OFFICE OF ENERGY INFRASTRUCTURE SAFETY
715 P Street, 20th Floor | Sacramento, CA 95814
916.902.6000 | *www.energysafety.ca.gov*

Caroline Thomas Jacobs, Director

To: Stakeholders for Trans Bay Cable's 2020 Annual Report on Compliance

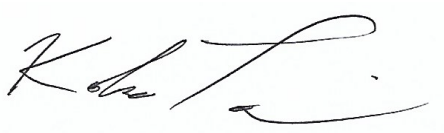
November 8, 2022

Enclosed is the Draft Annual Report on Compliance (ARC) for Trans Bay Cable 2020 Wildfire Mitigation Plan (WMP).

On November 8, 2022, this Draft ARC is hereby published for public review and comment. Opening comments must be submitted no later than November 28, 2022.[1] Reply comments must be submitted no later than December 8, 2022.

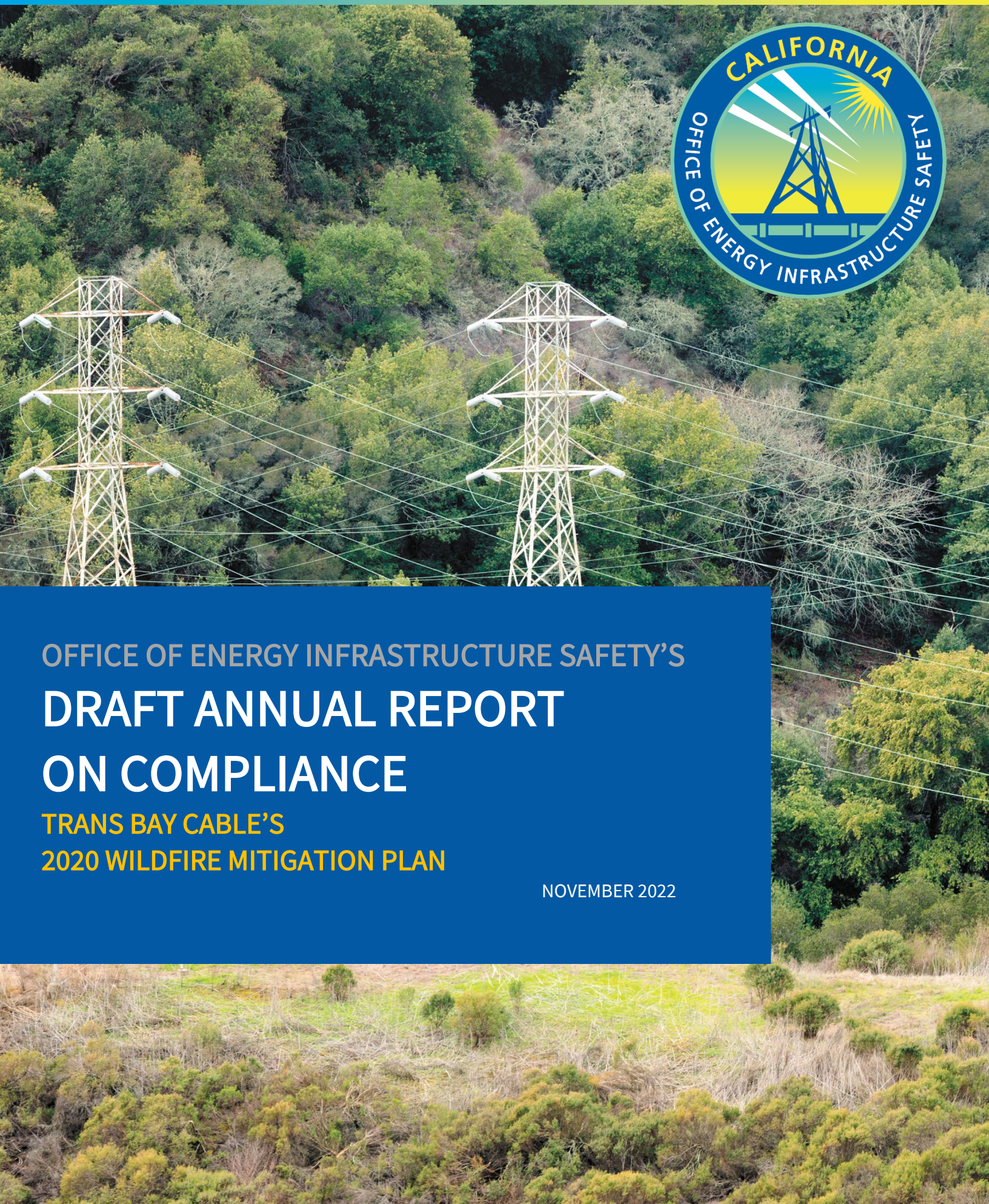
Comments must be submitted to Energy Safety's e-filing system in the 2020 ARC docket (#2020-ARC).[2]

Sincerely,



Koko Tomassian
Program Manager, Compliance Assurance Division
Office of Energy Infrastructure Safety
California Natural Resource Agency

[1] Dates falling on a Saturday or holiday as defined in Government Code Section 6700 have been adjusted to the next business day in accordance with Government Code Section 6707.
[2] Submit comments to the 2020-ARC docket via the Energy Safety e-filing system here: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2020-ARC (accessed November 7, 2022).



OFFICE OF ENERGY INFRASTRUCTURE SAFETY'S

DRAFT ANNUAL REPORT ON COMPLIANCE

TRANS BAY CABLE'S 2020 WILDFIRE MITIGATION PLAN

NOVEMBER 2022

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1.0 EXECUTIVE SUMMARY

The Office of Energy Infrastructure Safety (Energy Safety) is tasked with evaluating and either approving or denying Wildfire Mitigation Plans annually filed by electrical corporations pursuant to Public Utilities Code section 8386 et seq. The law also directs Energy Safety to ensure that electrical corporations have complied with their plans.

