of all activities that can be feasibly deployed in combination and which of these activities the electrical corporation is deploying in combination with the activity to increase risk reduction effectiveness, including the section number and a link to the corresponding WMP section. This must be consistent with the evaluations performed in Section 6.1.3.1.*

*If the electrical corporation does not undertake one or more of the 13 activities listed above, the electrical corporation must provide a brief narrative for each activity, explaining why it does not undertake that activity.*

[43] These considerations must be in alignment with the CPUC's Decision Adopting Improvements to Distribution Planning and Project Execution Process, Distribution Resource Planning Data Portals, and Integration Capacity Analysis Maps, D.24-10-030 and with the CPUC's Rulemaking to Modernize the Electric Grid for a High Distributed Energy Resources Future, R.21-06-017.

### 8.2.1 Covered conductor installation

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall. TBC's System utilizes no overhead transmission lines. Covered conductors are not applicable to TBC's System and therefore TBC does not undertake this activity.

### 8.2.2 Undergrounding of electric lines and/or equipment

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall. By design the TBC System does not make use of overhead lines and therefore TBC does not undertake this activity.

### 8.2.3 Distribution pole replacements and reinforcements

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall. The TBC System is a transmission only system with no distribution elements and therefore TBC does not undertake this activity.

### 8.2.4 Transmission pole/tower replacements and reinforcements

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained

within the walls of the system's converter stations. The TBC System does not utilize any transmission poles or towers and therefore TBC does not undertake this activity.

### 8.2.5 Traditional overhead hardening

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The TBC System does not utilize any overhead lines and therefore TBC does not undertake this activity.

### 8.2.6 Emerging grid hardening technology installations and pilots

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. TBC has no current activities for this category given the limited scope and scale of its operations.

### 8.2.7 Microgrids

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The TBC System is transmission only and does not have any distribution elements or serve retail customers and therefore TBC does not undertake this activity.

### 8.2.8 Installation of system automation equipment

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. TBC has no current activities for this category given the limited scope and scale of its operations.

### 8.2.9 Line removal (in the HFTD)

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered

for wildfire mitigation planning. TBC has no transmission lines in an HFTD and therefore does not undertake this activity.

### 8.2.10 Other grid topology improvements to minimize risk of ignitions

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations which is hardscaped with rock and asphalt. As a result, TBC does not undertake this activity.

### 8.2.11 Other grid topology improvements to mitigate or reduce PSPS events

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations which is hardscaped with rock and asphalt. The TBC System is transmission only and does not have any distribution elements or serve retail customers. TBC anticipates that it will never be necessary to issue a PSPS. The Interconnecting Transmission Owner, PG&E, would be the main driver of a PSPS in the TBC's operational area. Any PSPS issued by PG&E that impacted its Pittsburg Converter Station would directly impact the transmission system resulting in it automatically going offline. As a result, TBC does not undertake this activity.

### 8.2.12 Other technologies and systems not listed above

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations which is hardscaped with rock and asphalt. During the previous WMP cycles, TBC installed transformer seismic pads which included increasing the height of the blast walls in the transformer containment. TBC does not have any additional grid hardening activities planned for this category.

### 8.2.13 Status updates on additional technologies being piloted

TBC is not piloting any additional technologies and does not undertake this activity.

## 8.3 Asset Inspections

***Instructions:*** *In this section, the electrical corporation must provide an overview of its procedures for inspecting its assets.*[44]

*The electrical corporation must first summarize details regarding its asset inspections in Table 8-2. The table must include the following:*

- ***Type of inspection****: i.e., distribution, transmission, or substation.*
- ***Inspection program name:*** *Identify various inspection programs within the electrical corporation.*
- ***Frequency or trigger****: Identify the frequency or triggers, such as inputs from the risk model. Indicate differences in frequency or trigger by HTFD Tier, if applicable.*
- ***Method of inspection****: Identify the methods used to perform the inspection (e.g., patrol, detailed, aerial, climbing, and LiDAR).*
- ***Governing standards and operating procedures****: Identify the initiative construction standards and the electrical corporation's procedures for addressing them, and other internal protocols for work described.*
- ***Quarterly targets****: Provide the cumulative quarterly targets for each year of the WMP cycle.*[45]
- ***% of HFRA and HFTD covered annually by inspection type:*** *Determine the percentage of either circuit mileage or number of assets covered annually by the inspection type within the HFRA and HFTD.*
- ***Find rate****: Identify the find rate of level 1, 2, and 3 conditions over the three calendar years prior to the Base WMP submission. The find rate must be expressed as the percentage of inspections resulting in findings and identify the inspection unit.*

***Clarifying information:*** *Provide electrical corporation-specific risk informed triggers used for asset inspections and electrical corporation-specific definitions of the different methods of inspection*.

[44] Pub. Util. Code § 8386(c)(10).
[45] Guidelines for WMP Update will provide additional instructions on future quarterly rolling target reporting.

*Table 8-2 Example of Asset Inspection, Frequency, Method and Criteria*

| *Type* | *Inspection Activity (Program)* | *Frequency or Trigger (Note 1)* | *Method of Inspection (Note 2)* | *Governing Standards & Operating Procedures* | *Cumulative Quarterly Target Year 1, Q1* | *Cumulative Quarterly Target Year 1, Q2* | *Cumulative Quarterly Target Year 1, Q3* | *Cumulative Quarterly Target Year 1, Q4* | *Cumulative Quarterly Target Year 2, Q1* | *Cumulative Quarterly Target Year 2, Q2* | *Cumulative Quarterly Target Year 2, Q3* | *Cumulative Quarterly Target Year 2, Q4* | *Cumulative Quarterly Target Year 3, Q1* | *Cumulative Quarterly Target Year 3, Q2* | *Cumulative Quarterly Target Year 3, Q3* | *Cumulative Quarterly Target Year 3, Q4* | *% of HFRA and HFTD Covered Annually by Inspection Type* | *Condition Find Rate Level 1* | *Condition Find Rate Level 2* | *Condition Find Rate Level 3* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Transmission* | *Patrol* | *1 year* | *Ground* | *GO 165* | *400* | *800* | *900* | *900* | *400* | *800* | *900* | *900* | *400* | *800* | *900* | *900* | *100* | *7% (Mile)* | *15% (Mile)* | *3% (Mile)* |
| *Distribution* | *Detailed* | *3 years* | *Ground* | *GO 165* | *1500* | *3000* | *4500* | *5000* | *1500* | *3000* | *4500* | *5000* | *1500* | *3000* | *4500* | *5000* | *33* | *3% (Asset)* | *15% (Asset)* | *12% (Asset)* |

*The electrical corporation must then provide a narrative overview of each asset inspection activity (program) identified in the above table; Section 8.3.1 provides instructions for the overviews. The sections should be numbered Section 8.3.1 to Section 8.3.n (i.e., each asset inspection activity [program] is detailed in its own section). The electrical corporation must include inspection activities (programs) it is discontinuing or has discontinued since the last WMP submission; in these cases, the electrical corporation must explain why the activity (program) is being discontinued or has been discontinued. The electrical corporation must also include inspection activities (programs) being piloted; for pilot inspection activities (programs), the electrical corporations must include a discussion of how it measures the effectiveness of the pilot and how it determines next steps for the pilot (e.g. to expand, discontinue, or move to permanent activity [program]).*

TBC provides the following summary regarding the asset inspections performed at its Pittsburg Converter Station.

## Table 8-2. Asset Inspection Frequency, Methods, and Criteria

| Type | Inspection Activity (Program) | Frequency or Trigger (Note 1) | Method of Inspection (Note 2) | Governing Standards & Operating Procedures | Cumulative Quarterly Target 2026, Q1 | Cumulative Quarterly Target 2026, Q2 | Cumulative Quarterly Target 2026, Q3 | Cumulative Quarterly Target 2026, Q4 | Cumulative Quarterly Target 2027, Q1 | Cumulative Quarterly Target 2027, Q2 | Cumulative Quarterly Target 2027, Q3 | Cumulative Quarterly Target 2027, Q4 | Cumulative Quarterly Target 2028, Q1 | Cumulative Quarterly Target 2028, Q2 | Cumulative Quarterly Target 2028, Q3 | Cumulative Quarterly Target 2028, Q4 | % of HFRA and HFTD Covered Annually by Inspection Type | Condition Find Rate Level 1 | Condition Find Rate Level 2 | Condition Find Rate Level 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transmission | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Distribution | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Substation | Visual inspection | Monthly | Ground | GO 174<br><br>Monthly Inspection of Watch (TBC-MP-004*) | 3 | 6 | 9 | 12 | 3 | 6 | 9 | 12 | 3 | 6 | 9 | 12 | 100% | 0% (Asset) | 0% (Asset) | 0% (Asset) |

*Procedure includes task items for inspecting accessible transmission elements of the System

## 8.3.1 Substation Inspection

### 8.3.1.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of the individual asset inspection activity (program), including inspection criteria and the various inspection methods used for each inspection activity (program).*

*Include relevant visuals and graphics depicting the workflow and decision-making process the electrical corporation uses for the inspection activity (program)(see the example in Figure 8-1).*

TBC conducts regular monthly inspections of the Pittsburg Converter Station. TBC utilizes TBC-MP-004 which is its procedure for conducting the monthly Inspection of Watch (IOW). The aforementioned procedure provides thorough guidelines for assessing equipment condition and performance. Additional inspections are conducted at the discretion of operations personnel in advance of and/or after real time events such as extreme weather, fire event in the area, earthquakes, etc. TBC plans to continue its cadence of asset inspections. The inspections include general checks and measurements, visual inspections, and general housekeeping. An IOW checklist is utilized by the operations and maintenance technicians (O&M Techs) when conducting the monthly inspection.

Given its limited footprint and the size and scope of its operations, TBC's inspection program is schedule-based. Asset management and inspections are conducted in accordance with manufacturer's specification and applicable maintenance procedures. TBC's maintenance practices are reviewed annual by the CAISO.

### 8.3.1.2 Frequency or Trigger

***Instructions:*** *In this section, the electrical corporation must identify the frequency (including how frequency may differ by HFTD Tier or other risk designation[s]) or triggers used in the inspection activity (program), such as inputs from the risk model.*

*If the inspection activity (program) is schedule-based, the electrical corporation must explain how it uses risk prioritization in the scheduling of the inspection activity (program) to target high-risk areas. If the electrical corporation does not use risk prioritization in the scheduling of the inspection activity (program), it must explain why.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is considered for wildfire mitigation planning. TBC has no assets in an HFTD. The TBC System is a transmission-only system with no overhead lines and no distribution elements. The Pittsburg Converter Station

is hardscaped and utilizes an underground cable which is monitored in real time. Given its limited footprint and the size and scope of its operations, TBC's inspection program is schedule-based with additional inspections conducted at the discretion of operations personnel in advance of and/or after real time events such as extreme weather, fire event in the area, earthquakes, etc.

#### 8.3.1.3 Accomplishments, Roadblocks, and Updates

***Instructions:*** *In this section, the electrical corporation must discuss:*

- *How the electrical corporation measures success for the inspection activity (program) (excluding routine inspections)*
- *Roadblocks the electrical corporation has encountered while implementing the inspection activity (program) and how the electrical corporation has addressed the roadblocks*
- *Changes/updates to the inspection activity (program) since the last WMP submission, including known future plans (beyond the current year) and new/novel strategies the electrical corporation may implement in the next five years, including references to and strategies from pilot projects and research*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. In view of TBC's limited footprint with one operational transmission asset, TBC has a small operations staff which perform asset inspection and maintenance work in addition to function as system operators who control the asset 24/7 from TBC's North American Electric Reliability Corporation (NERC)-certified control room. All TBC maintenance work, including asset inspections, is carried out by dedicated TBC Operations personnel and qualified contractors that, by reason of training, experience, and instruction, are qualified to perform the task.

There has been one change to TBC's inspection program since the last WMP submission. In 2024, the CAISO approved Version 5 of TBC's Maintenance Practices which, as of January 1, 2025, allows TBC to switch from weekly and monthly inspections to just monthly asset inspections. In Q2 of 2025 TBC began testing the use of a robotic dog to provide supplemental site/asset inspection at the Pittsburg Converter Station. TBC has not encountered any roadblocks in the implementation of its inspection program. There are no current plans to materially alter the inspection program, excluding the utilization of the robotic dog in a supplemental capacity. TBC will continue to monitor the effectiveness of the current inspection program as it gains operational experience and learns additional best practices.

## 8.4 Equipment Maintenance and Repair

***Instructions:*** *In this section, in addition to the information described above regarding distribution, transmission, and substation inspections, the electrical corporation must provide a brief narrative of maintenance activity (programs).*[46] *As a narrative, the electrical corporation must include its*

[46] Pub. Util. Code §§ 8386(c)(3), (10).

*strategy for maintenance, such as whether the electrical corporation replaces or upgrades facilities/equipment proactively (for example, an electrical corporation may monitor dissolved gases in its transformers to detect potential transformer failures to alert engineering and maintenance personnel or component lifecycle management) or if it runs its facilities/equipment to failure. The narrative must include, at minimum, the following types of equipment:*

1. *Capacitors*
2. *Circuit breakers*
3. *Connectors, including hotline clamps*
4. *Conductor, including covered conductor*
5. *Fuses, including expulsion fuses*
6. *Distribution pole*
7. *Lightning arrestors*
8. *Reclosers*
9. *Splices*
10. *Transmission poles/towers*
11. *Transformers*
12. *Non-exempt[47] equipment*
13. *Pre-GO 95 legacy equipment*
14. *Other equipment not listed*

*For equipment types 12–14 above, the electrical corporation must include sub-categories for each relevant equipment type. For each equipment type, the electrical corporation must include sections for the following information:*

***Condition monitoring:** a description of how the electrical corporation monitors the condition of the equipment (e.g., human visual inspection, automated visual inspection, human sensor readings, automated sensor readings).*

- ***Maintenance strategy:** identification and brief description of the maintenance strategy (e.g. reactive, preventative, predictive, reliability-centered).*
- ***Replacement/repair condition:** a description of how equipment is identified for repair or replacement (e.g., time interval, inspection finding, sensor reading, predictive maintenance, data analytics, machine learning).*
- ***Timeframe for remediation:** a list of possible conditions and findings, including the priority level and associated timeframes for remediation of each.*

[47] "Non-exempt" in this instance pertaining to equipment that must comply with clearances specified within Public Resource Code (PRC) § 4292 and PRC § 4293.

- ***Failure rate:*** *the number of total failures attributed to the given equipment type in the HFTD and HFRA[48] during the three calendar years prior to the base WMP submission, broken out by distribution, transmission, and substation. The failure rate must include the likelihood of failure based on the ratio of number of failures to the number of total assets in-field within the HFTD/HFRA for the equipment type.*
- ***Ignition rate:*** *the total number of CPUC-reportable ignitions attributed to the equipment type in the HFTD and HFRA during the ten calendar years prior to the base WMP submission, broken out by distribution, transmission, and substation. The ignition rate must include evaluation of the likelihood that an equipment failure will propagate into an ignition based on the ratio of the number of failures to the number of ignitions attributed to the equipment type.*
- ***Failure and ignition causes:*** *A narrative describing root cause analyses performed for failures and associated CPUC ignitions within the HFTD and HFRA, including any lessons learned and solutions implemented to decrease ignition rates.*

### 8.4.1 Capacitors

TBC does not utilize external capacitors banks. The converter hall is monitored by a CCTV and CC thermal system 24/7 by TBC's system operator. Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of

[48] Equipment that falls in both the HFTD and HFRA should not be counted twice. The number of failures should include all equipment that is in the HFTD Tier 2 and 3 and all equipment that is in the utility defined HFRA beyond the HFTD.

TBC's affiliates. TBC has not had any capacitor failures leading to/or associated with ignitions in its operating history.

### 8.4.2 Circuit breakers

Circuit breakers associated with the TBC System are checked at least monthly as per TBC's Converter Maintenance Practices (TBC-MP-001) and Monthly Inspection of Watch (IOW) (TBC-MP-004). Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any circuit breaker failures or associated ignitions in its operating history.

### 8.4.3 Connectors, including hotline clamps

Connectors are inspected annually as part of thermal inspection as per TBC's Converter Maintenance Practices (TBC-MP-001). Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as

reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any connector failures leading to/or associated with ignitions in its operating history.

### 8.4.4 Conductors, including covered conductors

Conductors are inspected annually as part of thermal inspection as per TBC's Converter Maintenance Practices (TBC-MP-001). Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any conductor failures leading to/or associated with ignitions in its operating history.

### 8.4.5 Fuses, including expulsion fuses

Fuses are inspected annually as part of thermal inspection as per TBC's Converter Maintenance Practices (TBC-MP-001). Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any fuse failures leading to/or associated with ignitions in its operating history.

### 8.4.6 Distribution pole

The TBC System is transmission only and does not utilize any distribution elements.

### 8.4.7 Lightning arrestors

The only lightning arrestors within the TBC System are situated around the Converter Station yards. Lightning arrestors are annually assessed via infrared scan and inspected every two years as per TBC's Converter Maintenance Practices (TBC-MP-001). Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators

are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any lightning arrestor failures or associated ignitions in its operating history.

### 8.4.8 Reclosers

The TBC System does not utilize reclosers.

### 8.4.9 Splices

The transmission line for the TBC System is either undergrounded or submerged and is a continuous ~53 mile cable except for the joinders where the land and sea cable meet in underground cable vaults and where the cables terminate within the Converter Stations. The cable vaults and terminations are inspected monthly through task items as identified in TBC's Monthly Inspection of Watch (IOW) TBC-MP-004. Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the

inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any joinder failures or associated ignitions in its operating history.

### 8.4.10 Transmission poles/towers

The transmission line for the TBC System is either undergrounded or submerged. As a result, the System does not utilize transmission poles or towers.

### 8.4.11 Transformers

TBC's Pittsburg Converter Station has three in-service transformers and one spare transformer. The transformers are inspected monthly through task items as identified in TBC's Monthly Inspection of Watch (IOW) TBC-MP-004. In 2021, TBC implemented a transformer oil control system which provided new control and flow sensor on its main transformers. This system allows station personnel to have improved assess to oil flow indication and controls which allows for more accurate preventative maintenance. This system in conjunction with the transformer monitoring system, which was installed in 2020, provides enhanced data that can be utilized to assess transformer health and potentially predict transformer failure which has the potential for initiating an ignition event. Additionally, in 2021, TBC completed installation of seismic improvements to its transformers. The seismic upgrades included the positioning of all site transformers on base isolators which significantly improves the capability of the transformers to resist derangement during a seismic event; thus, reducing the likelihood of instigation of a transformer fire.

Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and

analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any transformer failures or associated ignitions in its operating history.

### 8.4.12 Non-exempt equipment

Not applicable as TBC does not have any non-exempt equipment.

### 8.4.13 Pre-GO 95 legacy equipment

Not applicable as TBC does not have any pre-GO 95 legacy equipment.

### 8.4.14 Other Equipment not listed

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. It utilizes other equipment other than listed such as HVDC converter system, converter cooling system, reactors, resistors, batteries, surge arrestors, and switchgear. All equipment is inspected and maintained as per manufacturer recommendations, industry best practices, or leveraged operational experience of TBC's affiliates as identified in TBC's Converter Maintenance Practices (TBC-MP-001) and Monthly Inspection of Watch (IOW) (TBC-MP-004).

Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC's operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC's operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance practices are approved and audited in accordance with the CAISO Transmission Maintenance, and address the inspections, measurements, checks, tests, and analysis intended to identify any problems that may be either averted completely or can be rectified before resulting in a more serious failure to equipment or to the operation of the facility. Maintenance practices are also based on the recommendations of original equipment manufacturer and leveraged operational experience of TBC's affiliates. TBC has not had any failures leading to ignition in its operating history for any other equipment not listed.

# 8.5 Quality Assurance and Quality Control

## 8.5.1 Overview, Objectives and Targets

***Instructions:*** *In this section, the electrical corporation must provide an overview of each of its QA and QC activities for grid design, asset inspections and maintenance.[49] This overview must include the following for each program:*

- *Initiative/activity being audited (each initiative/activity name must correspond to an initiative/activity described in Sections 8.2–8.4)*
- *Tracking ID from Table 8-1 or 8-2*
- *Quality program type (QA or QC)*
- *Objective of each QA and QC program*

*Table 8-3 provides an example of the required level of detail. At a minimum, Table 8-3 must include the following types of activities: new construction, corrective repair work, asset inspections (as described in Section 8.3), and any additional asset maintenance.*

*Table 8-3. Example of Grid Design, Asset Inspections, and Maintenance QA and QC Program Objectives*

| ***Initiative/Activity Being Audited*** | ***Tracking ID*** | ***Quality Program Type*** | ***Objective of the Quality Program*** |
|---|---|---|---|
| *Covered Conductor Installation* | *GH-04* | *QA* | *Ensure that new construction meets applicable standards.* |
| *Detailed Distribution Inspections* | *AI-09* | *QC* | *Ensure inspections are following electrical corporation procedures for inspections.* |
| *Detailed Distribution Inspection Finding Remediation* | *AI-16* | *QA* | *Test personnel knowledge of applicable standards t* |

*The electrical corporation must also provide the following tabular information for each QA and QC program:*

- *Initiative/activity being audited (each initiative/activity name must correspond to an initiative/activity described in Sections 8.2–8.4)*

[49] Pub. Util. Code §§ 8386(c)(10), (22).

- *Type of audit (e.g. desktop or field)*
- *Population[50]/sample unit*
- *Population size for each audited initiative/activity for each year of the three-year WMP cycle*
- *Sample size for each audited initiative/activity for each year of the three-year WMP cycle*
- *Percent of sample in the HFTD for each audited initiative/activity for each year of the three-year WMP cycle*
- *Confidence level and Margin of Error (MOE)*

*Target pass rate for each audited initiative/activity for each year of the three-year WMP cycle Table 8-4 provides an example of the appropriate level of detail and required format. At a minimum, Table 8-4 must include the following types of activities: new construction, corrective repair work, asset inspections (as described in Section 8.3), and any additional asset maintenance.*

[50] In this section, a population may be the number of circuit miles inspected, the number of assets inspected, etc.

*Table 8-4. Example of Grid Design, Asset Inspections, and Maintenance QA and QC Activity Targets*

| ***Initiative/ Activity Being Audited*** | ***Type of Audit*** | ***Population/ Sample Unit*** | ***[Year 1]: Population Size*** | ***[Year 1]: Sample Size*** | ***[Year 2]: Population Size*** | ***[Year 2]: Sample Size*** | ***[Year 3]: Population Size*** | ***[Year 3]: Sample Size*** | ***Percent of Sample in the HFTD*** | ***Confidence level / MOE*** | ***[Year 1]: Pass Rate Target*** | ***[Year 2]: Pass Rate Target*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Detailed Distribution Inspections - Ground* | *Field* | *Asset Inspection* | *5,000* | *1,347* | *5,000* | *1,347* | *5,000* | *1,347* | *75%* | *99%/3%* | *95%* | *97%* |
| *Covered Conductor Installation* | *Field* | *Circuit miles* | *100* | *10* | *100* | *10* | *100* | *10* | *95%* | *95%/2%* | *95%* | *97%* |
| *Detailed Distribution Inspections - Drone* | *Desktop* | *Asset Inspection* | *500* | *135* | *500* | *135* | *500* | *135* | *90%* | *99%/3%* | *95%* | *97%* |

Due to the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with larger footprints. TBC has a small staff of 6 Operations and Maintenance Technicians 15 (O&M technicians) who conduct the periodic asset inspections and perform or oversee maintenance work. Their work is overseen the Operations Manager. All O&M technicians are trained on TBC's maintenance procedures including TBC-MP-001 (Converter Maintenance Practices) and TBC-MP-004, which is the procedure for conducting the monthly Inspection of Watch (IOW). The aforementioned procedures provide thorough guidelines for assessing equipment condition and performance. The IOWs are utilized to document observed conditions and identify conditions that are off normal which require correction.

As the O&M technician performs their inspection of the facility, any issue is documented in the "Notes and Findings" section of the IOW. Any issue which can be immediately remedied, is corrected, with the remedial actions noted. In accordance with TBC-MP-001 Section 4.1.4, completed IOW are turned in to be reviewed by the Operations Manager or their delegate. The reviewer checks the IOW for completeness and for any item/s which have been found to be out of specified parameters or in an "unsat[isfactory]" condition. Issues that cannot be addressed immediately identified in the IOW and tracked as work orders to be addressed utilizing the appropriate corporate or contracted resources as required to achieve a resolution. Any issue that might have material impact to the operation of the system are immediately reported to the on-desk system operator and escalated to the Operations Manager for assessment and determination of required action(s) including forced or planned system outage. This review process, in conjunction, with the frequency of the monthly IOW creates a continuous loop of asset inspection assessment that serves to identify issues early helping to ensure that equipment is in optimal operation condition which inherently reduces the risk of potential ignition.

TBC plans to continue its cadence of periodic asset inspections. As a result, Table 8-3 and Table 8-4 are marked N/A meaning "Not Applicable".

**Table 8-3. Grid Design, Asset Inspections, and Maintenance QA and QC Program Objectives**

| Initiative/Activity Being Audited | Tracking ID | Quality Program Type | Objective of the Quality Program |
|---|---|---|---|
| N/A | N/A | N/A | N/A |

**Table 8-4. Grid Design, Asset Inspections, and Maintenance QA and QC Activity Targets**

| Initiative/ Activity Being Audited | Type of Audit | Population/ Sample Unit | 2026: Population Size | 2026: Sample Size | 2027: Population Size | 2027: Sample Size | 2028: Population Size | 2028: Sample Size | Percent of Sample in the HFTD | Confidence level / MOE | 2026: Pass Rate Target | 2027: Pass Rate Target | 2028: Pass Rate Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

### 8.5.2 QA and QC Procedures

***Instructions:*** *In this section, the electrical corporation must list the applicable procedure(s), including the version(s) and effective date(s), used for each grid design, operation, and maintenance QA and QC program listed in Table 8-3.*

Due to the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with larger footprints. TBC has a small staff of 6 Operations and Maintenance Technicians 15 (O&M technicians) who conduct the periodic asset inspections and perform or oversee maintenance work. Their work is overseen the Operations Manager. All O&M technicians are trained on TBC's maintenance procedures including TBC-MP-001 (Converter Maintenance Practices) and TBC-MP-004, which is the procedure for conducting the monthly Inspection of Watch (IOWs). The aforementioned procedures provide thorough guidelines for assessing equipment condition and performance. The IOWs are utilized to document observed conditions and identify conditions that are off normal which require correction.

As the O&M technician performs their inspection of the facility, any issue is documented in the "Notes and Findings" section of the IOW. Any issue which can be immediately remedied, is corrected, with the remedial actions noted. In accordance with TBC-MP-001 Section 4.1.4, completed IOW are turned in to be reviewed by the Operations Manager or their delegate. The reviewer checks the IOW for completeness and for any item/s which have been found to be out of specified parameters or in an "unsat[isfactory]" condition. Issues that cannot be addressed immediately identified in the IOW and tracked as work orders to be addressed utilizing the appropriate corporate or contracted resources as required to achieve a resolution. Any issue that might have material impact to the operation of the system are immediately reported to the on-desk system operator and escalated to the Operations Manager for assessment and determination of required action(s) including forced or planned system outage.

### 8.5.3 Sampling Plan

***Instructions:*** *In this section, the electrical corporation must describe how it determines the sample for each QA and QC program listed in Table 8-4. This must include how HFTD tier or other risk designations affect the sampling plan, and how the electrical corporation ensures samples are representative of the population.*

Due to the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with larger footprints. As the O&M technician performs their inspection of the facility, any issue is documented in the "Notes and Findings" section of the monthly IOW. Any issue which can be immediately remedied, is corrected, with the remedial actions noted. In accordance with TBC-MP-001 Section 4.1.4, all completed monthly IOW are turned in to be reviewed by the Operations Manager or their delegate.

### 8.5.4 Pass Rate Calculation

***Instructions:*** *In this section, the electrical corporation must describe how it calculates pass rates. This description must include:*

- *The sample unit that generates the pass rate for each QA and QC program (e.g., for detailed distribution inspections, the sample unit that generates the pass rate may be a single inspection that passes or fails a QC audit).*
- *The pass and failure criteria for each initiative/activity listed in table 8-3, including a discussion of any weighted contributions to the pass rate.*

Due it the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with large footprints. Inspections occur monthly and to ensure the procedures and processes are being followed. As the O&M technician performs their inspection of the facility, any issue is documented in the "Notes and Findings" section of the monthly IOW. Any issue which can be immediately remedied, is corrected, with the remedial actions noted. In accordance with TBC-MP-001 Section 4.1.4, all completed monthly IOW are turned in to be reviewed by the Operations Manager or their delegate. The reviewer checks the IOW for completeness and for any item/s which have been found to be out of specified parameters or in an "unsat[isfactory]" condition. Issues that cannot be addressed immediately identified in the IOW and tracked as work orders to be addressed utilizing the appropriate corporate or contracted resources as required to achieve a resolution. Any issue that might have material impact to the operation of the system are immediately reported to the on-desk system operator and escalated to the Operations Manager for assessment and determination of required action(s) including forced or planned system outage. As a result of the limited scale and scope of operations, TBC does not calculation a pass rate.

