



April 23, 2024

Dear Stakeholders,

Enclosed is the Office of Energy Infrastructure Safety’s Annual Report on Compliance regarding Bear Valley Electric Service, Inc.’s execution of its 2021 Wildfire Mitigation Plan.

This Annual Report on Compliance is hereby published as of the date of this letter. Bear Valley Electric Service, Inc. may, if it wishes to do so, file a public response to this Annual Report on Compliance within 14 calendar days of the date of publication. Comments must be submitted to the Office of Energy Infrastructure Safety’s E-Filing system in the 2021 Annual Report on Compliance docket.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick Doherty".

Patrick Doherty
Program Manager | Compliance Assurance Division
Electrical Infrastructure Directorate
Office of Energy Infrastructure Safety



OFFICE OF ENERGY INFRASTRUCTURE SAFETY
ANNUAL REPORT ON COMPLIANCE
BEAR VALLEY ELECTRIC SERVICE, INC.
2021 WILDFIRE MITIGATION PLAN UPDATE

April 2024

TABLE OF CONTENTS

Executive Summary	1
1. Introduction and Background	2
1.1 Legal Authority	2
1.2 Annual Compliance Process Cadence	3
2. ARC Compliance Framework	5
3. BVES's 2021 WMP Update	7
3.1 2021 WMP Update Objectives	7
3.2 2021 WMP Update Initiatives	7
4. Information Sources Used for ARC Assessment.....	12
4.1 Electrical Corporation (EC) ARC	12
4.1.1 Background	12
4.1.2 Relevant Information	13
4.2 Independent Evaluator (IE) ARC	13
4.2.1 Overview	13
4.2.2 Relevant Information	14
4.3 Inspections.....	16
4.3.1 Overview.....	16
4.3.2 Relevant Information	17
4.4 Audits	17
4.4.1 Overview	17
4.4.2 Relevant Information	17
4.5 Data	18
4.5.1 Overview	18
4.5.2 Relevant Information	18
4.6 Third-Party Reports.....	18
4.6.1 Overview.....	18

5. Discussion..... 19

5.1 Criterion 1: 2021 WMP Initiative Implementation 19

5.1.1 Completion of 2021 WMP Quantitative and Qualitative Targets 20

5.1.2 2021 WMP Update Initiative Funding 23

5.2 Criterion 2: 2021 WMP Update Objectives 23

5.2.1 Objective 1: Reduce wildfire risks by carrying out grid hardening, situational awareness, coordination and communication with stakeholders, and aggressive vegetation management initiatives 24

5.2.2 Objective 2: Improve data collection and handling including GIS usage and capabilities 27

5.2.3 Objective 3: Improve workforce readiness 28

5.3 Criterion 3: Wildfire Risk Reduction and Performance 28

5.3.1 Ignition Risk Metric Analysis 29

5.3.2 Outcome Metric Analysis 29

5.3.3 Discussion..... 29

5.4 Criterion 4: Satisfaction of 2021 WMP Update Goals 30

5.5 Criterion 5: Execution, Management, and Documentation 31

5.5.1 Data Governance..... **Error! Bookmark not defined.**

6. Conclusion..... 32

LIST OF TABLES

Table 1: BVES’s 2021 WMP Update Planned Expenditure by Category..... 8

Table 2: BVES's Planned Expenditure by Year 9

Table 3: BVES’s 2021 WMP Update Top 10 Planned Expenditure Initiatives..... 10

Table 4: Summary of BVES’s IE ARC Findings..... 14

Executive Summary

The Office of Energy Infrastructure Safety (Energy Safety) is charged with completing an annual review of California's electrical corporations' compliance with their approved Wildfire Mitigation Plans (WMP) and WMP Updates. Energy Safety's Annual Reports on Compliance (ARC) are produced 18 months after the electrical corporations complete a self-review of compliance (EC ARC) of their approved plans and an independent evaluator completes their own review of electrical corporation compliance with approved plans.

Energy Safety's evaluation of the compliance of Bear Valley Electric Service, Inc. (BVES) with its approved 2021 WMP Update found that the electrical corporation completed many of its 2021 WMP Update goals and activities. BVES met 61 of 76 (or 80%) of its overall targets, and many of its top expenditure targets. While BVES did not meet all targets for its WMP initiatives, the failure to meet certain targets did not materially hinder BVES's ability to mitigate its wildfire risk.

Energy Safety considered all compliance assessments completed with respect to the BVES approved 2021 WMP Update, including audits, field inspections, and analysis of data submitted by BVES to Energy Safety. Energy Safety considered the BVES self-assessment in its EC ARC and the findings of its independent evaluator. Energy Safety also analyzed metrics related to BVES's performance including wire down events and outages during the 2021 WMP Update compliance period.

BVES reported no ignitions or Public Safety Power Shutoff events in 2021. While absolute numbers of wire down events and outages were comparable to previous years, normalized wire down incidents and outages saw spikes in 2021 despite a particularly low fire risk period. Many of these wire down incidents and outages were caused by vegetation contact.

Energy Safety acknowledges that BVES undertook significant efforts to reduce its wildfire risk, and in many instances, BVES achieved its objectives and targets. On balance, BVES was largely successful in executing an actionable and adaptive plan for wildfire risk mitigation. While Energy Safety found that BVES achieved its overarching WMP objectives, there are still areas for improvement and continued learning.

1. Introduction and Background

This Annual Report on Compliance (ARC) presents the Office of Energy Infrastructure Safety's (Energy Safety's) assessment of Bear Valley Electric Service Inc.'s (BVES's) compliance with its 2021 Wildfire Mitigation Plan (WMP) Update.¹

BVES submitted its 2021 WMP Update on March 5, 2021. Energy Safety evaluated the WMP Update and issued a Revision Notice on May 4, 2021. Energy Safety approved BVES's WMP on September 8, 2021.²

1.1 Legal Authority

Energy Safety is responsible for overseeing compliance with electrical corporations' WMPs.³ 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.⁴ In addition to performing an overall assessment of compliance⁵ with the WMP, Energy Safety audits each electrical corporation's vegetation management work for compliance with WMP requirements⁶ and performs other reviews and audits. Energy Safety may rely upon metrics⁷ to evaluate WMP Compliance, including performance metrics adopted by the California Public Utilities Commission (CPUC).⁸ Annually, in consultation with Energy Safety, the CPUC adopts a wildfire mitigation plan compliance process.⁹ The CPUC adopted the 2021 Compliance Process via Resolution M-4860 on December 2, 2021.^{10, 11, 12}

¹ California Public Utilities Code § 8386.3(c).

² Office of Energy Infrastructure Safety, "Evaluation of 2021 Wildfire Mitigation Plan Update Bear Valley Electric Service, Inc.," Sept. 8, 2021. [Online]. Available:

<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51722&shareable=true>

³ California Public Utilities Code § 8386.3(c).

⁴ Government Code § 15475.

⁵ California Public Utilities Code § 8386.3(c)(4).

⁶ California Public Utilities Code § 8386.3(c)(5)(A).

⁷ California Public Utilities Code §§ 326(a)(2), 8389(b)(1).

⁸ California Public Utilities Code § 8389(d)(4).

⁹ California Public Utilities Code § 8389(d)(3).

¹⁰ California Public Utilities Code § 8386.3(c)(4).

¹¹ California Public Utilities Commission, "Resolution M-4860," Dec. 02, 2021. [Online]. Available:

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K722/428722129.PDF>

¹² Office of Energy Infrastructure Safety, "Attachment 3: 2021 Wildfire Mitigation Plan Compliance Process," Oct. 13, 2021. [Online]. Available:

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K146/428146324.pdf>

1.2 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.¹³

Public Utilities Code section 326(a)(3) requires Energy Safety to utilize visual inspection of electrical corporation infrastructure and wildfire mitigation programs as 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 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 an Electrical Corporation Annual Report on Compliance (EC ARC) addressing the electrical corporation's compliance with its plan during the prior calendar year.¹⁴
- 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.¹⁵
- 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 WMP. Energy Safety then grants the electrical corporation a reasonable amount of time to correct and eliminate any deficiency specified in the audit.¹⁶ 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.¹⁷
- Within 18 months after the electrical corporation submits its compliance report pursuant to Public Utilities Code section 8386.3(c)(1), Energy Safety must complete its

¹³ California Public Utilities Commission, "Compliance Operational Protocols," Feb. 16, 2021. p. 1. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52615&shareable=true>

¹⁴ California Public Utilities Code § 8386.3(c)(1).

¹⁵ California Public Utilities Code § 8386.3(c)(2)(B)(i).

¹⁶ California Public Utilities Code § 8386.3(c)(5)(C).

¹⁷ California Public Utilities Code § 8386.3(c)(5)(C).

annual compliance review.^{18, 19, 20} Energy Safety memorializes the findings of its compliance review in this Annual Report on Compliance (ARC).

¹⁸ California Public Utilities Code § 8386.3(c)(4).

¹⁹ California Public Utilities Commission, "Resolution M-4860," Dec. 02, 2021. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K722/428722129.PDF>

²⁰ Office of Energy Infrastructure Safety, "Attachment 3: 2021 Wildfire Mitigation Plan Compliance Process," Oct. 13, 2021. p. 2. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K146/428146324.pdf>

2. ARC Compliance Framework

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. Each electrical corporation is required to construct, maintain, and operate its infrastructure in a manner that will minimize the risk of catastrophic wildfire.²¹

Energy Safety's compliance assessment examines the totality of data and findings before the department. Compliance is the successful implementation of the electrical corporation's stated narratives, actions, targets, outcome metrics, and objectives in the electrical corporation's approved WMP, including providing supporting documentation. Energy Safety aims to ensure WMP implementation through the authorities and requirements outlined in Public Utilities Code sections 8386 – 8389.^{22, 23, 24}

Energy Safety considers the following as part of its assessment:

1. Whether the electrical corporation implemented the wildfire mitigation initiatives in its approved WMP, including evaluating whether the electrical corporation funded and performed the commitments stated for each initiative. Further, whether the electrical corporation prioritized completion of work with the highest potential for reducing wildfire risk.²⁵
2. Whether the electrical corporation achieved or sufficiently progressed its WMP objectives.
3. Wildfire risk reduction, including the performance of the electrical corporation's infrastructure relative to its wildfire risk, as measured by changes in the occurrence of events that correlate to wildfire risk.
4. Whether the electrical corporation made a good faith attempt to achieve its goals and comply with its WMP.

²¹ California Public Utilities Code § 8386(a).

²² California Public Utilities Code § 8386.3(c)(4).

²³ California Public Utilities Commission, "Resolution M-4860," Dec. 02, 2021. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K722/428722129.PDF>

²⁴ Office of Energy Infrastructure Safety, "Attachment 3: 2021 Wildfire Mitigation Plan Compliance Process," Oct. 13, 2021. p. 4. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K146/428146324.pdf>

²⁵ Energy Safety evaluates funding data to ensure electrical corporations are dedicating resources to their initiative commitments. Energy Safety does not evaluate whether the cost of implementing each electrical corporation's plan was just and reasonable.

5. Whether the electrical corporation exhibited issues related to its execution, management, or documentation in the implementation of its WMP. This analysis may expand beyond the scope of any single WMP initiative.²⁶

²⁶Office of Energy Infrastructure Safety, "Compliance Guidelines (Section 7.1)," Sept. 2023. p. 16. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55586&shareable=true>

3. BVES's 2021 WMP Update

This section provides a summary of BVES's commitments in its 2021 WMP Update. This section organizes BVES's commitments into three major categories:

1. 2021 WMP Update Objectives
2. 2021 WMP Update Initiatives

3.1 2021 WMP Update Objectives

The 2021 WMP Update Guidelines required each electrical corporation to describe the specific objectives of its 2021 WMP Update with respect to the following timeframes: before the next annual WMP Update; within the next three years; and within the next 10 years (i.e., long-term planning beyond the three-year cycle).²⁷

In reviewing compliance with BVES's 2021 WMP Update, Energy Safety considered whether BVES achieved or sufficiently progressed the objectives it set out to achieve before the next Annual WMP Update.