Pursuant to Government Code section 15475.1, Energy Safety's primary objective is to ensure that electrical corporations reduce wildfire risk and comply with energy infrastructure safety measures. Therefore, as detailed in the Compliance Framework, Energy Safety's evaluation of Trans Bay Cable's (TBC) performance to its 2020 WMP went beyond a "check-box" exercise of looking at whether TBC met its initiative targets and instead wholistically evaluated whether TBC's performance in 2020 reduced the risk of TBC equipment igniting a catastrophic wildfire.

Energy Safety's compliance review process is conducted through a variety of means including audits, field inspections, and analysis of data submitted by TBC to Energy Safety. Substantial compliance with a WMP includes meeting not only program targets and plan objectives, but also reducing risk. As such, where available, Energy Safety also evaluated performance metrics, including ignition and Public Safety Power Shutoff (PSPS) risk. Finally, Energy Safety reviewed TBC's self-assessment in its EC ARC (electrical corporation annual report on compliance) and the findings of its independent evaluator.

After considering all the sources of information before it, Energy Safety finds that TBC substantially complied with its 2020 WMP during the compliance period. Energy Safety acknowledges that TBC has limited wildfire risk exposure but still undertook significant efforts to assess and implement mitigations reduce its wildfire risk, and in most instances, TBC achieved its objectives and targets.

2.0 INTRODUCTION

This Annual Report on Compliance (ARC) presents the Office of Energy Infrastructure Safety's (Energy Safety's) statutorily mandated assessment of Trans Bay Cable's (TBC) compliance with its 2020 Wildfire Mitigation Plan (WMP).[1] Mitigation of wildfire risk is a highly dynamic and circumstantial endeavor that varies as a function of climate, weather, topography, and fuel conditions. The factors impacting catastrophic wildfire risk vary both temporally and geographically. Just as the mitigations to address an electrical corporation's wildfire risk are specifically unique to the dynamics of its territory, location, infrastructure, and various other temporal factors, Energy Safety's assessment of compliance with WMPs is equally tailored to the electrical corporation's unique scenario and circumstances.

TBC submitted its 2020 WMP on February 7, 2020. Energy Safety reviewed the plan and issued an approval on June 10, 2020.

In assessing TBC's compliance with its 2020 WMP, Energy Safety reviewed and considered the pertinent factors of TBC's infrastructure Waters (San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay) and less than one mile of underground cable at each end of the submerged cable that connect to converter stations.[2] TBC's Pittsburg converter station is located adjacent to a Tier 2 HFTD area, and the other station is in an urban setting in San Francisco with minimal catastrophic wildfire risk. For the purposes of the WMP, TBC's converter stations are considered substations.[3] TBC does not own or operate any overhead transmission lines,[4] and all of TBC's overhead infrastructure (e.g., transformers) are contained within the perimeters of its converter stations.[5]

2.1 Background

In 2019, following the devastating wildfires in 2017 and 2018, the California Legislature passed several bills increasing regulatory supervision of electrical corporations' efforts to reduce utility-related wildfires. Assembly Bill (AB) 1054 and AB 111 created Energy Safety and tasked it with reviewing WMPs submitted

[1] Pub. Util. Code, § 8386.3(c).
[2] TBC 2020 WMP, page 20.
[3] TBC 2020 WMP, page 21.
[4] TBC 2020 WMP, page 61.
[5] TBC 2020 WMP, page 31.

annually by electrical corporations and ensuring compliance with those plans.[6] Energy Safety's primary objective is to ensure that electrical corporations reduce wildfire risk and comply with energy infrastructure safety measures.[7]

2.2 Legal Authority

Energy Safety is responsible for overseeing compliance with electrical corporations' WMPs.[8] Energy Safety has broad authority to obtain and review information and data and to inspect property, records, and equipment of every electrical corporation in furtherance of its duties, powers, and responsibilities.[9] In addition to performing an overall assessment of compliance[10] with the WMP, Energy Safety audits each electrical corporation's vegetation management work for compliance with WMP requirements[11] and performs other reviews and audits. Energy Safety may rely upon metrics[12] to evaluate WMP Compliance, including performance metrics adopted by the California Public Utilities Commission (CPUC).[13] Annually, in consultation with Energy Safety, the CPUC adopts a wildfire mitigation plan compliance process.[14] The CPUC adopted the 2020 Compliance Process via Resolution WSD-012 on November 23, 2020.[15]

2.3 Annual Compliance Process Cadence

Pursuant to Public Utilities Code section 8385(a)(1), a "compliance period" means a period of approximately one year. In its Compliance Operational Protocols issued on February 16, 2021, Energy Safety defined the compliance period for 2020-2022 WMPs as January 1 to December 31 for each calendar year of the three-year WMP.[16]

Public Utilities Code section 326(a)(3) instructs that Energy Safety utilize visual inspection of electrical corporation infrastructure and wildfire mitigation programs as a means of assessing WMP compliance. Furthermore, Public Utilities Code section 8386.3(c) outlines the baseline statutory framework for assessing WMP compliance through a series of audits, reviews, and

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[6] The legislation which created Energy Safety mandated that the office be formed on January 1, 2020, as the Wildfire Safety Division (WSD) of the California Public Utilities Commission (CPUC) and transition to Energy Safety under the California Natural Resources Agency (CNRA) on July 1, 2021 – 18 months after being formed.
[7] Gov. Code, § 15475.1.
[8] Pub. Util. Code, § 8386.3(c).
[9] Gov. Code, § 15475.
[10] Pub. Util. Code § 8386.3(c)(4).
[11] Pub. Util. Code § 8386.3(c)(5)(A).
[12] Pub. Util. Code §§ 326(a)(2), 8389(b)(1)
[13] Pub. Util. Code § 8389(d)(4).
[14] Pub. Util. Code § 8389(d)(3).
[15] https://energysafety.ca.gov/wp-content/uploads/docs/compliance-process/20201008-compliance-staff-proposal_final.pdf
[16] https://efiling.energysafety.ca.gov/Search.aspx?docket=2021-OPS_GUIDELINES

assessments performed by Energy Safety, independent evaluators, and the electrical corporations themselves. The statutory framework also lays out a defined timeframe for several of the compliance assessment components as follows:

- Three months after the end of an electrical corporation's compliance period, each electrical corporation must submit a report addressing the electrical corporation's compliance with the plan during the prior calendar year.[17] Pursuant to this requirement, TBC submitted its Electrical Corporation Annual Report on Compliance (EC ARC) for its 2020 WMP on March 31, 2021.
- Six months after the end of an electrical corporation's compliance period, an independent evaluator must submit an Independent Evaluator Annual Report on Compliance (IE ARC). The independent evaluators are engaged by each electrical corporation to review and assess the electrical corporation's compliance with its plan for the prior year. As a part of this report, the independent evaluator must determine whether the electrical corporation failed to fund any activities included in its plan.[18] TBC selected Bureau Veritas North America (BVNA) as its independent evaluator for compliance with the 2020 WMP. BVNA issued its IE ARC for TBC's 2020 WMP on July 1, 2021.
- In parallel with the above assessments, Energy Safety audits vegetation management activities. The results of the audit must specify any failure of the electrical corporation to fully comply with the vegetation management requirements in the wildfire mitigation plan. Energy Safety then grants the electrical corporation a reasonable amount of time to correct and eliminate any deficiency specified in the audit.[19] Subsequently, Energy Safety issues a report describing any failure of the electrical corporation to substantially comply with the substantial portion of the vegetation management requirements in the electrical corporation's WMP.[20]
- Eighteen months after the electrical corporation submits its compliance report pursuant to section 8386.3(c)(1), or twenty-one months after the end of the compliance period, Energy Safety completes its annual compliance review to determine whether the electrical corporation substantially complied with its WMP.[21] Energy Safety memorializes its conclusions in this ARC.

3.0 ARC COMPLIANCE FRAMEWORK

Public Utilities Code prescribes that the overarching intended objective of electrical corporation wildfire mitigation planning efforts is to ensure that electrical corporations are

[17] Pub. Util. Code, § 8386.3(c)(1).
[18] Pub. Util. Code, § 8386.3(c)(2)(B)(i).
[19] Pub. Util. Code, § 8386.3(c)(5)(C).
[20] Id.
[21] Pub. Util. Code, § 8386.3(c)(4); CPUC Resolution WSD-012 2020 WMP Compliance Process. November 2020. https://energysafety.ca.gov/wp-content/uploads/docs/compliance-process/20201008-compliance-staff-proposal_final.pdf.

constructing, maintaining, and operating their infrastructure in a manner that will minimize the risk of catastrophic wildfire.[22] The statutory objective of a WMP, and consequently the focus of Energy Safety's assessment of compliance, is wildfire risk reduction. An electrical corporation's obligations extend beyond meeting WMP targets. If the risk of catastrophic wildfire is not reduced, an electrical corporation has not satisfied the objective of its WMP. Therefore, Energy Safety's compliance evaluation of the 2020 WMPs went beyond an assessment of whether an electrical corporation met all stated targets (e.g., number of miles of covered conductor installed) to also examine whether the electrical corporation has reduced the risk of catastrophic wildfires. Energy Safety also evaluated whether there were systemic issues that hindered the electrical corporation's ability to meet targets and reduce wildfire risk.

Energy Safety's compliance evaluation examined the totality of data and findings before the department and applied rigorous analysis to determine whether an electrical corporation substantially complied with its WMP.

Energy Safety conducted its compliance assessment to answer the following questions:

1. Did the electrical corporation implement its WMP through completion of approved initiatives (i.e., did the electrical corporation meet its stated qualitative and quantitative targets)?
2. Did the electrical corporation achieve the stated objectives set forth in its 2020 WMP (see Section 4.2)?
3. Was the electrical corporation's performance consistent with achieving wildfire risk reduction?

3.1 Completion of Approved WMP Initiatives

To assess compliance with approved WMP initiatives, Energy Safety evaluated whether the electrical corporation met all stated quantitative and qualitative targets set by the electrical corporation in its plan. Energy Safety particularly focused on those initiatives directly associated with the achievement of WMP objectives as well as those that constituted a significant portion of financial expenditures by the electrical corporation as the expenditures demonstrated where the electrical corporation focused most of its resources to reduce wildfire risk.

Where an electrical corporation failed to meet a stated target, Energy Safety evaluated the rationale provided by the electrical corporation, if any, for such failure. Energy Safety also looked for systemic issues that may have caused underperformance, e.g., conflicting/inconsistent documentation, poor communication practices, or substandard quality control practices.

[22] Pub. Util. Code, § 8386(a).

Finally, Energy Safety evaluated the quality of WMP initiative implementation. Even where an electrical corporation met a target for work volume, to comply with a WMP and ensure reduction of risk, the work must be completed correctly and in an effective, high-quality manner.

3.2 2020 WMP Objectives

To assess whether an electrical corporation achieved its 2020 WMP objectives, Energy Safety relied upon the information sources set forth in Section 3.4 below. Where an electrical corporation failed to meet a stated objective, Energy Safety evaluated the rationale, if any, provided by the electrical corporation. Energy Safety also looked for systemic issues that may have caused underperformance (see Section 3.3).

3.3 Achieving Wildfire Risk Reduction

The 2020 WMP is the base year in the first three-year WMP cycle (2020-2022). As such, Energy Safety was limited in making direct determinations on the effectiveness of the 2020 WMP in reducing wildfire risk in that same year as the benefits of some actions may take time to come to fruition. Energy Safety conducted a trend analysis on several outcome metrics (e.g., ignitions) from 2015-2020, normalized for weather and fuel conditions, to assess prior performance and to track any notable changes that occurred in 2020. Energy Safety will again evaluate these metrics at the end of the three-year WMP cycle to evaluate correlations between WMP implementation performance and outcomes.

Energy Safety further analyzed how the electrical corporation prioritized implementation of WMP initiatives to determine whether work was undertaken in the areas of highest risk. Not all areas in an electrical corporation's service territory present equal ignition risk or consequence. Therefore, it is not enough to meet a target; WMP initiatives must first be concentrated and deployed in the areas of highest risk to buy down as much risk as possible.