### 8.5.5 Other Metrics

***Instructions:*** *In this section, the electrical corporation must list metrics used by the electrical corporation to evaluate the effectiveness of its QA and QC programs and procedures (e.g. audit pass rates, outage rate within six months of inspection attributed to equipment condition or failure, new construction rework rate).*

Due it the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with large footprints. TBC's maintenance practices are approved and audited on an annual basis in accordance with the CAISO Transmission Maintenance Procedures. Actual availability and outage statistics are also annually provided to the CAISO.

### 8.5.6 Documentation of Findings

***Instructions:*** *In this section, the electrical corporation must describe how it documents its QA and QC findings and incorporates lessons learned from those findings into corrective actions, trainings, and procedures. This must include a description of how the electrical corporation*

*accounts for and documents the following when improving its inspections and maintenance QA and QC processes:*

- *The number of inspections reviewed*
- *The number of new issues identified*
- *The number of repairs with a shortened deadline*
- *The number of repairs with a longer deadline*
- *The number of recommended repairs cancelled*

Due it the limited scale and scope of TBC's operation, QA/QC activities are not as extensive as those utilities with large footprints. Inspections occur monthly and to ensure the procedures and processes are being followed. As the O&M technician performs their inspection of the facility, any issue is documented in the "Notes and Findings" section of the monthly IOW. Any issue which can be immediately remedied, is corrected, with the remedial actions noted. In accordance with TBC-MP-001 Section 4.1.4, all completed monthly IOW are turned in to be reviewed by the Operations Manager or their delegate. The reviewer checks the IOW for completeness and for any item/s which have been found to be out of specified parameters or in an "unsat[isfactory]" condition. Issues that cannot be addressed immediately identified in the IOW and tracked as work orders to be addressed utilizing the appropriate corporate or contracted resources as required to achieve a resolution. Any issue that might have material impact to the operation of the system are immediately reported to the on-desk system operator and escalated to the Operations Manager for assessment and determination of required action(s) including forced or planned system outage.

### 8.5.7 Changes to QA and QC Since Last WMP and Planned Improvements

***Instructions:*** *In this section, the electrical corporation must describe:*

- *A list of changes the electrical corporation made to its QA and QC procedure(s) since its last WMP submission*
- *Justification for each of the changes including references to lessons learned as applicable*
- *A list of planned future improvements and/or updates to QA and QC procedure(s) including a timeline for implementation*

There has been no changes to TBC's QA and QC since the last WMP. TBC plans to continue its cadence of periodic asset inspections and IOW review. TBC will continue to evaluate opportunities for improvement to its asset management and inspections procedures, including QA/QC processes.

## 8.6 Work Orders

***Instructions:*** *to manage its open work orders resulting from inspections that prescribe asset*

*management activities.[51] This overview must include a brief narrative that provides:*

- *Reference to procedures documenting the work order process. The electrical corporation must provide a summary of these procedures or provide a copy in the supporting documents location on its website.*
- *A description of the plan for correcting any past due work orders (i.e., open work orders that have passed remediation deadlines), if applicable including the estimated date past due work orders in HFTD will be completed.*
- *A description of how work orders are prioritized based on risk.*
- *A description of procedures the electrical corporation uses for monitoring and/or reinspecting open work orders.*
- *A discussion of how past trends of open work orders have informed the electrical corporation's current procedures and prioritization for addressing work orders. This must include analysis of the following:*
    - *In addition, each electrical corporation must provide an aging report for work orders past due 79 (Table 8-5 and Table 8-6 provide examples).*
    - *Types of findings within the backlog*
    - *Equipment types for the findings within the backlog*
    - *Reinspection frequency for findings*
    - *Outcomes of reinspection, including changes to prioritization or expected due dates*
    - *Prioritization level within the backlog[52]*

*In addition, each electrical corporation must provide an aging report for work orders past due[53] (Table 8-5 and Table 8-6 provide examples).*

*Table 8-5. Example of Number of Past Due Asset Work Orders Categorized by Age*

| ***HTFD Area*** | ***0-30 Days*** | ***31-90 Days*** | ***91-180 Days*** | ***181+ Days*** |
|---|---|---|---|---|
| *Non-HFTD* | | | | |
| *HFTD Tier 2* | | | | |
| *HFTD Tier 3* | | | | |

*Table 8-6. Example of Number of Past Due Asset Work Orders Categorized by Age for Priority Levels[54]*

| *Priority Level* | ***0-30 Days*** | ***31-90 Days*** | ***91-180 Days*** | ***181+ Days*** |
|---|---|---|---|---|
| *Priority 1* | | | | |
| *Priority 2* | | | | |
| *Priority 3* | | | | |

[51] Pub. Util. Code §§ 8386(c)(10), (14).
[52] ECs must include the associated GO 95 Rule 18 level. If the EC uses a different prioritization level system, this must be included in addition to the GO 95 levels, with an explanation as to why the EC is using a different system.
[53] A past due work order is any work order that remains open beyond the shorter of two timeframes: the one required by the electrical corporation, or the one required by GO 95.
[54] Priority levels as defined by GO 95 Rule 18.

Due to the limited scale and scope of TBC's operation, work orders are addressed with TBC's operations teams through the course of scheduled periodic maintenance inspections and activities. Work orders would be inputted into AMP, TBC's maintenance management program, and tracked through completion. TBC has no past due asset work orders. In Table 8-5 and Table 8-6 are marked N/A meaning "Not Applicable" as TBC no assets in HFTD Tier 2 and Tier 3 areas.

**Table 8-5. Example of Number of Past Due Asset Work Orders Categorized by Age**

| HTFD Area | 0-30 Days | 31-90 Days | 91-180 Days | 181+ Days |
|---|---|---|---|---|
| Non-HFTD | 0 | 0 | 0 | 0 |
| HFTD Tier 2 | N/A | N/A | N/A | N/A |
| HFTD Tier 3 | N/A | N/A | N/A | N/A |

**Table 8-6. Number of Past Due Asset Work Orders Categorized by Age for Priority Levels**

| Priority Level | 0-30 Days | 31-90 Days | 91-180 Days | 181+ Days |
|---|---|---|---|---|
| Priority 1 | 0 | 0 | 0 | 0 |
| Priority 2 | N/A | N/A | N/A | N/A |
| Priority 3 | N/A | N/A | N/A | N/A |

## 8.7 Grid Operations and Procedures

### 8.7.1 Equipment Settings to Reduce Wildfire Risk

***Instructions:*** *In this section, the electrical corporation must discuss the ways in which it operates its system to reduce wildfire risk.*[55] *The equipment settings discussion must include the following:*

- *PEDS*
- *Automatic recloser settings*
- *Settings of other emerging technologies (e.g., rapid earth fault current limiters)*

*For each of the above, the electrical corporation must provide a narrative that includes the following, as applicable:*

- *Settings used to reduce wildfire risk.*
- *Analysis of reliability/safety impacts for settings the electrical corporation uses. This must include the following:*
    - *Analysis of the most impacted circuits, including how the electrical corporation determined which circuits were most impacted*

[55] Pub. Util. Code §§ 8386(c)(3), (6), (14).

- *The total number of outages that have occurred on the most impacted circuits when settings were enabled*
- *The cumulative customer-minutes associated with outages on the most impacted circuits*
- *How the electrical corporation has worked to alleviate future reliability/safety impacts along the most impacted circuits*
- *Deenergization protocols must consider impact on critical first responders, health and communication infrastructure, and medical baseline customers*[56]

- *The impacts via tabular data for the top ten most impacted circuits/circuit segments from the previous three years, as shown in Table 8-7 below*

*Table 8-7. Top Ten Impacted Circuits from Changes to PEDS in the Past Three Years*

| ***Circuit/Circuit Segment ID*** | ***Circuit/Circuit Segment Name*** | ***Circuit/Circuit Segment Length (overhead circuit miles)*** | ***Number of Outages in Past Three Years*** | ***Cumulative Outage Duration*** | ***Cumulative Number of Customers Impacted by Outages*** |
|---|---|---|---|---|---|
| *ID 001* | | | | | |
| *ID 002* | | | | | |

- *Criteria for when the electrical corporation enables the settings*
- *Operational procedures for when the settings are enabled, including monitoring for re-energization*
- *The number of circuit miles capable of these settings, including the percentage of circuit miles in the HFTD and HFRA covered by these settings*
- *The percentage of time settings were enabled for the past three years based on the amount of times enablement criteria thresholds were met and led to activation, and the associated number of circuit miles encompassed by activation at that time*
- *An estimate of the effectiveness of the settings for reducing wildfire risk, including the calculation used for determining the effectiveness, a list of assumptions, and justification for these assumptions. The estimate must also include the number of ignitions that still occurred while sensitivity settings were enabled.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The TBC System does not utilize equipment settings that are designed to reduce wildfire risk. The facility does not have any overhead lines, utilize recloser, or include any distribution assets. As a result, Table 8-7 is marked N/A meaning “Not Applicable”.

[56] Pub. Util. Code §§ 8386(c)(6)(A),(B),(C)

**Table 8-7. Top Ten Impacted Circuits from Changes to PEDS in the Past Three Years**

| Circuit/Circuit Segment ID | Circuit/Circuit Segment Name | Circuit/Circuit Segment Length (overhead circuit miles) | Number of Outages in Past Three Years | Cumulative Outage Duration | Cumulative Number of Customers Impacted by Outages |
|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A |

### 8.7.2 Grid Response Procedures and Notifications

***Instructions:*** *The electrical corporation must provide a narrative on operational procedures it uses to respond to faults, ignitions, or other issues detected on its grid that may result in a wildfire including how the electrical corporation:*

- *Locates the issues*
- *Prioritizes the issues, including how operational models inform potential prioritization based on risk*
- *Notifies relevant personnel and suppression resources to respond to issues*
- *Minimizes/optimizes response times to issues*

TBC utilizes the Siemens SIMATIC WinCC platform, a scalable and innovative process-visualization system with numerous high-performance functions for monitoring the HVDC Converter, and associated transmission system. WinCC offers complete functionality for complex visualization tasks, SCADA applications, and intelligent redundancy. The PC-based system acts as the human-machine interface for TBC's System Operators, providing process supervision and control, long term data archiving, trending, and Sequence of Events recording at the Primary and Backup Transmission Operations Control Centers. TBC is also directly supported in situational awareness of local conditions through close coordination with CAISO as TBC's Balancing Authority and PG&E, TBC's only neighboring Transmission Operator since TBC operates completely within PG&E's service territory.

The nature of the AC/DC conversion system employed by TBC has control and protection features that "Block" transmission within microseconds of a fault detection and will initiate an Emergency Shut Off in milliseconds; significantly faster than traditional interrupting devices employed in other transmission systems. TBC's transmission system already possesses fault monitoring and detection capabilities that exceed that utilized in more traditional transmission systems. In 2020, TBC implemented two (2) continuous monitoring sensors initiatives that provided operational risk mitigation. The first was a fiberoptic based cable monitoring system which allows TBC to monitor the cable for physical vibration, temperature, and abnormal electrical discharge at the cable terminations. The second was a transformer monitoring system which has real-time oil

analysis to detect and prevent internal faults on the transformer, as well as partial discharge monitoring of the transformer bushings to detect bushing degradation that could lead to failure. This system provides potentially predictive data on transformer failure which has the potential for initiating an ignition event. In 2021, TBC implemented a transformer oil control system which provided new control and flow sensor on its main transformers. This system allows station personnel to have improved assess to oil flow indication and controls which allows for more accurate preventative maintenance. This system in conjunction with the transformer monitoring system, which was installed in 2020, provides enhanced data that can be utilized to assess transformer health and potentially predict transformer failure which has the potential for initiating an ignition event.

### 8.7.3 Personnel Work Procedures and Training Conditions of Elevated Fire Risk

***Instructions:*** *The electrical corporation must provide a narrative on the following:*

- *The electrical corporation's procedures that designate what type of work the electrical corporation allows (or does not allow) personnel to perform during operating conditions of different levels of wildfire risk, including:*
  - *What the electrical corporation allows (or does not allow) during each level of risk*
  - *How the electrical corporation defines each level of wildfire risk*
  - *How the electrical corporation trains its personnel on those procedures*
  - *How it notifies personnel when conditions change, warranting implementation of those procedures*
- *The electrical corporation's procedures for deployment of firefighting staff and equipment (e.g., fire suppression engines, hoses, water tenders, etc.) to worksites for site-specific fire prevention and ignition mitigation during on-site work*

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. The Trans Bay System utilizes no overhead transmission lines and no assets are sited in a HFTD. TBC Operations personnel are trained on all relevant TBC procedures, including regular monthly inspections, and specific procedures for Fire Prevention, Emergency Action, Emergency Operations, Fire System, and Asset Monitoring & protection. TBC purchased a Class B foam firefighting trailer and staff were trained on its use, though primary responsibility of its operation would be the local fire department. Starting in 2021, TBC periodically engages the local Pittsburg Fire department and conducts a site walk which includes notification of foam trailer location and capabilities, site map, and locations of oil-containing assets.

**Figure TBC 8-1. Images of the Class B Foam trailer**

Pittsburg Station- Foam Trailer


Pittsburg Station- Foam Trailer

TBC maintains Emergency Action Plans appropriate to the scale and scope of operations that comply with the California Public Utilities Code 768.6, Cal/OSHA - Title 8 Regulations, Chapter 4, Subchapter 7, Group 1, Article 2, §3220 Emergency Action Plans, and adhere to the practices specified in the National Fire Protection Association (NFPA) 850 Manual, Recommended Practices for Fire Protection for Electric Generating Plants and High Voltage Direct Current converter stations. TBC's emergency preparedness planning and response is conducted in close coordination with CAISO and PG&E in addition to local emergency service providers appropriate to the limited scale and scope of TBC's operations. Relevant emergency operations procedures are routinely provided to CAISO and PG&E upon any update. TBC operations staff also participate in the CAISO's annual system restoration drill.

Initial response and coordination to any emergency condition begins with TBC's System Operator who has full authority and responsibility to act autonomously to coordinate and conduct an emergency shutdown of the Trans Bay System. TBC-OP-004 Emergency Operations[57] and TBC-HS-200 Emergency Action Plan[58] provide clear guidance regarding required responses, communications, staff responsibilities, and key situational awareness capabilities to address the full range of foreseeable emergencies to include all those that could pose a fire risk.

## 8.8 Workforce Planning

***Instructions:*** *In this section, the electrical corporation must provide an overview of personnel, including qualifications, and training practices, related to workers in roles associated with asset inspections, grid hardening, and risk event inspection.*[59]

[57] TBC-OP-004 Emergency Operations (Attachment A) submitted confidentially per CCR Title 14, Section 29200
[58] TBC-HS-200 Emergency Action Plan (Attachment B) submitted confidentially per CCR Title 14, Section 29200
[59] Pub. Util. Code §§ 8386(c)(16), (19).

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Given TBC's limited scope, TBC no plans to alter its work force.

# 9 VEGETATION MANAGEMENT AND INSPECTIONS

***Instructions:*** *Each electrical corporation's WMP must include plans for vegetation management.*[60]

## 9.1 Targets

***Instructions:*** *In this section, the electrical corporation must provide qualitative and quantitative targets for vegetation management and inspections for each year of the three-year WMP cycle.*[61] *The electrical corporation must provide at least one qualitative or quantitative target for the following initiatives:*

- *Wood and Slash Management (Section 9.5)*
- *Defensible Space (Section 9.6)*
- *Integrated Vegetation Management (Section 9.7)*
- *Workforce Planning (Section 9.13)*

*Quantitative targets are required for vegetation management inspections and pole clearing; see Section 9.1.2, below, for detailed requirements.*

*Quantitative targets are required for QA and QC. See Section 9.11.1 for detailed quantitative target requirements for QA and QC. Reporting of QA and QC quantitative targets is only required in section 9.11.*

### 9.1.1 Qualitative Targets

***Instructions:*** *The electrical corporation must provide qualitative targets for implementing and improving its vegetation management and inspections,*[62] *including the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *A completion date for when the electrical corporation will achieve the qualitative target*
- *Reference(s) to the WMP section(s) or appendix, including page numbers, where the details of the target(s) are documented and substantiated*

*This information must be provided in Table 9-1 below.*

[60] Pub. Util. Code §§ 8386(c)(3), (9).
[61] All end of year targets in all sections of the WMP must follow the calendar year.
[62] Annual information included in this section must align with the applicable data submission.

### 9.1.2 Quantitative Targets

***Instructions:*** *The electrical corporation must provide quantitative targets it will use to track progress on its vegetation management and inspections for the three years of the Base WMP.*[63] *Every inspection activity (program) described in Section 9.2 must have at least one quantitative target. Targets for inspection activities (programs) of overhead electrical assets must use circuit miles as the unit. Pole clearing performed in compliance with Public Resources Code section 4292 must have a quantitative target. The electrical corporation may define additional pole clearing targets (e.g., pole clearing performing in the Local Responsibility Area). For each quantitative target, the electrical corporation must provide the following:*

- *Identification of which initiative(s) and activity/activities) in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *Projected targets and totals for each of the three years of the WMP cycle, e.g., [Year 1] end of year total, [Year 2] total, and [Year 3] total, three-year total and the associated units for the targets*
- *For inspections and pole clearing targets in Table 9-2, cumulative quarterly targets for each year of the WMP cycle,*[64] *and the percentage of total overhead circuit miles in the HFTD covered by the [Year 1] target (e.g., 100 circuit miles of patrol inspections in [Year 1] divided by 300 overhead circuit miles in the HFTD equals 33 percent coverage)*
- *The expected % risk reduction for each of the three years of the WMP cycle*[65]
- *The timeline in which clearance and removal work prescribed by the inspection activity (program) will be completed (inspections and pole clearing only).*

*Table 9-1 and Table 9-2 provide examples of the minimum acceptable level of information and required template.*

[63] Annual information included in this section must align with the applicable data submission.
[64] Guidelines for WMP Update will provide additional instructions on future quarterly rolling target reporting.
[65] The expected % risk reduction is the expected percentage risk reduction per year, as described in Section 6.2.1.2.

*Table 9-1. Example of Vegetation Management Targets by Year (Non-inspection Targets)*

| ***Initiative*** | ***Quantitative or Qualitative*** | ***Activity (Tracking ID)*** | ***Previous Tracking ID, if applicable*** | ***Target Unit*** | ***[Year 1] Target / Status*** | ***% Risk Reduction for [Year 1]*** | ***[Year 2] Target / Status*** | ***% Risk Reduction for [Year 2]*** | ***[Year 3] Target / Status*** | ***% Risk Reduction for [Year 3]*** | ***Three-Year Total*** | ***Section; Page Number*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Pruning and Removal* | *Qualitative* | *Complete effective enhanced clearances study (VM-08)* | *VM-02* | *n/a* | *Not started* | *n/a* | *Started; April 2027* | *n/a* | *Completed; June 2028* | *n/a* | *n/a* | *9.x; p. x* |
| *Integrated Vegetation Management* | *Quantitative* | *Remove invasive species (VM-12)* | *VM-12* | *acres treated* | *400* | *1%* | *400* | *1%* | *400* | *1%* | *1,200* | *9.7; p. x* |

*Table 9-2. Example of Vegetation Inspections and Pole Clearing Targets by Year*

| ***Activity (Program)*** | ***Tracking ID*** | ***Previous Tracking ID, if applicable*** | ***Target Unit*** | ***Cumulative (Cml.) Quarterly Target Year 1, Q1*** | ***Cml. Quarterly Target Year 1, Q2*** | ***Cml. Quarterly Target Year 1, Q3*** | ***Cml. Quarterly Target Year 1, Q4*** | ***Cml. Quarterly Target Year 2, Q1*** | ***Cml. Quarterly Target Year 2, Q2*** | ***Cml. Quarterly Target Year 2, Q3*** | ***Cml. Quarterly Target Year 2, Q4*** | ***Cml. Quarterly Target Year 3, Q1*** | ***Cml. Quarterly Target Year 3, Q2*** | ***Cml. Quarterly Target Year 3, Q3*** | ***Cml. Quarterly Target Year 3, Q4*** | ***% HFTD Covered in [Year 1]*** | ***% Risk Reduction for [Year 1]*** | ***% Risk Reduction for [Year 2]*** | ***% Risk Reduction for [Year 3]*** | ***Three-Year Total*** | ***Activity Timeline Target*** | ***Section; Page Number*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Patrol insp.* | *VM-04* | *VM-03* | *Circuit miles insp.* | *130* | *200* | *380* | *400* | *100* | *200* | *370* | *400* | *100* | *200* | *300* | *400* | *50%* | *3%* | *6%* | *8%* | *1,200* | *90 days* | *9.x; p. x* |
| *Inspecting poles for clearing* | *VM-08* | *VM-10* | *Poles insp.* | *1500* | *3000* | *4500* | *5000* | *1600* | *3300* | *4500* | *5200* | *1600* | *3500* | *4800* | *5400* | *40%* | *4%* | *7%* | *9%* | *15,600* | *150 days* | *9.x; p. x* |

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. TBC's System utilizes no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake routine weed abatement at its Pittsburg Converter Station and ad hoc trimming of one to three palm trees which exist near its perimeter wall the cost of which is incorporated into landscape maintenance. Weed control activities consists of primarily of post-emergent herbicide and either hand or mechanical methods for vegetation removal. Trimming of the palm trees consists of cutting back branches or leaves to encroach on the perimeter wall. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Given the foregoing, TBC has no quantitative or qualitative targets for vegetation management as they are ad hoc but does identify its quarterly inspections in Table 9-2.

**Table 9-1. Vegetation Management Targets by Year (Non-inspection Targets)**

| Initiative | Quantitative or Qualitative | Activity (Tracking ID) | Previous Tracking ID, if applicable | Target Unit | 2026 Target / Status | % Risk Reduction for 2026 | 2027 Target / Status | % Risk Reduction for 2027 | 2028 Target / Status | % Risk Reduction for 2028 | Three-Year Total | Section; Page Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pruning and Removal | TBC does not have any initiatives in this category* | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Wood and Slash Management | TBC does not have any initiatives in this category | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Defensible Space | TBC does not have any initiatives in this category | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Integrated Vegetation Management | TBC does not have any initiatives in this category | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Workforce Planning | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Quality Assurance/ Quality Control | TBC does not have any initiatives in this category | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

*TBC notes that it does conduct ad hoc trimming of one to three palm trees near the perimeter wall of the Pittsburg Converter Station but this activity is part of landscape maintenance and not a specific initiative.

**Table 9-2. Vegetation Inspections and Pole Clearing Targets by Year**

| Activity (Program) | Tracking ID | Previous Tracking ID, if applicable | Target Unit | Cumulative (Cml.) Quarterly Target 2026, Q1 | Cml. Quarterly Target 2026, Q2 | Cml. Quarterly Target 2026, Q3 | Cml. Quarterly Target 2026, Q4 | Cml. Quarterly Target 2027, Q1 | Cml. Quarterly Target 2027, Q2 | Cml. Quarterly Target 2027, Q3 | Cml. Quarterly Target 2027, Q4 | Cml. Quarterly Target 2028, Q1 | Cml. Quarterly Target 2028, Q2 | Cml. Quarterly Target 2028, Q3 | Cml. Quarterly Target 2028, Q4 | % HFTD Covered in 2026 | % Risk Reduction for 2026 | % Risk Reduction for 2027 | % Risk Reduction for 2028 | Three-Year Total | Activity Timeline Target | Section; Page Number |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Substation Inspection | VM-01 | N/A | # of inspections completed | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 0% | N/A | N/A | N/A | 12 | 1 day | 9.2.1; |

## 9.2 Vegetation Management Inspections

***Instructions:*** *In this section, the electrical corporation must provide an overview of its vegetation management inspection activities (programs) for overhead electrical assets. This section must not include pole clearing activities or defensible space activities around substations; see Section 9.4 for pole clearing and Section 9.6 for defensible space activities around substations.*

*The electrical corporation must first summarize details regarding its vegetation management inspections for overhead electrical assets in Table 9-3. The table must include the following:*

- ***Type of inspection****: distribution or transmission*
- ***Inspection program name:*** *Identify various inspection activities (programs) within the electrical corporation (e.g., routine, enhanced vegetation, off-cycle)*
- ***Area inspected:*** *Identify the area that the inspection activity (program) covers (e.g., territory-wide, HFTD only, Areas of Concern, etc.)*
- ***Frequency****: Identify the frequency of the inspection (e.g., annual, quarterly, three-year cycle)*

*Table 9-3. Example of Vegetation Management Inspection Frequency, Method, and Criteria*

| ***Type*** | ***Inspection Activity (Program)*** | ***Area Inspected*** | ***Frequency*** |
|---|---|---|---|
| *Distribution* | *Routine Patrol* | *Territory* | *Annual in HFTD Three-year cycle in Non- HFTD* |
| *Distribution* | *Hazard Tree* | *HFTD* | *Three-year cycle* |

*The electrical corporation must then provide a narrative overview of each vegetation inspection activity (program) identified in Table 9-3. Section 9.2.1. provides instructions for the overviews. The sections must be numbered Section 9.2.1 to Section 9.2.n (i.e., each vegetation inspection activity [program] is detailed in its own section) with the name of the inspection activity (program) as the section title. The electrical corporation must include inspection activities (programs) it is discontinuing, has discontinued since the last WMP submission, or has consolidated into another activity (program), and explain why it is discontinuing or has discontinued the activity (program).*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also

includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. This task item is identified in Table 9-3 below.

**Table 9-3. Vegetation Management Inspection Frequency, Method, and Criteria**

| Type | Inspection Activity (Program) | Area Inspected | Frequency |
|---|---|---|---|
| Distribution | N/A | N/A | N/A |
| Transmission | Substation Inspection | Entire Area | Quarterly |

### 9.2.1 Substation Inspection

#### 9.2.1.1 Overview and Area Inspected

*In this section, the electrical corporation must provide an overview of the inspection (activity) program. This overview must describe where the electrical corporation performs the inspection activities (programs) (e.g., territory-wide, HFTD only, Areas of Concern, etc.)*

TBC's Pittsburg Converter Station is a hardscaped site with an inherent fire-hardened grid design and also does not utilize overhead lines. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station.

#### 9.2.1.2 Overview and Area Inspected

***Instructions:*** *In this section, the electrical corporation must list the procedures, including the version(s) and effective date(s), for the inspection activity (program).*

TBC identified Section 4.29 of its Converter Maintenance Practices (TBC-MP-001) (Version 5 effective 2024.12.08) which identifies a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station.

#### 9.2.1.3 Clearance

***Instructions:*** *In this section, the electrical corporation must describe how clearances are determined and prescribed through this inspection activity (program) (e.g., GO 95 Table 1, GO 95 Appendix E, ANSI A-300, etc.). As applicable, the electrical corporation must describe how it differently prescribes clearances for high-risk species of vegetation.*

All transmission elements of the TBC System are underground or submerged except for those elements that are contained with the 12-foot perimeter wall surrounding the converter stations. The interior of the Pittsburg Converter Station is hardscaped with rock/gravel and asphalt. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall.

#### 9.2.1.4 Fall-in Mitigation

***Instructions:*** *In this section, the electrical corporation must describe how it identifies fall-in risks, such as hazard trees, during the inspection (e.g., Level 1, Level 2, etc.). As applicable, the electrical corporation must of describe how it differently prescribes removal of high-risk species of vegetation.*

All transmission elements of the TBC System are underground or submerged except for those elements that are contained with the 12-foot perimeter wall surrounding the converter stations. The interior of the Pittsburg Converter Station is hardscaped with rock/gravel and asphalt. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall.

#### 9.2.1.5 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how the inspection activity (program) is scheduled. This must include the frequency (e.g., annual, quarterly, three-year cycle) and/or triggers (e.g., severe weather events, risk model outputs) of the inspection program. It must also identify how the frequency and/or trigger might differ by HFTD tier or other risk designation.*

*If the inspection activity (program) is based on a fixed frequency (e.g., annual, three-year cycle), the electrical corporation must explain how it uses risk prioritization in the scheduling of the inspection activity (program) to target high-risk areas). If the electrical corporation does not use risk prioritization in the scheduling of the inspection activity (program), it must explain why.*

Given the limited scope and scale of TBC's operations and that its transmission elements are undergrounded/submerged or inside of a hardscaped converter station with a 12-foot perimeter wall, TBC schedules its vegetation inspection quarterly. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall.

#### 9.2.1.6 Updates

***Instructions:*** *In this section, the electrical corporation must discuss changes/updates to the inspection activity (program) since its last WMP submission, including known future plans (beyond the current year) and new/novel strategies the electrical corporation may implement in the next five years (e.g., references to and strategies from pilot projects and research). The electrical corporation must include lessons learned as applicable.*

Given the limited scope and scale of TBC's operations, its hardscaped design and the fact that it is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements, TBC conducts a quarterly vegetation inspection. TBC plans to continue this cadence of inspection and does not have any updates.