BVES's stated objectives to achieve before the next Annual WMP Update were:

- Reduce wildfire risks by carrying out grid hardening initiatives, improving situational awareness, coordination and communication with stakeholders, and aggressive vegetation management and inspection.
- Improve data collection and handling, including Geographic Information System (GIS) usage and capabilities.
- Improve workforce readiness through recruitment, training, and the strategic use of consultants to supplement BVES staff.²⁸

3.2 2021 WMP Update Initiatives

The 2021 WMP Update Guidelines required each electrical corporation to group its discussion of wildfire mitigation initiatives into the 10 categories listed in Table 1 below.

²⁷ California Public Utilities Commission, "Resolution WSD-011 Attachment 2.2: 2021 Wildfire Mitigation Plan Guidelines Template," Nov. 2020. p. 29. [Online]. Available: <https://energysafety.ca.gov/wp-content/uploads/docs/wmp-2021/attachment-2.2-to-wsd-011-2021-wmp-guidelines-template.pdf>

²⁸ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 56. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

BVES's 2021 WMP Update included a total of 76 initiatives²⁹ which were organized into 10 categories.^{30, 31}

Table 1 below provides a summary of BVES's allocation of WMP initiatives across categories, its reported planned expenditure in each category for 2021, and the percentage of the planned 2021 WMP Update expenditure per initiative category.

Some initiatives included quantitative targets (e.g., number of weather stations installed, circuit miles completed for system hardening). Other initiatives included qualitative targets (e.g., ongoing community outreach, 50% or 100% of project milestones completed).

Table 1: BVES's 2021 WMP Update Planned Expenditure by Category

Initiative Category	No. of Initiatives	2021 Planned Expenditure	% of 2021 WMP Update Planned Budget
1. Risk assessment and mapping	5	\$91,510	0.39%
2. Situational awareness and forecasting	6	\$127,840	0.54%
3. Grid design and system hardening	19	\$19,114,605	80.83%
4. Asset management and inspections	11	\$766,358	3.24%
5. Vegetation management and inspections	16	\$3,186,819	13.48%
6. Grid operations and protocols	3	\$37,801	0.16%
7. Data governance	3	\$114,855	0.49%

²⁹ The 76-initiative count was determined by Energy Safety after accounting for reporting discrepancies observed across BVES's 2021 WMP Update Revision, 2021 Quarter 4 QIU, and 2021 2021 EC ARC. BVES originally included 94 initiatives in its 2021 WMP Update Revision, 94 initiatives in its Q4 2021 QIU, and 96 initiatives in its EC ARC. Several of those information sources did not document a plan, an activity, or expenditure for such initiatives. Therefore, Energy Safety's did not include such initiatives in its ARC assessment.

³⁰ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. pp. 16-17. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

³¹ The 2021 WMP Update Guidelines provided ten initiatives categories: 1. Risk assessment and mapping, 2. Situational awareness and forecasting, 3. Grid design and system hardening, 4. Asset management and inspections, 5. Vegetation management and inspections, 6. Grid operations and protocols, 7. Data governance, 8. Resource allocation methodology, 9. Emergency planning and preparedness, and 10. Stakeholder cooperation and community engagement. California Public Utilities Commission, "Resolution WSD-011 Attachment 2.2: 2021 Wildfire Mitigation Plan Guidelines Template," Nov. 2020. p. 43. [Online]. Available: <https://energysafety.ca.gov/wp-content/uploads/docs/wmp-2021/attachment-2.2-to-wsd-011-2021-wmp-guidelines-template.pdf>

Initiative Category	No. of Initiatives	2021 Planned Expenditure	% of 2021 WMP Update Planned Budget
8. Resource allocation methodology	3	\$43,477	0.18%
9. Emergency planning and preparedness	6	\$101,992	0.43%
10. Stakeholder cooperation and community engagement	4	\$63,733	0.27%
Total	76	\$23,648,990³²	100%

Below, Table 2 provides an overview of BVES's planned 2020-2022 WMP expenditure.

Table 2: BVES's Planned Expenditure by Year³³

Year	Planned Expenditure (\$K)
2020	\$ 14,379
2021	\$ 23,649
2022	\$ 14,502
2020-2022 Plan Period	\$ 52,530

Table 3 lists the top 10 initiatives by planned expenditure. The last row in Table 3 shows that the 10 listed initiatives (out of 76 total) make up 85% of BVES's total 2021 WMP Update planned expenditure.

³² Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," Jun. 03, 2021. p. 17. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

³³ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," Jun. 03, 2021. p. 16. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

Table 3: BVES's 2021 WMP Update Top 10 Planned Expenditure Initiatives³⁴

Initiative Number	Initiative	2021 Planned Expenditure	% of WMP Planned Budget
7.3.3.3.1	Covered conductor installation (4kV & 34.5 kV Systems)	\$5,438,095	23%
7.3.3.6.4	Distribution pole replacement and reinforcement, including with composite poles (Radford Line)	\$4,246,136	18%
7.3.3.12.1 / 7.3.3.12.2	Other corrective action (Palomino Technical Upgrades & Tree Attachment Removal Program)	\$2,419,748	10%
7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	\$2,054,000	9%
7.3.3.13	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	\$1,475,422	6%
7.3.3.9.1	Installation of system automation equipment	\$1,315,933	6%
7.3.3.3.2	Covered conductor installation (Radford Line)	\$1,197,628	5%
7.3.3.6.1	Distribution pole replacement and reinforcement, including with composite poles (General Order 95 Projects)	\$925,000	4%
7.3.3.7	Expulsion fuse replacement	\$741,850	3%
7.3.3.6.3	Distribution pole replacement and reinforcement, including with composite poles (Evacuation Route Hardening Program)	\$390,000	2%

³⁴ Per BVES's Q4 2020 QDR, which was submitted as an accompanying attachment to BVES's 2021 WMP Update. Bear Valley Electric Service, Inc., " Wildfire Safety Division Attachment 2.3 Wildfire Mitigation Plan Quarterly Report - Q4 2020 (Table 12)," Jun. 03, 2021. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_table12_revision_20210603.xlsx

Initiative Number	Initiative	2021 Planned Expenditure	% of WMP Planned Budget
Total		\$20,203,812	85%

4. Information Sources Used for ARC Assessment

Energy Safety relied upon the following sources of information to conduct its analysis for BVES's ARC:^{35, 36, 37}

- Information provided by BVES via the EC ARC and quarterly initiative update (QIU).
- Information provided by the BVES independent evaluator via the IE ARC.
- Findings from Energy Safety field inspections.
- Findings from Energy Safety audits and assessments of the electrical corporation.
- Data submitted to Energy Safety by BVES, including responses to data requests.³⁸
- Information provided by third parties also engaged in assessment activities of BVES.

This section provides the most relevant information from the sources listed above for the purposes of Energy Safety's assessment of BVES's compliance with its 2021 WMP Update.

4.1 Electrical Corporation (EC) ARC

4.1.1 Background

Three months after the end of the compliance period, the electrical corporation must submit its own annual report on compliance (known as the EC ARC). The Compliance Operational Protocols outline the minimum requirements and structure for each electrical corporation's 2021 EC ARC.³⁹ The 2021 EC ARCs must include:

- An assessment of whether the electrical corporation achieved its risk reduction intent by implementing all of its 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 reference where associated corrective actions were incorporated in its most recently submitted WMP.

³⁵ California Public Utilities Code § 8386.3(c)(4).

³⁶ California Public Utilities Commission, "Resolution M-4860," Dec. 02, 2021. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K722/428722129.PDF>

³⁷ Office of Energy Infrastructure Safety, "Attachment 3: 2021 Wildfire Mitigation Plan Compliance Process," Oct. 13, 2021. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K146/428146324.pdf>

³⁸ Energy Safety receives data from the electrical corporation through three main paths: quarterly advice letter/quarterly notification submissions, quarterly data request submissions, and quarterly initiative updates.

³⁹ California Public Utilities Commission, "Compliance Operational Protocols," Feb. 16, 2021. pp. 10-12. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52615&shareable=true>

- A full and complete listing of all change orders⁴⁰ 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 spends versus actual WMP initiative spends 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.
- 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.

4.1.2 Relevant Information

BVES timely submitted its EC ARC on March 31, 2022. In its EC ARC, BVES provided aggregated, narrative progress updates surrounding each of the 10 major initiative categories per the WMP Update Guidelines.⁴¹ While some quantitative information on initiative progress is included in its EC ARC, the aggregated, narrative progress updates provided by BVES did not clearly or consistently report on whether it met or missed specific targets at the individual initiative level, nor did it include discussion of missed targets per initiative.

As a result, this section of Energy Safety's ARC does not attempt to describe missed initiative targets and their explanations, as that information was not consistently provided by BVES in its EC ARC. Additional information from the EC ARC is included in Appendix A and is discussed, as relevant, in Section 5 of this report.

4.2 Independent Evaluator (IE) ARC

4.2.1 Overview

Each year before March 1, Energy Safety, in consultation with the Office of the State Fire Marshal, must publish a list of qualified independent evaluators.⁴² An electrical corporation must engage an independent evaluator from the list to review and assess its compliance with its approved WMP.⁴³ The independent evaluator must issue its IE ARC by July 1 of each year,

⁴⁰ See WSD-002 for detail regarding the 2020 WMP change order process. California Public Utilities Commission, "Resolution WSD-002," June 11, 2020. pp. 32-35. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K859/340859823.PDF>

⁴¹ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. pp. 5-8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁴² California Public Utilities Code § 8386.3(c)(2)(A).

⁴³ California Public Utilities Code § 8386.3(c)(2)(B).

covering the previous calendar year.⁴⁴ Energy Safety considered the independent evaluator's findings in this ARC. However, the independent evaluator's findings are not binding on Energy Safety's final determination of WMP compliance.⁴⁵

4.2.2 Relevant Information

BVES selected Sargent & Lundy Engineers, Ltd. (S&L or IE) as the independent evaluator to assess its compliance with its 2021 WMP Update. S&L issued its BVES IE ARC on July 15, 2022.

The IE evaluated 94 initiatives,⁴⁶ of which the IE found BVES noncompliant with four. The IE also made one finding not directly tied to any initiative.

Table 4 below provides a summary of the IE's findings. A finding of "Undetermined" means the IE was unable to determine whether BVES met its WMP target.

Table 4: Summary of BVES's IE ARC Findings

Finding Category	# of Initiatives
Compliant	90
Noncompliant	4
Undetermined	0
Total	94

The four initiatives with IE findings of noncompliance are discussed below.

- 7.3.3.3 - Covered Conductor Installation (4kV & 34.5kV Systems)
 - IE Finding: Confirmed inspected spans of covered conductor installation along 84 different segments, noting no issues with regards to the covered conductor installation. However, the 2021 quantitative target goal of 12.9 miles of installed covered conductor was not met.⁴⁷

⁴⁴ California Public Utilities Code § 8386.3(c)(2)(B).

⁴⁵ California Public Utilities Code § 8386.3(c)(2)(B)(ii).

⁴⁶ This included several initiatives listed in the 2021 WMP Update for which the IE could not conduct a review: (1) ten "not applicable" initiatives relating to transmission assets not owned or operated by BVES, and (2) eight initiatives that BVES separately listed in its 2021 WMP Update but for which no actual active programs were planned or budgeted.

⁴⁷ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.82. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

- BVES did not self-identify this initiative as noncompliant. BVES disagreed with the finding, noting that cumulatively BVES remains ahead of the multi-year project target. BVES noted that achieving 12.3 circuit miles is within 5% of the target.
- 7.3.3.3 - Covered Conductor Installation (Radford Line)
 - IE Finding: The project was delayed because BVES did not obtain the relevant permit from the US Forest Service.⁴⁸
 - BVES did not self-identify this initiative as noncompliant. BVES confirmed that the project was delayed because permits were not obtained from the US Forest Service.
- 7.3.3.6 - Distribution Pole Replacement (Radford Line)
 - IE Finding: The project was delayed because BVES did not obtain the relevant permit from the US Forest Service.⁴⁹
 - BVES did not self-identify this initiative as noncompliant. BVES confirmed that the project was delayed because permits were not obtained from the US Forest Service.
- 7.3.4.3 - Improvement of inspections
 - IE Finding: The quality management plan, referring to inspection improvements, was not implemented in 2021, and improvement activities were not documented in other initiatives.⁵⁰
 - BVES did not self-identify this initiative as noncompliant or provide any distinct progress updates.