Finally, Energy Safety undertook a holistic evaluation of all relevant information sources and assessments, including field verifications, to bring to light systemic failings of the electrical corporation that may hinder its ability to reduce catastrophic wildfires. Such failings could contribute to increased risk on the system even if WMP targets are achieved. Therefore, Energy Safety looked for trends across analyses to weave together a deeper and more nuanced understanding of WMP compliance.

3.4 Information Sources Used for ARC Analysis

Energy Safety relied upon the following sources of information to conduct its analysis:

- Information provided by the electrical corporation (i.e., the EC ARC, Quarterly Initiative Updates, compliance self-reporting, 2021 WMP).
- Information provided by the independent evaluator's review of the electrical corporation's compliance with its 2020 WMP (IE ARC).
- Findings from Energy Safety field inspections.
- Data submitted to Energy Safety by the electrical corporation[23] including responses to data requests.

3.4.1 EC ARC

Three months after the end of the compliance period, the electrical corporation must submit a report to Energy Safety addressing its compliance with its approved 2020 WMP.[24] The Compliance Operational Protocols outline the minimum requirements and structure for TBC's 2020 WMP compliance review report.[25] The report must include:

- An assessment of whether the electrical corporation achieved the risk reduction intent by implementing all of their approved WMP initiatives, i.e., the degree to which initiative activities have reduced ignition probabilities. If the electrical corporation failed to achieve the intended risk reduction, Energy Safety required the electrical corporation to provide a detailed explanation of why and a reference to where associated corrective actions were incorporated into their most recently submitted WMP.
- A full and complete listing of all change orders[26] and any other operational changes, such as initiative location changes, made to WMP initiatives, with an explanation of why the changes were necessary, and an assessment of whether the changes achieved the same risk reduction intent.
- Descriptions of all planned WMP initiative spend vs. actual WMP initiative spend and an explanation of any differentials between the planned and actual spends.
- A description of whether the implementation of WMP initiatives changed the threshold(s) for triggering a Public Safety Power Shutoff (PSPS) event and/or reduced the frequency, scale, scope and duration of PSPS events.

[23] Energy Safety receives data from the electrical corporation through three main paths: Quarterly Advice Letter submissions, Quarterly Data Request submissions, and Quarterly Initiative Updates.
[24] Pub. Util. Code, § 8386.3(c)(1).
[25] Wildfire Safety Division – Compliance Operational Protocols, pp. 10-12.
[26] See CPUC Resolution WSD-002, pages 32-35, for detail regarding the 2020 WMP change order process.

- A summary of all defects identified by Energy Safety within the annual compliance period, the corrective actions taken and the completion and/or estimated completion date.[27]

3.4.2 IE ARC

Each year before March 1, Energy Safety, in consultation with the Office of the State Fire Marshall, must publish a list of qualified independent evaluators.[28] The electrical corporations must each engage an independent evaluator from the list to review and assess its compliance with the respective approved WMP.[29] The independent evaluator must issue a report by July 1 of each year covering the previous calendar year. As a part of the report, the independent evaluator must determine whether the electrical corporation failed to fund any activities included in its plan.[30] [31] Energy Safety considered the independent evaluator's findings in this ARC, but the independent evaluator's findings are not binding on Energy Safety's final determination of WMP compliance.[32]

3.4.3 Inspections

Pursuant to Public Utilities Code section 326(a)(3), to ensure electrical corporations complied with their WMPs and operated their infrastructure in a manner that reduces wildfire risk, Energy Safety conducted detailed visual inspections of electrical infrastructure to verify work was performed by electrical corporations, as reported in approved WMPs, and to assess the condition of infrastructure.

Energy Safety began conducting inspections related to the 2020 WMPs in May 2020. Inspections covered core wildfire mitigation efforts related to vegetation management, system hardening, situational awareness, and emergency preparedness and response, in addition to general compliance with applicable Government Order (GO) 95 requirements. The review and analysis of data compiled on findings from these inspections formed the basis of Energy Safety's observations and conclusions in Section 5.3.

3.4.4 Audits

[27] The defect summary component of the ARC contents does not supplant detailed defect correction responses, which shall be filed with WSD throughout the year as needed (see Appendix Part 2. Response and Corrective Action Timeline in the Operational Protocols for details).
[28] Pub. Util. Code § 8386.3 (c)(2)(A).
[29] Pub. Util. Code, § 8386.3(c)(2)(B).
[30] Id.
[31] The independent evaluator reviews performed for the 2020 WMPs were the first of their kind and completed in a considerably truncated timeframe.
[32] Pub. Util. Code, § 8386.3(c)(2)(B)(ii).

Public Utilities Code section 8386.3(c)(5) requires Energy Safety to perform an audit to determine whether the electrical corporation "substantially complied with the substantial portion"[33] of its vegetation management requirements in its WMP. Energy Safety refers to this audit as the "Substantial Vegetation Management" (SVM) audit.

Pursuant to Public Utilities Code section 8386(c)(5), Energy Safety acknowledges that TBC did not have a formal vegetation management program in 2020.[34] Due to the limited nature of TBC's facilities and associated ignition risk, Energy Safety approved TBC's 2020 WMP without requiring a dedicated vegetation management program. Therefore, Energy Safety did not conduct an SVM audit for TBC.[35]

3.4.5 Data

Energy Safety analyzed performance metrics and other data when assessing whether the electrical corporation complied with its 2020 WMP. Energy Safety required electrical corporations to submit spatial and non-spatial data through Quarterly Data Reports (QDRs), Quarterly Initiative Updates (QIUs), and Quarterly Advice Letters (QALs).

4.0 TBC'S 2020 WMP

The 2020 WMP Guidelines were issued on December 16, 2019, via *Administrative Law Judge's Ruling on Wildfire Mitigation Plan Templates and Related Material and Allowing Comment*.[36] The 2020 WMP Guidelines outlined the requirements and expectations for the 2020 WMP submissions including reporting templates, metrics, timelines, structure, and minimum levels of detail. The 2020 WMP Guidelines were designed to:

- Increase standardization of information collected on electrical corporations' wildfire risk exposure.
- Enable systematic and uniform review of information each electrical corporation submits.
- Move electrical corporations toward an effective long-term wildfire mitigation strategy, with systematic tracking of improvements over time.[37]

The 2020 WMP Guidelines structured the submission into five sections, as follows:

[33] Pub. Util. Code, § 8386.3(c)(5)(C).
[34] Trans Bay Cable 2020 Substantial Vegetation Management Letter.pdf, sent to Trans Bay Cable on August 25, 2022.
[35] Id.
[36] See CPUC Rulemaking R.18-10-007.
[37] CPUC Resolution WSD-002, page 2.