## 9.3 Pruning and Removal

### 9.3.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of the subsequent pruning, removal, and other vegetation management activities that are performed as a result of inspections.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC's vegetation activity consists of quarterly visual inspection of vegetation or weed growth around the converter station per its Converter Maintenance Practices, periodic weed abatement and ad hoc trimming of one to three nearby palm trees. As a result, this section is not applicable.

### 9.3.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list the procedures, including the version(s) and effective date(s), for subsequent pruning, removal, and other vegetation management activities that are performed as a result of inspections.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC's vegetation activity consists of quarterly visual inspection of vegetation or weed growth around the converter station per its Converter Maintenance Practices, periodic weed abatement and ad hoc trimming of one to three nearby palm trees. As a result, this section is not applicable.

### 9.3.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how subsequent pruning, removal, and other vegetation management activities that are performed as a result of inspections are scheduled. This must include the timeline(s) in which clearance and removal work prescribed by an inspection activity (program) will be completed and how the timeline differs by HFTD tier or other risk designation.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC's vegetation activity consists of quarterly visual inspection of vegetation or weed growth around the converter station per its Converter Maintenance Practices, periodic weed abatement and ad hoc trimming of one to three nearby palm trees. As a result, this section is not applicable.

### 9.3.4 Updates

***Instructions:*** *In this section, the electrical corporation must discuss changes/updates to pruning and removal activities since the last WMP submission, including known future plans (beyond the current year) and new/novel strategies the electrical corporation may implement in the next five years (e.g., references to and strategies from pilot projects and research). The electrical corporation must include lessons learned as applicable.*

Given the limited scope and scale of TBC's operations, its hardscaped design, undergrounded or submerged transmission line and 12-foot station wall and no NERC or CAISO requirement to maintain a VMP, TBC does not have a specific pruning and removal program. Instead, TBC conducts periodic weed abatement and ad hoc trimming of one to three palm trees existing near its perimeter wall, the cost of which is incorporated into landscape maintenance. As a result, this section is not applicable.

## 9.4 Pole Clearing

### 9.4.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of pole clearing, including:*

- *Pole clearing performed in compliance with Public Resources Code section 4292*
- *Pole clearing outside the requirements of Public Resources Code section 4292 (e.g., pole clearing performed outside of the State Responsibility Area)*

TBC's transmission system does not utilize overhead utility lines and thus pole clearing is not applicable to TBC's operations.

### 9.4.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used to execute pole clearing.*

TBC's transmission system does not utilize overhead utility lines and thus pole clearing is not applicable to TBC's operations.

### 9.4.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how pole clearing is scheduled. This must include how the schedule is affected by HFTD tier or other risk designation.*

TBC's transmission system does not utilize overhead utility lines and thus pole clearing is not applicable to TBC's operations.

### 9.4.4 Updates

***Instructions:*** *In this section, the electrical corporation must describe changes to pole clearing since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to wood and slash management and the timeline for implementation.*

TBC's transmission system does not utilize overhead utility lines and thus pole clearing is not applicable to TBC's operations.

## 9.5 Wood and Slash Management

### 9.5.1 Overview

***Instructions:*** *In this section, the electrical corporation must describe changes to pole clearing since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to pole clearing and the timeline for implementation.*

TBC's transmission system does not utilize overhead utility lines and thus wood and slash management is not applicable to TBC's operations.

### 9.5.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used to manage wood and slash.*

TBC's transmission system does not utilize overhead utility lines and thus wood and slash management is not applicable to TBC's operations.

### 9.5.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how wood and slash management activities are scheduled. This must include how the schedule is affected by HFTD tier or other risk designation.*

TBC's transmission system does not utilize overhead utility lines and thus wood and slash management is not applicable to TBC's operations.

### 9.5.4 Updates

***Instructions:*** *In this section, the electrical corporation must describe changes to wood and slash management since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to wood and slash management and the timeline for implementation.*

TBC's transmission system does not utilize overhead utility lines and thus wood and slash management is not applicable to TBC's operations.

## 9.6 Defensible Space

### 9.6.1 Overview

*In this section, the electrical corporation must provide an overview of its action taken to reduce wildfire risk to substations, generation facilities, and other electrical facilities in accordance with Public Resources Code section 4291, other defensible space codes and regulations, or in exceedance of these requirements.*

The Trans Bay System does not utilize overhead utility lines. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. The Pittsburg Converter Station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station.

### 9.6.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used to create and maintain defensible space.*

Given the limited scope and scale of TBC's operations and that fact that it is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements, TBC does not have a specific defensible space procedure. As the Pittsburg Converter Station is hardscaped with rock/gravel and asphalt, surrounded by a 12-foot perimeter wall, and sited in a suburban/industrial area, TBC's vegetation activity consists of quarterly visual inspection of vegetation or weed growth around the converter station, periodic weed abatement and ad hoc trimming of one to three nearby palm trees. Weed control activities consists of primarily of post-emergent herbicide and either hand or mechanical methods for vegetation removal.

### 9.6.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how creation and maintenance of defensible space are scheduled. This must include how the schedule is affected by HFTD tier or other risk designation.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC's vegetation activity consists of quarterly visual inspection of vegetation or weed growth around the converter station per its Converter Maintenance Practices, periodic weed abatement and ad hoc trimming of one to three nearby palm trees.

### 9.6.4 Updates

***Instructions:*** *In this section, the electrical corporation must describe changes to how it creates or maintains defensible space since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to defensible space and the timeline for implementation.*

There have been no changes to TBC's vegetation abatement activities since the last WMP submission.

## 9.7 Integrated Vegetation Management

### 9.7.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of its actions taken for activities not covered in previous sections and performed in accordance with Integrated Vegetation Management principles. This may include, but is not limited to, the following activities: the strategic use of herbicides, growth regulators, or other chemical controls; tree-*

*replacement activities (programs); promotion of native shrubs; prescribed fire; or other fuel treatment activities.*

All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. TBC's System utilizes no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. TBC does not have initiative or program in this category.

### 9.7.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used for integrated vegetation management.*

All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. TBC's System utilizes no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station.

### 9.7.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how integrated vegetation management activities are scheduled. This must include how the schedule is affected by HFTD tier or other risk designation.*

All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. TBC's System utilizes no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly

reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations and the ad hoc trimming of one to three palm trees which exist near its perimeter wall, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station.

### 9.7.4 Updates

***Instructions:*** *In this section, the electrical corporation must describe changes to its integrated vegetation management activities since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to integrated vegetation management and the timeline for implementation.*

There have been no changes to TBC's weed abatement activities since the last WMP submission.

## 9.8 Partnerships

***Instructions:*** *In this section, the electrical corporation must provide information on its partnerships with other entities in vegetation management. This may include partnerships with government agencies, non-profit organizations, or coalitions, such as Regional Forest and Fire Capacity Program grantees and local forest collaboratives.[66] For this section, "partnership" is defined as the combining of resources, expertise, and efforts to accomplish agreed upon objectives related to wildfire risk reduction achieved through vegetation management. The electrical corporation must provide the following summary information in table format for current partnerships and future partnerships the electrical corporation plans to enter during the three years of the WMP cycle:*

- *Names of all agencies, organizations, or coalitions in the partnership.*
- *Vegetation management activities performed pursuant to or under the partnership (e.g., thinning, prescribed fire, mastication, invasive plant removal, woody debris management, etc.).*
- *The objective of the activities performed pursuant to or under the partnership .*
- *Electrical corporation's role in the coordination or partnership (e.g., funding, labor, landowner, etc.).*
- *Anticipated accomplishments of partnership projects during the three years of the WMP cycle, including work done by the electrical corporation and work done by the partnering agency/organization (e.g. number of acres treated, number of trees planted, number of personnel trained, etc.).*

*Table 9-4 provides an example of the appropriate level of detail and the required format.*

[66] Regional Forest and Fire Capacity Program (https://www.conservation.ca.gov/dlrp/grant-programs/Pages/Regional-Forest-and-Fire-Capacity-Program.aspx)

*Table 9-4. Example of Partnerships in Vegetation Management*

| ***Partnering Agency/ Organization*** | ***Activities*** | ***Objectives*** | ***Electrical Corporation Role*** | ***Anticipated Accomplishments*** |
|---|---|---|---|---|
| *North State Coalition* | *Thinning and prescribed fire along critical egress corridors, which also carry high-risk electrical lines.* | *Reduce fuel loading and fire intensity.* | *Funding and labor from electrical corporation teams with wildland firefighter training for broadcast burn.* | *2027: Thin and masticate 800 acres*<br>*2028: Broadcast burn 200 acres in masticated area* |

*The electrical corporation must also provide a narrative overview of, in order: 1) each current and future vegetation management partnership identified in Table 9-3 and 2) vegetation management partnerships it is discontinuing or has discontinued since the last WMP submission and explain why it is discontinuing or has discontinued the vegetation management partnership. Section 9.8.1. provides instructions for the overviews. The sections must be numbered Section 9.8.1 to Section 9.8.n (i.e., each vegetation management partnership is detailed in its own section) with the names of the partnering agencies or organizations as the section title.*

TBC does not have any partnerships with other entities in connection with vegetation management and as a result Table 9-4 is marked N/A meaning “Not Applicable”. Given that TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements, TBC does not anticipate the establishment of any partnerships for its system during the 2026-2028 WMP period.

**Table 9-4. Partnerships in Vegetation Management**

| **Partnering Agency/ Organization** | **Activities** | **Objectives** | **Electrical Corporation Role** | **Anticipated Accomplishments** |
|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A |

### 9.8.1 Vegetation Management Partnership Name

#### 9.8.1.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of the vegetation management partnership including status of the partnership (current, future, or discontinued) and a description of the type of work accomplished through this partnership. This overview must describe where the work accomplished through this partnership takes place (e.g., territory-wide, HFTD only, a specific county, etc.). If available, provide a link to any website associated with the partnership.*

Not applicable, TBC does not have any partnerships with other entities in connection with its vegetation management program.

#### 9.8.1.2 Partnership History

***Instructions:*** *In this section, the electrical corporation must provide a history of the vegetation management partnership including how long the electrical corporation has been working with the partnering agency/organization, the number of projects completed or in-progress, the scope of completed and in-progress projects (e.g., acres treated, trees planted, etc.), and the electrical corporation's quantitative contribution to the project (e.g. dollars contributed, number of workers provided, number of hours of consultation).*

Not applicable, TBC does not have any partnerships with other entities in connection with its vegetation management program.

#### 9.8.1.3 Future Projects

***Instructions:*** *In this section, the electrical corporation must provide a description of projects with the partnering agency/organization that are currently planned for the three years of the WMP cycle, have not yet begun, and are fully funded. This description must include the scope of future projects (e.g., acres treated, trees planted, etc.), projected completion years, and the electrical corporation's quantitative contribution to the project (e.g. dollars contributed, number of workers provided, number of hours of consultation).*

Not applicable, TBC does not have any partnerships with other entities in connection with its vegetation management program.

## 9.9 Activities Based on Weather Conditions

### 9.9.1 Overview

***Instructions:*** *In this section, the electrical corporation must provide an overview of planning and execution of operational changes to address wildfire risk associated with weather conditions such*

*as pruning or removal, executed based on and in advance of a Red Flag Warning or other forecasted weather conditions that indicates an elevated fire threat in terms of ignition likelihood and wildfire potential.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities based on weather conditions.

### 9.9.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used for activities based on weather conditions.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities based on weather conditions.

### 9.9.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how activities based on weather conditions are scheduled (or triggered). This must include how the schedule is affected by HFTD tier or other risk designation.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities based on weather conditions.

### 9.9.4 Updates

***Instructions*** *In this section, the electrical corporation must describe changes to its activities based on weather conditions since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to activities based on weather conditions and the timeline for implementation.*

No updates were made to activities based on weather conditions since TBC's last WMP submission.

## 9.10 Post-Fire Service Restoration

### 9.10.1 Overview

***Instructions*** *In this section, the electrical corporation must provide an overview of vegetation management activities during post-fire service restoration.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is

fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities during post-fire service restoration, outside of its normal vegetation abatement activities.

### 9.10.2 Procedures

***Instructions:*** *In this section, the electrical corporation must list applicable electrical corporation procedure(s), including the version(s) and effective date(s), used for post-fire service restoration vegetation management.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities during post-fire service restoration, outside of its normal vegetation abatement activities.

### 9.10.3 Scheduling

***Instructions:*** *In this section, the electrical corporation must describe how post-fire service restoration vegetation management are scheduled (or triggered). This must include how the schedule is affected by HFTD tier or other risk designation.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is

fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The Pittsburg converter station is proximate to vegetative fuels in the form of a five (5) acre area which contains various native and non-native species of trees, shrubs, and grasses but all cable infrastructure traversing the area is underground. TBC has not experienced any ignition events in its operational history. Given the foregoing, TBC does not have specific vegetation management activities during post-fire service restoration, outside of its normal vegetation abatement activities.

### 9.10.4 Updates

***Instructions:*** *In this section, the electrical corporation must describe changes to post-fire service restoration vegetation management since the last WMP submission and a brief explanation as to why those changes were made. Discuss any planned improvements or updates to post-fire service restoration and the timeline for implementation.*

TBC has no applicable updates for this category.

## 9.11 Quality Assurance and Quality Control

### 9.11.1 Overview, Objectives, and Targets

***Instructions: Instructions:*** *In this section, the electrical corporation must provide an overview of each of its QA and QC programs for vegetation management. This overview must include the following for each program:*

- *Initiative/activity being audited (each initiative/activity name must correspond to an initiative/activity described in Sections 9.2 through 9.9)*
- *Tracking ID from Table 9-1 or 9-2*
- *Quality program type (QA or QC)*
- *Objective of the quality program.*

*Table 9-5 provides an example of the appropriate level of detail and the required format.*

*Table 9-5. Example of Vegetation Management QA and QC Program Objectives*

| ***Initiative/Activity Being Audited*** | ***Tracking ID*** | ***Quality Program Type*** | ***Objective of the Quality Program*** |
|---|---|---|---|
| *Inspections – Patrol* | *VM-04* | *QA* | *To ensure contractor pre-inspectors are following electrical corporation* |

| | | | |
|---|---|---|---|
| | | | *procedures for patrol inspections.* |
| *Pruning and Removal* | *VM-06* | *QC* | *To identify trees that were missed by tree crews and that require trimming or removal before the next scheduled inspection.* |
| *Pole Clearing* | *VM-08* | *QA* | *To test personnel knowledge of procedure before independent field work commences.* |
| *Defensible Space* | *VM-10* | *QC* | *To ensure contractors achieved defensible space around assigned structures according to procedure and remedy any non-conformance.* |

*The electrical corporation must also provide the following tabular information for each QA and QC program:*

- *Initiative/activity being audited (each initiative/activity name must correspond to an initiative/activity described in Sections 9.2 through 9.9)*
- *Population/sample unit*
- *Population[67] size for each audited initiative/activity for each year of the three-year WMP cycle*
- *Sample size for each audited initiative/activity for each year of the three-year WMP cycle*
- *Percent of sample in the HFTD for each audited initiative/activity for each year of the three-year WMP cycle*
- *Confidence level and MOE*

[67] In this section, a population may be the number of circuit miles inspected, the number of poles cleared, trees prescribed work, etc.

- *Target pass rate for each audited initiative/activity for each year of the three-year WMP cycle*

*Table 9-6 provides an example of the appropriate level of detail and the required format.*

*Table 9-6. Example of Vegetation Management QA and QC Activity Targets*

| ***Initiative/ Activity Being Audited*** | ***Population /Sample Unit*** | ***[Year 1]: Population Size*** | ***[Year 1]: Sample Size*** | ***[Year 1]: % of Sample in HFTD*** | ***[Year 2]: Population Size*** | ***[Year 2]: Sample Size*** | ***[Year 2]: % of Sample in HFTD*** | ***[Year 3]: Population Size*** | ***[Year 3}: Sample Size*** | ***[Year 3]: % of Sample in HFTD*** | ***Confidence level / MOE*** | ***[Year 1]: Pass Rate Target*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Inspection - Patrol* | *Span* | *5,000* | *1,347* | *25%* | *5,000* | *1347* | *25%* | *5,000* | *1,347* | *25%* | *99%/3%* | *95%* |
| *Pruning and Removal* | *Circuit Mile* | *20,000* | *3,435* | *40%* | *20,000* | *3,435* | *40%* | *20,000* | *3,435* | *40%* | *99%/2%* | *95%* |
| *Pole Clearing* | *Pole* | *4,000* | *1,262* | *100%* | *4,000* | *1,262* | *100%* | *4,000* | *1,262* | *100%* | *99%/3%* | *95%* |
| *Defensible Space* | *Substation* | *12* | *12* | *100%* | *12* | *12* | *100%* | *12* | *12* | *100%* | *100%/0%* | *100%* |

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The System also does not utilize overhead lines. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Based on the above and due to the limited scope and scale of operations, TBC does not employ a VMP and therefore does not have a vegetation management QA/QC Program. As a result, Table 9-5 and Table 9-6 are marked as N/A meaning "Not Applicable".

**Table 9-5. Vegetation Management QA and QC Program Objectives**

| Initiative/Activity Being Audited | Tracking ID | Quality Program Type | Objective of the Quality Program |
|---|---|---|---|
| N/A | N/A | N/A | N/A |

**Table 9-6. Vegetation Management QA and QC Activity Targets**

| Initiative/ Activity Being Audited | Population /Sample Unit | 2026: Population Size | 2026: Sample Size | 2026: % of Sample in HFTD | 2027: Population Size | 2027: Sample Size | 2027: % of Sample in HFTD | 2028: Population Size | 2028: Sample Size | 2028: % of Sample in HFTD | Confidence level / MOE | 2026: Pass Rate Target | 2027: Pass Rate Target | 2028: Pass Rate Target |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

### 9.11.2 QA/QC Procedures

***Instructions:*** *In this section, the electrical corporation must list the applicable procedure(s), including the version(s) and effective date(s), used for each vegetation management QA and QC program listed in Table 9-5.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The System also does not utilize overhead lines. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Based on the above and due to the limited scope and scale of operations, TBC does not employ a VMP and therefore does not have a vegetation management QA/QC Program.

### 9.11.3 Sample Size

***Instructions:*** *In this section, the electrical corporation must describe how it determines the sample for each QA and QC program listed in Table 9-5. This must include how HFTD tier or other risk designations affect the sampling plan, and how the electrical corporation ensures samples are representative of the population.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. As a result, TBC does not calculate sample size.

### 9.11.4 Pass Rate Calculation

***Instructions:*** *In this section, the electrical corporation must describe how it calculates pass rates. This description must include:*

- *The sample unit that generates the pass rate for each QA and QC program (e.g., for pole clearing, the sample unit that generates the pass rate may be a single pole that passes or fails a QC audit).*
- *The pass and failure criteria for each program listed in Table 9-5. List each criterion and discuss any weighted contributions to the pass rate.*

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. As a result, TBC does not utilize pass rates or target pass rates.

### 9.11.5 Other Metrics

***Instructions:*** *In this section, the electrical corporation must list and describe the metrics used by the electrical corporation, other than pass rate, to evaluate the effectiveness of its vegetation management and inspections activities (programs) and procedures (e.g., find rate, rework rate, outage rate within 6 months of inspection attributed to vegetation contact, etc.).*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The System also does not utilize overhead lines. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Based on the above and due to the limited scope and scale of operations, TBC does not employ a VMP and therefore does not have a vegetation management QA/QC Program.

### 9.11.6 Documentation of Findings

***Instructions:*** *In this section, the electrical corporation must describe how it documents its QA and QC findings and incorporates lessons learned from those findings into corrective actions, trainings, and procedures.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. The Pittsburg converter station is surrounded by a twelve (12) foot concrete perimeter wall and is hardscaped with asphalt and rock/gravel. The System also does not utilize overhead lines. TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Findings are documented in the monthly site inspection reports.

### 9.11.7 Changes to QA/QC Since Last WMP and Planned Improvements

***Instructions:*** *In this section, the electrical corporation must describe:*

- *A list of changes the electrical corporation made to its QA and QC procedure(s) since its last WMP submission.*
- *Justification for each of the changes including references to lessons learned as applicable.*
- *A list of planned future improvements and/or updates to QA and QC procedure(s) including a timeline for implementation.*

There has been no changes to TBC's for assessing QA/QC of its limited vegetation abatement works and no changes are currently planned for the 2026-2028 WMP cycle.

## 9.12 Work Orders

***Instructions:*** *In this section, the electrical corporation must provide an overview of how it manages its work orders resulting from vegetation management inspections that prescribe vegetation management activities. This overview must include the following under these headers:*

### 9.12.1 Priority Assignment

***Instructions:*** *In this section, the electrical corporation must describe how work orders are assigned priority, including the activity timeline for each priority level/group.*

Due it the limited scale and scope of TBC's operation, work orders are addressed by TBC's O&M technicians' engagement with the vegetation management contractor through the course of scheduled periodic inspections and work activities. TBC has no past due vegetation management work orders.

### 9.12.2 Backlog Elimination

***Instructions:*** *In this section, the electrical corporation must describe how work orders are assigned priority, including the activity timeline for each priority level/group.*

Due it the limited scale and scope of TBC's operation, work orders are addressed by TBC's O&M technicians' engagement with the vegetation management contractor through the course of scheduled periodic inspections and work activities. TBC has no past due vegetation management work orders.

### 9.12.3 Trends

***Instructions:*** *In this section, the electrical corporation must describe trends with respect to open work orders and:*

- *An aging report for work orders past due (i.e., work orders that were not completed within the electrical corporation's assigned activity timelines per priority level/group described in Section 9.11.1) (Table 9-7and Table 9-8 provides the required format).*

*Table 9-7. Example of Number of Past Due Vegetation Management Work Orders Categorized by Age and HFTD Tier*

| HTFD Area | 0-30 Days | 31-90 Days | 91-180 Days | 181+ Days |
|---|---|---|---|---|
| Non-HFTD | | | | |
| HFTD Tier 2 | | | | |
| HFTD Tier 3 | | | | |

*Table 9-8. Example of Number of Past Due Vegetation Management Work Orders Categorized by Age and Priority Levels*[68]

| Priority Level | 0-30 Days | 31-90 Days | 91-180 Days | 181+ Days |
|---|---|---|---|---|
| Priority 1 | | | | |
| Priority 2 | | | | |
| Priority 3 | | | | |

TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CAISO maintenance requirements. TBC makes quarterly reports to WECC that TBC has no requirement have a VMP. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. Based on the above and due to the limited scope and scale of operations, TBC has no past due vegetation management work orders.

As a result, no trend data is available and Table 9-7 and Table 9-8 are marked N/A meaning "Not Applicable".

**Table 9-7. Number of Past Due Vegetation Management Work Orders Categorized by Age and HFTD Tier**

| HTFD Area | 0-30 Days | 31-90 Days | 91-180 Days | 181+ Days |
|---|---|---|---|---|

[68] The electrical corporation must use the priority levels it defines in section 9.11.1.

| | | | | |
|---|---|---|---|---|
| Non-HFTD | N/A | N/A | N/A | N/A |
| HFTD Tier 2 | N/A | N/A | N/A | N/A |
| HFTD Tier 3 | N/A | N/A | N/A | N/A |

**Table 9-8. Number of Past Due Vegetation Management Work Orders Categorized by Age and Priority Levels**

| Priority Level | **0-30 Days** | **31-90 Days** | **91-180 Days** | **181+ Days** |
|---|---|---|---|---|
| Priority 1 | N/A | N/A | N/A | N/A |
| Priority 2 | N/A | N/A | N/A | N/A |
| Priority 3 | N/A | N/A | N/A | N/A |

## 9.13 Workforce Planning

***Instructions:*** *In this section, the electrical corporation must provide an overview of vegetation management and inspections personnel.*

*The electrical corporation must:*

- *List all worker titles relevant to vegetation management and inspections including, but not limited to, titles related to inspecting, auditing, and tree crews*
- *List and describe minimum qualifications for each worker title with an emphasis on qualifications relevant to vegetation management*
    - *The electrical corporation must note if workers with title hold any certifications, such as being an International Society of Arboriculture Certified Arborist or a California-licensed Registered Professional Forester*

*Table 9-9 provides the required format and an example of the required information.*

*Table 9-9. Example of Vegetation Management Qualifications and Training*

| ***Worker Title*** | ***Minimum Qualifications for Target Role*** | ***Applicable Certifications*** | ***# of Electrical Corporation Employees with*** | ***# of Electrical Corporation Employees with*** | ***# of Contracted Employees with*** | ***# of Contractor Employees with Applicable*** | ***Total # of Employees*** | ***Reference to Electrical Corporation Training /*** |
|---|---|---|---|---|---|---|---|---|

| | | | *Min Quals* | *Special Certifications* | *Min Quals* | *Certifications* | | *Qualification Programs* |
|---|---|---|---|---|---|---|---|---|
| *Pre-Inspector* | *• One year of arboriculture experience or degree in relevant field* | *• Certified Arborist • Registered Professional Forester* | *1,000* | *• Certified Arborist - 500 • Registered Professional Forester - 100* | *600* | *• Certified Arborist - 450 • Registered Professional Forester - 50* | *1,600* | *Pre-inspector training course (VMI-001)* |

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result, TBC does not have a VMP) and is not required to maintain a VMP under NERC Reliability Standards or any CASIO maintenance requirements. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance which is conducted by a contractor. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. As a result of the foregoing, Table 9-9 is marked "N/A" meaning "Not Applicable".

**Table 9-9. Vegetation Management Qualifications and Training**

| Worker Title | Minimum Qualifications for Target Role | Applicable Certifications | # of Electrical Corporation Employees with Min Quals | # of Electrical Corporation Employees with Special Certifications | # of Contracted Employees with Min Quals | # of Contractor Employees with Applicable Certifications | Total # of Employees | Reference to Electrical Corporation Training / Qualification Programs |
|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

### 9.13.1 Recruitment

***Instructions:*** *In this section, the electrical corporation must describe how it recruits vegetation management and inspections personnel, including any relevant partnerships with colleges or universities.*

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CASIO maintenance requirements. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance which is conducted by a contractor. TBC does not recruit for vegetation management personnel as its vegetation management program is limited in scope.

### 9.13.2 Training and Retention

***Instructions:*** *In this section, the electrical corporation must describe how it trains its vegetation management and inspection personnel, including any requirements for continued/refresher education and programs to improve worker qualifications.*

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CASIO maintenance requirements. TBC does undertake weed abatement at its converter stations, the cost of which is incorporated into landscape maintenance which is conducted by a contractor. TBC does not recruit for vegetation management personnel as its vegetation management program is limited in scope.

# 10 SITUATIONAL AWARENESS AND FORECASTING

***Instructions:*** *Each electrical corporation's WMP must include plans for situational awareness.*[69]

## 10.1 Targets

***Instructions:*** *In this section, the electrical corporation must provide qualitative and quantitative targets for each year of the three-year WMP cycle. The electrical corporation must provide at least one qualitative and quantitative target for the following initiatives:*

- *Environmental Monitoring Systems (Section 10.2)*
- *Grid Monitoring Systems (Section 10.3)*
- *Ignition Detection Systems (Section 10.4)*
- *Weather Forecasting (Section 10.5)*
- *Weather Station Maintenance and Calibration (Section 10.5.5)*

### 10.1.1 Qualitative Targets

***Instructions:*** *The electrical corporation must provide qualitative targets for its three-year plan for implementing and improving its situational awareness and forecasting,*[70] *including the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *A completion date for when the electrical corporation will achieve the target*
- *Reference(s) to the WMP section(s) or appendix, including page numbers, where the details of the target(s) are documented and substantiated*

*Required format and examples of the minimum required information are provided in Table 10-1 below.*

### 10.1.2 Quantitative Targets

***Instructions:*** *The electrical corporation must list all quantitative targets it will use to track progress on its situational awareness and forecasting in its three-year plan, broken out by each year of the WMP cycle. Electrical corporations must show progress toward completing*

[69] Pub. Util. Code §§ 8386(c)(2)-(5).
[70] Annual information included in this section must align with the applicable data submission.

*quantitative targets in subsequent reports, including data submissions and WMP Updates.[71] For each target, the electrical corporation must provide the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *Projected targets and totals for each of the three years of the WMP cycle, e.g., [Year 1] end of year total, [Year 2] total, and [Year 3] total, three-year total and the associated units for the targets*
- *The expected % risk reduction[72] for each of the three years of the WMP cycle.*

*The electrical corporation's targets must provide enough detail to effectively inform efforts to improve the performance of the electrical corporation's situational awareness and forecasting initiatives.*
*Table 10-1 provides the required format and an example of the minimum acceptable level of information.*

[71] Annual information included in this section must align with the applicable data submission.
[72] The expected % risk reduction is the expected percentage risk reduction per year, as described in Section 6.2.1.2.