In addition, the IE determined that there was one program, not tied to any particular initiative, where BVES could make improvements:

- WMP Quality Assurance/Quality Control Program
 - IE Finding: BVES did not have a formal written Quality Assurance/Quality Control (QA/QC) program in 2021 for monitoring the progress of its WMP initiatives.⁵¹
 - BVES did not self-identify this initiative as noncompliant. BVES agreed with S&L and noted that a formal written QA/QC program had been published on December 28, 2021.

⁴⁸ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.82. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁴⁹ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.82. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁵⁰ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," Jul. 15, 2022. p.82. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁵¹ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," Jul. 15, 2022. p.83. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

After considering BVES's response to the IE ARC, Energy Safety agrees with three of the four IE findings of noncompliance. Those include:

- 7.3.3.3 – Covered Conductor Installation (Radford Line).
- 7.3.3.6 – Distribution Pole Replacement (Radford Line).
- 7.3.4.3 – Improvement of Inspections.

Energy Safety also agrees with the IE ARC's overall finding relating to lack of formal written QA/QC programs.

Additional information from the IE ARC is discussed, as relevant, in Section 5 of this report.

4.3 Inspections

4.3.1 Overview

Pursuant to Public Utilities Code section 326(a)(3), Energy Safety conducts field inspections of each electrical corporation's infrastructure to ensure WMP compliance. In 2021, Energy Safety conducted field inspections of each electrical corporation's infrastructure to validate WMP compliance and assess infrastructure for deficiencies, errors, or conditions with the potential to increase ignition risk.

In November 2021, Energy Safety transitioned from Inspection Program v1 to Inspection Program v2. Inspections conducted in 2021 under Inspection Program v1 were general inspections of the electrical corporation's infrastructure. During Inspection Program v1, all findings were issued to the Electrical Corporations as defects. Inspections conducted under Inspection Program v2 are comprised of two types of inspections: WMP inspections and General Wildfire Safety (GWS) Inspections. WMP inspections are specific to WMP initiative completeness and utilize information contained in the electrical corporations' quarterly data report (QDR) submissions. During WMP inspections, Energy Safety ensures that the data reported by the electrical corporation is accurate, that the electrical corporation completed the initiative activity as reported, and that the electrical corporation adhered to the applicable initiative protocols and procedures. If Energy Safety finds inaccurate data, incomplete work, or that the electrical corporation failed to adhere to protocols or procedures, it issues a Notice of Violation (NOV) to the electrical corporation.

GWS inspections assess electrical corporation infrastructure for deficiencies, errors, or conditions with the potential to increase ignition risk. If Energy Safety finds a deficiency, error, or condition with the potential to increase the risk of ignition, a Notice of Defect (NOD)^{52, 53} is issued. An NOD is defined as "A deficiency, error, or condition increasing the risk of ignition posed by electrical lines and equipment."

⁵² Government Code § 15475.2.

⁵³ 14 California Code Regulations § 29302(b)(1).

4.3.2 Relevant Information

Energy Safety performs inspections utilizing an electrical corporation's initiative activity data applicable to the WMP year compliance period. Energy Safety conducted 1,027 inspection activities in BVES's service territory in 2021.

Under Inspection Program v1, Energy Safety identified seven defects. Examples of defects found during Energy Safety's inspections included vegetation violating minimum radial clearance and vegetation contacting guy wires above insulators. BVES timely corrected the defects identified by Energy Safety.

As a result of inspection activities under Inspection Program v2, Energy Safety identified two defects in BVES territory concerning data accuracy issues (i.e., reporting work as completed when it was not). BVES timely corrected the defects identified by Energy Safety. Energy Safety also notified BVES of eight conditions presenting minor risk. These conditions included reporting completion of trees being topped where trees did not exist, loose guy wires, wires not covered past wildlife covers, and guy wires within six inches of a 12kv primary conductor.

4.4 Audits

4.4.1 Overview

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"⁵⁴ 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 conducted an audit of BVES's compliance with the vegetation management requirements in its 2021 WMP Update.

4.4.2 Relevant Information

On March 15, 2023, Energy Safety issued its SVM Audit Report for BVES. The purpose of the SVM Audit is to assess whether BVES met its quantitative commitments and verifiable statements in its 2021 WMP Update related to vegetation management activities.

In the SVM Audit Report, Energy Safety found that BVES performed the work required for the vegetation management initiatives in its 2021 WMP Update. Energy Safety found that BVES substantially complied with the substantial portion of the vegetation management requirements in its 2021 WMP Update.

The specific findings from Energy Safety's SVM Audit Report are detailed in Appendix B.

⁵⁴ California Public Utilities Code § 8386.3(c)(5)(C).

4.5 Data

4.5.1 Overview

Energy Safety analyzed performance metrics and other data when assessing whether the electrical corporation complied with its 2021 WMP Update.^{55, 56} Energy Safety required each electrical corporation to submit spatial and non-spatial data through QIUs, QDRs, and Quarterly Notifications (QNs).

4.5.2 Relevant Information

Energy Safety analyzed whether BVES met its 2021 WMP Update quantitative and qualitative initiative targets and analyzed performance of BVES's infrastructure relative to certain ignition risk and outcome metrics.

Energy Safety's Initiative Performance Analysis is detailed in Appendix C.

Energy Safety's Ignition Risk and Outcomes Metrics Analysis is detailed in Appendix D.

Findings from those analyses are included, as relevant, in Section 5 of this report.

4.6 Third-Party Reports

4.6.1 Overview

When available, Energy Safety also utilizes authoritative, third-party reports to inform its compliance assessment. For example, Energy Safety may utilize CPUC and California Department of Forestry and Fire Protection wildfire investigation reports, wildfire activity statistics, and other reports to supplement and corroborate the evidence collected during its compliance assessment of the electrical corporation.

⁵⁵ California Public Utilities Commission, "Resolution M-4860," Dec. 02, 2021. [Online]. Available:

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K722/428722129.PDF>

⁵⁶ Office of Energy Infrastructure Safety, "Attachment 3: 2021 Wildfire Mitigation Plan Compliance Process," Oct. 13, 2021. pp. 4-5, 9. [Online]. Available: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M428/K146/428146324.pdf>

5. Discussion

This section provides Energy Safety's assessment of BVES's performance in 2021 in relation to each of the five evaluation criteria set forth in Energy Safety's Compliance Guidelines:

1. Whether the electrical corporation implemented the wildfire mitigation initiatives in its approved WMP, including evaluating whether the electrical corporation funded and performed the commitments stated for each initiative. Further, whether the electrical corporation prioritized completion of work with the highest potential for reducing wildfire risk.⁵⁷
2. Whether the electrical corporation achieved or sufficiently progressed its WMP objectives.
3. Wildfire risk reduction, including the performance of the electrical corporation's infrastructure relative to its wildfire risk, as measured by changes in the occurrence of events that correlate to wildfire risk.
4. Whether the electrical corporation made a good faith attempt to achieve its goals and comply with its WMP.
5. Whether the electrical corporation exhibited issues related to its execution, management, or documentation in the implementation of its WMP. This analysis may expand beyond the scope of any single WMP initiative.

5.1 Criterion 1: 2021 WMP Initiative Implementation

This section considers whether BVES implemented the wildfire mitigation initiatives in its approved WMP, including whether BVES funded and performed the commitments stated for each initiative.

To accomplish this, Energy Safety assessed:

1. Whether BVES met the quantitative and qualitative targets provided in its 2021 WMP Update, and
2. The extent to which BVES funded each initiative.

⁵⁷ Energy Safety evaluates funding data to ensure electrical corporations are dedicating resources to their initiative commitments. Energy Safety does not evaluate whether the cost of implementing each electrical corporation's plan was just and reasonable.

5.1.1 Completion of 2021 WMP Quantitative and Qualitative Targets

Based on Energy Safety's analysis in conjunction with the department's review of the EC ARC and IE ARC, Energy Safety finds that BVES substantially met or exceeded its targets for 61 of 76 initiatives. Of those 76, BVES substantially met or exceeded 30 of 34 quantitative initiative targets,⁵⁸ and 31 of 42 qualitative initiative targets.

Energy Safety's analysis, detailed below, indicates that BVES did not perform all the work required to meet targets for seven initiatives. Furthermore, BVES did not establish that eight other initiative targets were met because BVES either established unmeasurable targets for these initiatives in its WMP 2021 Update, reported inconsistencies too significant to reconcile, or did not report any progress to support a conclusion and no additional context was available for Energy Safety's evaluation.

Appendix C provides detail at the initiative level on Energy Safety's comprehensive assessment of BVES's performance against its stated initiatives, including inconsistencies observed at the initiative level.

The following are the seven initiatives (four quantitative and three qualitative) for which BVES did not substantively meet its targets:

Risk Assessment & Mapping

1. Ignition Probability & Wildfire Consequence Mapping (7.3.1.4):
 - Completed 0% of a goal of 50% of Project Milestones Completed.
 - BVES reported it was in the process of setting up a project to estimate the risk reduction efficiency and risk-spend efficiency for initiative mapping and PSPS impacts. They originally committed planned expenditure to carry out activities in 2021.
 - In its QIU, BVES reported that its PSPS risk reduction model work had not yet started in 2021.

⁵⁸ A quantitative target is considered "substantially met" if the result is within 95% of the target. An example of this is initiative 7.3.3.3 – Covered Conductor Installation (4kV & 34.5kV Systems), which Energy Safety considered substantively met because it was within 95% of its target (12.3 circuit miles completed vs. a 12.9 target). It also includes various initiatives that displayed inconsistent metrics and/or targets between the 2021 WMP Update and subsequent QIU submissions and/or its EC ARC. For a number of these initiatives, Energy Safety acknowledged that variances in targets were likely in response to an issue highlighted in the September 8, 2021 Final Action Statement. Given BVES's attempt to provide clarity and specificity to these targets, Energy Safety accepted BVES's updated targets, but makes note of BVES's failure to report these changes via a proper change order for the 2021 WMP period in accordance with the October 2021 Change Order Process. Office of Energy Infrastructure Safety, "Final Change Order Process," pp. 3-5. Oct. 6, 2021. [Online]. <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51792&shareable=true>

Grid Design & System Hardening

2. Covered conductor installation (Radford Line) (7.3.3.3):
 - BVES noted that the US Forest Service did not issue the permits allowing construction for this initiative in 2021, so no activity was conducted.
3. Distribution pole replacement and reinforcement, including with composite poles (Radford Line Subtransmission Project) (7.3.3.6):
 - BVES noted that the US Forest Service did not issue the permits allowing construction for this initiative in 2021, so no activity was conducted, leading to a 0% completion rate.
4. Installation of system automation equipment (Grid Automation Program – supervisory control and data acquisition (SCADA)) (7.3.3.9.1):
 - Completed 10% of initiative work as opposed to the target of 50%.
 - BVES disclosed that they omitted SCADA radios from the project work planned in the 2021 WMP.
5. Installation of system automation equipment (Fault Location Isolation and Service Restoration (FLISR)) (7.3.3.9.2):
 - BVES did not begin work on a secondary sub-initiative for FLISR installation in 2021.

Asset Management & Inspections

6. Improvement of inspections (7.3.4.3):
 - BVES's asset and inspection quality management plan, which was meant to address inspection improvements, was not implemented in 2021. Inspection improvement activities were not conducted as part of other initiatives.
7. Quality assurance / quality control of asset inspections (7.3.4.14):
 - BVES did not begin work on developing a formal asset inspection QA/QC program in 2021, although it had a target of establishing such a plan in 2021.