1. Persons responsible for executing the plan.
2. Metrics and underlying data.
3. Baseline ignition probability and wildfire risk exposure.
4. Inputs to the plan and directional vision including objectives.
5. Listing of wildfire mitigation initiatives for each year of the three-year plan period.

Due to its limited scope and the scale of its operations, TBC did not distinguish between efforts to mitigate wildfire risk and those to ensure the overall safety and reliability of its operations, nor did it undertake any activities exclusively for wildfire mitigation.[38] Despite its limited infrastructure and wildfire risk exposure, TBC's 2020 WMP stated that the requirements outlined by Energy Safety for WMPs prompted TBC to undertake a comprehensive assessment of its Pittsburg converter station due to its proximity to the HFTD and vegetative fuels.[39] TBC also noted that participation in the WMP process and proceedings has provided valuable information in consideration of further fire hardening its infrastructure.[40]

4.1 2020 WMP Objectives

The 2020 WMP Guidelines required each electrical corporation to describe the specific objectives of its 2020 WMP in section 4.1.[41] The 2020 WMP Guidelines also specified that objectives must be described with respect to the following timeframes:

1. Before the upcoming wildfire season (as declared by CALFIRE).
2. Before the next annual update.
3. Within the next three years.
4. Within the next 10 years.[42]

In determining whether TBC substantially complied with its 2020 WMP, Energy Safety considered and weighed the plan's objectives. For the purposes of this ARC, Energy Safety only considered TBC's objectives with respect to the first two timeframes.

TBC's overarching objectives were "to maximize fire prevention efforts, build and maintain fire containment and extinguishing strategies which minimize the potential spread of wildfire that would ignite due to a TBC facility fault, and finally ensure awareness and rapid communication of the start of fire at a TBC facility."[43] Related to these objectives, TBC

[38] TBC 2020 WMP, page 41.
[39] TBC 2020 WMP, page 7.
[40] Id.
[41] 2020 WMP Guidelines, page 43.
[42] Id.
[43] TBC 2020 WMP, section 4.1, page 36.

targeted to have zero ignition events as it asserted that realization of any wildfire risk from its infrastructure would be initiated by an ignition event.[44]

TBC explicitly committed to the following:

1. Before the upcoming wildfire season:

- Maintain its current fire prevention plan, and associated procedures and training. These activities reflect the preventative strategies and actions currently in place for fire prevention, suppression, and operational response to emergency situations.[45]
- Enhance fire awareness, prevention, and training campaigns for TBC operations staff.[46]
- Complete seismic upgrades to main transformers before being placed online during the Wildfire Season.[47]
- Complete third-party engineering study to assess the alternatives for enhanced fire protection systems for the TBC Converter Stations.[48]

2. Before the next annual update:

- Conduct a comprehensive Utility Wildfire Mitigation Maturity Assessment per CPUC guidance evaluating all initiatives for applicability for TBC.[49]
- Implement risk mitigations from Risk Assessments that have planning and implementation horizons within the next required plan filing.[50]
- [Conduct] risk assessment of credible faults that pose a potential fire risk to surrounding areas or TBC facilities that could spread to surrounding areas.[51]
- Commence capital improvements to enhance Converter Station fire protection.[52] Commence capital improvements for enhanced infrastructure fire monitoring, awareness capabilities, and fire hardening infrastructure elements to mitigate the potential fire risk from equipment derangement resulting from environmental or man-made events which could result in fire. Enhanced seismic hardening will be an area of primary focus as derangement of equipment during an earthquake has been assessed as one of the primary modalities in which TBC facilities and infrastructure could pose a fire risk.[53]

[44] TBC 2020 WMP, page 13.
[45] Id.
[46] Id.
[47] Id.
[48] Id.
[49] TBC 2020 WMP, section 4.1.2, page 36.
[50] Id.
[51] Id.
[52] Id.
[53] Id.

4.2 TBC's 2020 WMP Initiatives

The 2020 WMP Guidelines established a set of 10 categories for which WMP initiatives were to be grouped and reported in electrical corporation 2020 WMPs. These categories ranged from risk assessment and mapping to stakeholder cooperation and community engagement. However, due to the limited size and associated wildfire risks associated with its assets, TBC's 2020 WMP does not maintain programs specifically geared towards wildfire mitigation.[54] In addition, TBC does not distinguish between efforts to mitigate wildfire risk and those to ensure the overall safety and reliability of its operations.[55] Accordingly, TBC did not identify specific wildfire mitigation initiatives within each of the 10 categories in its 2020 WMP, as was done by larger electrical corporations. Instead, like its efforts for the 2019 WMP, TBC performed a "WMP Risk Assessment" consistent with its operational risk management practices for all operations to determine whether mitigation measures were warranted for each element of its infrastructure.[56]

Based on its 2020 WMP Risk Assessment, TBC identified several mitigation measures that would further enhance the mitigation of its limited wildfire risk exposure while also addressing a broader spectrum of operational risks. These mitigation measures were related to the following activities:

1. Implementation of seismic foundations for main transformers to preclude damage during a seismic event that could generate wildfire risk.[57]
2. Implementation of an automated firefighting system for main transformers to contain and prevent fires due to transformer faults.[58]
3. Completion of a third-party assessment of its fire preparedness and internal inspection and review processes.[59]

TBC did not report any WMP-related costs in its 2020 WMP,[60] and therefore, Energy Safety could not review the planned spend for each WMP initiative to assess how TBC prioritized its risk mitigation efforts as a function of the percentage of total budget allocated across WMP categories or initiatives.