*Table 10-1. Example of Situational Awareness Targets by Year*

| ***Initiative*** | ***Quantitative or Qualitative Target*** | ***Activity (Tracking ID #)*** | ***Previous Tracking ID, if applicable*** | ***Target Unit*** | ***[Year 1] End of Year Total / Completion Date*** | ***% Risk Reduction for [Year 1]*** | ***[Year 2] Total / Status*** | ***% Risk Reduction for [Year 2]*** | ***[Year 3] Total / Status*** | ***% Risk Reduction for [Year 3]*** | ***Three-Year Total*** | ***Section; Page number*** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Grid Monitoring Systems* | *Quantitative* | *Install Thermal Cameras (SA-04)* | *SA-02* | *Thermal cameras installed* | *5* | *0.5%* | *10* | *1%* | *25* | *2.5%* | *40* | *10.3; p. X* |
| *Ignition Detection Systems* | *Qualitative* | *Automate ignition detection using third-party software (SA-03)* | *SA-03* | *n/a* | *In progress; October 2026* | *n/a* | *Completed; March 2027* | *n/a* | *Completed; March 2027* | *n/a* | *n/a* | *10.4; p. x* |

**Table 10-1. Situational Awareness Targets by Year**

| **Initiative** | **Quantitative or Qualitative Target** | **Activity (Tracking ID #)** | **Previous Tracking ID, if applicable** | **Target Unit** | **2026 End of Year Total / Completion Date** | **% Risk Reduction for 2026** | **2027 Total / Status** | **% Risk Reduction for 2027** | **2028 Total / Status** | **% Risk Reduction for 2028** | **Three-Year Total** | **Section; Page number** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Environmental Monitoring Systems | Qualitative | Evaluation of Optos/FireCaster performance (SA-06) | N/A | N/A | 12/31/2026 | N/A | N/A | N/A | N/A | N/A | N/A | 10.2; p. 143 & 146 |
| Environmental Monitoring Systems | Quantitative | Utilization of Technosylva's Wildfire Analyst platform (SA-01) | N/A | N/A | In progress; Q2 2026 | N/A | N/A | N/A | N/A | N/A | N/A | 10.2; p. 143 & 146 |
| Grid Monitoring Systems | Qualitative | Assess downtime of Transformer DGA + UG Cable | N/A | N/A | 4 / 12/31/2026 | N/A | 4 / 12/31/2027 | N/A | 4 / 12/31/2028 | N/A | 12 | 10.3; p. 152 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Monitoring Systems (SA-07) | | | | | | | | | | |
| Grid Monitoring Systems | Quantitative | Transformer DGA + UG Cable Monitoring System Checks (SA-05) | N/A | N/A | 12 / 12/31/2026 | N/A | 12 / 12/31/2027 | N/A | 12 / 12/31/2028 | N/A | 36 | 10.3; p. 152 |
| Ignition Detection Systems | Qualitative | Camera Improvement (SA-08) | N/A | N/A | Evaluate opportunities to improve range of fire detection / 12/31/2026 | N/A | N/A | N/A | N/A | N/A | N/A | 10.4; p. 157 |
| Ignition Detection Systems | Quantitative | Annual inspection of Site Fire detection systems (SA-09) | N/A | N/A | 1 / 12/31/2026 | N/A | 1 / 12/31/2026 | N/A | 1 / 12/31/2026 | N/A | 3 | 10.4; p. 154 |
| Weather Forecasting | Qualitative | See Fire Potential Index Activity below | N/A | N/A | See Fire Potential Index Activity below | N/A | See Fire Potential Index Activity below | N/A | See Fire Potential Index Activity below | N/A | See Fire Potential Index Activity below | 10.5; p. 158 |
| Weather Forecasting | Quantitative | Percent time each year Weather station is operational (SA-10) | N/A | N/A | 85% | N/A | 85% | N/A | 85% | N/A | 85% | 10.5; p. 158 |
| Weather Station Maintenance and Calibration | Qualitative | Verification of station performance (SA-03) | N/A | N/A | Verification of station performance by vendor / 12/31/2026 | N/A | Verification of station performance by vendor / 12/31/2026 | N/A | Verification of station performance by vendor / 12/31/2026 | N/A | N/A | 10.5; p. 158 |
| Weather Station Maintenance | Quantitative | Completion of annual maintenance check (SA-04) | N/A | 1 | Completion of annual maintenance | N/A | Completion of annual maintenance | N/A | Completion of annual maintenance | N/A | 3 | 10.5; p. 158 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| and Calibration | | | | | check / 12/31/2026 | | check / 12/31/2026 | | check / 12/31/2026 | | | |
| Fire Potential Index | Qualitative | Evaluate performance of Optos/Firecaster (SA-02) | N/A | N/A | 12/31/2026 | N/A | N/A | N/A | N/A | N/A | N/A | 10.6; p. 158-159 |

## 10.2Environmental Monitoring Systems

***Instructions:*** *The electrical corporation must describe its systems and procedures for monitoring environmental conditions within its service territory. These observations should inform the electrical corporation's near-real-time risk assessment and weather forecast validation. The electrical corporation must document the following:*

- *Existing systems, technologies, and procedures*
- *How the need for additional systems is evaluated*
- *Implementation schedule for any planned additional systems*
- *How the efficacy of systems for reducing risk are monitored*

*The electrical corporation must reference the Tracking ID where appropriate.*

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result, TBC does not have a VMP and is not required to maintain a VMP under NERC Reliability Standards or any CASIO maintenance requirements. TBC makes quarterly reports to WECC, that TBC has no requirement have a VMP. TBC does undertake abatement of vegetative fuels on its converter stations at the cost of which is incorporated into landscape maintenance. TBC's Converter Maintenance Practices also includes a quarterly task item to conduct visual inspection of vegetation or weed growth around the converter station. TBC implemented additional wildfire hardening measures at the Trans Bay System between 2020 and 2022 to enhance situational awareness by a weather station, transformer oil gas monitoring, cable monitoring system and a transformer monitoring system. TBC is in the process of utilizing enterprise level engagement of risk modelling vendor, Technosylva and anticipates leveraging its Wildfire Analyst™ (WFA) platform and associated applications to enhance TBC's environmental monitoring and associated capabilities by Q2 2026 (SA-01). The WFA platform will include the WFA FireRisk which provides daily asset-based risk forecasting, and FireSim for on-demand wildfire spread modelling. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.2.1 Existing Systems, Technologies and Procedures

***Instructions:*** *The electrical corporation must report on the environmental monitoring systems and related technologies and procedures currently in use, highlighting any improvements made since the last WMP submission. The electrical corporation must discuss systems, technologies, and procedures related to the reporting of the following:*

- *Current weather conditions:*
  - *Air temperature*
  - *Relative humidity*
  - *Wind velocity (speed and direction)*

- *Fuel characteristics:*
  - *Seasonal trends in fuel moisture*

*Each system must be summarized in Table 10-2. The electrical corporation must provide the following additional information for each system in the accompanying narrative:*

- *Generalized location of the system / locations measured by the system (e.g., HTFD, entire service territory)*
- *Integration with the broader electrical corporation's system*
- *How measurements from the system are verified*
- *Frequency of maintenance*
- *For intermittent systems (e.g., aerial imagery, line patrols), what triggers collection. This should include flow charts and equations as appropriate.*
- *For calculated quantities, how raw measurements are converted into calculated quantities. This should include flow charts and equations as appropriate.*

*Table 10-2. Example of Environmental Monitoring Systems*

| ***System*** | ***Measurement/ Observation*** | ***Frequency*** | ***Purpose and Integration*** |
|---|---|---|---|
| *Weather stations* | *Steady wind velocity*<br>*Gust wind velocity*<br>*Air temperature*<br><br>*Relative humidity* | *3,600 observations / hour* | *Improve weather forecasts through data assimilation*<br><br>*Validate model* |
| *Remote sensing fuel moistures* | *Percentiles* | *Once a day* | *Calculate fuel moisture content* |

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result, environmental factors do not have significant impact on the Trans Bay System's operations. However, TBC utilizes a weather station and a wildfire risk index, Optos/Firecaster, for environmental monitoring and situational awareness.

**Table 10-2. Environmental Monitoring Systems**

| **System** | **Measurement/ Observation** | **Frequency** | **Purpose and Integration** |
|---|---|---|---|
| Weather station | Temperature<br>Wind speed<br>Wind direction<br>Soil moisture<br>Soil temperature | Real-time data (constant measurement) | Provide localized data validation<br><br>Situational awareness |

| | | | |
|---|---|---|---|
| | Air quality index | | |
| Optos/Firecaster | Wildfire Risk Index | Real-time | Data model to predict the likelihood of a wildfire occurring and spreading taking into account current weather conditions, seasonality, and locale (Urban, rural, suburban, mountain, etc.) |

**Figure TBC 10-1. Weather Station at the Pittsburg Converter Station**

### 10.2.2 Evaluation and Selection of New Systems

***Instructions:*** *The electrical corporation must describe how it evaluates the need for additional environmental monitoring systems. This description must include:*

- *How the electrical corporation evaluates the impact of new systems on reducing risk (e.g., expected quantitative improvement in weather forecasting)*
- *How the electrical corporation evaluates the efficacy of new technologies*

*These descriptions must include flow charts as appropriate.*

TBC's facilities are in an urban/industrial environment and its transmission facilities are either buried or submerged beneath Bay Area waters. TBC's facilities utilize no overhead transmission lines. As a result environmental factors do not have significant impact on the Trans Bay System's operations. TBC implemented additional wildfire hardening measures at the Trans Bay System between 2020 and 2022 to enhance situational awareness by a weather station, transformer oil gas monitoring, cable monitoring system and a transformer monitoring system. Given the foregoing, TBC has no current plans for changes to its environmental monitoring capabilities in the 2023-2025 WMP Cycle and beyond. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.2.3 Planned Improvements

***Instructions:*** *The electrical corporation must describe its planned improvements for its environmental monitoring systems.*[73] *This must include any plans for the following:*

- *Expansion of existing systems*
- *Establishment of new systems*

TBC plans to leverage Technosylva's Wildfire Analyst platform to improve its environmental monitoring awareness. Additional TBC will evaluate changes to the in-house wildfire risk index Optos/Firecaster, discussed below and TBC deems its current capabilities sufficient to meet the needs of its facility's limited footprint and scale of operations. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.2.4 Evaluating Activities

***Instructions:*** *The electrical corporation must describe its procedures for the ongoing evaluation of the efficacy of its environmental monitoring activity (program).*

[73] Annual information included in this section must align with the applicable data submission.

Evaluation of the efficacy of TBC's environmental monitoring activity is based on input from its Operations Manager and O&M technicians who perform the monthly inspections and also function as system operators, senior operations leadership and the operational experience and best practices from other affiliates. For site buildings, TBC leverages the expertise of contracted fire system vendors. TBC reviews and updates its FMEA annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates and other enterprise resources.

## 10.3Grid Monitoring Systems

***Instructions:*** *The electrical corporation must describe its systems and procedures used to monitor the operational conditions of its equipment.*[74] *These observations should inform the electrical corporation's near-real-time risk assessment. The electrical corporation must document:*

- *Existing systems, technologies, and procedures*
- *Procedure used to evaluate the need for additional systems*
- *Implementation schedule for any planned additional systems*
- *How the efficacy of systems for reducing risk are monitored*

*The electrical corporation must reference the Tracking ID where appropriate.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. TBC's System Operators, as part of the initial qualifications, are trained regarding the potential weather impacts on system operability and fire risks using available local news sources and monitoring of reliability messaging tools. TBC utilizes the Siemens SIMATIC WinCC platform, a scalable and innovative process-visualization system with numerous high-performance functions for monitoring the HVDC Converter, and associated transmission system. WinCC offers complete functionality for complex visualization tasks, SCADA applications, and intelligent redundancy. The PC-based system acts as the human-machine interface for TBC's System Operators, providing process supervision and control, long term data archiving, trending, and Sequence of Events recording at the Primary and Backup Transmission Operations Control Centers. TBC also performs monthly asset inspections which are conducted designated Operations personnel. The inspections include general checks and measurements, visual inspections, general housekeeping, and vegetation control. Operations personnel also utilize the real-time cable monitoring system to monitor the underground cable as well as real-time oil gas monitoring to support tracking of transformer health.

[74] Pub. Util. Code §§ 8386(c)(3), (6), (22).

### 10.3.1 Existing Systems, Technologies, and Procedures

***Instructions:*** *The electrical corporation must report on the grid system monitoring systems and related technologies and procedures currently in use, highlighting any improvements made since the last WMP submission. At a minimum, the electrical corporation must discuss systems, technologies, and procedures related to the detection of:*

- *Faults (e.g., fault anticipators, rapid earth fault current limiters, etc.)*
- *Failures*
- *Recloser operations*

*Each system must be summarized in Table 10-3 below. The electrical corporation must provide the following information for each system in the accompanying narrative:*

- *Location of the system / locations measured by the system*
- *Integration with the broader electrical corporation's system*
- *How measurements from the system are verified*
- *For intermittent systems (e.g., aerial imagery, line patrols), description of what triggers collection. This must include flow charts and equations where appropriate.*
- *For calculated quantities, how raw measurements are converted to calculated quantities*

*Table 10-3. Example of Grid Operation Monitoring Systems*

| ***System*** | ***Measurement/ Observation*** | ***Frequency*** | ***Purpose and Integration*** |
|---|---|---|---|
| *Line sensors* | *• Electrical current<br>• Electrical voltage<br>• Waveform harmonics* | *• 3,600 observations / hour* | *• Early fault detection<br>• Distribution fault anticipator (DFA)* |

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System is a transmission-only system with no overhead lines and no distribution elements. Given its limited footprint and the size and scope of its operations, TBC does not utilize a grid management system. TBC's System Operators, as part of the initial qualifications, are trained regarding the potential weather impacts on system operability and fire risks using available local news sources and monitoring of reliability messaging tools. TBC utilizes the Siemens SIMATIC WinCC platform, a scalable and innovative process-visualization system with numerous high-performance functions for monitoring the HVDC Converter, and associated transmission system. WinCC offers complete functionality for complex visualization tasks, SCADA applications, and intelligent redundancy. The PC-based

system acts as the human-machine interface for TBC's System Operators, providing process supervision and control, long term data archiving, trending, and Sequence of Events recording at the Primary and Backup Transmission Operations Control Centers.

The nature of the AC/DC conversion system employed by TBC has control and protection features that "Block" transmission within microseconds of a fault detection and will initiate an Emergency Shut Off in milliseconds; significantly faster than traditional interrupting devices employed in other transmission systems. The Trans Bay System already possesses fault monitoring and detection capabilities that exceed that utilized in more traditional transmission systems.

Voltage and current measurement values are pre-processed in the C&P Measurement Systems and transmitted to the Converter Control and DC Protection systems. Other measured values and data from the process level are exchanged via the Field Bus system with de-centralized Bay Control Units. Converter related data from the Current Control System (CCS) and the Converter Control are exchanged via Control Bus, for e.g. power reference values, power limitations and control commands as well as status information. Status and control information from the CCS and Module Management System (MMS) are also communicated via Control LAN to the Monitoring and Diagnostics System (MDS). Filtered status information is sent from the MDS to the Converter Controls via SCADA LAN. These also include time tagged messages from the CCS and MMS systems.

These systems are implemented with independent redundancy concept. Two identical converter control and protection systems are provided with all input signals. The signals are fed to both systems which evaluate these continuously and generate the required control outputs. The standby (passive) controllers are updated by the active system with all relevant statuses and setting values. Plausibility checking and change over logic detect potential errors and initiate protective actions

TBC employs a GIS that provides high accuracy geo-plots of all TBC facilities. This system also plots excavation notifications which helps to minimize the likelihood of derangement due to uncoordinated excavations all the cable route. In 2020, TBC implemented two (2) continuous monitoring sensors initiatives that provided operational risk mitigation. The first was a fiber-optic based cable monitoring system which allows TBC to monitor the cable for physical vibration, temperature, and abnormal electrical discharge at the cable terminations.

The cable monitoring system uses fiber optics to employ a technique to monitor and measure physical strain in glass fiber by detecting changes in the refractive index of the fiber caused by acoustic waves. This technique involves the use of an optical fiber that is sensitive to changes in strain or temperature. When an acoustic wave travels through the fiber, it causes the fiber to deform slightly, which in turn causes a change in the refractive index of the fiber. This change in

refractive index can be detected and measured using optical sensors that are attached to the fiber.

The monitoring system can also detect and locate partial discharges at the cable terminations, which can be early indicators of potential faults or failures. By monitoring partial discharges continuously, the monitoring system can provide real-time alerts to system operators, allowing them to take corrective action before a fault or failure occurs. The monitoring system is inspected on a routine basis to ensure the measurement equipment is functioning properly. Additionally, TBC employs the use of independent partial discharge monitoring equipment which uses different technology to confirm the monitoring system is functioning properly.

The second was a transformer monitoring system which has real-time oil analysis to detect and prevent internal faults on the transformer, as well as partial discharge monitoring of the transformer bushings to detect bushing degradation that could lead to failure. This system provides potentially predictive data on transformer failure which has the potential for initiating an ignition event. In 2021, TBC implemented a transformer oil control system which provided new control and flow sensor on its main transformers. This system allows station personnel to have improved assess to oil flow indication and controls which allows for more accurate preventative maintenance. This system in conjunction with the transformer monitoring system, which was installed in 2020, provides enhanced data that can be utilized to assess transformer health and potentially predict transformer failure which has the potential for initiating an ignition event.

**Table 10- 3. Grid Operation Monitoring Systems**

| System | Measurement/ Observation | Frequency | Purpose and Integration |
|---|---|---|---|
| Converter Control & Protection | Electrical Voltage AC<br>Electrical Current AC<br>Electrical Voltage DC<br>Electrical Current DC<br>AC Waveform Harmonics<br>DC / Converter Harmonics | Converter Fast Telecontrol = 250 / second (250hz)<br>DC Protection = 500 / second (500hz) | Converter Control & Protection<br>Sequence of Event Recording<br>Transmission System Control<br>Transient Fault Recording<br>Alarming |
| AC Line Protection | Electrical Current AC | 16 samples/cycle (1kHZ) | AC Line Differential |

| | | | |
|---|---|---|---|
| Transformer Protection | Electrical Current AC | 16 samples/cycle (1kHZ) | Transformer Differential |
| WinCC | Electrical Voltage AC<br>Electrical Current AC<br>Electrical Voltage DC<br>Electrical Current DC<br>Power (MW/MVAR)<br>Temperature, Ambient<br>Temperature, Coolant | 10 times per second (10hz) | Process control and supervision<br><br>Process data visualization<br><br>Sequence of Event Recording display<br><br>Alarming |
| TBC Trac | Marine Traffic AIS data feed<br>USAN 811 Dig API | 4 times per minute | Visualization of ships<br><br>Visualization of construction excavation activity |
| Prysmian DAS/DTS | Fiber Optic Cable Light Refractive Index | DAS = 10khz<br>DTS = 3 times per hour | DAS process visualizes kinetic energy in real time, to detect cable faults, derangement, or potential physical contact<br><br>DTS process visualizes thermal energy in real time to calculate estimated ampacity and burial depth |
| Pry-Cam Grids | Electrical Current | PDM = once every 3 minutes | Detect and locate partial discharge activity and provide real time alerts. |
| Serveron TM8 | Dissolved Gasses in Oil | DGA = 4 times / hour | Detect dissolved gasses in transformer oil. Provides alerts upon detection in excess of allowable thresholds |

### 10.3.2 Evaluation and Selection of New Systems

***Instructions:*** *The electrical corporation must describe how it evaluates the need for additional grid operation monitoring systems. This description must include:*

- *How the electrical corporation evaluates the impact of new systems on reducing risk (e.g., expected reduction in ignitions from failures, expected reduction in failures)*
- *How the electrical corporation evaluates the efficacy of new technologies*

*These descriptions must include flow charts where appropriate.*

To inform appropriate wildfire hardening initiatives, TBC uses the FMEA process and support from third-party site wildfire assessments. The FMEA considers the potential failures from each TBC Facility component and assesses and prioritizes the potential risk, along with providing potential mitigations. A third-party wildfire assessment was utilized to supplement the initial FMEA and provides independent evaluation/assessment of wildfire risk at the facility and opportunities for risk mitigation. TBC utilized the combined information to target mitigation initiatives that provided meaningful impact to reducing the likelihood of utility equipment instigating a fire and the promulgation and impact of a fire if one occurred. TBC updates the FMEA annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates, among other things. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed. TBC representatives also attend various industry conferences on wildfire risk mitigation and leverages enterprise knowledge from its affiliates. TBC utilizes these opportunities to gain exposure to new systems for evaluation as part of a process of continuous improvement of wildfire risk mitigation program.

### 10.3.3 Planned Improvements

***Instructions:*** *The electrical corporation must describe its planned improvements in its grid operation monitoring systems. This must include any plans for the following:*

- *Expansion of existing systems*
- *Establishment of new systems*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System is a transmission-only system with no overhead lines and no distribution elements. Given its limited footprint and the size and scope of its operations, TBC does not utilize a grid management system. TBC's System Operators, as part of the initial qualifications, are trained regarding the potential weather impacts on system operability and fire risks using available local news sources and monitoring of reliability messaging tools. TBC utilizes the Siemens SIMATIC WinCC platform, a scalable and innovative process-visualization system with numerous high-performance functions for monitoring the

HVDC Converter, and associated transmission system. WinCC offers complete functionality for complex visualization tasks, SCADA applications, and intelligent redundancy. The PC-based system acts as the human-machine interface for TBC's System Operators, providing process supervision and control, long term data archiving, trending, and Sequence of Events recording at the Primary and Backup Transmission Operations Control Centers. Additionally, as described in detail in Section 6 of this WMP, TBC uses the FMEA process to identify and mitigate wildfire-related risks at the Trans Bay System. TBC updates the FMEA annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates, among other things. TBC implemented additional wildfire hardening measures at the Trans Bay System between 2020 and 2022 to enhance situational awareness by a weather station, transformer oil gas monitoring, cable monitoring system and a transformer monitoring system. Given the limited scale and scope of the TBC operations, TBC has no current plans for changes to its grid monitoring capabilities in the 2026-2028 WMP Cycle. However, TBC plans to assess downtime of transformer oil gas monitoring system and cable real-time monitoring systems and periodic systems checks of the same. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.3.4 Evaluating Activities

***Instructions:*** *The electrical corporation must describe its procedures for the ongoing evaluation of the efficacy of its grid operation monitoring activity (program).*

Evaluation of the efficacy of TBC's grid operation monitoring activity is based on input from its Operations Manager and O&M technicians who perform the monthly inspections and also function as system operators, senior operations leadership and the operational experience and best practices from other affiliates. For site buildings, TBC leverages the expertise of contracted fire system vendors. TBC reviews and updates its FMEA annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates and other enterprise resources.

## 10.4Ignition Detection Systems

***Instructions:*** *The electrical corporation must describe its systems, technologies, and procedures used to detect ignitions within its service territory and gauge ignition size and growth rates.*[75]

*The electrical corporation must document the following:*

- *Existing ignition detection sensors and systems*
- *Evaluation and selection of new ignition detection systems*
- *Planned integration of new ignition detection technologies*

[75] Pub. Util. Code § 8386(c)(3).

- *Identify any systems, technologies, and procedures for routine sharing of the following:*
  - *Evaluation of strengths and limitations of new technology*
  - *Case studies/ lessons learned regarding new ignition detection systems and new ignition detection technologies*
  - *Lessons learned*

- *Monitoring of initiative improvements*

*The electrical corporation must reference the Tracking ID where appropriate.*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. TBC utilizes the Siemens SIMATIC WinCC platform, a scalable and innovative process-visualization system with numerous high-performance functions for monitoring the HVDC Converter, and associated transmission system. WinCC offers complete functionality for complex visualization tasks, SCADA applications, and intelligent redundancy. The PC-based system acts as the human-machine interface for TBC's System Operators, providing process supervision and control, long term data archiving, trending, and Sequence of Events recording at the Primary and Backup Transmission Operations Control Centers. TBC is also directly supported in situational awareness of local conditions through close coordination with CAISO as TBC's Balancing Authority and PG&E, TBC's only neighboring Transmission Operator since TBC operates completely within PG&E's service territory. As previously indicated, weather, RFW days, and fire index have been assessed as having negligible impact on TBC's operational profile due to TBC's transmission path being completely underground or submerged.

The nature of the AC/DC conversion system employed by TBC has control and protection features that "Block" transmission within microseconds of a fault detection and will initiate an Emergency Shut Off in milliseconds; significantly faster than traditional interrupting devices employed in other transmission systems. The Trans Bay System already possesses fault monitoring and detection capabilities that exceed that utilized in more traditional transmission systems. The Pittsburg Converter Station is surrounded by a twelve (12) foot concrete perimeter wall that is equipped with motion sensors and inward and outward facing cameras. There are also local fire department approved fire lanes completely around the site perimeter inside the perimeter wall. Each site contains Knox boxes accessible to Emergency Services. The converter stations as also equipped with monitoring, detection, alarm, and suppression systems that have been implemented and maintained per applicable codes and statutes and are annually inspected and approved by the local fire department. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.4.1 Existing Ignition Detection Sensors and Systems

***Instructions:*** *The electrical corporation must report on the sensors and systems, technologies, and procedures for ignition detection that are currently in use, highlighting any improvements made since the last WMP submission. At a minimum, the electrical corporation must document the deployment of each of the following:*

- *Early fire detection including, for example:*
  - *Satellite infrared imagery*
  - *High-definition video*
  - *Infrared cameras*
- *Fire growth potential software*

*The electrical corporation must summarize each system in Table 10-4 below. It must provide the following additional information for each system in an accompanying narrative:*

- *General location of detection sensors (e.g., HFTD or entire service territory)*
- *Resiliency of sensor communication pathways*
- *Integration of sensor data into machine learning or AI software*
- *Role of sensor data in risk response*
- *False positives filtering*
- *Time between detection and confirmation*
- *Security measures for network-based sensors*

*Table 10-4. Example of Fire Detection Systems Currently Deployed*

| ***Detection System*** | ***Capabilities*** | ***Companion Technologies*** | ***Contribution to Fire Detection and Confirmation*** |
|---|---|---|---|
| *Video cameras* | *Real-time viewing of remote area to detect smoke and wildfires* | *Used with satellite imagery to verify fire detection* | *Video cameras allow fast and accurate detection or confirmation of wildfires and can help operators assess the scope of resource response needed.* |

TBC Operations team monitors the asset 24/7 via the presence of the onsite operator who utilities the Siemens HMI to monitor the Trans Bay System through the facility's remote sensors and monitors and on-site cameras.

**Table 10-4. Fire Detection Systems Currently Deployed**

| Detection System | Capabilities | Companion Technologies | Contribution to Fire Detection and Confirmation |
|---|---|---|---|
| Site Video cameras | Real-time viewing of Pittsburg Converter Station and immediate surrounding area to detect smoke and fires | Used with weather station to verify fire detection and access to Optos/Firecaster wildfire risk notifications | Video cameras allow fast and accurate detection or confirmation of wildfires and can help operators assess the scope of resource response needed. |
| Optos/Firecaster | Real time tracking of wildfire conditions<br><br>Fire growth potential prediction and modeling | Site Cameras | Data model to predict the likelihood of a wildfire occurring and spreading taking into account current weather conditions, seasonality, and locale (Urban, rural, suburban, mountain, etc.) |

### 10.4.2 Evaluation and Selection of New Detection Systems

***Instructions:*** *The electrical corporation must describe how it evaluates the need for additional ignition detection technologies. This description must include:*

- *How the electrical corporation evaluates the impact on new detection technologies on reducing and improving detection and response times*
- *How the electrical corporation evaluates the efficacy of new technologies*
- *The electrical corporation's budgeting process for new detection system purchases*

To inform appropriate wildfire hardening initiatives, TBC uses the FMEA process and support from third-party site wildfire assessments. The FMEA considers the potential failures from each TBC Facility component and assesses and prioritizes the potential risk, along with providing potential mitigations. A third-party wildfire assessment was utilized to supplement the initial FMEA and provides independent evaluation/assessment of wildfire risk at the facility and opportunities for risk mitigation. TBC utilized the combined information to target mitigation initiatives that provided meaningful impact to reducing the likelihood of utility equipment instigating a fire and the promulgation and impact of a fire if one occurred. TBC updates the FMEA

annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates, among other things. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed. TBC representatives also attend various industry conferences on wildfire risk mitigation and leverages enterprise knowledge from its affiliates. TBC utilizes these opportunities to gain exposure to new systems for evaluation as part of a process of continuous improvement of wildfire risk mitigation program.

### 10.4.3 Planned Integration of New Ignition Detection Technologies

***Instructions:*** *The electrical corporation must provide an implementation schedule for new ignition detection and alarm system technologies. This must include any plans for the following:*

- *Integration of new systems into existing physical infrastructure*
- *Integration of new systems into existing data analysis*
- *Increases in budgets and staffing to support new systems*

TBC Operations team monitors the asset 24/7 via the presence of the onsite operator who utilities the Siemens HMI to monitor the Trans Bay System through the facility's remote sensors and monitors and on-site cameras. TBC will monitor the effectiveness of its currently emplaced processes, procedures, and capabilities and assess changes or enhancements as needed.