Energy Safety found in many instances that BVES identified initiatives in its 2021 WMP Update (including assigning planned expenditure for the initiatives) but did not establish distinct tracking mechanisms and instead described the activities as part of standard maintenance

operations.⁵⁹ In other instances, initial targets were not established in the 2021 WMP, or were otherwise unclear, unmeasurable, or erroneously reported in the QIU.⁶⁰

Additionally, there were instances where BVES reported expenditures that could not be traced back to a specific initiative and/or its planned activities. The discrepancies observed in BVES's reporting highlight the importance of establishing proper quality review controls over its WMP reporting.

Below are eight initiatives for which Energy Safety was unable to draw conclusions on progress made in 2021 for the reasons stated above.

Grid Design & System Hardening

1. Capacitor maintenance and replacement program (7.3.3.1)
2. Covered conductor maintenance (7.3.3.4)
3. Crossarm maintenance, repair, and replacement (7.3.3.5)
4. Maintenance, repair, and replacement of connectors, including hotline clamps (7.3.3.10)
5. Undergrounding of electric lines and/or equipment (7.3.3.16)

Grid Operations & Operating Protocols

6. Automatic recloser operations (7.3.6.1)⁶¹

Data Governance

7. Documentation and disclosure of wildfire-related data and algorithm (7.3.7.3)

Stakeholder Cooperation & Community Engagement

8. Forest Service and fuel reduction cooperation and joint roadmap (7.3.10.4)

Based on the information available, Energy Safety finds that BVES met or exceeded its targets for 61 of 76 initiatives (80%) in its 2021 WMP Update. Therefore, Energy Safety finds that BVES completed a majority of its 2021 WMP Update initiatives.

⁵⁹ Initiatives 7.3.3.1, 7.3.3.4, 7.3.3.5, 7.3.3.10, and 7.3.3.16 are separately discussed and budgeted for in pgs. 110 through 134 of the 2021 WMP Update Revision, but are not tracked in the BVES Q4 QIU. Per the Q4 QIU, BVES stated there was not a separate WMP initiative for these activities.

⁶⁰ For example, Initiative 7.3.3.12 was tracked as "Other corrective action (Evacuation route hardening)," along with a quantitative target, while in the 2021 WMP Update it is mentioned as "Safety & Technical Upgrades of Substations" with a qualitative goal of completing the Palomino upgrades by June 2021.

⁶¹ BVES identified this initiative as a separate activity in its 2021 WMP Update, but simultaneously reported it as completed in the 2021 WMP. Despite this, BVES assigned a planned expenditure of \$17,000, and ultimately spent \$19,000 on this initiative. Despite having had activity in this area, no visibility was provided to describe BVES's progress.

5.1.2 2021 WMP Update Initiative Funding

Energy Safety evaluated the extent to which BVES funded its initiative targets in its 2021 WMP Update, utilizing data from BVES's EC ARC and its IE ARC. Each EC ARC includes descriptions of all planned WMP initiative expenditure versus actual expenditure and an explanation of any differences between the planned and actual expenditure.⁶²

BVES's planned expenditure for 2021 was approximately \$23.7 million. BVES's actual reported expenditure was approximately \$21.3 million, representing an under-expenditure of approximately \$2.4 million.⁶³

The under-expenditure was the result of (a) cost savings as reported by BVES, or (b) projects delayed until 2022.

For three initiatives, BVES did not meet its targets and also spent 80% or less than was planned: Covered conductor installation (Radford Line) (7.3.3.3), Distribution pole replacement and reinforcement, including with composite poles (Radford Line) (7.3.3.6), and Fault Location Isolation and Service Restoration (FLISR) (7.3.3.9.2).

While the initiatives identified above represent initiatives where BVES did not meet or exceed its targets and expended less than forecast, Energy Safety did not find evidence of BVES systematically failing to fund its planned initiatives. In terms of significance of completed initiatives relative to expenditure, BVES completed targets for seven of its 10 highest expenditure initiatives.

5.2 Criterion 2: 2021 WMP Update Objectives

This section considers whether BVES achieved or sufficiently progressed its 2021 WMP Update objectives. BVES's specific objectives for its 2021 WMP year (i.e., before the next Annual WMP Update) were:

- Objective 1: Reduce wildfire risks by carrying out grid hardening initiatives, improving situational awareness, coordination and communication with stakeholders, and aggressive vegetation management and inspection.
- Objective 2: Improve data collection and handling, including GIS usage and capabilities.

⁶² California Public Utilities Commission, "Compliance Operational Protocols," Feb. 16, 2021. pp. 10-12. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52615&shareable=true>

⁶³ Office of Energy Infrastructure Safety, "Evaluation of 2022 Wildfire Mitigation Plan Update Bear Valley Electric Service, Inc.," Dec. 6, 2022, pp. 15-16. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53284&shareable=true>

- Objective 3: Improve workforce readiness through recruitment, training, and the strategic use of consultants to supplement BVES staff.⁶⁴

BVES's performance relative to these objectives is discussed below.

5.2.1 Objective 1: Reduce wildfire risks by carrying out grid hardening, situational awareness, coordination and communication with stakeholders, and aggressive vegetation management initiatives

Carrying out Grid Hardening:

Energy Safety finds that BVES provided evidence of its efforts to carry out its grid hardening activities in 2021.

Within its Grid Design and System Hardening activities, BVES identified 19 initiatives for the 2021 compliance period. Of these 19 initiatives, BVES substantially completed 10, including but not limited to:

- 12.3 miles of 12.9 targeted miles of grid hardening via covered conductor installations for its 4kV and 34.5kV systems.
- Wire mesh installation for 400 poles as part of its evacuation route hardening program compared to a target of 400 poles.
- 74 tree attachment removals compared to a target of 74 removals.
- Completion of safety and technical upgrades for its Palomino substation,⁶⁵ including equipment replacements, enclosed pad mounted transformers, voltage regulators, reclosers, in addition to a conversion from an overhead-type to a pad-mounted design with dead front SCADA-enabled.
- Replaced or remediated 216 poles compared to a target of 200 poles.

⁶⁴ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 56. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

⁶⁵ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 6. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Replaced 862 expulsion fuses in the system with electronic programmable fuses (vacuum style).⁶⁶

BVES missed targets for two significant grid hardening initiatives for the Radford Line (covered conductor installation and distribution pole replacement/reinforcement), for which BVES was unable to begin work in 2021 due to delays in permit processing with the US Forest Service.⁶⁷

In addition, there were five initiatives BVES considered to be part of its Grid Design and System Hardening activities, but for which distinct targets or reported progress updates were not provided. Instead, BVES reported that these would be implemented as part of standard maintenance operations.⁶⁸ For these activities, without available data to support distinct progress updates, it is uncertain whether BVES was successful in carrying out these initiatives.

Finally, BVES made progress on its Ignition Probability & Wildfire Consequence risk mapping initiatives and developed a risk model toolkit aimed at enhancing BVES's risk assessment and prioritization practices. BVES's risk prioritization tools/systems were undergoing development and enhancement in 2021, and consequently, BVES largely relied on Tier 2 and 3 HFTD classifications for its decision-making instead of more sophisticated risk prioritization modeling.

Improving Situational Awareness:

Energy Safety finds that BVES provided evidence of its efforts to improve its situational awareness in 2021.

With respect to its situational awareness initiatives, BVES reported in its EC ARC that it expanded its weather station network to 20 stations, adding two weather stations in 2021 along with two additional high-definition cameras. BVES reported that it now has 15 total cameras installed at key vantage locations.

⁶⁶ Although BVES had estimated approximately 1,113 fuses to be replaced in its 2021 WMP Update, BVES reported only 862 fuses were replaced in its 2021 EC ARC, and further asserted it replaced 3,114 expulsion fuses in total for its multi-year service territory goal. This is corroborated by the Q4 2021 QN and QIU.

Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 122. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf;

Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 6. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁶⁷ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. pp. 29, 31. [Online.] Available:

<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁶⁸ Initiatives 7.3.3.1, 7.3.3.4, 7.3.3.5, 7.3.3.10, and 7.3.3.16 are separately discussed and budgeted for in pgs. 110 through 134 of the 2021 WMP Update Revision, but are not tracked in the BVES Q4 QIU. Per the Q4 QIU, BVES stated there was not a separate WMP initiative for these activities.

Improving Coordination and Communication with Stakeholders:

Energy Safety finds that BVES provided evidence of its efforts to improve its coordination and communication with stakeholders in 2021.

With respect to initiative 7.3.10.1 (Community engagement), BVES reported its community outreach activities exceeded its planned targets for 2021, having sent out 602 pieces of engagement material compared to an updated QIU target of 360 pieces.

BVES's 2021 WMP Update did not specify actionable targets for initiative 7.3.10.4 (Forest Service and fuel reduction cooperation and joint roadmap), and for this reason Energy Safety was unable to draw conclusions on progress made on this initiative in 2021.

In Energy Safety's Action Statement, BVES was instructed to better describe communication efforts and methods as it relates to vegetation management, specifically.⁶⁹ For initiative 7.3.5.1 (Additional efforts to manage community and environmental impacts), BVES reported that it sent customers information about its vegetation management activities, general WMP related initiatives, and PSPS risk in various modes including via its website, social media, and mailers.⁷⁰ It also reported the posting of a training video on its website to demonstrate the activities performed within the utility's vegetation management program, and further elaborated on the types of community outreach conducted throughout the year. BVES's responses during the period indicate an effort towards continuous improvement.

Continuing Aggressive Vegetation Management and Inspection:

Energy Safety finds that BVES provided evidence of its efforts to continue aggressive vegetation management and inspection in 2021.

In 2021, BVES increased the number of planned vegetation management activities and targets in comparison to 2020. Of its 16 vegetation management initiatives, BVES substantially completed all of them, including the following activities:

- Conducted detailed inspections of vegetation around electric lines and equipment covering over 54 circuit miles compared to a target of 50 miles.
- Conducted LiDAR inspection of over 280 miles compared to a target of 211 miles, measuring an 18% reduction in vegetation density.
- Increased its patrol inspections, covering 460 circuit miles compared to a target of 255 miles.

⁶⁹ Office of Energy Infrastructure Safety, "Evaluation of 2021 Wildfire Mitigation Plan Update Bear Valley Electric Service, Inc.," Sept. 8, 2021. p. 14. [Online]. Available:

<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51722&shareable=true>

⁷⁰ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 20. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Conducted discretionary drone and ground patrol inspections, covering 211 circuit miles compared to a target of 211 miles.
- Conducted quality assurance QA/QC reviews over its vegetation management inspections, conducting 112 QA/QC reviews compared to a target of 72 reviews.
- Continuously removed trees with strike potential within its stated 30-day window.

BVES met its target for initiative 7.3.5.20 (Enhanced Vegetation Management Program), which was in BVES's top 10 planned expenditures, and documented adequate funding for its vegetation management initiatives.⁷¹

5.2.2 Objective 2: Improve data collection and handling including GIS usage and capabilities

Energy Safety finds that BVES provided evidence of its efforts to improve data collection and handling, including GIS usage and capabilities, in 2021. However, areas for improvement in this area remain.

In its 2021 WMP, BVES stated that “for the 2021 WMP filing and future filings, BVES is focused on enhancing its processes for managing and mapping its WMP-related data to produce more useful metric values calibrated across multiple internal reporting templates and platforms.”⁷²

BVES reported it retained a consultant to develop compliance materials and ensure information is stored and reported accordingly. BVES also noted it worked with a GIS consultant to continue its compliance practices and digitize recordkeeping into a GIS compatible file for knowledge sharing and filing purposes.⁷³ This statement was additionally supported by progress reported around its primary Data Governance initiative, 7.3.7.1 - Centralized repository for data (GIS Data Collection & Sharing) in its QIU, noting that BVES continued to refine its data collection and storage practices during the year as part of an ongoing process.