5.0 COMPLIANCE ASSESSMENTS

[54] TBC 2020 WMP, pages 6-7.
[55] TBC 2020 WMP, page 41.
[56] TBC 2020 WMP, Appendix 2, page 97.
[57] TBC 2020 WMP, Appendix 2, page 100.
[58] TBC 2020 WMP, Appendix 2, page 101.
[59] TBC 2020 WMP, Appendix 2, page 102.
[60] CPUC Resolution WSD-009, page 5.

In the following sections, Energy Safety provides the findings from the compliance source inputs it relied upon in making its annual determination of compliance in this ARC.

5.1 TBC Self-Assessed Compliance Reporting

TBC timely submitted TBC EC ARC on March 31, 2021. In its EC ARC, TBC reported the following:

1. TBC was scheduled to commence its transformer seismic upgrading work in March 2020 when the COVID-19 pandemic began.
    a. Completion of this work required a prolonged outage of TBC facilities.
    b. TBC elected to postpone implementation of this initiative to ensure it could continue transmitting power to into San Francisco during the uncertainty of the pandemic.
    c. TBC's transformer seismic upgrading work was postponed until April 2021.[61]
2. TBC completed a third-party wildfire risk assessment of its Pittsburg converter station in Q4 2020.[62]
3. TBC completed installation of a fiber-optic based cable monitoring system capable of detecting derangement of underground cable that could lead to a potential ignition.[63]
4. TBC completed installation of a real-time transformer oil dissolved gas analysis system that provides predictive data on potential transformer failure that could lead to a potential ignition.[64]
5. TBC purchased two class B foam fighting trailers to ensure adequate and ready suppression resources are available on site to address a fire instigated by a failed transformer.[65]

Energy Safety notes that while TBC reported items 3 and 4 above in its EC ARC, TBC's 2020 WMP indicated that these continuous monitoring sensors/systems were installed in 2019.[66] Nevertheless, TBC addressed all the requirements per the Compliance Operational Protocols in its EC ARC filing.

5.2 Independent Evaluator Review

[61] TBC EC ARC, page 3.
[62] Id.
[63] Id.
[64] TBC EC ARC, page 3.
[65] Id.
[66] TBC 2020 WMP, page 47.

TBC selected BVNA as the independent evaluator to assess its compliance with the 2020 WMP. BVNA issued its TBC IE ARC on July 1, 2021. Energy Safety carefully weighed the quality and utility of the TBC IE ARC when evaluating TBC's compliance with its approved 2020 WMP.

In the TBC IE ARC, BVNA noted that TBC's 2020 WMP initiatives did not directly align with the Final IE Scope of Work (SOW) and that TBC does not maintain a program specifically geared towards wildfire mitigation.[67] Accordingly, BVNA more broadly structured its review on six WMP categories it deemed to be related to reducing fire potential and improve detection of fires.[68] The six WMP categories at the center of BVNA's review were:

1. Risk Assessment and Mapping
2. Situational Awareness
3. Grid Design and System Hardening
4. Vegetation Management
5. Emergency Planning
6. Site Fire Environment Risk Assessment[69]

Energy Safety notes that "Site Fire Environment Risk Assessment" is not a category defined in the 2020 WMP Guidelines, and that TBC's 2020 WMP did not include mitigation activities in all six categories identified above (e.g., TBC has no dedicated vegetation management program).

BVNA reviewed TBC's 2020 WMP compliance within the scope of the six categories identified above and submitted one finding.[70] BVNA's lone finding was not related to TBC's three wildfire mitigation measures discussed in Section 4.2 but rather vegetation management. BVNA found that although TBC's limited scope and inherent hardening against wildfire risk resulting from operating mostly underground or submerged infrastructure, vegetation management within the perimeters of its Pittsburg converter station was necessary.[71] Based on its field visit to TBC's Pittsburg converter station, BVNA observed that several areas within the station perimeter had dried grasses up to three feet in height.[72] In addition, BVNA found that combustible construction and packaging materials were present throughout the Pittsburg converter station.[73] Although the station was deenergized due to ongoing construction work, BVNA recommended that all dried vegetation and combustible material should be removed and disposed of prior to reenergization of the facility.[74]

[67] TBC IE ARC, page 8.
[68] TBC IE ARC, page 9.
[69] Id.
[70] Independent Evaluator Report on TBC 2020 WMP.
[71] TBC IE ARC, page 4.
[72] TBC IE ARC, page 10.
[73] TBC IE ARC, page 15.
[74] TBC IE ARC, page 16.

Despite the issues related to dried vegetation and combustible materials within the facility's perimeter, BVNA found that TBC's implementation of its 2020 WMP "[met] the intent of reducing or eliminating the impact of the fire that would have a likelihood of extending from the TBC Facility and engaging off-site fuels."[75] BVNA found that TBC had either completed the activities outlined in its 2020 WMP or was in the process of completion.[76]

TBC did not respond to or contest any findings in the IE ARC.

5.3 Inspections

Energy Safety conducted one inspection of TBC's infrastructure at its Pittsburg converter station in 2020. During the inspection, the converter station was deenergized, and Energy Safety did not identify any defects.

5.4 Performance Metrics Analysis

Relying upon data timely submitted by TBC, Energy Safety undertook an analysis of TBC's WMP initiative performance. Energy Safety undertook this analysis to ensure that TBC completed its 2020 initiatives as stated in its WMP.

5.4.1 Initiative Performance Analysis

Energy Safety analyzed whether TBC achieved its WMP initiative targets. To conduct this analysis, Energy Safety relied upon TBC's Q4 2020 Quarterly Initiative Update (QIU) submission from April 1, 2021 and TBC's EC ARC.

Energy Safety requires electrical corporations to submit a QIU to track progress on implementation of their WMP initiatives. The purpose of the QIU is for both the electrical corporation and Energy Safety to have a holistic understanding of the electrical corporation's annual targets and projected quarterly progress towards completion of each initiative through the course of the WMP compliance period. In addition to projected progress, electrical corporations report actual progress for each initiative quarterly; this information enables Energy Safety to track each electrical corporation's compliance with its initiative targets throughout the year.