### 10.4.4 Evaluating Activities

***Instructions:*** *The electrical corporation must describe its procedures for the ongoing evaluation of the efficacy of its fire detection systems.*

Evaluation of the efficacy of TBC's fire detection systems is based on input from its Operations Manager and O&M technicians who perform the monthly inspections and also function as system operators, senior operations leadership and the operational experience and best practices from other affiliates. For site buildings, TBC leverages the expertise of contracted fire system vendors. TBC reviews and updates its FMEA annually to ensure controls and processes are functioning as intended, review potential failure modes and effects of any newly added or changed equipment, and assess new opportunities for risk reduction driven by new technologies, best practices, and experience of affiliates and other enterprise resources. Specifically, TBC will evaluate opportunities to improve the range of fire detection with cameras for the Pittsburg Converter Station area.

## 10.5Weather Forecasting

***Modified Instructions:*** *The ITO must comply with Public Utilities Code section 8386(c)(3). The ITO's weather forecasting systems, processes, and procedures do not have to be informed by modeling. However, the ITO must describe its approach to forecasting the weather and data sources.*

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. As noted on page 180 of Energy Safety's WMP Guidelines, ITOs have significantly less infrastructure than large investor-owned utilities and SMJUs and do not have service territories. Energy Safety notes that ITOs' weather forecasting systems, processes, and procedures do not have to be informed by modeling. However, Energy Safety states that ITOs must describe their approach to forecasting the weather.

Based on the foregoing, TBC's WMP does not include Sections 10.5.1 through 10.5.5. Instead, TBC provides the following information pursuant to Energy Safety's direction on page 180 of Energy Safety's WMP Guidelines.

Although, weather conditions do not have material impact on TBC's operations and TBC does not have any asset in a HFTD, TBC enhanced its weather forecasting capabilities in Q4 2022 when it completed installation of its weather station. TBC receives twice daily forecast emails on wildfire risk conditions. Optos/Firecaster provides a 7 day outlook of a wildfire risk index. TBC intends to leverage utilization of Technosylva's Wildfire Analyst platform and to Optos/Firecaster for potential improvements in weather forecasting. TBC will also assess percentage of operational time for its weather station. Additionally, TBC will have annual verification of performance and maintenance inspection of its weather station.

## 10.6Fire Potential Index

***Modified Instructions:*** *The ITO must comply with Public Utilities Code section 8386(c)(3).*

*The ITO must state the data source used or how it determines FPI.*

TBC has access to the Firecaster Wildfire Risk Index (WRI), and enterprise tool also utilized by its affiliates. The Firecaster WRI uses multiple data sources to assess the relative risk of explosive wildfires. The index considers wildfire growth based on vegetation, weather and active wildfires as factors. The resulting WRI is displayed in the Optos user interface providing a scale of low, elevated, high and extreme risk of fire. The automated model produces visualizations that can be used internally for validation, refinement, and customer Q&A. Forecast emails are provided twice daily. TBC does not have any operations in a HFTD, wildlands or a wildland urban interface, however TBC intends to utilize the system to monitor conditions that may lead to brush/grassland fires in the area for situational awareness purposes. TBC is in the process of utilizing enterprise level engagement of risk modelling vendor, Technosylva (which began in 2025) and anticipates leveraging its Wildfire Analyst™ (WFA) platform and associated applications to enhance TBC's environmental monitoring and associated capabilities by Q2 2026 (SA-01). The WFA platform will include the WFA FireRisk which provides daily asset-based risk forecasting, and FireSim for on-demand wildfire spread modelling. Optos/Firecaster received minor upgrades which improved user functionality and interface in 2025. TBC will evaluate the performance of Optos/Firecaster for any material improvements by end of Q4 2026.

**Table 10-5. Fire Potential Features**

| Feature Group | Feature | Altitude | Description | Source | Update Cadence | Spatial Granularity | Temporal Granularity |
|---|---|---|---|---|---|---|---|
| Weather | Temperature, Wind Speed, Wind Direction, Humidity, Rainfall | Surface | Weather forecast data from NOAA models | AerisWeather | 2x daily | 5km | hourly |
| Weather | Recent rainfall | Surface | Recent rainfall from weather stations | AerisWeather | Daily | 5km | hourly |
| Fuel | Soil Moisture | Top Soil | Modeled soil moisture from NOAA models | NOAA | daily | 0.25 degrees | Daily |
| Fuel | Vegetation Greenness | Surface | Observed NDVI from MODIS satellites | MODIS | 14 days | 500 meters | 14 days |
| Fuel | Snow Cover | NOAA | Current snow cover | NOAA | Daily | ~10km | Daily |
| Fires | Active Fire Hotspots | Surface | Active fire hotspots observed by NOAA20/VIIRS satellites | FIRMS | 6-8 hours | ~300 meters | hourly |

# 11 EMERGENCY PREPAREDNESS, COLLABORATION, AND COMMUNITY OUTREACH

***Instructions:*** *Each electrical corporation must develop and adopt an emergency preparedness plan in compliance with the standards established by the CPUC pursuant to Public Utilities Code section 768.6(a).*[76]

## 11.1 Targets

***Instructions:*** *In this section, each electrical corporation must provide qualitative targets for emergency preparedness, collaboration, and community outreach.*

*The electrical corporation must provide at least one qualitative target for the following initiatives:*

- *Emergency Preparedness and Recovery Plan (Section 11.2)*
- *External Collaboration and Coordination (Section 11.3)*
- *Public Communication, Outreach, and Education (Section 11.4)*
- *Customer Support in Wildfire and PSPS Emergencies (Section 11.5)*

### 11.1.1 Qualitative Targets

***Instructions:*** *The electrical corporation must provide qualitative targets for its three-year plan for implementing and improving its emergency preparedness, collaboration, and community outreach,*[77] *including the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the Tracking ID(s) used in past WMPs ("Previous Tracking ID"), if applicable*
- *A completion date for when the electrical corporation will achieve the target*
- *Reference(s) to the WMP section(s) or appendix, including page numbers, where the details of the target(s) are documented and substantiated*

*This information must be provided in Table 11-1 for the three-year cycle. Examples of the required format and minimum acceptable level of information are provided below.*

*Table 11-1. Example of Emergency Preparedness and Community Outreach Targets by Year*

| ***Initiative*** | ***Activity (Tracking ID #)*** | ***Previous Tracking ID, if*** | ***[Year 1] End of Year Total /*** | ***[Year 2] Status*** | ***[Year 3] Status*** | ***Section ; Page number*** |
|---|---|---|---|---|---|---|

[76] Pub. Util. Code § 8386(c)(19).
[77] Annual information included in this section must align with the applicable data submission.

| | | ***applicable*** | ***Completion Date*** | | | |
|---|---|---|---|---|---|---|
| *Emergency Preparedness and Recovery Plan* | *Update workforce training for emergency Response (EP-1)* | *EP-04* | *Not started* | *Started; September 2027* | *Completed, January 2028* | *11.2; p. x* |
| *Public Outreach, Communication, and Engagement* | *Assess and resolve any customer issues identified through mobile application within 1 week (EP-3)* | *CO-03* | *Started; March 2026* | *Completed; May 2027* | *Completed, May 2027* | *11.4; p. x* |

In view of TBC's current limited footprint with one operational transmission asset, TBC has a small staff overseeing TBC operations, including dedicated on-site staff performing all operations work including restoration as well as a system operator that controls the asset 24/7 from the onsite NERC-certified control center. TBC's emergency preparedness planning and response is conducted in close coordination with CAISO and PG&E in addition to local emergency service providers appropriate to the limited scale and scope of TBC's operations. Relevant emergency operations procedures are routinely provided to CAISO and PG&E upon any update. Initial response and coordination to any emergency condition begins with the Trans Bay System Operator who has full authority and responsibility to act autonomously to coordinate and conduct an emergency shutdown of the Trans Bay System. TBC-OP-004 Emergency Operations and TBC-HS-200 Emergency Action plan provide clear guidance regarding required responses, communications, staff responsibilities, and key situational awareness capabilities to address the full range of foreseeable emergencies to include all those that could pose a fire risk. TBC operations and engineering personnel are trained on all procedures relevant to emergency response, fire mitigation, and appropriate asset monitoring and protection protocols. These include specific procedures for Fire Prevention, Emergency Action, Emergency Operations, Fire System, and Asset Monitoring & protection. Given the foregoing, TBC has no current plans for changes to its emergency preparedness processes and therefore has no emergency preparedness initiative targets in the 2026-2028 WMP Cycle. TBC will monitor the effectiveness of its currently

emplaced processes, procedures, and capabilities and assess changes or enhancements as needed. As result Table 11-1 is marked N/A meaning "Not Applicable".

**Table 11-1. Emergency Preparedness and Community Outreach Targets by Year**

| Initiative | Activity (Tracking ID #) | Previous Tracking ID, if applicable | 2026 End of Year Total / Completion Date | 2027 Status | 2028 Status | Section; Page number |
|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## 11.2 Emergency Preparedness and Recovery Plan

***Instructions:*** *In this section, the electrical corporation must provide an overview of how it has evaluated, developed, and integrated wildfire- and PSPS-specific emergency preparedness strategies, practices, policies, and procedures into its overall emergency plan based on the minimum standards described in GO 166.*[78] *The electrical corporation must provide the title of and link to its latest emergency preparedness report, the date of the report, and an indication of whether the plan complies with CPUC R. 15-06-009, D. 21-05-019, and GO 166. The overview must be no more than two paragraphs.*

*In addition, the electrical corporation must provide a list of any other relevant electrical corporation documents that govern its wildfire and PSPS emergency preparedness planning for response and recovery efforts. This must be a bullet point list with document title, version (if applicable), and date. For example:*

- *Electrical Corporation's Emergency Response Plan (ECERP), Third Edition, dated January 1, 2021*

*The electrical corporation must reference the Tracking ID where appropriate.*

Given the limited scope and scale of TBC's operations, and the fact that TBC does not have any assets in HFTDs, wildlands, or WUIs, TBC does not have emergency preparedness plans specifically for wildfire and PSPS situations. Instead, TBC has general emergency plans which would be implemented in the event of any emergency, including a wildfire or PG&E-initiated PSPS event. TBC's emergency preparedness planning and response is conducted in close coordination with CAISO and PG&E in addition to local emergency service providers appropriate to the limited scale and scope of TBC's operations. Relevant emergency operations procedures are routinely provided to CAISO and PG&E upon any update.

[78] Pub. Util. Code §§ 8386(c)(7), (11), (16), (19), (20).

Initial response and coordination to any emergency condition begins with the Trans Bay System Operator who has full authority and responsibility to act autonomously to coordinate and conduct an emergency shutdown of the Trans Bay System. TBC-OP-004 Emergency Operations and TBC-HS-200 Emergency Action plan provide clear guidance regarding required responses, communications, staff responsibilities, and key situational awareness capabilities to address the full range of foreseeable emergencies to include all those that could pose a fire risk.[79] The Trans Bay System is a transmission-only system that does not contain any distribution assets. The facility is also under the operational control of the CAISO and is maintained to CAISO maintenance standards. TBC cites to the following specific procedures:

- TBC-OP-004 Emergency Operations, Rev. 15, Effective May 3, 2024
- TBC-HS-200 Emergency Action Plan, Rev. 6, Effective December 2, 2020

### 11.2.1 Overview of Wildfire and PSPS Emergency Preparedness and Service Restoration

***Instructions:*** *In this section, the electrical corporation must provide an overview of its wildfire- and PSPS-specific emergency preparedness and service restoration plan.[80] The overview must describe the following:*

- *Overview of protocols, policies, and procedures for responding to and recovering from a wildfire or PSPS event (e.g., means and methods for assessing conditions, decision-making framework, prioritizations). This must include:*
    - *An operational flow diagram illustrating key components of its wildfire- and PSPS-specific emergency response procedures from the moment of activation to response, recovery, and restoration of service*
    - *Separate overviews and operational flow diagrams for wildfires and PSPS events*

- *Key personnel, qualifications, and training that show the electrical corporation has trained the workforce to promptly restore service after wildfire or PSPS event, accounting for workers pursuant to mutual aid agreement or contracts. This must include:*
    - *The key roles and responsibilities, personnel resource planning (internal and external staffing needs), personnel qualifications, and required training programs*
    - *A brief narrative describing its process for planning to meet its internal and external staffing needs for emergency preparedness planning, preparedness, response, and recovery related to wildfire and PSPS*

[79] Both procedures are provided as confidential attachments to this WMP.
[80] Pub. Util. Code § 8386(c)(16), (19), (20).

- *The name of each training program, a brief narrative of the purpose and scope of each training program, the frequency of each training program, and how the electrical corporation tracks who has completed the training program*

- *Each Memorandum of Agreement (MOA) the electrical corporation has with state, city, county, and tribal agencies within its service territory on wildfire and/or PSPS emergency preparedness, response, and recovery activities. The electrical corporation must provide a brief summary of the MOA, including the agreed role(s) and responsibilities of the external agency before, during, and after a wildfire or PSPS emergency*
  - *Coordination and collaboration with public safety partners (e.g., emergency planning, interoperable communications)*
  - *Notification of and communication to customers before, during and after a wildfire or PSPS event*
  - *Improvements/updates made since the last Base WMP submission*

*The overview must be no more than six pages. The electrical corporation may refer to its emergency preparedness plan to provide more detail. Where the electrical corporation has already reported the requested information in another section of the WMP, it must provide a cross-reference with a hyperlink to that section.*

*In addition, the electrical corporation must provide a table with a list of current gaps and limitations in evaluating, developing, and integrating wildfire- and PSPS-specific preparedness and planning features into its overall emergency preparedness and recovery plan(s). Where gaps or limitations exist, the electrical corporation must provide a remedial action plan and the timeline for resolving the gaps or limitations. Table 11-2 provides the required format and an example of the minimum level of content and detail required.*

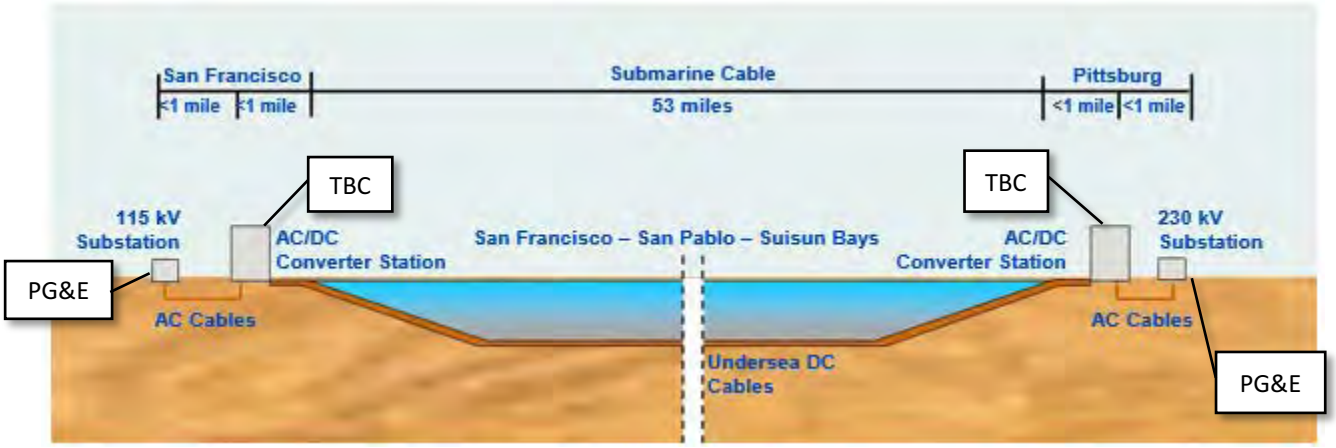
*Table 11-2. Example of Key Gaps and Limitations in Integrating Wildfire- and PSPS-Specific Strategies into Emergency Plan*

| ***Gap or Limitation Subject*** | ***Brief Description of Gap or Limitation*** | ***Remedial Action Plan*** |
|---|---|---|
| *Limited feedback on wildfire-specific components of emergency plan* | *Limited coordination with local-level public safety partners in the review and development of the wildfire-specific emergency preparedness plan* | ***Strategy:*** *Establish a community advisory panel in collaboration with local government and non-governmental organizations.* ***Target timeline:*** *Develop a process for establishing a community advisory panel, including policies and* |

| | | |
|---|---|---|
| | | *procedures, by the end of 2023. Convene the advisory panel to review and provide feedback on the emergency preparedness plan for 50% of communities by end of 2027.* |

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable, wholly sited in Non-HFTD areas. Given that TBC has no distribution system, no distribution or retail customers, and is already substantially hardened against wildfires, TBC reasonably anticipates no need to issue a PSPS. TBC's operational area is fully encompassed by PG&E's service territory with the TBC Pittsburg converter station, the TBC facility presenting the greatest risk being proximate vegetative fuels, interconnected to the nearby PG&E Pittsburg Substation which has comparable or greater wildfire risk profile. TBC expects that PG&E doctrine regarding PSPS that impacts the PG&E Pittsburg Substation would be the prevailing driver of any PSPS impacts on TBC's operational area. Any PSPS issued by PG&E that impacted the Pittsburg Substation to the extent that TBC's interconnection would be de-energized would take the Trans Bay System offline. The quantitative description of such a PSPS implementation for TBC is effectively binary, being either online or offline due to a PG&E issued PSPS whereby the Trans Bay System would not be energized and therefore poses minimal to no fire risk to the public.

**Figure TBC 11-1. Single Line Representation of the Trans Bay System**




As shown in the Figure TBC 11-1 above, the TBC system is encompassed within the PG&E 230 kV substation in Pittsburg and the PG&E 115kV substation in San Francisco (Potrero). Power flow is unidirectional from Pittsburg towards San Francisco. As such if power is shut off from the PG&E substation, no power can be transmitted across the Trans Bay System. Based on the assessment that (i) PG&E would be the sole driver of PSPS impact in the limited TBC operational territory, (ii)

the lack of any reasonably foreseeable need for TBC to issue a PSPS, and (iii) the fact that TBC has no assets in wildland or WUI or HFTDs, TBC does not maintain a specific wildfire or PSPS emergency preparedness plan.

However, as stated in Section 11.2 above, TBC maintains a general emergency operations procedure and general emergency action plan which in combination provide guidance to employees on the necessary actions to take in an emergency scenario. TBC emergency action is conducted in close coordination with CAISO and PG&E, with as-needed support from local emergency service providers appropriate to the limited scale and scope of TBC's operations. Relevant emergency operations procedures are routinely provided to CAISO and PG&E upon any update.

TBC-OP-004 Emergency Operations (EOP) provides clear guidance to employees for operating the Trans Bay System in an emergency situation. The purpose of the EOP is to describe the TBC emergency plans that TBC Operating Personnel shall follow if there is a Bulk Electric System (BES) Emergency, TBC Facility Emergency, or a loss of Control Center Functionality. The scope of the EOP relates to emergency response and coordination with PG&E and the CAISO. The EOP identifies the roles and responsibilities of the onsite TBC Operator, the On-call Operator and Engineering team members.

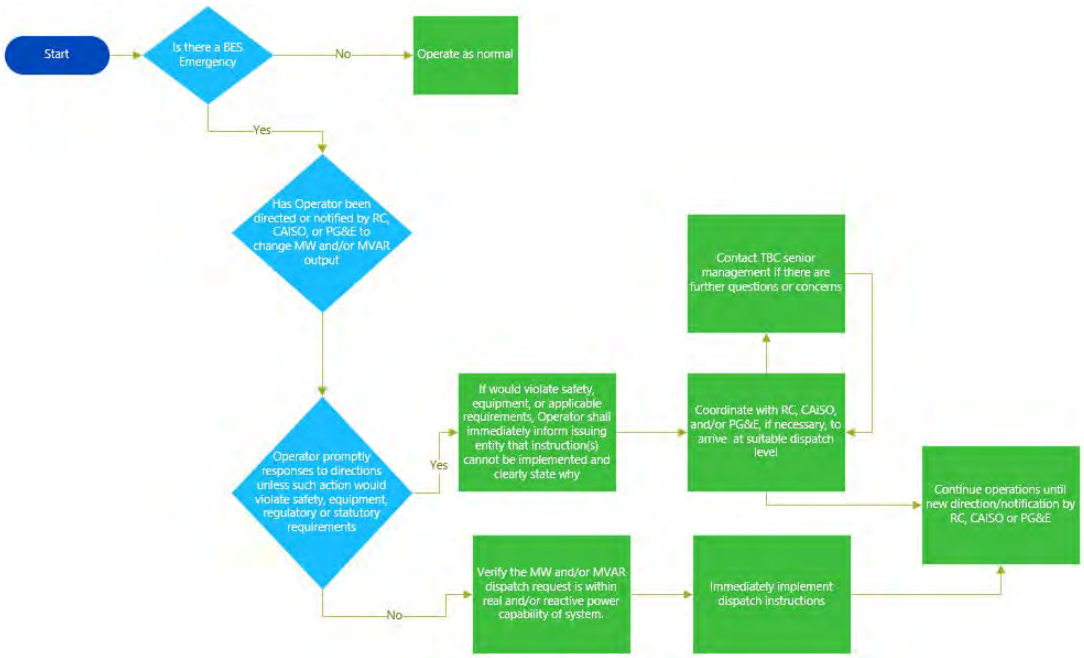
At a high level, the EOP provides protocols for responding to two major types of events: a BES Emergency (EOP Section 5.1) and a Facility Emergency (EOP section 5.2), which has six potential event types. The 24/7 system operator monitors the Facility for any situation or condition that could disrupt normal operations or create any interruption to the bulk electric system. These situations or conditions include but are not limited to:

- Restricted Maintenance Operations
- Plans for Loss of Control Center
- Plans for Loss of Primary Backup Control Center
- Loss of Inter-Station Communications
- Loss of Telecommunications
- Loss of Interpersonal Communications
- Loss of Both Data exchange capabilities and Interpersonal Communication

Initial response and coordination to any emergency condition begins with the Trans Bay System Operator who has full authority and responsibility to act autonomously to coordinate and conduct an emergency shutdown of the Trans Bay System. EOP Section 4.1 requires the System Operator to "take immediate corrective actions to stop or mitigate the emergency, issue Operating Instructions, and if required, call for aid, take supplementary actions when able to do so,…[and to] use their experience during emergencies to mitigate possible loss of life or injury and damage to property or the surroundings".

Below is a basic diagram of TBC's response to a bulk electric system emergency event, which would include wildfire and PG&E-initiated PSPS event. TBC notes that with respect to maintenance operations, in the event that a wildfire impacts TBC's operational area, the CAISO's restricted maintenance operations protocols are effective and may impact pre-scheduled outage work. See Section 5.1.1 in TBC-OP-004.

**Figure TBC 11-2. BES Emergency Operations Flow Chart**




While TBC's EOP addresses emergency operation of the Trans Bay System, the purpose of TBC's Emergency Action Procedure (EAP) is to provide TBC employees and other personnel with a clear action plan if there is an emergency at either converter station site. The EAP covers emergency actions for all work areas and focuses on the protection of employees and others during emergencies. EAP Section 4.1 addresses the qualifications of the Emergency Response Team (ERT) compromised of an ER Coordinator, ERT Operations Lead, ERT Evacuation Lead, and ERT Team members. The duties of each role is delineated in the document. As in the EOP, in the EAP, the System Operator is tasked with performing necessary actions to mitigate any system disturbance that occurs. The nature of such disturbances is unpredictable, and the TBC Operator must use his or her best judgment when evaluating and responding to system emergencies. As such, Section 4.7.1 of the EAP includes emergency action procedures if immediate system shutdown is required.

After any system outage, including outage caused by wildfire or PG&E-initiated PSPS event, TBC would follow its standard Facility Startup and Shutdown Plan (FSS Plan) (TBC-OP-007)[81] and/or System Restoration Plan (SR Plan) (TBC-OP-008)[82] to restore service. In most scenarios TBC would utilize its FSS Plan to restore service. The SR Plan would likely be triggered if there was a major system disturbance of the bulk electric system, e.g. system-wide blackout.

Considering TBC's limited footprint with one transmission asset, TBC has a small staff of 8 personnel, who oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC's facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties.

As TBC does not maintain specific wildfire and PSPS plans due to its limited scope and scale of operations, it does not conduct specific wildfire and PSPS drills. TBC operations staff do participate in the CAISO's annual restoration drill, which simulates recovery of the CAISO managed transmission network after a significant system wide disruption.

Given that TBC does not have any retail customers is does not communication with the public but maintains communications and coordinates with the CAISO who has operational control of the Trans Bay System and PG&E who is the interconnecting utility in accordance with Section 4.3 of the FSS. For any fire incident that impacted TBC's Pittsburg Converter Station, TBC would contact and coordinate with the local Contra Costa Fire department.

Due to the limited scope and scale of operations, the footprint of the Trans Bay System, and the unlikelihood that TBC would ever issue a PSPS for the Pittsburg Converter Station and that TBC has not assets in wildlands or WUIs, TBC currently does not have an action to materially alter its preparedness plans. TBC will monitor the effectiveness of its currently emplaced processes,

[81] TBC-OP-007 Facility Startup and Shutdown Plan (Attachment C) submitted confidentially per CCR Title 14, Section 29200
[82] TBC-OP-008 System Restoration Plan (Attachment D) submitted confidentially per CCR Title 14, Section 29200

procedures, and capabilities and assess changes or enhancements as needed. As a result, Table 11-2 is marked N/A meaning "Not Applicable".

**Table 11-2. Key Gaps and Limitations in Integrating Wildfire- and PSPS-Specific Strategies into Emergency Plan**

| *Gap or Limitation Subject* | *Remedial Brief Description* | *Remedial Action Plan* |
|---|---|---|
| N/A | | |

### 11.2.2 Planning and Allocation of Resources

***Instructions:*** *The electrical corporation must briefly describe its methods for planning appropriate resources (e.g., equipment, specialized workers), and allocating those resources to assure the safety of the public during service restoration.*[83]

*In addition, the electrical corporation must provide an overview of its plans for contingency measures regarding the resources required to respond to an increased number of reports concerning unsafe conditions and expedite a response to a wildfire- or PSPS-related power outage.*

*This must include a brief narrative on how the electrical corporation:*

- *Uses weather reports to pre-position manpower and equipment before anticipated severe weather that could result in an outage*
- *Sets priorities*
- *Facilitates internal and external communications*
- *Restores service*

*The narrative for this section must be no more than two pages.*

As noted in Section 11.2.1, TBC does not maintain service restoration plans specific to wildfire or PSPS. Instead, TBC would follow its standard FSS Plan (TBC-OP-007) to restore service in the event of an outage caused by wildfire or PG&E-initiated PSPS event. Given the limited scale and scope of TBC's operations, its onsite team provide sufficient resources to insure the safe startup of the Trans Bay system. The FSS Plan requires coordination with the CAISO and PG&E before the Trans Bay System is ready for commercial dispatch. Additionally, the System cannot transmit power until, the CAISO provides dispatch instructions.

Considering TBC's limited footprint with one transmission asset, and the nature of its underground assets, weather does not have material impact on TBC operations. As such, TBC

[83] 107 Pub. Util. Code § 8386(c)(16), (20).

does not use weather reports to pre-position manpower or equipment before anticipated server weather. The Trans Bay System is monitored 24/7 by an on-site System Operator. The System Operator has full authority and responsibility to act autonomously to coordinate and conduct an emergency shutdown of the Trans Bay System in accordance with TBC-OP-004 Emergency Operations. The System Operator is supported by an on-call operator and on-call engineer outside normal work hours, and the Director Operations, Operations Manager, On-shift Operations & Maintenance Technician and Senior Engineer during normal work hours. Additional off-duty Operations & Maintenance Technicians would be called in as needed. Most of TBC's critical spares are stored onsite at its Pittsburg Converter Station with the remainder at its Potrero Converter Station. Based on TBC's limited footprint the only priority would be to maintain the Trans Bay System in a state of readiness to be able to reenergize when notified by the CASIO and/or PG&E.

TBC's FSS Plan requires coordination with PG&E and the CAISO to commence and complete start-up (See FSS Plan Section 4.3) and would be the procedure followed to start up the Trans Bay System following any outage, including an event of wildfire or PSPS.

## 11.3 External Collaboration and Coordination

### 11.3.1 Communication Strategy with Public Safety Partners

***Instructions:*** *The electrical corporation must describe at a high level its communication strategy to inform external public safety partners and other interconnected electrical corporation partners of wildfire, PSPS, and re-energization events as required by GO 166 and Public Utilities Code section 768.6.*[84] *This must include a brief description of the policies, practices, and procedures the electrical corporation adopts to establish appropriate communication protocols with public safety partners for both wildfire- and PSPS-specific incidents to ensure timely, accurate, and complete communications. The electrical corporation must refer to its emergency preparedness plan as needed to provide more detail. The narrative must be no more than two pages.*

*As each public safety partner will have its own unique communication protocols, procedures, and systems, the electrical corporation must coordinate with each entity individually. The electrical corporation must summarize the following information in tabulated format:*

- *All relevant public safety partner groups (e.g., fire, law enforcement, OES, municipal governments, Energy Safety, CPUC, other electrical corporations) at every level of administration (state, county, city, or Tribal Nation) as needed*
- *Key protocols for ensuring the necessary level of voice and data communications (e.g., interoperability channels, methods for information exchange, format for each data typology, communication capabilities, data management systems, backup systems,*

[84] Pub. Util. Code § 8386(c)(19).