With the help of its GIS consultant, BVES took steps to improve its GIS capabilities and improved its overall data collection practices. As reported by the IE, BVES introduced a “GIS Gap Analysis” which determined areas of the GIS that could be improved, and outlined a timeline of near, mid and long-term actions to achieve improvements.⁷⁴ However, as of the

⁷¹ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. pp. 40-45. [Online.] Available:

<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁷² Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Update Revised,” June 03, 2021. p. 18. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

⁷³ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁷⁴ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p. 50. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

time of the IE ARC in 2022, BVES had yet to develop a program to define the standards of the GIS.⁷⁵

In spite of these efforts, BVES's WMP initiative reporting included numerous inconsistencies and created significant challenges for Energy Safety in evaluating BVES's progress against its 2021 WMP Update. This issue was also illuminated during the IE review.⁷⁶ BVES should take steps to ensure its efforts to improve data management and governance extend to its WMP reporting practices, including ensuring consistency of reporting across WMP, QDR, and QIU submissions.

5.2.3 Objective 3: Improve workforce readiness

Energy Safety finds that BVES provided evidence of its commitment to improve its workforce readiness through recruitment, training, and the strategic use of consultants to supplement BVES staff.⁷⁷

For any personnel adequacy risks, BVES reported it hires outside consultants to perform planned mitigation initiatives, and noted it met its targets to secure adequate resources in 2021.⁷⁸ As discussed in its QIU for initiative 7.3.8.2 - Risk reduction scenario development and analysis, BVES procured a contractor during the period to support its risk model toolkit development process. With the help of the contractor, BVES made progress on its Ignition Probability & Wildfire Consequence risk mapping initiatives and developed a risk model toolkit aimed at enhancing BVES's risk assessment and prioritization practices.

With respect to securing or maintaining adequate resources, BVES reported in its QIU that it met its target of having no gaps in staffing for vegetation management as established through initiative 7.3.5.14 - Recruiting and training of vegetation management personnel.

5.3 Criterion 3: Wildfire Risk Reduction and Performance

This section considers the performance of BVES's infrastructure relative to its wildfire risk, as measured by changes in the occurrence of events that correlate to wildfire risk.

To accomplish this, Energy Safety:

⁷⁵ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p. 77. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁷⁶ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. pp. III, 80. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁷⁷ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 56. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

⁷⁸ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Performed a trend and year-over-year analysis on Ignition Risk Metrics.
- Performed a trend and year-over-year analysis on Outcome Metrics.

5.3.1 Ignition Risk Metric Analysis

Ignition data analysis can provide the most direct measure of electrical corporation wildfire risk for a given year. Other metrics, such as wire down events and unplanned outages, can be instructive as well, as they correlate with wildfire risk because some portion of these events will result in ignitions.

Energy Safety conducted a detailed analysis of BVES's performance relative to these metrics over the 2015-to-2021 time horizon. That analysis is available in Appendix D. The most salient takeaways from that analysis are provided below.

Energy Safety normalizes ignitions and other ignition risk events (e.g., wire down events) by Red Flag Warning Overhead Circuit Mile Days (RFWOCMD) to present wildfire risk normalized for the size of fire weather events in an electrical corporation's service territory. Use of this metric allows for comparisons across electrical corporations and enables assessment of performance in 2021 relative to trends from 2015 to 2020.

2021 was a year where BVES's service territory saw significantly fewer days with higher risk of fire dangers (as measured by RFWOCMD) when compared to recent years. The only other year from 2015 to 2021 in which BVES had a similarly small amount of RFWOCMDs was 2015.

BVES reported zero ignitions in its service territory in 2021. When looking at events that correlate with risk, absolute counts of wire down events (5) and outages (49) on BVES's distribution infrastructure were comparable to previous years. When considering the number of wire down events and outages relative to Red Flag Warning Days in 2021, BVES had a significant increase in wire down events and outages. There were 64 normalized wire down events in 2021 compared to 12 in 2020, and there were 634 normalized outages in 2021 compared to 221 in 2020.

Additionally, there was a significant increase in normalized vegetation contact events (77 events in 2021 compared to 12 in 2020).

5.3.2 Regarding PSPS risk, BVES reported no PSPS events in 2021. Outcome Metric Analysis

As noted above, BVES reported to ignitions in its service territory in 2021. Therefore, BVES also reported zero BVES-related wildfires, fatalities, or injuries.

5.3.3 Discussion

While BVES reported no ignitions in 2021, the rate of wire down and outage rates relative to Red Flag Warning days increased significantly in 2021. This trend was mirrored in BVES's vegetation contact events as discussed in previous sections. At the same time, absolute

counts of wire down events and outages were comparable to recent years. BVES also reported no PSPS events in 2021.

Taken together, the metrics demonstrate the complexities in analyzing an electrical corporation's success at reducing risk on its system in a given year. While there were no ignitions, the significant increase in normalized ignition risk drivers in BVES's territory in 2021 underscores the importance of effective and timely wildfire mitigation planning and execution.

Energy Safety will continue to monitor ignitions and wildfire consequence over the course of the 2020-2022 WMP cycle compliance reviews.

5.4 Criterion 4: Satisfaction of 2021 WMP Update Goals

This section considers whether BVES made a good faith attempt to achieve its goals and comply with its WMP.

The goal of the WMP is to reduce the risk of catastrophic wildfires caused by utility infrastructure. Based on a review of the evidence presented in this ARC, Energy Safety finds that BVES made a good faith effort to comply with its WMP, but improvements are needed with respect to the quality of its initiative progress reporting.

BVES met or exceeded 80% of its targets. These initiatives are intended to have the effect of lowering the risk of utility-caused ignitions. BVES's seven missed targets, and the impacts of those missed targets, do not appear to have substantially hindered BVES's ability to meet its overarching objective to mitigate the risk of wildfires caused by utility equipment. Additionally, for the eight initiatives for which Energy Safety was unable to draw a conclusion because BVES failed to provide sufficiently detailed or accurate progress updates, it is uncertain whether any potential failures may have hindered BVES's ability to meet its overarching objective to mitigate the risk of wildfires caused by utility equipment.

As referenced in Table 3 above, in terms of significance of completed initiatives relative to expenditure, BVES completed targets for seven of the top 10 expenditure initiatives, with the three missed targets representing approximately 29% of the overall 2021 planned expenditure.⁷⁹

In examining the ignition risk data, although BVES reported no ignition data for 2021, normalized wire down and outage rates saw a significant increase in 2021, both compared to the year 2020 as well as the preceding six-year average. In 2021, BVES experienced the highest

⁷⁹ This figure is almost entirely due to the failure to complete work on the Radford Line in 2021, which BVES reports was due to not securing appropriate permits from the US Forest Service.

number of outages since 2015, a large portion of which were driven by vegetation contact events. However, BVES maintains a record of having no PSPS events.

5.5 Criterion 5: Execution, Management, and Documentation

This section considers whether BVES exhibited issues related to its execution, management, or documentation in the implementation of its WMP.

To accomplish this, Energy Safety undertook a holistic evaluation of all relevant information sources and assessments, including field verifications, for any systemic failings that may have hindered BVES's ability to reduce the risk of igniting a catastrophic wildfire. Such failings could contribute to increased risk on the system even if WMP targets are achieved.

Energy Safety found data governance and overall reporting issues that indicate systemic issues from the 2020 WMP compliance period continued to exist into the 2021 WMP compliance period. Consistency and clarity of information is necessary to assess compliance and the effective implementation of wildfire mitigation efforts. Energy Safety and other stakeholders must have an accurate understanding of BVES's plans, commitments, and progress. Energy Safety cannot overemphasize the importance of accurate recordkeeping and data management to achieving wildfire risk reduction.

6. Conclusion

Overall, BVES progressed on many of its initiatives during the 2021 WMP compliance period. Energy Safety found that BVES met or substantially met targets for 61 of 76 initiatives (80%) identified in its 2021 WMP Update, seven of which were linked to BVES's top 10 initiatives with the most allocated expenditure.

There are areas where BVES failed to make significant progress and needs to improve. BVES missed targets for three of its top 10 initiatives with the most allocated expenditure, including critical grid hardening initiatives around the Radford Line which were not completed. While BVES did not report any ignitions in 2021, normalized ignition risk events increased in 2021 compared to previous years.

Energy Safety acknowledges that BVES undertook significant efforts to reduce its wildfire risk, and in many instances, BVES achieved its objectives and targets. On balance, BVES was largely successful in executing an actionable and adaptive plan for wildfire risk mitigation. There are, however, still areas for improvement and continued learning, including ensuring it is consistent in its documentation and reporting of compliance with its WMP.

Energy Safety will continue to monitor BVES's implementation of its ongoing wildfire mitigation activities and push BVES to improve its ability to ultimately achieve the elimination of utility-caused catastrophic wildfires in California.



APPENDICES

TABLE OF CONTENTS

1.	Appendix A.....	1
1.1	EC ARC.....	1
1.1.1	Achievement of Risk Reduction.....	1
1.1.2	Planned vs Actual WMP Update Initiative Expenditures.....	3
2.	Appendix B.....	6
2.1	Substantial Vegetation Management Audit.....	6
3.	Appendix C.....	9
3.1	Initiative Performance.....	9
3.1.1	2021 Quarterly Reporting Initiative Performance Analysis.....	9
3.1.2	Initiative Performance Results.....	10
3.1.3	2021 Grid Design and System Hardening Initiatives Analysis.....	28
4.	Appendix D.....	31
4.1	Ignition Risk and Outcomes Metrics.....	31
4.1.1	Ignition Risk Metrics.....	31
4.1.2	Ignition Data Analysis.....	32
4.1.3	Outcome Metrics.....	35

LIST OF FIGURES

Figure 1: Variances in Extreme Fire Weather Across BVES Territory from 2015-2021 by HFTD location.....	32
Figure 2: BVES Total Wire Down Events from 2015-2021 Normalized by RFWOCMD.....	33
Figure 3: Outages from 2015-2021 Normalized by RFWOCMD.....	34
Figure 4: Outages from Vegetation Contacts for 2015-2020 Normalized by RFWOCMD.....	35

LIST OF TABLES

Table 1: BVES's Planned Versus Actual Expenditure by Year (in thousand \$s)..... 3

Table 2: BVES Number of 2021 WMP Update Initiatives with Quantitative and Qualitative
Targets..... 9

Table 3: BVES Initiatives with only Quantitative Targets 13

1. Appendix A

1.1 Electrical Corporation (EC) ARC

BVES timely submitted its EC ARC on March 31, 2022. BVES's EC ARC included the five components required by Energy Safety. The subsections below summarize relevant portions of BVES's EC ARC.

1.1.1 Achievement of Risk Reduction

In its EC ARC, each electrical corporation is required to provide an assessment of whether the electrical corporation achieved its risk reduction intent by implementing all of its approved WMP Update initiatives, i.e., the degree to which initiative activities have reduced ignition probabilities. If the electrical corporation failed to achieve the intended risk reduction, it must provide a detailed explanation of why and a reference to where associated corrective actions are incorporated into its most recently submitted WMP.

BVES's EC ARC provided aggregated, narrative progress updates surrounding each of the 10 major initiative categories.⁸⁰ While the narrative updates include references to some targets, many individual initiative targets were not evaluated in the EC ARC. Therefore, BVES's EC ARC did not clearly or consistently conclude on whether it met or missed targets at the individual initiative level.