Energy Safety reviewed the Q4 2020 QIU report submitted by TBC on April 1, 2021, to verify the completion of TBC's 2020 WMP initiatives and its adherence to the Compliance Operational Protocols.

[75] TBC IE ARC, page 17.
[76] TBC IE ARC, page 16.

In its Q4 2020 QIU, TBC reported a total of five WMP initiatives. However, as noted in Section 4.2 above, two of these initiatives, related to installation of continuous monitoring sensors, were related to work completed by TBC in 2019 and were therefore excluded from this analysis.

The remaining three initiatives reported in TBC's 2020 Q4 QIU are presented in Table 4 below. All initiatives only had qualitative targets assigned to them. TBC reported the status of two initiatives (5.3.1 – Site Fire Risk Assessment and 5.3.6 – Foam Trailers) as "Completed" in its Q4 2020 QIU. TBC reported the status of the remaining initiative (5.3.3 – Installation of Transformer Seismic Pads) as "In Progress."

Table 4: TBC 2020 Qualitative Target Initiatives

2020 WMP Initiative No.	Initiative name	WMP Target	Status[77]
5.3.1	Site Fire Risk Assessment	N/A	Completed
5.3.3	Installation of Transformer Seismic Pads	Transformer hardening	In progress[78]
5.3.6	Foam Trailers	Foam Trailers installed	Completed

Of the three initiatives identified in TBC's 2020 WMP, Energy Safety determined that TBC completed two and delayed implementation of the third (seismic hardening of transformers) due to circumstances surrounding the COVID-19 pandemic.

5.5 Wildfire and Risk Reduction Outcomes

Energy Safety requires electrical corporations to report data, such as ignitions in the HFTD, that will enable Energy Safety to, over time, assess whether an electrical corporation's wildfire mitigation planning activities successfully achieve the primary objective of a WMP – reducing catastrophic wildfire risk and reliance on PSPS.

Energy safety relied upon data reported in an electrical corporation's 2020 WMP as well as a Quarterly Data Report (QDR) submission from May 3, 2021. However, as discussed earlier, due to the size and scale of TBC's operations, combined with the inherent hardening against wildfire risk as a function its infrastructure being submerged, underground, or contained within the perimeter walls of its converter stations, much of the data required by Energy Safety was not applicable to TBC. For example, TBC does not have any retail customers and thus does not foresee any circumstance in which it would issue a PSPS event.[79] In addition,

[77] TBC Q4 2020 QIU.
[78] See Section 5.1 above for TBC's explanation for incomplete initiative.
[79] TBC 2020 WMP, page 7.

because a great majority of TBC's infrastructure is underground or submerged, red flag warning (RFW) data was not relevant to assessment of TBC's wildfire risk reduction.

Energy Safety reviewed TBC's data and found that no risk events (i.e., ignitions, wire-down events, PSPS events, and unplanned or vegetation caused outages) occurred on TBC's infrastructure in 2020.

6.0 DISCUSSION

Energy Safety considered the totality of the evidence before determining whether an electrical corporation substantially complied with its WMP. Energy Safety found that TBC substantially complied with its 2020 WMP. In its evaluation of TBC's compliance with its 2020 WMP, Energy Safety considered the following factors:

- The small scope and scale of TBC's operations.
- The topology of TBC's infrastructure and the inherent wildfire risk hardening it provides.
- TBC's lack of retail customers and distribution assets with no foreseeable need for PSPS use.
- The lack of any ignitions or other risk events reported to date.

Below, Energy Safety presents its assessment of TBC's performance to each of the evaluation criteria set forth in the Compliance Framework followed by an assessment of the systemic issues.

6.1 Completion of 2020 Initiatives

TBC's 2020 WMP contained three initiatives related to seismic hardening of its transformers, procurement of onsite automated fire suppression resources, and a third-party assessment of its fire preparedness and effectiveness of its inspections. Energy Safety found that TBC met two of its three 2020 WMP initiative targets. TBC completed a third-party wildfire risk assessment of its Pittsburg Converter station in Q4 of 2020 and purchased two class B foam fighting trailers to provide onsite suppression resources at both of its converter stations to address a fire instigated by a failed transformer. The third initiative was to install seismic upgrades for all eight of its transformers. However, completion of this initiative was postponed from its original start date of March 2020 to April 2021 due to complications associated with the COVID-19 pandemic. The completion of this work required a prolonged system outage that would last months, which presented a potential safety issue as demand for electricity increased during COVID-19 'shelter-in-place' mandates when Californians needed electricity service. Considering the safety risks from potential power reliability issues during the early stages of the pandemic together with the limited potential wildfire risks

associated with the delay in TBC's completion of seismic upgrades, Energy Safety found that TBC's 13-month delay in commencing this initiative was warranted.

6.2 Achieving 2020 Objectives

Energy Safety's analysis of TBC's performance to its objectives is broken into three sections. First, Energy Safety discusses objectives set to be achieved before the upcoming (2020) wildfire season. It then presents its analysis on performance prior to the next annual update (2021). Finally, Energy Safety presents its findings on TBC's performance to its overall stated objectives: "to maximize fire prevention efforts, build and maintain fire containment and extinguishing strategies which minimize the potential spread of wildfire that would ignite due to a TBC facility fault, and finally ensure awareness and rapid communication of the start of fire at a TBC facility."[80] Related to these objectives, TBC set a goal to have zero ignition events.[81]

TBC explicitly committed to the following:

1. Before the upcoming wildfire season:

- Maintain current fire prevention plan, and associated procedures and training. These activities reflect the preventative strategies and actions currently in place for fire prevention, suppression, and operational response to emergency situations.[82]
- Enhance fire awareness, prevention, and training campaigns for TBC operations staff.[83]
- Complete seismic upgrades to main transformers before being placed online during the Wildfire Season.[84]
- Complete third-party engineering study to assess the alternatives for enhanced fire protection systems for the TBC Converter Stations.[85]

Energy Safety finds that TBC maintained its existing fire prevention plan and associated procedures and training in 2020. Energy Safety also finds that TBC annually trained its staff on its Emergency Action Plan (TBC-HS-200) to enhance fire awareness and prevention. In addition, Energy Safety acknowledges that TBC completed a third-party engineering study to assess the alternatives for enhanced fire protection systems for the TBC Converter Stations.[86] TBC did not accomplish its objective to complete seismic upgrades on its transformers, but

[80] TBC 2020 WMP, section 4.1, page 36.
[81] TBC 2020 WMP, page 13.
[82] Id.
[83] Id.
[84] Id.
[85] Id.
[86] TBC 2021 WMP, page 28.