*common alerting protocols, messaging), and associated references in the emergency plan for more details*

- *Frequency of prearranged communication review and updates*

*In a separate table, the electrical corporation must list the current gaps and limitations in its public safety partner communication strategy coordination. Where gaps or limitations exist, the electrical corporation must indicate the remedial action plan and the timeline for resolving the gaps or limitations. For all requested information, the electrical corporation must indicate a form of verification that can be provided upon request for compliance assurance.*

*Table 11-3 and Table 11-4 provide the required format and examples of the minimum level of content and detail required.*

*Table 11-3. Example of High-Level Communication Protocols, Procedures, and Systems with Public Safety Partners*

| ***Public Safety Partner Group*** | ***Name of Entity*** | ***Key Protocols*** | ***Frequency of Prearranged Communication Review and Update*** |
|---|---|---|---|
| *Fire* | *Local County Fire Department* | *• Communication capabilities (e.g., staffing, resources, technologies)*<br>*• Methods for information exchange*<br>*• Format for each data typology*<br>*• Data management strategy*<br>*• Backup systems*<br>*• Common alerting protocols*<br>*• Messaging*<br>*• Refer to Sections x, y, and z in electrical corporation's Emergency Preparedness Plan and to the MOA entitled "xxxxx," dated MM/DD/YYYY.* | *Annually (April)* |

*Table 11-4. Example of Key Gaps and Limitations in Communication Coordination with Public Safety Partners*

| ***Gap or Limitation Subject*** | ***Brief Description of Gap or Limitation*** | ***Remedial Action Plan*** |
|---|---|---|
| *Limited feedback on wildfire and PSPS emergency plan* | *Less than 10% of the state and local government stakeholders have been able to provide feedback and collaborate on review, development, and/or improvement of the emergency preparedness plan.* | ***Strategy:*** *Convene a 1.5-day workshop with relevant state and local agencies to review the key elements of the electrical corporation's wildfire- and PSPS-specific emergency preparedness plan. Solicit verbal and written comments from the stakeholders. Assign a government liaison to conduct follow-up meetings to obtain and discuss any comments, proposed modifications, additions, etc.* ***Target timeline****: Develop workshop scoping plan by June 2026 and convene workshop by end of 2026 Aim to host workshops with 50% of government stakeholders by end of 2027.* |
| *Uncertainty of emergency communications being received by government agencies* | *More than 50% of the partner government agencies have independent and different communication systems and associated protocols. Consistency and timing of notification and receipt notification is not standardized.* | ***Strategy:*** *Create an integrated, multi-channel communication system that provides for immediate notification of an event through text, email, or broadcast with secondary communication to confirm receipt. Assess current notification systems and communications protocols at the electrical corporation's monitoring center and create priority communication matrices that support the most resilient channels for sending emergency alert messages. Create a survey to be sent to all responding stakeholders to collect information on their communications capabilities and preferences. Align the electrical corporation's capabilities with each responding stakeholder and then create operating standards for dispatchers and responders to follow.* ***Target timeline****: Complete assessment of current systems and protocols by end of first quarter 2026 Create survey to be sent to all responding stakeholders by end of second quarter 2023. Complete alignment and testing by end of first quarter 2024.* |

TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC's operational territory is fully encompassed by PG&E service territory with TBC's Pittsburg converter station, the TBC facility presenting the greatest risk to proximate vegetative fuels, interconnected to the nearby PG&E Pittsburg Substation which has comparable or greater wildfire risk profile. TBC expects that PG&E doctrine regarding PSPS that impacts the PG&E Pittsburg Substation would be the prevailing driver of any PSPS impacts on TBC's operational area. Therefore, TBC reasonably anticipates no need to issue a PSPS. TBC does not engage the public and further does not anticipate engaging with the public regarding PSPS. Regarding energization, the Trans Bay System is under the operational control of the CAISO and is interconnected with PG&E's Pittsburg and Potrero Substations. As such TBC does have protocols for engaging with the CAISO and PG&E for any reenergization event or potential emergency event which follow CAISO, PG&E and NERC COMM standards for communicating with neighboring entities. TBC's Emergency Operations Plan and Emergency Action Plan detail communication protocols for emergency events. In event of fire, given that all TBC above ground assets reside within its station walls, and the Pittsburg facility is within 10 minutes driving distance from two county fire stations, TBC would contact the local Contra Costa fire department for support services. Table 11-3 is completed based on the aforementioned information. Fields marked as N/A mean "Not Available" because TBC does not participate in specific wildfire and/or PSPS communication exercises.

**Table 11-3. High-Level Communication Protocols, Procedures, and Systems with Public Safety Partners**

| Public Safety Partner Group | Name of Entity | Key Protocols | Frequency of Prearranged Communication Review and Update |
|---|---|---|---|
| Event Reporting | CAISO – Emergency Response Coordinator (ERC) – Event Reporting | • CAISO communication protocols<br>• NERC communication standards | N/A |
| Energy Dispatch | CAISO - Real Time Desk | • CAISO communication protocols<br>• NERC communication standards | N/A |
| Notification of PSPS issuance | PG&E Transmission | • CAISO communication protocols | N/A |

| | | | |
|---|---|---|---|
| | Vacaville Grid Control Center (GCC) Real-Time | • NERC communication standards<br>• PG&E O-67 TBC Operating Protocol, "Notification of Significant Events" Section | |
| Outage Coordination | PG&E Outage Coordination | • CAISO communication protocols<br>• NERC communication standards<br>• PG&E O-67 TBC Operating Protocol, "Notification of Significant Events" Section | N/A |
| Fire | Contra Costa Fire Department | N/A | N/A |

Given the limited scale of TBC's operations, TBC maintains that its Emergency Operations procedure is sufficient for the limited size and scope of its operations. Based on the foregoing, Table 11-4 is marked N/A meaning "Not Applicable".

**Table 11-4. Key Gaps and Limitations in Communication Coordination with Public Safety Partners**

| Gap or Limitation Subject | Brief Description of Gap or Limitation | Remedial Action Plan |
|---|---|---|
| N/A | N/A | N/A |

### 11.3.2 Collaboration on Local and Regional Wildfire Mitigation Planning

***Instructions:*** *In this section, the electrical corporation must provide a high-level overview of its plans, activities (programs), and/or policies for collaborating with communities on local and regional wildfire mitigation planning (e.g., wildfire safety elements in general plans, community wildfire protection plans, local multi-hazard mitigation plans) within its service territory.*[85] *The narrative must be no more than one page.*

*In addition, the electrical corporation must provide the following information in tabular form, providing no more than one page of tabulated information in the main body of the WMP and the full table in an appendix as needed.*

[85] Pub. Util. Code § 8386(c)(19).

- *List of county, city, regional entities/task forces, and non-governmental organizations (e.g., nonprofits, fire safe councils) within the service territory with which the electrical corporation has collaborated or intends to collaborate on local wildfire mitigation planning efforts (i.e., non-wildfire emergency planning activities)*
    - *For each entity, the local or regional wildfire mitigation planning program/plan/document, level of collaboration (e.g., meeting attendance, verbal or written comments, data sharing, risk assessment), and date the electrical corporation provided its last feedback. Table 11-5 provides an example of the minimum acceptable level of information. The electrical corporation must reference the Tracking ID where appropriate.*
    - *In a separate table, the electrical corporation must provide a list of current gaps and limitations in its collaboration efforts with local and regional partners on local wildfire planning efforts. Where gaps or limitations exist, the electrical corporation must indicate proposed means and methods to increase collaborative efforts. Table 11-6 provides an example of the minimum acceptable level of information.*

*Table 11-5. Example of Collaboration in Local and Regional Wildfire Mitigation Planning*

| ***Name of County, City, or Tribal Agency or Civil Society Organization (e.g., nongovernmental organization, fire safe council)*** | ***Program, Plan, or Document*** | ***Last Version of Collaboration*** | ***Level of Collaboration*** |
|---|---|---|---|
| *Local County Resource Management Agency* | *Local County General Plan, Safety Element, Wildfires* | *2022 version (06/2021)* | *Attended a virtual meeting on 02/02/2022 at 1 p.m. PDT*<br><br>*Provided verbal comments and input* |
| *Local Fire Safe Council* | *Structural hardening grant program* | *2021/2022* | *Financier* |
| *Local County Resource Conservation District* | *Chipper program* | *Planned for 12/2023* | *Financier* |

*Table 11-6. Example of Key Gaps and Limitations in Collaborating on Local and Regional Wildfire Mitigation Planning*

| ***Subject of Gap or Limitation*** | ***Brief Description of Gap or Limitation*** | ***Strategy for Improvement*** |
|---|---|---|

| | | |
|---|---|---|
| *Low collaboration requests* | *Less than 5% of local government and civil society stakeholder groups seek collaboration activities.* | ***Strategy:** Create web content notifying the public, local government, and civil society organizations of the electrical corporation's resources to provide support on local wildfire mitigation planning efforts. Assign a local wildfire planning liaison to be available as needed for local planning efforts.*<br>***Target timeline**: Develop and post web content by May 2023 and hire two local wildfire planning liaisons by March 2023.* |

TBC is an ITO that has transmission-only assets and does not have a service territory. The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC's Pittsburg Converter Station is near to but not in, a Tier 2 HFTD. The station itself is in a suburban/urban environment and does not directly border any wildlands or WUIs. Based on TBC's limited footprint and operations, TBC does not collaborate with any communities, or other parties, on local wildfire mitigation planning. TBC does maintain communications with the CAISO, who has operation control of the Trans Bay System and PG&E, who is the interconnecting utility. In the event of a fire, TBC would contact the local Contra Costa Fire Department for support. TBC has previously provided the local fire department with a site map, location of oil filled equipment, what to expect when arriving on site and TBC emergency procedures.

Based on the foregoing, TBC identifies the parties with whom it communicates with in Table 11-5 but marks the categories for collaboration as N/A meaning "Not Applicable" since TBC does not participate in any local wildfire mitigation planning.

**Table 11-5. Collaboration in Local and Regional Wildfire Mitigation Planning**

| **Name of County, City, or Tribal Agency or Civil Society Organization (e.g., nongovernmental organization, fire safe council)** | **Program, Plan, or Document** | **Last Version of Collaboration** | **Level of Collaboration** |
|---|---|---|---|
| CASIO | N/A | N/A | N/A |
| PG&E | N/A | N/A | N/A |
| Contra Costa Fire Department | N/A | N/A | N/A |

Given TBC's limited footprint and scale of operations, TBC does not have any plans to participate in local wildfire mitigation planning. As a result, Table 11-6 is marked "N/A" meaning "Not Applicable".

**Table 11-6. Key Gaps and Limitations in Collaborating on Local and Regional Wildfire Mitigation Planning**

| Subject of Gap or Limitation | Brief Description of Gap or Limitation | Strategy for Improvement |
|---|---|---|
| N/A | N/A | N/A |

### 11.3.3 Collaboration with Tribal Governments

***Instructions:*** *In this section, the electrical corporation must provide a high-level overview of its plans, activities (programs), and/or policies for collaborating on local wildfire mitigation planning with tribal governments served by the electrical corporation and on whose lands its infrastructure is located.*[86] *The narrative must be no more than one page.*

*In addition, the electrical corporation must provide the following information in tabular form, with no more than one page of tabulated information in the main body of the Base WMP and the full table in an appendix as needed.*

- *List of tribal governments served by the electrical corporation and on whose lands its infrastructure is located with which the electrical corporation has collaborated or intends to collaborate on local wildfire mitigation planning efforts (i.e., non-wildfire emergency planning activities).*
    - *For each entity, the local wildfire mitigation planning program/plan/document, level of collaboration (e.g., meeting attendance, verbal or written comments), and date the electrical corporation provided its last feedback. Table 11-7 provides the required format and an example of the minimum acceptable level of information. The electrical corporation must reference the Tracking ID where appropriate.*
    - *In a separate table, the electrical corporation must provide a list of current gaps and limitations in its collaboration efforts with local partners on local wildfire planning efforts. Where gaps or limitations exist, the electrical corporation must indicate proposed means and methods to increase collaborative efforts. Table 11-8 provides the required format and an example of the minimum acceptable level of information.*

*Table 11-7. Example of Collaboration with Tribal Agencies*

[86] Pub. Util. Code § 8386(c)(19).

| *Name of County, City, or Tribal Agency or Civil Society Organization (e.g., nongovernmental organization, fire safe council)* | *Program, Plan, or Document* | *Last Version of Collaboration* | *Level of Collaboration* |
|---|---|---|---|
| *Tribal Government* | *Tribal Government Wildfire Safety Plan* | *2022 version (06/2021)* | *Attended a virtual meeting on 02/02/2022 at 1 p.m. PDT Provided verbal comments and input* |

*Table 11-8. Example of Key Gaps and Limitations in Collaborating with Tribal Agencies*

| *Subject of Gap or Limitation* | *Brief Description of Gap or Limitation* | *Strategy for Improvement* |
|---|---|---|
| *Low collaboration requests* | *Less than 5% of tribal agencies seek collaboration activities.* | ***Strategy:** Create web content notifying the tribal agencies of the electrical corporation's resources to provide support on local wildfire mitigation planning efforts. Assign a local wildfire planning liaison to be available as needed for local planning efforts.* ***Target timeline**: Develop and post web content by May 2023 and hire two local wildfire planning liaisons by March 2023.* |

TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC does not have serve any Tribal Governments or have infrastructure on lands governed by Tribal Governments. Additionally, based on the limited scale and scope of the Trans Bay System, TBC anticipates that it will seldom, if ever, be necessary to issue a PSPS. The Interconnecting Transmission Owner, PG&E, would be the main driver of a PSPS in TBC's operational area. Therefore, TBC does not anticipate providing customer support or engaging with Tribal Governments. Given the above, TBC does not have any activities related to Tribal Government collaboration for the 2026-2028 WMP cycle. TBC will reassess its current Tribal Government collaboration outlook in the event of a change in its operations which necessitates engagement of and/or collaboration with Tribal Governments. As a result, Table 11-7 and Table 11-8 are marked N/A meaning "Not Applicable".

**Table 11-7. Collaboration with Tribal Agencies**

| **Name of County, City, or Tribal Agency or Civil Society Organization (e.g., nongovernmental organization, fire safe council)** | **Program, Plan, or Document** | **Last Version of Collaboration** | **Level of Collaboration** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| N/A | | | |

**Table 11-8. Key Gaps and Limitations in Collaborating with Tribal Agencies**

| Subject of Gap or Limitation | Brief Description of Gap or Limitation | Strategy for Improvement | Subject of Gap or Limitation |
|---|---|---|---|
| N/A | | | |

## 11.4 Public Communications, Outreach, and Education Awareness

***Modified Instructions**: The ITO must comply with Public Utilities Code section 8386(c)(7) and (19)(B).[87] Beyond that, the reporting requirements associated with Section 11.4 do not apply to ITOs.*

TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC's operations area is fully encompassed by PG&E service territory with TBC's Pittsburg converter station, the TBC facility presenting the greatest risk to proximate vegetative fuels, interconnected to the nearby PG&E Pittsburg Substation which has comparable or greater wildfire risk profile. TBC expects that PG&E doctrine regarding PSPS that impacts the PG&E Pittsburg Substation would be the prevailing driver of any PSPS impacts on TBC's operations area. Therefore, TBC does not anticipate providing customer support or engaging with communities during an emergency. However, TBC has developed a protocol for communication and coordination with its primary stakeholders, including the CAISO and Interconnecting Transmission Owner, local fire agencies, etc. TBC's President or designee would be the lead in implementing this communications protocol during an emergency. Given the above, TBC does not have any specific activities related to community outreach or engagement for the 2026-2028 WMP cycle. TBC will reassess its current community outreach and engagement outlook in the event of a change in its operations which necessitates engagement of and/or outreach to customers.

### 11.4.1 Protocols for Emergency Communications

***Instructions:** The electrical corporation must identify the relevant stakeholder groups and target communities in its service territory and describe the protocols, practices, and procedures used to*

[87] Pub. Util. Code § 8386(c) "… (7) A description of the electrical corporation's appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines, including procedures for those customers receiving medical baseline allowances as described in paragraph (6). The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event. The procedures shall comply with any orders of the commission regarding notifications of deenergization events.
…
(19)(B) Plans for community outreach and public awareness before, during, and after a wildfire, including language notification in English, Spanish, and the top three primary languages used in the state other than English or Spanish, as determined by the commission based on the United States Census data."

*provide notification of wildfires, outages due to wildfires and PSPS, and service restoration before, during, and after each incident type.[88] Stakeholder groups and target communities include, but are not limited to, the general public; priority essential services[89]; AFN populations and other vulnerable or marginalized populations; populations with limited English proficiency; Tribal Nations; and people in remote areas. The narrative must include a brief discussion of the decision-making process and use of best practices to ensure timely, accurate, and complete communications. The narrative must be no more than one page.*

*In addition, the electrical corporation must summarize the interests or concerns each stakeholder group/target community may have before, during, or after a wildfire or PSPS event to help inform outreach and education awareness needs. Table 11-9 provides the required format for this summary.*

[88] Pub. Util. Code § 8386(c)(7).
[89] Priority essential services include but are not limited to public safety offices, critical first responders, health care facilities and operators, and telecommunications infrastructure and operators.

*Table 11-9. Example of Protocols for Emergency Communication to Stakeholder Groups*

| *Stakeholder Group/Target Community* | *Event Type* | *Method(s) for Communicating* | *Means to Verify Message Receipt* | *Interests or Concerns Before, During, and After Wildfire and PSPS events* |
|---|---|---|---|---|
| *General public* | *Wildfire* | | | |
| *General public* | *Wildfire-related outage* | | | |
| *General public* | *PSPS-related outage* | | | |
| *General public* | *Restoration of service* | | | |
| *Priority essential services* | *Wildfire* | | | |
| *Priority essential services* | *Wildfire-related outage* | | | |
| *Priority essential services* | *PSPS-related outage* | | | |
| *Priority essential services* | *Restoration of service* | | | |
| *AFN populations* | | | | |
| *Populations with limited English proficiency* | | | | |
| *Tribal Nations* | | | | |
| *People in remote areas* | | | | |

See TBC's response to Section 11.4. TBC does not serve end-use customers, have a traditional service territory or a distribution system. Additionally, based on the limited scale and scope of the Trans Bay System, TBC believes that it will never be necessary to issue a PSPS. Therefore, TBC does not anticipate providing customer support or engaging with communities during an emergency. However, TBC has developed a protocol for communication and coordination with its primary stakeholders, including the CAISO and Interconnecting Transmission Owner, local fire agencies, etc. TBC's President or designee would be the lead in implementing this communications protocol during an emergency.

**Table 11-9. Protocols for Emergency Communication to Stakeholder Groups**

| Stakeholder Group/Target Community | Event Type | Method(s) for Communicating | Means to Verify Message Receipt | Interests or Concerns Before, During, and After Wildfire and PSPS events |
|---|---|---|---|---|
| Priority essential services | Wildfire | Telephone<br>Email | Realtime response<br>Reply message | Site access, onsite safety guidance, potential suppression needs |
| Priority essential services | Wildfire-related outage | Telephone<br>Email | Realtime response<br>Reply message | Site access, onsite safety guidance, potential suppression needs |
| Priority essential services | PSPS-related outage | Telephone<br>Email | Realtime response<br>Reply message | N/A |
| Priority essential services | Restoration of service | Telephone<br>Email | Realtime response<br>Reply message | N/A |
| Interconnecting Utility | Wildfire | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| Interconnecting Utility | Wildfire-related outage | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| Interconnecting Utility | PSPS-related outage | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| Interconnecting Utility | Restoration of service | Telephone<br>Email | Realtime response<br>Reply message | Timely restoration of service/operations |
| CAISO | Wildfire | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| CAISO | Wildfire-related outage | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| CAISO | PSPS-related outage | Telephone<br>Email | Realtime response<br>Reply message | Notice of potential or actual interruption of operations, contingency plans, projected return to operations |
| CAISO | Restoration of service | Telephone<br>Email | Realtime response<br>Reply message | Timely restoration of service/operations |

### 11.4.2 Messaging

***Instructions:*** *In this section, the electrical corporation must describe its procedures for developing effective messaging to reach the largest percentage of stakeholders in its service territory before, during, and after a wildfire, an outage due to wildfire, or a PSPS event.*[90]
*In addition, the electrical corporation must provide an overview of the development of the following aspects of its communication messaging strategy:*

- *Features to maximize accessibility of the messaging (e.g., font size, color contrast analyzer)*
- *Alert and notification schedules*
- *Translation of notifications*
- *Messaging tone and language*
- *Key components and order of messaging content (e.g., hazard, location, time)*

*The narrative must be no more than one page.*

See TBC's response to Section 11.4. TBC does not serve end-use customers, have a traditional service territory or a distribution system. Additionally, based on the limited scale and scope of the Trans Bay System, TBC believes that it will never be necessary to issue a PSPS. Therefore, TBC does not anticipate providing customer support or engaging with communities during an emergency.

### 11.4.3 Outreach and Education Awareness Activities

***Instructions:*** *In tabulated format, the electrical corporation must provide a list the various outreach and education awareness activities (programs) (i.e., campaigns, informal education, grant programs, participatory learning) that the electrical corporation implements before, during, and after wildfire, vegetation management, and PSPS events to target communities, including efforts to engage with partners in developing and exercising these activities (programs).*[91] *Table 11-10 provides the require format and an example of the minimum acceptable level of information. In addition, the electrical corporation must describe how it implements its overall program, including staff and volunteer needs, other resource needs, method for implementation (e.g., industry best practice, latest research in methods for risk communication, social marketing), long-term monitoring and evaluation of each program's success, need for improvement, etc. The narrative for this section is limited to two to three pages.*

*Table 11-10. Example of a List of Target Communities*

[90] Pub. Util. Code § 8386(c)(7), (19).
[91] Pub. Util. Code § 8386(c)(19).

| *Target Community* | *Interests or Concerns Before, During, and After Wildfire and PSPS events* |
|---|---|
| *Populations with limited English proficiency* | *Limited access to understand electrical corporation wildfire hazards and risks, specific actions that can be taken to reduce risk, and awareness of emergency services, resources, etc.* |
| *People in remote areas* | *[Electrical corporation to add description here]* |
| *Elderly* | *[Electrical corporation to add description here]* |
| *People with limited technology* | *[Electrical corporation to add description here]* |

TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC's operations area is fully encompassed by PG&E service territory with TBC's Pittsburg converter station, the TBC facility presenting the greatest risk to proximate vegetative fuels, interconnected to the nearby PG&E Pittsburg Substation which has comparable or greater wildfire risk profile. TBC expects that PG&E doctrine regarding PSPS that impacts the PG&E Pittsburg Substation would be the prevailing driver of any PSPS impacts on TBC's operations area. Therefore, TBC does not anticipate providing customer support or engaging with communities during an emergency. However, TBC has developed a protocol for communication and coordination with its primary stakeholders, including the CAISO and Interconnecting Transmission Owner, local fire agencies, etc. TBC's President or designee would be the lead in implementing this communications protocol during an emergency. TBC also maintains its WMP filings and related information on its website which is publicly available at the following link: https://www.transbaycable.com/wildfire-safety.html. As a result of the foregoing, Table 11-10 is marked N/A meaning "Not Applicable".

**Table 11-10. List of Target Communities**

| Target Community | Interests or Concerns Before, During, and After Wildfire and PSPS events |
|---|---|
| N/A | N/A |

### 11.4.4 Engagement with Access and Functional Needs Populations

***Instructions:*** As noted on page 181 of Energy Safety's WMP Guidelines, ITOs do not have end-use customers. Energy Safety notes that ITOs must comply with Public Utilities Code section 8386(c)(19)(B). However, beyond that, reporting requirements associated with Section 11.4.4 of the 2026-2028 WMP Guidelines are inapplicable to ITOs.

Based on the foregoing, TBC's WMP does not include information regarding the Engagement with Access and Functional Needs Populations for Section 11.4.4. Instead, TBC provides the following information pursuant to Energy Safety's direction on page 181 of Energy Safety's Guidelines.

Compliance with Public Utilities Code sections 8386(c)19(B)
See TBC's Response to Section 11.4.3.

### 11.4.5 Engagement with Tribal Nations

***Instructions:*** *The electrical corporation must provide an overview of its process for understanding, evaluating, designing, and implementing wildfire and outage program risk initiative strategies, policies, and procedures specific for collaboration with to Tribal Nations served by the electrical corporation and on whose lands its infrastructure is located.*[92] *The electrical corporation must also report on the following:*

- *Summary of key tribal demographics*
- *Ongoing consultation and collaborative efforts performed by the electrical corporation with Tribal Nations*
- *Evaluation of the specific challenges and needs during a wildfire or PSPS event of the electrical corporation's Tribal Nation customer base*
- *Plans to address specific needs of the tribal customers throughout the service territory specific to the unique threats that wildfires and PSPS events may pose for those populations before, during, and after the incidents. This should include high-level strategies, policies, programs, and procedures for outreach, engagement in the development and implementation of the tribal-specific risk initiative strategies, and ongoing feedback practices*

*The electrical corporation must reference the Tracking ID where appropriate.*

TBC does not serve end-use customers, have a traditional service territory or a distribution system. TBC does not have serve any Tribal Nations or have infrastructure on Tribal Nation land. Additionally, based on the limited scale and scope of the Trans Bay System, TBC anticipates that it will seldom, if ever, be necessary to issue a PSPS. The Interconnecting Transmission Owner, PG&E, would be the main driver of a PSPS in TBC's operational area. Therefore, TBC does not anticipate providing customer support or engaging with Tribal Nations. Given the above, TBC

[92] Pub. Util. Code § 8386(c)(19).

does not have any activities related to Tribal Nation outreach or engagement for the 2026-2028 WMP cycle. TBC will reassess its current Tribal Nation outreach and engagement outlook in the event of a change in its operations which necessitates engagement of and/or outreach to Tribal Nations.

### 11.4.6 Current Gaps and Limitations

***Instructions:*** *In tabulated format, the electrical corporation must provide a list of current gaps and limitations in its public communication strategy, including any notification failures identified in the most recent PSPS post-season report. Where gaps or limitations exist, the electrical corporation must indicate the remedial action plan and the timeline for resolving the gaps or limitations. For all requested information, the electrical corporation should indicate a form of verification that can be provided upon request for compliance assurance. Table 11-11 provides an example of the minimum level of content and detail required.*

*Table 11-11. Example of Key Gaps and Limitations in Public Emergency Communication Strategy*

| ***Gap or Limitation Subject*** | ***Brief Description of Gap or Limitation*** | ***Remedial Action Plan*** |
|---|---|---|
| *Limited feedback on wildfire and PSPS emergency plan* | *Less than 10% of the state and local government stakeholders have been able to provide feedback and collaborate on review, development, and/or improvement of the emergency preparedness plan.* | ***Strategy:*** *Convene a 1.5-day workshop with relevant state and local agencies to review the key elements of the electrical corporation's wildfire- and PSPS-specific emergency preparedness plan. Solicit verbal and written comments from the stakeholders. Assign a government liaison to conduct follow-up meetings to obtain and discuss any comments, proposed modifications, additions, etc.*<br><br>***Target timeline****: Develop workshop scoping plan by June 2023 and convene workshop by end of 2023. Aim to host workshops with 50% of government stakeholders by end of 2025.* |

See TBC's response to Section 11.4. TBC does not serve end-use customers, have a traditional service territory or a distribution system. Additionally, based on the limited scale and scope of the Trans Bay System, TBC anticipates that it will seldom, if ever, be necessary to issue a PSPS. The Interconnecting Transmission Owner, PG&E, would be the main driver of a PSPS in TBC's operational area. Therefore, TBC does not anticipate providing customer support or engaging with communities during an emergency. As a result, Table 11-11 is marked N/A meaning "Not Applicable".

**Table 11-11. Key Gaps and Limitations in Public Emergency Communication Strategy**

| Gap or Limitation Subject | Brief Description of Gap or Limitation | Remedial Action Plan |
|---|---|---|
| N/A | N/A | N/A |

## 11.5 Customer Support in Wildfire and PSPS Emergencies

***Modified Instructions**: The ITO must comply with Public Utilities Code section 8386(c)(21) in regard to wildfire emergencies and PSPS events.[93] Beyond that, the reporting requirements associated with Section 11.5 do not apply to ITOs.*

As noted on page 182 of Energy Safety's WMP Guidelines, ITOs do not have end-use customers. Energy Safety notes that ITOs must comply with Public Utilities Code section 8386(c)(21). However, beyond that, reporting requirements associated with Section 11.5 of the 2026-2028 WMP Guidelines are inapplicable to ITOs.

Based on the foregoing, TBC's WMP does not include Customer Support in Wildfire and PSPS Emergencies information for Section 11.5. Instead, TBC provides the following information pursuant to Energy Safety's direction on page 182 of Energy Safety's WMP Guidelines.