BVES summarized the following 2021 activities in its EC ARC. As noted above, these narrative summaries provided an inadequate basis to determine if certain initiatives were met or not met:

- Risk Assessment and Mapping:
 - Completion of BVES's enhancement of current risk maps and expansion of its capability to better predict fire conditions and behaviors. BVES indicated that the new risk models and maps were completed in 2021.⁸¹
- Situational Awareness and Forecasting:
 - Installation of two final weather stations, as well as two additional cameras contributing to BVES's high definition ALERTWildfire Network. BVES reported it manages a total of 20 weather stations and 15 cameras with "complete coverage" of the BVES service area.⁸²

⁸⁰ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. pp. 5-8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸¹ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 5. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸² Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. pp. 5-6. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Grid Design and System Hardening:
 - Implementation of 12 circuit miles of hardening, along with technical and safety updates to the Palomino Substation.
 - Elimination of 862 expulsion fuses from the system.
 - Removal of 74 legacy tree attachments from the system.
 - Completion of Evacuation Route Pilot Program, which validated the installation and efficacy of wire mesh wrap, fire resistant composite pole, and lightweight steel poles.⁸³
- Asset Management and Inspections:
 - Additional LiDAR surveying of 78.56 circuit miles, bringing the total to 289.56 for 2021 and exceeding the annual 211-mile target.⁸⁴
- Vegetation Management and Inspections:
 - Detailed inspections covering 54.9 circuit miles, exceeding the annual 50-mile target.
 - 18% reduction in vegetation density across BVES lines.⁸⁵
- Grid Operations and Operating Protocols:
 - BVES reported continued improvement for existing emergency preparedness and response program activities, and PSPS plan documentation. BVES indicated it has met ongoing compliance obligations with these programs and procedures.⁸⁶
- Data Governance:
 - Ongoing GIS improvements via work with an outside consultant.⁸⁷
- Resource Allocation Methodology:
 - BVES indicated it has met its targets to secure adequate resources for planned mitigation activities.⁸⁸
- Emergency Planning and Preparedness:
 - BVES reported it cannot effectively measure risk reduction based on historical events under this mitigation initiative category as no emergencies, PSPS events, or fire incidents occurred in 2021.⁸⁹

⁸³ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 6. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁴ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 7. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁵ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 7. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁶ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 7. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁷ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁸ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁸⁹ Bear Valley Electric Service, Inc., “2021 Wildfire Mitigation Plan Annual Report on Compliance,” Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Stakeholder Cooperation and Community Engagement:
 - Issuance of 602 engagement materials, exceeding the target of 360 notices.⁹⁰

BVES reported the following regarding the degree to which initiative activities reduced ignition probabilities:

- BVES reported that in 2021, it did not record any wildfire ignitions or PSPS events.⁹¹
- BVES provided a table estimating the degree to which 2021 mitigation initiatives reduced wildfire risk at the circuit level, and reported an 18% reduction in wildfire risk in 2021 as compared to 2020.
- BVES concluded that it met its intent to reduce both the number of high-risk circuits and overall wildfire ignition risk.⁹²

1.1.2 Planned vs Actual WMP Update Initiative Expenditures

In its EC ARC, each electrical corporation is required to provide descriptions of all WMP initiative planned expenditure versus WMP initiative actual expenditure and an explanation of any differences between the planned and actual expenditure.

BVES reported the following regarding planned vs actual WMP Update expenditure:

Table 5: BVES's Planned Versus Actual Expenditure by Year (in thousand \$s)⁹³

Year	Planned Cost (\$K)	Actual Cost (\$K)	Difference (\$K)
2020	\$14,379	\$17,209	\$2,830
2021	\$23,649	\$21,332	(\$2,317)

As identified in Table 1, BVES spent approximately \$2 million less than the planned amount in 2021. Below is a summary of certain initiatives where actual expenditure was lower than

⁹⁰ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 8. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁹¹ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 2. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁹² Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 4. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁹³ Office of Energy Infrastructure Safety, "Evaluation of 2022 Wildfire Mitigation Plan Update Bear Valley Electric Service, Inc.," Dec. 6, 2022, pp. 15-16. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53284&shareable=true>

planned expenditure by more than 20%, as well as BVES's explanations for the lower expenditure.⁹⁴

- Distribution pole replacement and reinforcement, including with composite poles (Radford Line) (7.3.3.6.4) - Radford project was delayed beyond 2021 due to permit in processing with US Forest Service.
- Covered conductor installation (Radford Line) (7.3.3.3.2) - Radford project was delayed beyond 2021 due to permit in processing with US Forest Service.
- Distribution pole replacement and reinforcement, including with composite poles (GO 95 Projects) (7.3.3.6.1) - BVES noted that the Covered Wire Project and Pole Loading & Remediation Project (7.3.3.13) work addressed matters that would have been conducted under this initiative, requiring less overall expenditure.⁹⁵
- Transformers maintenance and replacement (7.3.3.14) - Transformer inventory did not fall below minimums; therefore, no transformers were required to be purchased. Additionally, less labor was expended than estimated.
- Other corrective action (Tree Attachment Removal Program) (7.3.3.12.2) - While the 2021 expenditure was lower than projected, the Tree Attachment Removal Project is part of a 5-year project (2018-2022) with a \$3,246,884 budget and \$2,607,464 expended to date (BVES reported that total project variance was 20%).
- Installation of system automation equipment (FLISR) (7.3.3.9.2) - Work originally planned required the service area fiber network to be operational. The fiber network was not operational until December 2021, therefore part of this work was deferred to 2022.
- Intrusive pole inspections (7.3.4.6) - Actual scope of work was achieved at lower than projected cost.
- Substation inspections (7.3.4.15) - Actual scope of work was achieved at lower than projected cost.
- LiDAR inspections of distribution electric lines and equipment (7.3.4.7) - Actual scope of work was achieved at lower than projected cost.
- Remote sensing inspections of vegetation around distribution electric lines and equipment (7.3.5.7) - Actual scope of work was achieved at lower than projected cost.
- Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions (7.3.2.5) - BVES did not experience any events requiring staff to monitor areas of electric lines and equipment in elevated fire risk conditions.

⁹⁴ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. pp. 26-50. [Online.] Available:

<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

⁹⁵ BVES did not provide sufficient references or detail regarding which aspect of the Covered Wire Project (and which specific initiative) addressed aspects of this initiative.

- Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations (7.3.4.9.1) - Actual scope of work was achieved at lower than projected cost.
- Other discretionary inspections of vegetation around distribution electric lines and equipment (7.3.5.9.1) - Actual scope of work was achieved at lower than projected cost.
- Patrol inspections of distribution electric lines and equipment (7.3.4.11) - Actual scope of work was achieved at lower than projected cost.
- Patrol inspections of vegetation around distribution electric lines and equipment (7.3.5.11) - Actual scope of work was achieved at lower than projected cost.
- Detailed inspections of distribution electric lines and equipment (7.3.4.1) - Actual scope of work was achieved at lower than projected cost.
- Detailed inspections and management practices for vegetation clearances around distribution electrical lines and equipment (7.3.5.2) - Actual scope of work was achieved at lower than projected cost.

2. Appendix B

2.1 Substantial Vegetation Management Audit

On March 15, 2023, Energy Safety issued its SVM Audit and Audit Report for BVES. In the SVM Audit Report, Energy Safety assessed whether BVES met its quantitative commitments and verifiable statements in its 2021 WMP Update related to vegetation management. To perform this assessment, Energy Safety reviewed available information and, where necessary, requested additional documentation from BVES. Energy Safety found that BVES performed the work required for the vegetation management initiatives in its 2021 WMP Update, as detailed in Table 14 below. As a result of BVES completing all the work required, Energy Safety found that BVES substantially complied with the substantial portion of the vegetation management requirements in its 2021 WMP Update.

Table 14: Energy Safety's Analysis of BVES's 2021 WMP Update Vegetation Management Initiatives

2021 WMP Update Initiative Number	2021 WMP Update Initiative Name	Findings
7.3.5.1	Additional Efforts to Manage Community and Environmental Impacts	All Work Performed
7.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	All Work Performed
7.3.5.4	Emergency Response Vegetation Management Due to Red Flag Warning or Other Urgent Conditions	All Work Performed
7.3.5.5	Fuel Management and Reduction of "Slash" from VM Activities	All Work Performed
7.3.5.6	Improvement of Inspections	All Work Performed

2021 WMP Update Initiative Number	2021 WMP Update Initiative Name	Findings
7.3.5.7	LiDAR Inspections of Vegetation Around Distribution Electric Lines and Equipment	All Work Performed
7.3.5.9	Other Discretionary Inspection of Vegetation Around Distribution Electric Lines and Equipment, Beyond Inspections Mandated by Rules and Regulations	All Work Performed
7.3.5.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	All Work Performed
7.3.5.13	Quality Assurance/Quality Control of Inspections	All Work Performed
7.3.5.14	Recruiting and Training of Vegetation Management Personnel	All Work Performed
7.3.5.15	Remediation of At-Risk Species	All Work Performed
7.3.5.16	Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment	All Work Performed
7.3.5.17	Substation Inspections	All Work Performed
7.3.5.18	Substation Vegetation Management	All Work Performed

2021 WMP Update Initiative Number	2021 WMP Update Initiative Name	Findings
7.3.5.19	Vegetation Inventory System	All Work Performed
7.3.5.20	Vegetation Management to Achieve Clearances Around Electric Lines and Equipment	All Work Performed

3. Appendix C

3.1 Initiative Performance

Energy Safety assessed whether BVES achieved its 2021 WMP Update qualitative and quantitative commitments through multiple analyses and information sources.

Energy Safety assessed compliance with qualitative and quantitative commitments within BVES's 2021 WMP Update for its System Hardening and Vegetation Management initiatives. For each electrical corporation, the initiatives for compliance verification comprised >60% of the total WMP Update Proposed Expenditures.

Energy Safety also analyzed BVES's Q4 2021 QIU submission from March 31, 2021, BVES's EC ARC, and BVES's Q4 2021 QN to assess whether BVES achieved its 2021 WMP Update qualitative and quantitative initiative commitments.

3.1.1 2021 Quarterly Reporting Initiative Performance Analysis

In accordance with Energy Safety's 2020 Compliance Operational Protocols, BVES submitted all four of its 2021 QIUs. The QIUs contained reporting on 94 initiatives, though it is noted that of these 94 initiatives, 10 initiatives were not applicable to BVES given that BVES does not own transmission infrastructure, and eight did not correlate to actual existing activities BVES had planned or budgeted for in 2021 as per BVES' 2021 WMP Update. Therefore, for the purpose of this analysis, Energy Safety only considers the remaining 76 initiatives considered in the QIU.

As shown in Table 2 below, of BVES's 76 total WMP initiatives, 34 contained quantitative targets, and 42 contained qualitative or unspecified targets per BVES's QIU.

Table 6: BVES Number of 2021 WMP Update Initiatives with Quantitative and Qualitative Targets

BVES's 2021 WMP Update Initiatives (QIU data)	Numbers
Initiatives with Quantitative Targets	34
Initiatives with Qualitative or Unspecified Targets	42
Initiatives with Both Qualitative and Qualitative Targets	0
Total Initiatives	76

3.1.2 Initiative Performance Results

Results for Initiatives with Quantitative Targets

BVES's QIU indicated that BVES either met or exceeded the targets for 34 of 34 initiatives (or 100%) with quantitative targets. However, Energy Safety's analysis determined that there were reporting inconsistencies, as explained in Table 3 below, that called this claim into question.

Energy Safety determined that the following initiatives, classified by BVES as quantitative and completed in the QIU, were in actuality not met when compared to targets defined by BVES in its 2021 WMP Update.

- Covered conductor installation (Radford Line) (7.3.3.3) - BVES noted that the US Forest Service did not issue the permits for construction for this initiative as of 2021. Energy Safety finds BVES non-compliant for this initiative.
- Distribution pole replacement and reinforcement, including with composite poles (Radford Line Subtransmission Project) (7.3.3.6) - BVES noted that the US Forest Service did not issue the permits for construction for this initiative as of 2021. Energy Safety finds BVES non-compliant for this initiative. Additionally, based on the target established in BVES's 2021 WMP, this initiative should be qualitative.
- Installation of system automation equipment (7.3.3.9.1) - BVES reported progress of 10% against an annual target of 50% per the 2021 WMP. Furthermore, Energy Safety found BVES non-compliant with certain sections of this initiative, as BVES disclosed that supervisory control and data acquisition (SCADA) radios were omitted from the project despite having included them in the plans. Energy Safety finds BVES non-compliant for this initiative.

Energy Safety found that BVES failed to include and track the following initiative in the QIU. For this initiative, Energy Safety determined that targets were not met, as defined by BVES in its 2021 WMP Update.

- Installation of system automation equipment (7.3.3.9.2) - BVES did not include this sub-initiative in the QIU and failed to provide any progress updates regarding its completion of FLSIR installation, for which BVES established a target of "100% installed." BVES reported in its EC ARC expenditure table that aspects of this work were deferred to 2022.⁹⁶ Energy Safety finds BVES non-compliant for this initiative.