Energy Safety finds TBC's explanation for the lack of completion acceptable, as discussed in Section 6.1 above. Therefore, Energy Safety finds that TBC broadly met its objectives for completion prior to the upcoming wildfire season and had an acceptable explanation for the delay in achieving its third objective.

2. Before the next annual update:

- Conduct a comprehensive Utility Wildfire Mitigation Maturity Assessment per CPUC guidance evaluating all initiatives for applicability for TBC.[87]
- Implement risk mitigations from Risk Assessments that have planning and implementation horizons within the next required plan filing.[88]
- [Conduct] a risk assessment of credible faults that pose a potential fire risk to surrounding areas or TBC facilities that could spread to surrounding areas.[89]
- Commence capital improvements to enhance Converter Station fire protection.[90] Commence capital improvements for enhanced infrastructure fire monitoring, awareness capabilities, and fire hardening infrastructure elements to mitigate the potential fire risk from equipment derangement resulting from environmental or man-made events which could result in fire. Enhanced seismic hardening will be an area of primary focus as derangement of equipment during an earthquake has been assessed as one of the primary modalities in which TBC facilities and infrastructure could pose a fire risk.[91]

TBC timely submitted all its information to conduct the Utility Wildfire Mitigation Maturity Assessment.[92] TBC's 2020 WMP Risk Assessment reviewed all existing infrastructure to assess fire risk and determined the necessity of mitigation measures. That assessment produced the three mitigation measures included in TBC's 2020 WMP, which followed its installation of continuous monitoring sensors that were identified from a similar 2019 assessment and included in TBC's 2019 WMP.[93] However, as discussed above, TBC did not accomplish its objective to complete seismic upgrades on its transformers, but Energy Safety previously found its explanation for the lack of completion acceptable.

3. Overarching Objective

Finally, Energy Safety finds that TBC satisfied its overarching objectives set forth in the 2020 WMP through procurement of onsite fire suppression resources, training of personnel, and

[87] TBC 2020 WMP, section 4.1.2, page 36.
[88] Id.
[89] Id.
[90] Id.
[91] Id.
[92] TBC's 2020 Maturity Assessment can be found on Energy Safety's website here: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wsd/trans-bay-cable-wildfire-mitigation-maturity-survey-feb-2020.pdf (accessed on October 27, 2022).
[93] TBC 2021 WMP, page 28.

previous installations of monitoring sensors. In addition, TBC had no ignitions, thus satisfying its objective of zero ignition events. Therefore, Energy Safety finds that TBC broadly met overarching objective of its 2020 WMP.

6.3 Reducing Wildfire Risk

TBC has no overhead transmission or distribution lines, and most of its infrastructure is either underground or underwater. This significantly limits TBC's wildfire risk exposure and provides a relatively low initial wildfire risk upon which TBC can improve. Nevertheless, TBC did conduct a robust assessment of its existing operational risk through the prism of wildfire risk and identified a few key mitigations to implement. As discussed in Section 6.1 above, TBC mostly completed these initiatives and had reasonable justification for delayed work. For these reasons, and because TBC had no reported risk events or foreseeable need for PSPS, Energy Safety finds that the net result of TBC's implementation of its 2020 WMP was a further reduction in its wildfire risk than would have been the case absent implementation. This conclusion is further corroborated by Energy Safety's inspection of TBC's Pittsburg converter station, which yielded no findings (see Section 5.3) and similar results from TBC's independent evaluation for WMP compliance (see Section 5.2).

7.0 CONCLUSION

After considering all the sources of information before it, Energy Safety finds that TBC substantially complied with its 2020 WMP during the compliance period. Energy Safety acknowledges that TBC had limited wildfire risk exposure but still undertook significant efforts to assess and implement mitigations reduce its wildfire risk, and in most instances, TBC achieved its objectives and targets.

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APPENDIX

APPENDIX– LIST OF PUBLIC DOCUMENTS REFERENCED

1. TBC 2020 WMP
   https://www.transbaycable.com/wildfire-safety.html
2. Compliance Operational Protocols, dated February 16, 2021
   https://energysafety.ca.gov/wp-content/uploads/docs/misc/wsd/2021.02.16-compliance-operational-protocols.pdf
3. CPUC Resolution WSD-002
   https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K859/340859823.PDF
4. CPUC Resolution WSD-003
   https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K895/340895473.PDF
5. CPUC Resolution WSD-009
   https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K950/340950840.PDF
6. CPUC Resolution WSD-012
   https://www.cpuc.ca.gov/industries-and-topics/wildfires/wildfire-related-resolutions
7. 2020 TBC EC ARC Report
   https://efiling.energysafety.ca.gov/Search.aspx?docket=2020-EC_ARC
8. Independent Evaluator ARC on TBC 2020 WMP
   https://efiling.energysafety.ca.gov/Search.aspx?docket=2021-IE
9. TBC 2020 Q4 QIU
   https://efiling.energysafety.ca.gov/Lists/DocketLog.aspx?docketnumber=2020-QIU
10. 2020 WMP Guidelines
    https://energysafety.ca.gov/wp-content/uploads/docs/misc/docket/322133494.pdf
11. Trans Bay Cable 2020 Substantial Vegetation Management Letter sent to Trans Bay Cable on August 25, 2022
    https://efiling.energysafety.ca.gov/search.aspx?docket=2020-SVM
12. Attachment 4 of CPUC Resolution WSD-001, titled “WMP Metrics.”
    https://energysafety.ca.gov/wp-content/uploads/docs/misc/docket/322232145.pdf