Compliance with Public Utilities Code sections 8386(c)(21)

TBC does not serve end-use customers, have a traditional service territory or a distribution system. Additionally, based on the limited scale and scope of the Trans Bay System, TBC anticipates that it will seldom, if ever, be necessary to issue a PSPS. The Interconnecting Transmission Owner, PG&E, would be the main driver of a PSPS in TBC's operational area. Therefore, TBC does not anticipate providing customer support or engaging with communities

[93] Pub. Util. Code § 8386(c) "… (21) Protocols for compliance with requirements adopted by the commission regarding activities to support customers during and after a wildfire, outage reporting, support for low-income customers, billing adjustments, deposit waivers, extended payment plans, suspension of disconnection and nonpayment fees, repair processing and timing, access to electrical corporation representatives, and emergency communications."

during an emergency. TBC will reassess its current approach in the event of a change in its operations which necessitates engagement of and/or outreach to customers.

# 12 ENTERPRISE SYSTEMS

***Instructions:*** *In this section, the electrical corporation must provide an overview of inputs to, operation of, and support for various enterprise systems it uses for vegetation management, asset management and inspection, grid monitoring, ignition detection, weather forecasting, and risk assessment initiatives.*[94] *Enterprise systems encompass structures and methods that allow the electrical corporation and its employees and/or contractors to accept, store, retrieve, and update data for the production, management, and scheduling of related work.*

## 12.1 Targets

***Instructions:*** *: In this section, the electrical corporation must provide qualitative targets for each year of the three-year WMP cycle. The electrical corporation must provide at least one qualitative target for each initiative as related to implementation and improvement of its enterprise systems.*

### 12.1.1 Qualitative Targets

***Instructions:*** *The electrical corporation must provide at least one qualitative target for each relevant initiative (vegetation management, asset management and inspection, grid monitoring, ignition detection, weather forecasting, and risk assessment) in its three-year plan for implementing and improving its enterprise systems, including the following:*

- *Identification of which initiative(s) and activity/activities in the WMP the electrical corporation is implementing to achieve the stated target, including Tracking IDs and the previous tracking ID used in past WMPs, if applicable*
- *A target completion date*
- *Reference(s) to the WMP section(s) or appendix, including page numbers, where the details of the target(s) are documented and substantiated*

*Table 12-1. Example of Enterprise Systems Targets*

| ***Initiative*** | ***Activity (Tracking ID #)*** | ***Previous Tracking ID (if applicable)*** | ***[Year 1] End of Year Total / Completion Date*** | ***[Year 2] Total / Status*** | ***[Year 3] Total / Status*** | ***Section; Page Number*** |
|---|---|---|---|---|---|---|
| *Vegetation Management* | *Migrate all historical vegetation* | *VM-02* | *Not started* | *Started; June 2027* | *Completed; January 2028* | *12.2; p. x* |

[94] Pub. Util. Code § 8386(c)(10), (14), (18).

| | | | | | | |
|---|---|---|---|---|---|---|
| *Enterprise System* | *data to centralized database (ES-2)* | | | | | |

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 (Elevated) HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. In view of TBC's limited footprint, TBC does not utilize extensive enterprise systems as they are outsized for the scope and scale of operations. TBC utilizes AMP as its asset and maintenance management program and SharePoint for document storage. Based on the foregoing, TBC has no applicable qualitative targets and Table 12-1 is marked N/A meaning "Not Applicable".

**Table 12-1. Enterprise Systems Targets**

| Initiative | Activity (Tracking ID #) | Previous Tracking ID (if applicable) | 2026 End of Year Total / Completion Date | 2027 Total / Status | 2028 Total / Status | Section; Page Number |
|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A |

## 12.2 Summary of Enterprise Systems

***Instructions:*** *: Electrical corporations must provide a summary narrative of no more than three pages that discusses how its enterprise systems contain, account, or allow for the following:*

- *Any database(s) the electrical corporation used for data storage*
- *Internal procedures for updating the enterprise system, including database(s), any planned updates, and the ability to migrate data across systems and ensure accuracy if necessary*
- *The electrical corporation's asset identification process*
- *The electrical corporation's process for integrating 100 percent asset identification or its justification if not currently in place*
- *Processes to ensure data integrity (accuracy, completeness, and quality of data), accessibility (ability of the electrical corporation to access data across formats and*

*locations), and retention (any policies the electrical corporation for how long it stores data and how it disposes of data after any retention period)*

- *Any QA/QC or auditing of its system*
- *Overview of any data governance plan that the electrical corporation has in place. Highlighting any data stewardship practices*
- *How current WMP initiatives and activities are being tracked and monitored in enterprise systems*
- *Employee and/or contractor ability to access and interact with the data and systems for tracking work order status and scheduling*
- *How the electrical corporation's work order and asset management systems feed into risk analysis and alternative or interim activity selection*
- *Any changes to the electrical corporation's enterprise systems since the last Base WMP submission and a brief explanation as to why those changes were made. Include any planned improvements or updates to the enterprise systems and the timeline for implementation*

The Trans Bay System is a 400MW HVDC consisting of two converter stations connected by an approximate 53-mile submarine cable. The System's western converter station is in San Francisco, a fully developed and urbanized area with minimal wildfire-threat risk. The submarine cable is fully submerged beneath the Bay Waters for approximately 53 miles and therefore has no fire-threat risk. The eastern converter station is located in Pittsburg, CA which is adjacent to an area designated as a Tier 2 HFTD. All aboveground transmission infrastructure is fully contained within the walls of the system's converter stations. Considering TBC's limited footprint with one transmission asset, TBC has a small staff that oversees its operations, including asset inspection and management, maintenance, system operation and initial emergency response. All TBC maintenance work, including asset inspections, is conducted by dedicated TBC operations personnel, that, by reason of training, experience, and instruction, are qualified to perform the task, with support from qualified contractors as needed. Operations personnel maintain and operate TBC facilities in accordance with good utility practice, sound engineering judgment, the guidelines as outlined in applicable NERC reliability standards, laws, and regulations. Operators are trained for emergency scenarios and authorized to take precautionary measures such as reduction in power flow or initiating system shutdown when presented with system warnings or instruction from the CAISO or requests from PG&E. Infrastructure assessment is conducted by TBC's operators and engineers who are charged with physically inspecting TBC's substation and all equipment thereon, inspecting underground cable vaults and assessing cable surveys. All TBC operations and engineering staff take proper care to ensure the safety of personnel and the public in performing maintenance, inspection, and repair duties. Maintenance, vegetation and asset management tasks are inputted tracked and monitored in AMP. AMP is a custom-built, in-house asset management program which is utilized by all NextEra Energy affiliates, including TBC. AMP is managed at the corporate level by NextEra Energy's Power Delivery business unit and its dedicated IT department. As such any changes, updates, etc. are directed, managed, and controlled at the corporate level. There is no current plan for any integration of new software for

AMP in the 2026-2028 WMP -years. However, there is a corporate-directed plan to transition to Elements (a custom-build, in-house asset management program), the upgraded version of AMP, during this timeframe.

# 13 LESSONS LEARNED

***Instructions:*** *An electrical corporation must use lessons learned to drive continual improvement in its WMP.[95] Electrical corporations must include lessons learned due to ongoing monitoring and evaluation initiatives, collaboration with other electrical corporations and industry experts, PSPS or outage events, and feedback from Energy Safety and other regulators.*

## 13.1 Description and Summary of Lessons Learned

***Instructions:*** *In this section, the electric corporation must provide a brief narrative describing the key lessons learned tied to feedback from government agencies and stakeholders, collaboration efforts with other electrical corporations, areas for continued improvement, PSPS or outage events, and outcomes from previous WMP cycles.*

*The narrative must also include lessons learned from prior catastrophic wildfires ignited by the electrical corporation's facilities or equipment and findings from Energy Safety compliance audits and reports.*

*For each lesson learned, the electrical corporation must identify the following in Table 13-1:*

- *The year of the Base WMP cycle the lesson learned was identified*
- *Category and specific source of lesson learned*
- *Brief description of the lesson learned that informed improvement to the WMP*
- *Brief description of the proposed improvement to the WMP and which initiative(s) or activity/activities the electrical corporation intends to add or modify*
- *If applicable, a brief description of how the lesson learned ties to implementation of a corrective action program*
- *Estimated timeline for implementing the proposed improvement*
- *If applicable, reference to the documentation that describes and substantiates the need for improvement, including:*
    - *Where relevant, a hyperlinked section and page number in the appendix of the WMP*
    - *Where relevant, the title of the report, date of report, and link to the electrical corporation web page where the report can be downloaded*
    - *If any lessons learned were derived from quantifiable data, visual/graphical representations of these lessons learned in the supporting documentation*

*Table 13-1 provides the required format and an example of the minimum acceptable level of information.*

[95] Pub. Util. Code §§ 8386(a) & (c)(5), (22).

*Table 13-1. Example of Lessons Learned*

| ID # | Year of Lesson Learned | Subject | Category and Source of Lesson Learned | Description of Lesson Learned | Proposed WMP Improvement | Timeline for Implementation | Reference |
|---|---|---|---|---|---|---|---|
| *1* | *2022* | *Collaboration with other electrical corporations* | *Risk modeling working group* | *Wildfire risk models need to establish standard weather and vegetative coverage scenarios, as well as extreme-event conditions, for design purposes and long-term contingency planning.* | *Continue ongoing engagement in wildfire risk modeling working group.*<br><br>*Commission research at leading research and academic institutes to help inform standard key assumptions as the basis for long-term design of capital improvements and wildfire risk initiative activities as well as contingency planning for unexpected, extreme events and/or potential changes to environmental settings and other assumptions due to climate change.* | *Ongoing*<br>*Concept design by 12/2022*<br>*Detailed design by 2025*<br>*Draft report by 2026*<br><br>*Final report by 2027* | *Weblink to wildfire risk modeling working group and summary report*<br><br>*Weblink to electrical corporation's proposed research* |
| *2* | *2023* | *Data Governance* | *2022 Annual Report on Compliance* | *Improve information management for vegetation management activities* | *Digitized work order and inspection field forms for both employees and contractors and connected field forms to system database.* | *Operationalized by 12/2023* | *Title of covered conductor analysis report, dated MM/DD/YYYY; title of risk model analysis report, dated MM/DD/YYYY* |
| *3* | *2024* | *Completed Initiative/activity* | *Relevant WMP initiative* | *[To be provided by the electrical corporation]* | *[To be provided by the electrical corporation]* | *[To be provided by the electrical corporation]* | *[To be provided by the electrical corporation]* |

**Table 13- 1. Lessons Learned**

| ID # | Year of Lesson Learned | Subject | Category and Source of Lesson Learned | Description of Lesson Learned | Proposed WMP Improvement | Timeline for Implementation | Reference |
|---|---|---|---|---|---|---|---|
| 1 | 2022 | Situational Awareness | OEIS observation | OEIS recommended that TBC evaluate adding a weather station to enhance its situational awareness | None. TBC installed a weather station in Q4 2022 and receives daily seven-day forecast of weather notification and wildfire risk index. | N/A | N/A |
| 2 | 2024 | Situational Awareness | PG&E Wildfire Seminar | Leveraging expertise of industry leaders in wildfire situational awareness, forecasting and modelling to enhance internal capabilities to predict, observe, plan, mitigate and react to ignitions and wildfires | TBC will leverage enterprise level engagement of Technosylva to support situational awareness , forecasting and enhance wildfire spread modeling (SA-01) | 2026 | 2026-2028 WMP Section 10 |
| 3 | 2024 | Situational Awareness | PG&E Wildfire Seminar | Existence and value of third party fire monitoring and notification applications as an additional/supplemental source of information for ignition detection, real-time information on wildfire | Completed. TBC operations staff utilize Watch Duty application as a supplemental of information to receive notification and monitor ignitions and wildfires in the vicinity of the Pittsburg Converter Station | N/A | N/A |
| 4 | 2024 | Collaboration | PG&E Wildfire Seminar | Existence and value of industry seminars and conferences focused on wildfire mitigation as a resource for exposure to new technologies, means and methods for assessing and mitigating risks, and lessons learned from operational history. | Ongoing. TBC continues to participate either directly or via enterprise representatives in wildfire seminars and conferences focused on wildfire mitigation. Although, TBC's operations are limited in scope and scale, it participates in these | Ongoing | N/A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | groups to gain exposure to new systems, technology, and knowledge from electrical companies with more extensive operational histories with wildfire mitigation. TBC also leverages collaboration with its affiliate, Horizon West Transmission, which has joined two industry groups focused on wildfire mitigation. | | |

## 13.2 Working Group Meetings

***Instructions:*** *The electrical corporation must identify any Energy Safety-required working group meetings attended or planning to attend in the WMP submission year and provide any lessons learned that applied to its WMPs. The electrical corporation must include interactions and collaborations related to the electrical corporation's WMP submission such as identifying new technology, industry best practices, and shared lessons learned from the WMP process.*

TBC is not aware of any Energy safety-required working group meetings for ITOs. To the extent that any are established during a WMP submission year, TBC will participate.

## 13.3 Discontinued Activities

***Instructions:*** *The electrical corporation must provide all activities from previous WMP submissions that it is no longer implementing ("Discontinued Activities"),[96] the rationale for discontinuation, the applicable lessons learned, and a list of the new or existing activities that mitigate risk in place of the discontinued activity ("Replacement Activities"), including cross-references to the page numbers within the WMP where each replacement activity is discussed.*

*Table 13-2 provides the required format for this information.*

*Table 13-2. Lessons Learned from Discontinued Activities*

| ***Discontinued Activity (Tracking ID)*** | ***Rationale for Discontinuation*** | ***Lessons Learned*** | ***Replacement Activities (include page # where discussed)*** |
|---|---|---|---|
| | | | |

TBC has no discontinued activities from the previous WMP submission. As a result, Table 13-2 is marked N/A meaning "Not Applicable".

**Table 13-2. Lessons Learned from Discontinued Activities**

| **Discontinued Activity (Tracking ID)** | **Rationale for Discontinuation** | **Lessons Learned** | **Replacement Activities (include** |
|---|---|---|---|

[96] Discontinued activities do not include activities that the electrical corporation has completed. An activity that has been completed is not a discontinued activity.

| | | | **page # where discussed)** |
|---|---|---|---|
| N/A | | | |

# APPENDIX A: DEFINITIONS

***Instructions:*** *Unless otherwise expressly stated, the following words and terms, for the purposes of these Guidelines, have the meanings shown in this chapter.*

## *Terms Defined in Other Codes*

*Where terms are not defined in these Guidelines and are defined in the Government Code, Public Utilities Code, or California Public Resources Code, such terms have the meanings ascribed to them in those codes.*

## *Terms Not Defined*

*Where terms are not defined through the methods authorized by this section, such terms have ordinarily accepted meanings such as the context implies.*

## *Definition of Terms*

| Term | Definition |
|---|---|
| **Access and functional needs population (AFN)** | Individuals, including, but not limited to, those who have developmental or intellectual disabilities, physical disabilities, chronic conditions, or injuries; who have limited English proficiency or are non-English speaking; who are older adults, children, or people living in institutionalized settings; or who are low income, homeless, or transportation disadvantaged, including, but not limited to, those who are dependent on public transit or are pregnant. (Gov. Code, § 8593.3(f)(1).) |
| **Asset (utility)** | Electric lines, equipment, or supporting hardware. |
| **Benchmarking** | A comparison between one electrical corporation's protocols, technologies used, or mitigations implemented, and other electrical corporations' similar endeavors. |
| **Burn likelihood** | The likelihood that a wildfire with an ignition point will burn at a specific location within the service territory based on a probabilistic set of weather profiles, vegetation, and topography |
| **Catastrophic wildfire** | A fire that caused at least one death, damaged over 500 structures, or burned over 5,000 acres. |
| **Circuit miles** | The total length in miles of separate transmission and/or distribution circuits, regardless of the number of conductors used per circuit (i.e., different phases). |
| **Circuit segment** | A specific portion of an electrical circuit that can be separated or disconnected from the rest of the system without affecting the operation of other parts of the network. This isolation is typically achieved using switches, circuit breakers, or other control mechanisms. |
| **Consequence** | The adverse effects from an event, considering the hazard |

| Term | Definition |
|---|---|
| | intensity, community exposure, and local vulnerability. |
| **Contact by object ignition likelihood** | The likelihood that a non-vegetative object (such as a balloon or vehicle) will contact utility-owned equipment and result in an ignition. |
| **Contact by vegetation ignition likelihood** | The likelihood that vegetation will contact utility-owned equipment and result in an ignition. |
| **Contractor** | Any individual in the temporary and/or indirect employ of the electrical corporation whose limited hours and/or time-bound term of employment are not considered “full-time” for tax and/or any other purposes. |
| **Critical facilities and infrastructure** | Facilities and infrastructure that are essential to public safety and that require additional assistance and advance planning to ensure resiliency during PSPS events. These include the following:<br>Emergency services sector:<br>• Police stations<br>• Fire stations<br>• Emergency operations centers<br>• Public safety answering points (e.g., 9-1-1 emergency services)<br><br>Government facilities sector:<br>• Schools<br>• Jails and prisons<br><br>Health care and public health sector:<br>• Public health departments<br>• Medical facilities, including hospitals, skilled nursing facilities, nursing homes, blood banks, health care facilities, dialysis centers, and hospice facilities (excluding doctors' offices and other non-essential medical facilities)<br><br>Energy sector:<br>• Public and private utility facilities vital to maintaining or restoring normal service, including, but not limited to, interconnected publicly owned electrical corporations and electric cooperatives<br><br>Water and wastewater systems sector: |

| Term | Definition |
|---|---|
| | • Facilities associated with provision of drinking water or processing of wastewater, including facilities that pump, divert, transport, store, treat, and deliver water or wastewater<br><br>Communications sector:<br>• Communication carrier infrastructure, including selective routers, central offices, head ends, cellular switches, remote terminals, and cellular sites<br><br>Chemical sector:<br>• Facilities associated with manufacturing, maintaining, or distributing hazardous materials and chemicals (including Category N-Customers as defined in D.01-06- 085)<br><br>Transportation sector:<br>• Facilities associated with transportation for civilian and military purposes: automotive, rail, aviation, maritime, or major public transportation<br><br>(D.19-05-042 and D.20-05-051) |
| **Customer hours** | Total number of customers, multiplied by average number of hours (e.g., of power outage). |
| **Dead fuel moisture content** | Moisture content of dead vegetation, which responds solely to current environmental conditions and is critical in determining fire potential. |
| **Detailed inspection** | In accordance with General Order (GO) 165, an inspection where individual pieces of equipment and structures are carefully examined, visually and through routine diagnostic testing, as appropriate, and (if practical and if useful information can be so gathered) opened, and the condition of each is rated and recorded. |
| **Disaster** | A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability, and capacity, leading to one or more of the following: human, material, economic, and environmental losses and impacts. The effect of the disaster can be immediate and localized but is often widespread and could last a long time. The effect may test or exceed the capacity of a community or society to cope using its own resources. Therefore, it may require assistance from external |

| Term | Definition |
|---|---|
| | sources, which could include neighboring jurisdictions or those at the national or international levels. (United Nations Office for Disaster Risk Reduction [UNDRR].) |
| **Discussion-based exercise** | Exercise used to familiarize participants with current plans, policies, agreements, and procedures or to develop new plans, policies, agreements, and procedures. Often includes seminars, workshops, tabletop exercises, and games. |
| **Electrical corporation** | Every corporation or person owning, controlling, operating, or managing any electric plant for compensation within California, except where the producer generates electricity on or distributes it through private property solely for its own use or the use of its tenants and not for sale or transmission to others. |
| **Emergency** | Any incident, whether natural, technological, or human caused, that requires responsive action to protect life or property but does not result in serious disruption of the functioning of a community or society. (FEMA/UNDRR.) |
| **Enhanced inspection** | Inspection whose frequency and thoroughness exceed the requirements of a detailed inspection, particularly if driven by risk calculations. |
| **Equipment ignition likelihood** | The likelihood that utility-owned equipment will cause an ignition through either normal operation (such as arcing) or failure. |
| **Exercise** | An instrument to train for, assess, practice, and improve performance in prevention, protection, response, and recovery capabilities in a risk-free environment. (FEMA.) |
| **Exposure** | The presence of people, infrastructure, livelihoods, environmental services and resources, and other high-value assets in places that could be adversely affected by a hazard. |
| **Fire hazard index** | A numerical rating for specific fuel types, indicating the relative probability of fires starting and spreading, and the probable degree of resistance to control; similar to burning index, but without effects of wind speed.[97] |
| **Fire Potential Index (FPI)** | Landscape scale index used as a proxy for assessing real-time risk of a wildfire under current and forecasted weather conditions. |
| **Fire season** | The time of year when wildfires are most likely for a given geographic region due to historical weather conditions, |

[97] National Wildfire Coordinating Group: https://www.nwcg.gov/node/393188 (accessed May 9, 2024).

| Term | Definition |
|---|---|
| | vegetative characteristics, and impacts of climate change. Each electrical corporation defines the fire season(s) across its service territory based on a recognized fire agency definition for the specific region(s) in California. |
| **Fireline intensity** | The rate of heat release per unit time per unit length of fire front. Numerically, it is the product of the heat yield, the quantity of fuel consumed in the fire front, and the rate of spread.[98] |
| **Frequency** | The anticipated number of occurrences of an event or hazard over time. |
| **Frequent PSPS events** | Three or more PSPS events per calendar year per line circuit. |
| **Fuel continuity** | The degree or extent of continuous or uninterrupted distribution of fuel particles in a fuel bed thus affecting a fire's ability to sustain combustion and spread. This applies to aerial fuels as well as surface fuels.[99] |
| **Fuel density** | Mass of fuel (vegetation) per area that could combust in a wildfire. |
| **Fuel management** | Removal or thinning of vegetation to reduce the potential rate of propagation or intensity of wildfires. |
| **Fuel moisture content** | Amount of moisture in a given mass of fuel (vegetation), measured as a percentage of its dry weight. |
| **Full-time employee (FTE)** | Any individual in the ongoing and/or direct employ of the electrical corporation whose hours and/or term of employment are considered “full-time” for tax and/or any other purposes. |
| **GO 95 nonconformance** | Condition of a utility asset that does not meet standards established by GO 95. |
| **Grid hardening** | Actions (such as equipment upgrades, maintenance, and planning for more resilient infrastructure) taken in response to the risk of undesirable events (such as outages) or undesirable conditions of the electrical system to reduce or mitigate those events and conditions, informed by an assessment of the relevant risk drivers or factors. |
| **Grid topology** | General design of an electric grid, whether looped or radial, with consequences for reliability and ability to support PSPS (e.g., ability to deliver electricity from an additional source). |
| **Hazard** | A condition, situation, or behavior that presents the potential for harm or damage to people, property, the environment, or other valued resources. |

[98] National Wildfire Coordinating Group: https://www.nwcg.gov/node/447140 (accessed May 9, 2024).
[99] National Wildfire Coordinating Group: https://www.nwcg.gov/node/444281 (accessed May 9, 2024).

| Term | Definition |
|---|---|
| **Hazard tree** | A tree that is, or has portions that are, dead, dying, rotten, diseased, or otherwise has a structural defect that may fail in whole or in part and damage utility facilities should it fail |
| **High Fire Threat District (HFTD)** | Areas of the state designated by the CPUC as having elevated wildfire risk, where each utility must take additional action (per GO 95, GO 165, and GO 166) to mitigate wildfire risk. (D.17-01- 009.) |
| **High Fire Risk Area (HFRA)** | Areas that the electrical corporation has deemed at high risk from wildfire, independent of HFTD designation. |
| **Highly rural region** | Area with a population of less than seven persons per square mile, as determined by the United States Bureau of the Census. For purposes of the WMP, "area" must be defined as a census tract. |
| **High-risk species** | Species of vegetation that (1) have a higher risk of either coming into contact with powerlines or causing an outage or ignition, or (2) are easily ignitable and within close proximity to potential arcing, sparks, and/or other utility equipment thermal failures. The status of species as "high-risk" must be a function of species-specific characteristics, including growth rate; failure rates of limbs, trunk, and/or roots (as compared to other species); height at maturity; flammability; and vulnerability to disease or insects. |
| **High Wind Warning (HWW)** | Level of wind risk from weather conditions, as declared by the National Weather Service (NWS). For historical NWS data, refer to the Iowa State University archive of NWS watches/warnings.[100] |
| **HWW overhead (OH) circuit mile day** | Sum of OH circuit miles of utility grid subject to a HWW each day within a given time period, calculated as the number of OH circuit miles under a HWW multiplied by the number of days those miles are under said HWW. For example, if 100 OH circuit miles are under a HWW for one day, and 10 of those miles are under the HWW for an additional day, then the total HWW OH circuit mile days would be 110. |
| **Ignition likelihood** | The total anticipated annualized number of ignitions resulting from electrical corporation-owned assets at each location in the electrical corporation's service territory. This considers probabilistic weather conditions, type and age of equipment, and potential contact of vegetation and other objects with electrical corporation assets. This should include the use of any method |

[100] https://mesonet.agron.iastate.edu/request/gis/watchwarn.phtml.

| Term | Definition |
|---|---|
| | used to reduce the likelihood of ignition. For example, the use of protective equipment and device settings (PEDS) to reduce the likelihood of an ignition upon an initiating event. |
| **Incident command system (ICS)** | A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. |
| **Initiative activity** | See mitigation activity. |
| **Initiative construction standards** | The standard specifications, special provisions, standards of practice, standard material and construction specifications, construction protocols, and construction methods that an electrical corporation applies to activities undertaken by the electrical corporation pursuant to a WMP initiative in a given compliance period. |
| **Level 1 finding** | In accordance with GO 95, an immediate safety and/or reliability risk with high probability for significant impact. |
| **Level 2 finding** | In accordance with GO 95, a variable safety and/or reliability risk (non-immediate and with high to low probability for significant impact). |
| **Level 3 finding** | In accordance with GO 95, an acceptable safety and/or reliability risk. |
| **Limited English proficiency (LEP) population** | Population with limited English working proficiency based on the International Language Roundtable scale. |
| **Line miles** | The number of miles of transmission and/or distribution conductors, including the length of each phase and parallel conductor segment. |
| **Live fuel moisture content** | Moisture content within living vegetation, which can retain water longer than dead fuel. |
| **Locally relevant** | In disaster risk management, generally understood as the scale at which disaster risk strategies and initiatives are considered the most effective at achieving desired outcomes. This tends to be the level closest to impacting residents and communities, reducing existing risks, and building capacity, knowledge, and normative support. Locally relevant scales, conditions, and perspectives depend on the context of application. |
| **Match-drop simulation** | Wildfire simulation method forecasting propagation and consequence/impact based on an arbitrary ignition. |
| **Memorandum of Agreement (MOA)** | A document of agreement between two or more agencies establishing reciprocal assistance to be provided upon request |

| Term | Definition |
|---|---|
| | (and if available from the supplying agency) and laying out the guidelines under which this assistance will operate. It can also be a cooperative document in which parties agree to work together on an agreed-upon project or meet an agreed objective. |
| **Mitigation** | Undertakings to reduce the loss of life and property from natural and/or human-caused disasters by avoiding or lessening the impact of a disaster and providing value to the public by creating safer communities. Encompasses mitigation categories, mitigation initiatives, and mitigation activities within the WMP. |
| **Mitigation activity** | A measure that contributes to or accomplishes a mitigation initiative designed to reduce the consequences and/or probability of wildfire or outage event. For example, covered conductor installation is a mitigation activity under the mitigation initiative of Grid Design and System Hardening. |
| **Mitigation category** | The highest subset in the WMP mitigation hierarchy. There are five Mitigation Categories in total: Grid Design, Operations, and Maintenance; Vegetation Management and Inspections; Situational Awareness and Forecasting; Emergency Preparedness; and Enterprise Systems. Contains mitigation initiatives and any subsequent mitigation activities. |
| **Mitigation initiative** | Efforts within a mitigation category either proposed or in process, designed to reduce the consequences and/or probability of wildfire or outage event. For example, Asset Inspection is a mitigation initiative under the mitigation category of Grid Design, Operations, and Maintenance. |
| **Model uncertainty** | The amount by which a calculated value might differ from the true value when the input parameters are known (i.e., limitation of the model itself based on assumptions).[101] |
| **Mutual aid** | Voluntary aid and assistance by the provision of services and facilities, including but not limited to electrical corporations, communication, and transportation. Mutual aid is intended to provide adequate resources, facilities, and other support to electrical corporations whenever their own resources prove inadequate to cope with a given situation. |
| **National Incident Management System (NIMS)** | A systematic, proactive approach to guide all levels of government, nongovernment organizations, and the private sector to work together to prevent, protect against, mitigate, |

[101] Adapted from SFPE, 2010, "Substantiating a Fire Model for a Given Application," Society of Fire Protection Engineers Engineering Guides.