Energy Safety also had observations regarding the following initiatives:

⁹⁶ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Annual Report on Compliance," Mar. 31, 2022. p. 32. [Online.] Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52233&shareable=true>

- Covered conductor installation (7.3.3.3) - BVES reported actual progress per the QIU of 12.3 circuit miles vs. an annual target of 12.9 per the 2021 WMP. Energy Safety finds BVES compliant for this initiative given reported progress fell within 5% of its target.
- Distribution pole replacement and reinforcement, including with composite poles (Pole loading & Replacement Program - GO 95 Projects) (7.3.3.6) - Despite the inconsistent targets observed between 2021 WMP Update and QIU for this initiative, Energy Safety acknowledges BVES's attempt to provide more clarity and specificity around its quantitative targets throughout the year. Based on its progress of 216 poles against an updated QIU target of 200, Energy Safety finds BVES compliant for this initiative, but makes note of BVES's failure to report this change via a change order for the 2021 WMP period. In future periods, all changes should be supported via the appropriate process as defined in Energy Safety's WMP procedural guidelines.
- Expulsion fuse replacement (7.3.3.7) - BVES reported progress of 862 expulsion fuses replaced vs. an annual target of 1,113 per the 2021 WMP (77% of target). However, per BVES's EC ARC, it was reported that "all remaining expulsion fuses" were replaced, for a total of 3,114. While the targets differ between 2021 WMP and QN/QIU/EC ARC, Energy Safety acknowledges that the 2021 WMP Update stated "approximate" targets and the context provided indicates that BVES completed the goal it set out to achieve, which was to replace all remaining fuses in 2021. Energy Safety finds BVES compliant for this initiative.
- Detailed inspections of distribution electric lines and equipment (7.3.4.1) - Despite the inconsistent targets observed between 2021 WMP Update and QIU for this initiative, Energy Safety acknowledges BVES's attempt to provide more clarity and specificity around its quantitative targets throughout the year. Based on its progress of 54.9 circuit miles against an updated QIU target of 50, Energy Safety finds BVES compliant in this initiative, but makes note of BVES's failure to report this change via a change order for the 2021 WMP period. In future periods, all changes should be supported via the appropriate process as defined in Energy Safety's WMP procedural guidelines.
- Infrared inspections of distribution electric lines and equipment (Drone Thermography Program) (7.3.4.4) - For this initiative, BVES reported in the WMP that it paused any programs and activity, yet reported a "completed" target of 211-line miles inspected in the QIU. Energy Safety had challenges ascertaining whether this was due to error, or whether the initiative was reinstated given the misalignment in intention, and lack of additional context in the EC ARC to support an evaluation of progress. However, the IE review indicated that the IE was able to confirm, based on review of inspection results and documentation, that drone thermography inspections occurred

in conjunction with patrol inspections contracted to Davey, BVES's third party patrol provider.⁹⁷

- Intrusive pole inspections (7.3.4.6) - Despite the inconsistent targets observed between 2021 WMP Update and QIU for this initiative, Energy Safety acknowledges BVES's attempt to provide more clarity and specificity around its quantitative targets throughout the year. Based on its progress of 875 poles inspected against an updated QIU target of 850, Energy Safety finds BVES compliant in this initiative, but makes note of BVES's failure to report this change via a change order for the 2021 WMP period. In future periods, all changes should be supported via the appropriate process as defined in Energy Safety's WMP procedural guidelines.
- Detailed inspections of vegetation around distribution electric lines and equipment (7.3.5.2) - Despite the inconsistent targets observed between 2021 WMP Update and QIU for this initiative, Energy Safety acknowledges BVES's attempt to provide more clarity and specificity around its quantitative targets throughout the year. Based on its progress of 54.9 circuit miles against an updated QIU target of 50, Energy Safety finds BVES compliant for this initiative, but makes note of BVES's failure to report this change via a change order for the 2021 WMP period. In future periods, all changes should be supported via the appropriate process as defined in Energy Safety's WMP procedural guidelines.
- Quality assurance / quality control of inspections (7.3.5.13) - Despite the inconsistent targets observed between 2021 WMP Update and QIU for this initiative, Energy Safety acknowledges BVES's attempt to provide more clarity and specificity around its quantitative targets throughout the year. Based on its progress of 112 quality control reviews of vegetation management inspections against an updated QIU target of 72, Energy Safety finds BVES compliant for this initiative, but makes note of BVES's failure to report this change via a change order for the 2021 WMP period. In future periods, all changes should be supported via the appropriate process as defined in Energy Safety's WMP procedural guidelines.

Based on this review, BVES failed to meet or exceed the targets for four⁹⁸ of 34 initiatives with quantitative targets. Additionally, Energy Safety noted several discrepancies in documentation of planned targets between BVES' 2021 WMP Update and the Q4 QIU which were not supported with an appropriate change order.

Table 3 below identifies performance against targets for all quantitative initiatives. Bold target values represent initiatives where the target was not met. The bolded list is inclusive of the four targets identified above.

⁹⁷ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.20. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

⁹⁸ Includes FLSIR sub-activity 7.3.3.9.2, which BVES failed to report in its QIU.

Table 7: BVES Initiatives with only Quantitative Targets

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.2.1	Advanced weather monitoring and weather stations	# of Weather Stations Installed	2	2	Completed /Ongoing	2
7.3.2.2	Continuous monitoring sensors	# of HD Cameras Installed	2	2	Completed /Ongoing	2
7.3.3.3	Covered conductor installation	Circuit Miles	12.9	12.3	On Track	12.0 ¹⁰⁰
7.3.3.3	Covered conductor installation (Radford Line)	Circuit miles	12.9¹⁰¹	0	On Track¹⁰²	0
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles (GO 95 Projects)	Normally scheduled maintenance ¹⁰³	100% ¹⁰⁴	216 Poles	Ahead of Plan	Not Reported

⁹⁹ Bear Valley Electric Service, Inc., "Q4 2021 BVES Quarterly WMP Safety Report," Jan. 31, 2022. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51977&shareable=true>

¹⁰⁰ The EC ARC rounded this target to the nearest whole number. The initiative was considered substantially met given that reported progress in the QIU (12.3 miles) fell within 95% of the WMP target (12.9 miles).

¹⁰¹ The target per QIU was zero circuit miles hardened. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹⁰² BVES states that this initiative is on track, with construction and completion of the project in 2022 contingent with permitting approvals. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹⁰³ The target unit per QIU was "Number of Poles Replaced or Remediated as a Result of Failed Assessments." While this is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order, Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement, where Energy Safety noted that the target established in the 2021 WMP was unmeasurable and difficult to track.

¹⁰⁴ The target per QIU was 200 poles replaced. While this is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order, Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles (Radford Line Subtransmission Project)	Not Specified¹⁰⁵	Not Specified¹⁰⁶	0	On Track¹⁰⁷	Not Reported
7.3.3.6 ¹⁰⁸	Distribution pole replacement and reinforcement, including with composite poles (Evacuation Route Hardening Pilot)	Pilot of Evacuation Hardening Complete ¹⁰⁹	100% ¹¹⁰	5 Poles hardened	Completed /Ongoing	Complete

¹⁰⁵ The target unit per QIU was “Circuit Miles.” This is inconsistent from the target established per the 2021 WMP Update, which did not specify a proper target, and was not otherwise supported by a change order.

¹⁰⁶ The target per QIU was zero circuit miles hardened. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹⁰⁷ BVES states that this initiative is on track, with construction and completion of the project in 2022 contingent with permitting approvals. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹⁰⁸ Initiative 7.3.3.6, which includes both the Pilot and the Program, are aggregated into one initiative per the 2021 WMP, but split into two separate initiatives in the QIU.

¹⁰⁹ The target unit per QIU was “Poles Hardened.” This is inconsistent from the target established per the 2021 WMP Update. However, this likely due to the fact that the WMP combined the Pilot activity with the subsequent Evacuation Route Hardening Program, whereas the two were separately tracked per the QIU.

¹¹⁰ The target per QIU was five. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order—however, sufficient context exists in BVES reporting to indicate that the target of completing the pilot program was met.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.3.6 ¹¹¹	Distribution pole replacement and reinforcement, including with composite poles (Evacuation Route Hardening Program)	Poles Hardened	400 ¹¹²	400	Completed /Ongoing	Not Reported
7.3.3.7	Expulsion fuse replacement	# of Expulsion Fuses Replaced	1,113 ¹¹³	862	Completed /Ongoing	All 862 remaining expulsion fuses were replaced ¹¹⁴

¹¹¹ Initiative 7.3.3.6, which includes both, the Pilot and the Program, are aggregated into one initiative per the 2021 WMP but split into two separate initiatives in the QIU.

¹¹² "BVES intends to harden the three main evacuation routes (800 poles) over two years..." Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 120. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

¹¹³ BVES provides a target of 901 expulsion fuse replacements planned in 2021 per *Supporting Table 5.3-1*, and later provides a total of 1,113 expulsion fuse replacements planned in 2021 per *Supporting Table 7.3.3.7-1* of its 2021 WMP Update. Furthermore, the Target per QIU was 800, which is inconsistent from either one of the targets established per the 2021 WMP Update and not otherwise supported by a change order. Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. pp. 59, 122. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

¹¹⁴ In its 2021 EC ARC, BVES reports that it "eliminated all 862-remaining expulsion (conventional) fuses from the system. Over the project term, a total of 3,114 expulsion fuses were replaced with 2,578 current limiting fuses and 536 electronic fuses." BVES's EC ARC reporting implies it met its targets, having replaced all 3,114 expulsion fuses in its system. This same information is further corroborated by the 2021 Q4 QN. While this does not reconcile to BVES's 2021 WMP target of 1,113, Energy Safety recognizes BVES's 2021 WMP target was an approximation.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.3.9.1 & 7.3.3.9.2 ¹¹⁵	Installation of system automation equipment	Percent Project Milestones Completed ¹¹⁶	50% ¹¹⁷	10%	On Track ¹¹⁸	Not Reported
7.3.3.12	Other corrective action (Tree attachment removal program)	Percent Project Milestones Completed ¹¹⁹	100% ¹²⁰	74 Tree attachments removed	Ahead of Plan	74 Tree attachments removed

¹¹⁵ The QIU appears to omit a second sub-activity that was meant to be tracked as part of this initiative per the 2021 WMP Update (7.3.3.9.2 Fault Isolation Localization and Service Restoration (FLISR)). In the 2021 WMP Update, BVES stated this project would begin and be completed in 2021 and established a quantitative target of “100% of FLISR switches installed.” However, BVES did not track this activity in the QIU or provide an update via the EC ARC.

¹¹⁶ The target unit per QIU was “Yearly Percent of Overall Program Target.” This is inconsistent from the target established per the 2021 WMP Update, and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹¹⁷ The target per QIU was 10%. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹¹⁸ Reporting per QN was 10% and on track. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹¹⁹ The target unit per QIU was “Tree Attachment Removal.” This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹²⁰ The target per QIU was 70 tree attachments removed. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.3.12	Other corrective action (Evacuation route hardening) ¹²¹	Other Maintenance, Repair or Replacement ¹²²	Complete Palomino Substation by June 2021 or 100% ¹²³	400 Poles hardened	Completed /Ongoing	Completed Palomino Substation
7.3.3.13	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	# of Poles assessed for loading criteria	500 ¹²⁴	557	Ahead of Plan	Not Reported
7.3.4.1	Detailed inspections of distribution electric lines and equipment	Percent of Scheduled Circuits Completed ¹²⁵	100% ¹²⁶	54.9 circuit miles	Ahead of Plan	54.9 circuit miles

¹²¹ The initiative description per the QIU does not align to the initiative associated with this number in the 2021 WMP Update. Per the WMP Update, this initiative should be "Safety & Technical Upgrades of Substations" with a qualitative goal of completing the Palomino upgrades by June 2021, or "100% of Other Maintenance, Repair or Replacement." This initiative is not otherwise covered in the QIU and is erroneously referring to initiative 7.3.3.6 - Evacuation Route Hardening. However, BVES reports in its EC ARC that the Palomino substation upgrades were indeed completed in 2021.