| Term | Definition |
|---|---|
| | respond to, and recover from the effects of incidents. NIMS provides stakeholders across the whole community with the shared vocabulary, systems, and processes to successfully deliver the capabilities described in the National Preparedness System. NIMS provides a consistent foundation for dealing with all incidents, ranging from daily occurrences to incidents requiring a coordinated federal response. |
| **Operations-based exercise** | Type of exercise that validates plans, policies, agreements, and procedures; clarifies roles and responsibilities; and identifies resource gaps in an operational environment. Often includes drills, functional exercises (FEs), and full-scale exercises (FSEs). |
| **Outage program risk** | The measure of reliability impacts from wildfire mitigation related outages at a given location |
| **Overall utility risk** | The comprehensive risk due to both wildfire and PSPS incidents across a utility's territory; the aggregate potential of adverse impacts to people, property, critical infrastructure, or other valued assets in society. |
| **Overall utility risk, ignition risk** | The comprehensive risk due to both wildfire and PSPS incidents across a utility's territory; the aggregate potential of adverse impacts to people, property, critical infrastructure, or other valued assets in society. |
| **Overall utility risk, PSPS risk** | See PSPS risk. |
| **Parameter uncertainty** | The amount by which a calculated value might differ from the true value based on unknown input parameters. (Adapted from Society of Fire Protection Engineers [SFPE] guidance.) |
| **Patrol inspection** | In accordance with GO 165, a simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business. |
| **Performance metric** | A quantifiable measurement that is used by an electrical corporation to indicate the extent to which its WMP is driving performance outcomes. |
| **Population density** | Population density is calculated using the American Community Survey (ACS) one-year estimate for the corresponding year or, for years with no such ACS estimate available, the estimate for the immediately preceding year. |
| **Preparedness** | A continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action in an effort |

| Term | Definition |
|---|---|
| | to ensure effective coordination during incident response. Within the NIMS, preparedness focuses on planning, procedures and protocols, training and exercises, personnel qualification and certification, and equipment certification. |
| **Priority essential services** | Critical first responders, public safety partners, critical facilities and infrastructure, operators of telecommunications infrastructure, and water electrical corporations/agencies. |
| **Property** | Private and public property, buildings and structures, infrastructure, and other items of value that may be destroyed by wildfire, including both third-party property and utility assets. |
| **Protective equipment and device settings (PEDS)** | The electrical corporation's procedures for adjusting the sensitivity of grid elements to reduce wildfire risk, other than automatic reclosers (such as circuit breakers, switches, etc.). For example, PG&E's "Enhanced Powerline Safety Settings" (EPSS). |
| **PEDS outage consequence** | The total anticipated adverse effects from an outage occurring while increased sensitivity settings on a protective device are enabled at a specific location, including reliability and associated safety impacts. |
| **PEDS outage exposure potential** | The potential physical, social, or economic impact of an outage occurring when PEDS are enabled on people, property, critical infrastructure, livelihoods, health, local economies, and other high-value assets. |
| **PEDS outage likelihood** | The likelihood of an outage occurring while increased sensitivity settings on a protective device are enabled at a specific location given a probabilistic set of environmental conditions. |
| **PEDS outage risk** | The total expected annualized impacts from PEDS enablement at a specific location. |
| **PEDS outage vulnerability** | The susceptibility of people or a community to adverse effects of an outage occurring when PEDS are enabled, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the related adverse effects (e.g., high AFN population, poor energy resiliency, low socioeconomics). |
| **PSPS consequence** | The total anticipated adverse effects of a PSPS for a community. This considers the PSPS exposure potential and inherent PSPS vulnerabilities of communities at risk. |
| **PSPS event** | The period from notification of the first public safety partner of a planned public safety PSPS to re-energization of the final customer. |
| **PSPS exposure potential** | The potential physical, social, or economic impact of a PSPS |

| Term | Definition |
|---|---|
| | event on people, property, critical infrastructure, livelihoods, health, local economies, and other high-value assets. |
| **PSPS likelihood** | The likelihood of a PSPS being required by a utility given a probabilistic set of environmental conditions. |
| **PSPS risk** | The total expected annualized impacts from PSPS at a specific location. This considers two factors: (1) the likelihood a PSPS will be required due to environmental conditions exceeding design conditions, and (2) the potential consequences of the PSPS for each affected community, considering exposure potential and vulnerability. |
| **PSPS vulnerability** | The susceptibility of people or a community to adverse effects of a PSPS event, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the adverse effects of a PSPS event (e.g., high AFN population, poor energy resiliency, low socioeconomics). |
| **Public safety partners** | First/emergency responders at the local, state, and federal levels; water, wastewater, and communication service providers; community choice aggregators (CCAs); affected publicly owned electrical corporations/electrical cooperatives; tribal governments; Energy Safety; the Commission; the California Office of Emergency Services; and CAL FIRE. |
| **Qualitative target** | Specific, measurable, achievable, realistic, and timely outcomes for the overall WMP strategy, or mitigation initiatives and activities that a utility can implement to satisfy the primary goals and subgoals of the WMP program. |
| **Quantitative target** | A forward-looking, quantifiable measurement of work to which an electrical corporation commits to in its WMP. Electrical corporations will show progress toward completing targets in subsequent reports, including data submissions and WMP Updates. |
| **RFW OH circuit mile day** | Sum of OH circuit miles of utility grid subject to RFW each day within a given time period, calculated as the number of OH circuit miles under RFW multiplied by the number of days those miles are under said RFW. For example, if 100 OH circuit miles are under RFW for one day, and 10 of those miles are under RFW for an additional day, then the total RFW OH circuit mile days would be 110. |
| **Risk** | A measure of the anticipated adverse effects from a hazard considering the consequences and frequency of the hazard |

| Term | Definition |
|---|---|
| | occurring.[102] |
| **Risk component** | A part of an electric corporation's risk analysis framework used to determine overall utility risk. |
| **Risk evaluation** | The process of comparing the results of a risk analysis with risk criteria to determine whether the risk and/or its magnitude is acceptable or tolerable. (ISO 31000:2009.) |
| **Risk event** | An event with probability of ignition, such as wire down, contact with objects, line slap, event with evidence of heat generation, or other event that causes sparking or has the potential to cause ignition. The following all qualify as risk events:<br>• Ignitions<br>• Outages not caused by vegetation<br>• Outages caused by vegetation<br>• Wire-down events<br>• Faults<br>• Other events with potential to cause ignition |
| **Risk management** | Systematic application of management policies, procedures, and practices to the tasks of communication, consultation, establishment of context, and identification, analysis, evaluation, treatment, monitoring, and review of risk. (ISO 31000.) |
| **Rule** | Section of Public Utilities Code requiring a particular activity or establishing a particular threshold. |
| **Rural region** | In accordance with GO 165, area with a population of less than 1,000 persons per square mile, as determined by the U.S. Bureau of the Census.[103] For purposes of the WMP, "area" must be defined as a census tract. |
| **Seminar** | An informal discussion, designed to orient participants to new or updated plans, policies, or procedures (e.g., to review a new external communications standard operating procedure). |
| **Sensitivity analysis** | Process used to determine the relationships between the uncertainty in the independent variables ("input") used in an analysis and the uncertainty in the resultant dependent variables ("output"). (SFPE guidance.) |
| **Situational Awareness** | An on-going process of gathering information by observation and by communication with others. This information is integrated to |

[102] Adapted from D. Coppola, 2020, "Risk and Vulnerability," Introduction to International Disaster Management, 4th ed.
[103] https://www.cpuc.ca.gov/gos/GO95/go_95_rule_18.htm

| Term | Definition |
|---|---|
| | create an individual's perception of a given situation.[104] |
| **Slash** | Branches or limbs less than four inches in diameter, and bark and split products debris left on the ground as a result of utility vegetation management.[105] |
| **Span** | The space between adjacent supporting poles or structures on a circuit consisting of electric lines and equipment. "Span level" refers to asset-scale granularity. |
| **Tabletop exercise (TTX)** | A discussion-based exercise intended to stimulate discussion of various issues regarding a hypothetical situation. Tabletop exercises can be used to assess plans, policies, and procedures or to assess types of systems needed to guide the prevention of, response to, or recovery from a defined incident. |
| **Trees with strike potential** | Trees that could either “fall in” to a power line or have branches detach and “fly in” to contact a power line in high-wind conditions. |
| **Uncertainty** | The amount by which an observed or calculated value might differ from the true value. For an observed value, the difference is “experimental uncertainty”; for a calculated value, it is “model” or “parameter uncertainty.” (Adapted from SFPE guidance.) |
| **Urban region** | In accordance with GO 165, area with a population of more than 1,000 persons per square mile, as determined by the U.S. Bureau of the Census. For purposes of the WMP, “area” must be defined as a census tract. |
| **Utility-related ignition** | An event that meets the criteria for a reportable event subject to fire-related reporting requirements.[106] |
| **Validation** | Process of determining the degree to which a calculation method accurately represents the real world from the perspective of the intended uses of the calculation method without modifying input parameters based on observations in a specific scenario. (Adapted from ASTM E 1355.) |
| **Vegetation management (VM)** | Trimming and removal of trees and other vegetation at risk of contact with electric equipment. |
| **Verification** | Process to ensure that a model is working as designed, that is, that the equations are being properly solved. Verification is essentially a check of the mathematics. (SFPE guidance.) |

[104] https://www.nwcg.gov/node/439827 (assessed May 13, 2024).
[105] California Public Resources Code section 4525.7.
[106] CPUC Decision 14-02-015, Appendix C, page C-3: https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M087/K892/87892306.PDF.

| Term | Definition |
|---|---|
| **Vulnerability** | The propensity or predisposition of a community to be adversely affected by a hazard, including the characteristics of a person, group, or service and their situation that influences their capacity to anticipate, cope with, resist, and recover from the adverse effects of a hazard. |
| **Wildfire consequence** | The total anticipated adverse effects from a wildfire on a community that is reached. This considers the wildfire hazard intensity, the wildfire exposure potential, and the inherent wildfire vulnerabilities of communities at risk. |
| **Wildfire exposure potential** | The potential physical, social, or economic impact of wildfire on people, property, critical infrastructure, livelihoods, health, environmental services, local economies, cultural/historical resources, and other high-value assets. This may include direct or indirect impacts, as well as short- and long-term impacts. |
| **Wildfire hazard intensity** | The potential intensity of a wildfire at a specific location within the service territory given a probabilistic set of weather profiles, vegetation, and topography. |
| **Wildfire likelihood** | The total anticipated annualized number of fires reaching each spatial location resulting from utility-related ignitions at each location in the electrical corporation service territory. This considers the ignition likelihood and the likelihood that an ignition will transition into a wildfire based on the probabilistic weather conditions in the area. |
| **Wildfire mitigation strategy** | Overview of the key mitigation initiatives at enterprise level and component level across the electrical corporation's service territory, including interim strategies where long-term mitigation initiatives have long implementation timelines. This includes a description of the enterprise-level monitoring and evaluation strategy for assessing overall effectiveness of the WMP. |
| **Wildfire risk** | The total expected annualized impacts from ignitions at a specific location. This considers the likelihood that an ignition will occur, the likelihood the ignition will transition into a wildfire, and the potential consequences—considering hazard intensity, exposure potential, and vulnerability—the wildfire will have for each community it reaches. |
| **Wildfire spread likelihood** | The likelihood that a fire with a nearby but unknown ignition point will transition into a wildfire and will spread to a location in the service territory based on a probabilistic set of weather profiles, vegetation, and topography. |
| **Wildfire vulnerability** | The susceptibility of people or a community to adverse effects of |

| Term | Definition |
|---|---|
| | a wildfire, including all characteristics that influence their capacity to anticipate, cope with, resist, and recover from the adverse effects of a wildfire (e.g., AFN customers, Social Vulnerability Index, age of structures, firefighting capacities). |
| **Wildland-urban interface (WUI)** | The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation fuels (National Wildfire Coordinating Group). |
| **Wire down** | Instance where an electric transmission or distribution conductor is broken and falls from its intended position to rest on the ground or a foreign object. |
| **Work order** | A prescription for asset or vegetation management activities resulting from asset or vegetation management inspection findings. |
| **Workshop** | Discussion that resembles a seminar but is employed to build specific products, such as a draft plan or policy (e.g., a multi-year training and exercise plan). |

## Definitions of Initiatives by Category

| Category | Section # | Initiative | Definition |
|---|---|---|---|
| Risk Methodology and Assessment | 5 | Risk Methodology and Assessment | Development and use of tools and processes to assess the risk of wildfire and PSPS across an electrical corporation's service territory. |
| Wildfire Mitigation Strategy | 6 | Wildfire Mitigation Strategy Development | Development and use of processes for deciding on a portfolio of mitigation initiatives to achieve maximum feasible risk reduction and that meet the goals of the WMP. |
| Grid Design, Operations, and Maintenance | 8.2 | Grid Design and System Hardening | Strengthening of distribution, transmission, and substation infrastructure to reduce the risk of utility-related ignitions resulting in catastrophic wildfires. |
| Grid Design, Operations, and Maintenance | 8.3 | Asset Inspections | Inspections of overhead electric transmission lines, equipment, and right-of-way. |
| Grid Design, Operations, and Maintenance | 8.4 | Equipment Maintenance and Repair | Remediation, adjustments, or installations of new equipment to improve or replace existing connector equipment, such as hotline clamps. |
| Grid Design, Operations, and Maintenance | 8.5 | Quality Assurance and Quality Control | Establishment and function of audit process to manage and confirm work completed by employees or contractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes. |
| Grid Design, Operations, and Maintenance | 8.6 | Work Orders | Actions taken to manage the electrical corporation's open work orders resulting from inspections that prescribe asset management activities. |
| Grid Design, Operations, and Maintenance | 8.7 | Grid Operations and Procedures | Operations and procedures to reduce across the electrical corporation's system to reduce wildfire risk. |
| Grid Design, Operations, and Maintenance | 8.8 | Workforce Planning | Programs to ensure that the electrical corporation has qualified asset personnel and to ensure that both employees and contractors tasked |

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| | | | with asset management responsibilities are adequately trained to perform relevant work. |
| Vegetation Management and Inspections | 9.2 | Vegetation Management Inspections | Inspections of vegetation around and adjacent to electrical facilities and equipment that may be hazardous by growing, blowing, or falling into electrical facilities or equipment. |
| Vegetation Management and Inspections | 9.3 | Pruning and Removal | Pruning, removal, and other vegetation management activities that are performed as a result of inspections. |
| Vegetation Management and Inspections | 9.4 | Pole Clearing | Plan and execution of vegetation removal around poles per Public Resources Code section 4292 and outside the requirements of Public Resources Code section 4292 (e.g., pole clearing performed outside of the State Responsibility Area). |
| Vegetation Management and Inspections | 9.5 | Wood and Slash Management | Actions taken to manage all downed wood and “slash” generated from vegetation management activities. |
| Vegetation Management and Inspections | 9.6 | Defensible Space | Actions taken to reduce ignition probability and wildfire consequence due to contact with substation equipment. |
| Vegetation Management and Inspections | 9.7 | Integrated Vegetation Management | Actions taken in accordance with Integrated Vegetation Management principles that are not covered by another initiative. |
| Vegetation Management and Inspections | 9.8 | Partnerships | Collaboration of resources, expertise, and efforts to accomplish agreed upon objectives related to wildfire risk reduction achieved through vegetation management. |
| Vegetation Management and Inspections | 9.9 | Activities Based on Weather Conditions | Actions taken in accordance with weather condition forecasts that indicate an elevated fire threat in terms of ignition probability and wildfire potential. |
| Vegetation Management and Inspections | 9.10 | Post-Fire Service Restoration | Actions taken during post-fire restoration to restore power while active fire suppression is ongoing and |

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| | | | actions that occur following active fire suppression during the post-fire suppression repair and rehabilitation phases of fire protection operations. |
| Vegetation Management and Inspections | 9.11 | Quality Assurance and Quality Control | Establishment and function of audit process to manage and confirm work completed by employees or contractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes. |
| Management and Inspections | 9.12 | Work Orders | Actions taken to manage the electrical corporation's open work orders resulting from inspections that prescribe vegetation management activities. |
| Vegetation Management and Inspections | 9.13 | Workforce Planning | Programs to ensure that the electrical corporation has qualified personnel and to ensure that both employees and contractors tasked with vegetation management responsibilities are adequately trained to perform relevant work. |
| Situational Awareness and Forecasting | 10.2 | Environmental Monitoring Systems | Development and deployment of systems which measure environmental characteristics, such as fuel moisture, air temperature, and velocity. |
| Situational Awareness and Forecasting | 10.3 | Grid Monitoring Systems | Development and deployment of systems that checks the operational conditions of electrical facilities and equipment and detects such things as faults, failures, and recloser operations. |
| Situational Awareness and Forecasting | 10.4 | Ignition Detection Systems | Development and deployment of systems which discover or identify the presence or existence of an ignition, such as cameras. |
| Situational Awareness and Forecasting | 10.5 | Weather Forecasting | Development methodology for forecast of weather conditions relevant to electrical corporation operations, forecasting weather conditions and conducting analysis to |

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| | | | incorporate into utility decision-making, learning and updates to reduce false positives and false negatives of forecast PSPS conditions. |
| Situational Awareness and Forecasting | 10.6 | Fire Potential Index | Calculation and application of a landscape scale index used as a proxy for assessing real-time risk of a wildfire under current and forecasted weather conditions. |
| Emergency Preparedness, Collaboration and Public Awareness | 11.2 | Emergency Preparedness and Recovery Plan | Development and integration of wildfire- and PSPS-specific emergency strategies, practices, policies, and procedures into the electrical corporation's overall emergency plan based on the minimum standards described in GO 166. |
| Emergency Preparedness, Collaboration and Public Awareness | 11.3 | External Collaboration and Coordination | • Actions taken to coordinate wildfire and PSPS emergency preparedness with relevant public safety partners including the state, cities, counties, and tribes.<br>• Development and integration of plans, programs, and/or policies for collaborating with communities on local wildfire mitigation planning, such as wildfire safety elements in general plans, community wildfire protection plans, and local multi-hazard mitigation plans. |
| Emergency Preparedness, Collaboration and Public Awareness | 11.4 | Public Communication, Outreach, and Education Awareness | • Development and integration of a comprehensive communication strategy to inform essential customers and other stakeholder groups of wildfires, outages due to wildfires, and PSPS and service restoration, as required by Public Utilities Code section 768.6.<br>• Development and deployment of public outreach and education awareness program(s) for wildfires; |

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|---|---|---|---|
| | | | outages due to wildfires, PSPS events, and protective equipment and device settings; service restoration before, during, and after the incidents and vegetation management.<br>• Actions taken understand, evaluate, design, and implement wildfire and PSPS risk mitigation strategies, policies, and procedures specific to access and functional needs customers. |
| Emergency Preparedness, Collaboration and Public Awareness | 11.5 | Customer Support in Wildfire and PSPS Emergencies | Development and deployment of programs, systems, and protocols to support residential and non-residential customers in wildfire emergencies and PSPS events. |
| Enterprise Systems | 12 | Enterprise Systems Development | Structures and methods that allow the electrical corporation and its employees and/or contractors to accept, store, retrieve, and update data for the production, management, and scheduling of related work. |
| Grid Design and System Hardening | 8.2.1 | Covered conductor installation | Installation of covered or insulated conductors to replace standard bare or unprotected conductors (defined in accordance with GO 95 as supply conductors, including but not limited to lead wires, not enclosed in a grounded metal pole or not covered by: a “suitable protective covering” (in accordance with Rule 22.8), grounded metal conduit, or grounded metal sheath or shield). In accordance with GO 95, conductor is defined as a material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics; insulated conductors as those which are surrounded by an insulating material (in accordance with Rule |

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| | | | 21.6), the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit without breakdown or puncture; and suitable protective covering as a covering of wood or other non-conductive material having the electrical insulating efficiency (12kV/in. dry) and impact strength (20ft.-lbs) of 1.5 inches of redwood or other material meeting the requirements of Rule 22.8-A, 22.8-B, 22.8-C or 22.8-D. |
| Grid Design and System Hardening | 8.2.2 | Undergrounding of electric lines and/or equipment | Actions taken to convert overhead electric lines and/or equipment to underground electric lines and/or equipment (i.e., located underground and in accordance with GO 128). |
| Grid Design and System Hardening | 8.2.3 | Distribution pole replacements and reinforcements | Remediation, adjustments, or installations of new equipment to improve or replace existing distribution poles (i.e., those supporting lines under 65kV), including with equipment such as composite poles manufactured with materials reduce ignition probability by increasing pole lifespan and resilience against failure from object contact and other events. |
| Grid Design and System Hardening | 8.2.4 | Transmission pole/tower replacements and reinforcements | Remediation, adjustments, or installations of new equipment to improve or replace existing transmission towers (e.g., structures such as lattice steel towers or tubular steel poles that support lines at or above 65kV). |
| Grid Design and System Hardening | 8.2.5 | Traditional overhead hardening | Maintenance, repair, and replacement of capacitors, circuit breakers, cross-arms, transformers, fuses, and connectors (e.g., hot line clamps) with the intention of minimizing the risk of ignition. |

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| Grid Design and System Hardening | 8.2.6 | Emerging grid hardening technology installations and pilots | Development, deployment, and piloting of novel grid hardening technology. |
| Grid Design and System Hardening | 8.2.7 | Microgrids | Development and deployment of microgrids that may reduce the risk of ignition, risk from PSPS, and wildfire consequence. “Microgrid” is defined by Public Utilities Code section 8370(d). |
| Grid Design and System Hardening | 8.2.8 | Installation of system automation equipment | Installation of electric equipment that increases the ability of the electrical corporation to automate system operation and monitoring, including equipment that can be adjusted remotely such as automatic reclosers (switching devices designed to detect and interrupt momentary faults that can reclose automatically and detect if a fault remains, remaining open if so). |
| Grid Design and System Hardening | 8.2.9 | Line removals (in HFTD) | Removal of overhead lines to minimize the risk of ignition due to the design, location, or configuration of electric equipment in HFTDs. |
| Grid Design and System Hardening | 8.2.10 | Other grid topology improvements to minimize risk of ignitions | Actions taken to minimize the risk of ignition due to the design, location, or configuration of electric equipment in HFTDs not covered by another initiative. |
| Grid Design and System Hardening | 8.2.11 | Other grid topology improvements to mitigate or reduce PSPS events | Actions taken to mitigate or reduce PSPS events in terms of geographic scope and number of customers affected not covered by another initiative. |
| Grid Design and System Hardening | 8.2.12 | Other technologies and systems not listed above | Other grid design and system hardening actions which the electrical corporation takes to reduce its ignition and PSPS risk not otherwise covered by other initiatives in this section. |
| and Procedures | 8.7.2 | Grid Response Procedures and | The electrical corporation’s procedures it uses to respond to |

| | | | |
|---|---|---|---|
| | | Notifications | faults, ignitions, or other issues detected on its grid that may result in a wildfire. |
| Grid Operations and Procedures | 8.7.3 | Personnel Work Procedures and Training in Conditions of Elevated Fire Risk | Work activity guidelines that designate what type of work can be performed during operating conditions of different levels of wildfire risk. Training for personnel on these guidelines and the procedures they prescribe, from normal operating procedures to increased mitigation measures to constraints on work performed. |

# APPENDIX B: SUPPORTING DOCUMENTATION FOR RISK METHODOLOGY AND ASSESSMENT

***Instructions: :*** *As part of its WMP, the electrical corporation is required to provide the "Summary Documentation" as defined by this appendix. For all other requirements in this appendix, the electrical corporation must be readily able to provide the defined documentation in response to a data request by Energy Safety or designated stakeholders.*

TBC is an independent transmission operator (ITO) that has transmission-only assets and does not have a service territory or end-use customers. As noted on page 177 of Energy Safety's WMP Guidelines, no additional summary is required in Appendix B for ITOs. Based on the foregoing and owning to the limited size, scope and scale of TBC's operations, TBC has no additional summary for this Appendix B.

# APPENDIX C: ADDITIONAL MAPS

**Instructions:** *: In this appendix, the electrical corporation must provide a (one) representative map within the main body of its WMP. Where electrical corporations need to provide additional maps for clarity (e.g., the scale is insufficiently large to show useful detail), the electrical corporation must host applicable and up-to-date geospatial layers on a publicly accessible web application and refer to the specific web address in appropriate places throughout its WMP. Additionally, the electrical corporation must host these layers until at least the submission of its subsequent WMP or otherwise directed by Energy Safety. The electrical corporation may not modify these publicly available layers without notifying Energy Safety.*

*Below is a list of the Base WMP Guidelines sections which require additional maps:*

| ***Section Number*** | ***Section Title*** |
|---|---|
| *4.1* | *SERVICE TERRITORY* |
| *4.3* | *FREQUENTLY DEENERGIZED CIRCUITS* |
| *5.5.1.1* | *GEOSPATIAL MAPS OF TOP RISK AREAS WITHIN THE HFRA* |

TBC has no service territory, has no frequently deenergized circuits and does not maintain any assets in an HFTD. TBC has submitted maps of its Pittsburg Converter Station in Sections 1 and 4.1 in this WMP.

# APPENDIX D: AREAS FOR CONTINUED IMPROVEMENTS

**Instructions:** *In this appendix, the electrical corporation must provide responses to its areas for continued improvement as identified in the Decisions on the 2022 WMP Updates in the following format:*

***Code and Title:***
***Description:***
***Required Progress:***
***[Electrical Corporation] Response:***

**Code and Title:** TBC-23-01. QA.QC Process Documentation
**Description:** TBC states that it has procedures and checklists that provide additional detail about its QA/QC process and is evaluating changes to its QA/QC program as its operational experience grows. TBC does not provide the documents related to QA/QC or details on the QA/QC evaluation process
**Required Progress:** :

- In its 2025 Update, TBC must provide all documentation related to its QA/QC processes, including TBC-MP-001 section 4.1.4.
- An analysis demonstrating the current QA/QC process effectively mitigates wildfire risk

**SECTION AND PAGE NUMBER OF ANY IMPROVEMENTS:** Section 8.5.1; pg. 93.
**TBC Response**: TBC provided required responses as part of its 2025 update in Q3 2024.

**Code and Title:** TBC-23-02. Documentation of Sharing Best Practices
**Description:** TBC does not document instances of sharing best practices.
**Required Progress:** In its 2026-2028 Base WMP, TBC must provide documented examples of its sharing of best practices to date (as of the 2026-2028 submission).
**SECTION AND PAGE NUMBER OF ANY IMPROVEMENTS:** Section 13.1; pgs. 195-196
**TBC Response:** Representatives of TBC and or its affiliates attended two PG&E Wildfire Conferences in 2024 and one conference in 2025. Representatives of TBC also participated in an AEGIS Webinar on Near-Term Wildfire Mitigation Strategies.

# APPENDIX E: REFERENCED REGULATIONS, CODES AND STANDARDS

**Instructions:** In this appendix, the electrical corporation must provide in tabulated format a list of referenced codes, regulations, and standards. An example follows.

| ***NAME OF REGULATION, CODE, OR STANDARD*** | ***BRIEF DESCRIPTION*** |
|---|---|
| *PUBLIC UTILITIES CODE SECTION 768.6* | *STATUTE RELATED TO EMERGENCY AND DISASTER PREPAREDNESS PLANS* |
| *GENERAL ORDER 166* | *STANDARDS FOR OPERATION, RELIABILITY, AND SAFETY DURING EMERGENCIES AND DISASTERS* |
| *CALIFORNIA STANDARDIZED EMERGENCY MANAGEMENT SYSTEMS (SEMS)* | |
| *NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)* | |
| *GOVERNMENT CODE SECTION 8593.3* | |

**Table E-1. Referenced Regulations, Codes and Standards**

| NAME OF REGULATION, CODE, OR STANDARD | BRIEF DESCRIPTION |
|---|---|
| PUBLIC UTILITIES CODE SECTION 8386 | STATUTE RELATED TO WILDFIRE MITIGATION REQUIREMENTS FOR ELECTRIC UTILITIES |
| GENERAL ORDER 95 | RULES FOR OVERHEAD ELECTRIC LINE CONSTRUCTION |
| PUBLIC UTILITIES CODE SECTION 768.6 | STATUTE RELATED TO EMERGENCY AND DISASTER PREPAREDNESS PLANS |
| CAL/OSHA - TITLE 8 REGULATIONS, CHAPTER 4, SUBCHAPTER 7, GROUP 1, ARTICLE 2, §3220 | STATUTE RELATED TO REQUIREMENTS FOR EMERGENCY ACTION PLANS |
| NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 850 MANUAL | RECOMMENDED PRATICES FOR FIRE PROTECTION FOR ELECTRIC GENERATING PLANTS AND HIGH VOLTAGE DIRECT CURRENT CONVERTER STATIONS |

# ATTACHMENT A

## TBC-OP-004 EMERGENCY OPERATIONS

Submitted Confidentially per CCR Title 14, Section 29200

# ATTACHMENT B

## TBC-HS-200 Emergency Action Plan

Submitted Confidentially per CCR Title 14, Section 29200

# ATTACHMENT C

## TBC-OP-007 FACILITY STARTUP AND SHUTDOWN PLAN

Submitted Confidentially per CCR Title 14, Section 29200

# ATTACHMENT D

## TBC-OP-008 SYSTEM RESTORATION PLAN

Submitted Confidentially per CCR Title 14, Section 29200

# ATTACHMENT E

## TBC-MP-004 INSPECTION OF WATCH

Submitted Confidentially per CCR Title 14, Section 29200