¹²² The target unit per QIU was "Poles Hardened." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. This was likely an input error.

¹²³ The target per QIU was 400 poles hardened. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. This was likely an input error, but qualitative target of completing Palomino substation upgrades was reported as completed per BVES's EC ARC.

¹²⁴ The target per QIU was 550 poles assessed. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order but does not appear to impact overall compliance conclusion.

¹²⁵ The target unit per QIU was "Circuit Miles Inspected." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹²⁶ The target per QIU was 50 circuit miles inspected. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.4.4	Infrared inspections of distribution electric lines and equipment	Circuit miles	0 (Program paused) ¹²⁷	211	Completed /Ongoing ¹²⁸	Not Reported
7.3.4.6	Intrusive pole inspections	Percent of Scheduled Circuits Completed ¹²⁹	100% ¹³⁰	876 poles	Ahead of Plan	Not Reported
7.3.4.7	LiDAR inspections of distribution electric lines and equipment	Circuit miles	211	289.56	Ahead of Plan	289.56
7.3.4.9	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations (Third Party Ground Patrol)	Circuit miles	211	211	Completed /Ongoing	211

¹²⁷ The target per QIU was 211 circuit miles inspected. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹²⁸ Completion per QN was 211 circuit miles inspected (the entire system). This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order.

¹²⁹ The target unit per QIU was "Poles Assessed." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹³⁰ The target per QIU was 850 poles assessed. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.4.9	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations (UAV Thermography Program)	Circuit miles	211	211	Completed /Ongoing	211
7.3.4.11	Patrol inspections of distribution electric lines and equipment	Circuit miles	211 ¹³¹	460.11	Ahead of Plan	211
7.3.4.13	Pole Loading assessment program to determine safety factor	# of Poles assessed for loading criteria	500 ¹³²	557	Ahead of Plan	Not Reported
7.3.4.15	Substation inspections	GO-174 monthly substation inspection	144	144	Completed /Ongoing	Not Reported
7.3.5.2	Detailed inspections of vegetation around distribution electric lines and equipment	Percent of Scheduled Circuits Completed ¹³³	100% ¹³⁴	54.9 circuit miles	Ahead of Plan	54.9 circuit miles

¹³¹ The target per QIU was 255 circuit miles. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order but does not appear to impact overall compliance conclusion.

¹³² The target per QIU was 550 poles assessed. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order but does not appear to impact overall compliance conclusion.

¹³³ The target unit per QIU was "Circuit Miles." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹³⁴ The target per QIU was 50 circuit miles. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	Circuit miles	211	289.56	Ahead of Plan	289.56
7.3.5.9	Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations (UAV & Ground Patrol)	Circuit miles	211	211	Completed /Ongoing	211
7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	Circuit miles	211 ¹³⁵	460.11	Ahead of Plan	211
7.3.5.13	Quality assurance / quality control of vegetation management inspections	QC program in place and in periodicity ¹³⁶	100% ¹³⁷	112 QC Reviews	Ahead of Plan	Not Reported
7.3.5.17	Substation Inspections	GO-174 monthly substation inspection	144	144	On track	Not Reported

¹³⁵ The target per QIU was 255 circuit miles. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order but does not appear to impact overall compliance conclusion.

¹³⁶ The target unit per QIU was "Number of QC Reviews." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹³⁷ The target per QIU was 72 QC reviews. This is inconsistent from the qualitative target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.9.2	Community outreach, public awareness, and communications efforts	Community outreach program in place and ongoing ¹³⁸	100% ¹³⁹	602 Outreach Activities	Ahead of plan	602 engagement materials
7.3.9.3	Customer support in emergencies	Customer support procedures and policy in place and ready for use ¹⁴⁰	100% ¹⁴¹	0 ¹⁴²	Completed /Ongoing	Not Reported

¹³⁸ The target unit per QIU was "Number of Engagements." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹³⁹ The target per QIU was 360 engagements. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴⁰ The target unit per QIU was "Number of Emergencies." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴¹ The target per QIU was 0 emergencies. This is inconsistent from the qualitative target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴² BVES changed this target from qualitative in the 2021 WMP Update, as per *Supporting Table 5.3-1*, to quantitative as reported in the Quarter 4 QIU. Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 65. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.9.4	Disaster and emergency preparedness plan	Disaster and emergency preparedness plan in place and ready for use ¹⁴³	100% ¹⁴⁴	0 ¹⁴⁵	Completed /Ongoing	Not Reported
7.3.9.5	Preparedness and planning for service restoration	Preparedness and planning for service restoration plan in place and ready for use ¹⁴⁶	100% ¹⁴⁷	0 ¹⁴⁸	Completed /Ongoing	Not Reported

¹⁴³ The target unit per QIU was "Number of Emergencies." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴⁴ The target per QIU was zero emergencies. This is inconsistent from the qualitative target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴⁵ BVES changed this target from qualitative in the 2021 WMP Update, as per *Supporting Table 5.3-1*, to quantitative as reported in the Quarter 4 QIU. Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 65. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

¹⁴⁶ The target unit per QIU was "Number of Emergencies." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴⁷ The target per QIU was zero emergencies. This is inconsistent from the qualitative target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁴⁸ BVES changed this target from qualitative in the 2021 WMP Update, as per *Supporting Table 5.3-1*, to quantitative as reported in the Quarter 4 QIU. Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," June 03, 2021. p. 65. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

Initiative Number	Initiative Name	Target Units	WMP Target	Reported Actual Progress in QIU	Reported Actual Progress in QN ⁹⁹	Reported Actual Progress in EC ARC
7.3.9.6	Protocols in place to learn from wildfire events	Protocols in place to learn from wildfire events and ongoing ¹⁴⁹	100% ¹⁵⁰	0	On Track	Not Reported
7.3.10.1	Community Engagement	Community engagement program in place and ongoing ¹⁵¹	100% ¹⁵²	602 Outreach Activities	Ahead of Plan	602 engagement materials

Results for Initiatives with Qualitative Targets

In its 2021 Quarter 4 QIU, BVES reported that it had completed eight out of 42 (19%) of its 2021 WMP Update initiatives with qualitative targets. However, Energy Safety's analysis determined that this reporting was unreliable as there were reporting issues with various initiatives, including initiatives reported in the QIU that were deemed not applicable, initiatives deemed as redundant or incorporated under one effort as noted in WMP Table 5.3-

¹⁴⁹ The target unit per QIU was "Number of Emergencies." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁵⁰ The target per QIU was 0 emergencies. This is inconsistent from the qualitative target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement.

¹⁵¹ The target unit per QIU was "Number of Engagements / Outreach." This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement, where Energy Safety noted that the target established in the 2021 WMP was unmeasurable and difficult to track.

¹⁵² The target per QIU was 360 engagements. This is inconsistent from the target established per the 2021 WMP Update and was not otherwise supported by a change order. Energy Safety acknowledges that this change was likely in response to issue #BVES-21-02, highlighted by Energy Safety in its September 8, 2021 Final Action Statement, where Energy Safety noted that the target established in the 2021 WMP was unmeasurable and difficult to track.

1,¹⁵³ and initiatives where reported target units or target actual data in WMP did not match the data presented in the QIU, QN, and/or the EC ARC.

Based on this review, Energy Safety concludes that BVES failed to meet or exceed the targets for three of 42 initiatives with qualitative targets. Additionally, Energy Safety noted several discrepancies in documentation of planned targets between BVES's 2021 WMP Update and the Q4 QIU which were not supported with an appropriate change order, resulting in Energy Safety's inability to confirm the reported compliance of eight of 42 initiatives with qualitative targets.

To reach these conclusions, Energy Safety compared BVES's 2021 WMP Update qualitative targets to actual reported progress in the QIU and EC ARC. Initiatives for which Energy Safety determined that targets were not met, as defined by BVES in its 2021 WMP Update, are described below.

- Ignition Probability & Wildfire Consequence Mapping (7.3.1.4) - For this initiative, BVES reported that "BVES is in the process of setting up a project to develop this initiative" and established an initial estimated planned expenditure to carry out 2021 activities. Within Table 5-3-1 of the 2021 WMP Update, BVES established a target of "50% of Project Milestones Completed." In the QIU, BVES tracked a qualitative target and reported that a PSPS risk reduction model has not yet been developed and will be considered at a future time contingent on any future PSPS activation. Energy Safety finds BVES non-compliant for this initiative.
- Improvement of inspections (7.3.4.3) - BVES established a 2021 WMP target of "100% Continuous Improvement Program In Place and Ongoing" but did not provide any distinct status or progress updates. Per the IE ARC, this initiative was predicated on the completion of BVES's asset management and inspection quality management plan, which was not completed until the end of December 2021. The plan was meant to address inspection improvements but based on revisions made in 2021 the plan was able to be implemented during the period, and improvement of inspection activities were not otherwise addressed via other initiatives.¹⁵⁴ Energy Safety finds BVES non-compliant for this initiative.
- Quality assurance / quality control of asset inspections (7.3.4.14) - BVES established a 2021 WMP target of "applying lessons learned and developing a formal asset inspection QA/QC program in 2021." In its QIU this initiative is reported as "Planned" but BVES did not provide any qualitative status or progress update. Energy Safety finds BVES non-compliant for this initiative.

¹⁵³ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," Jun. 03, 2021. p. 57. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

¹⁵⁴ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.19. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

For the following initiatives, the targets established by BVES per the 2021 WMP Update did not align to the targets evaluated and reported on per the Q4 QIU or did not provide any qualitative status or progress, and Energy Safety was unable to derive additional context to support a conclusion. Due to these discrepancies, Energy Safety cannot make a conclusion on attainment of these initiatives.

- Capacitor maintenance and replacement program (7.3.3.1) - BVES allocated \$8,000 in planned expenditure for this initiative and established a 2021 WMP target of “100% Normally Scheduled Maintenance.” Though it reported this initiative as “Complete” in its QIU, it characterized this initiative as being part of other ongoing maintenance activities and did not provide any substantive status or progress updates to support a conclusion.
- Covered conductor maintenance (7.3.3.4) - BVES allocated \$35,000 in planned expenditure for this initiative and established a 2021 WMP target of “100% Normally Scheduled Maintenance.” In its QIU, BVES characterized this initiative as being part of other ongoing maintenance activities and did not provide any distinct status or progress updates to support a conclusion.
- Crossarm maintenance, repair, and replacement (7.3.3.5) - BVES allocated \$58,000 in planned expenditure for this initiative and established a 2021 WMP target of “100% Normally Scheduled Maintenance.” In its QIU, BVES characterized this initiative as being part of other ongoing maintenance activities and did not provide any distinct status or progress updates to support a conclusion.
- Maintenance, repair, and replacement of connectors, including hotline clamps (7.3.3.10) - BVES allocated \$12,000 in planned expenditure for this initiative and established a 2021 WMP target of “100% Normally Scheduled Maintenance.” In its QIU, BVES characterized this initiative as being part of other ongoing maintenance activities and did not provide any distinct status or progress updates to support a conclusion.
- Undergrounding of electric lines and/or equipment (7.3.3.16) - BVES stated this program was canceled in 2020, and in its place established a “minor undergrounding project upgrades” initiative as per the 2021 WMP Update. However, it also allocated \$105,000 in planned expenditure for this initiative, and ultimately expended \$509,000, over five times the planned amount. In its QIU, BVES stated this initiative was cancelled, and did not provide any distinct status or progress updates to support a conclusion.
- Automatic recloser operations (7.3.6.1) - BVES indicated this initiative was completed prior to the 2021 WMP cycle, and yet allocated \$18,000 in planned expenditure and established a 2021 WMP target of “100% Auto Recloser Policies and Procedures Established and Ongoing.” Though it reported this initiative as “Complete” in its QIU, it did not provide any substantive status or progress updates to support a conclusion.

- Documentation and disclosure of wildfire-related data and algorithm (7.3.7.3) - BVES allocated \$7,000 in planned expenditure to this initiative and established a 2021 WMP target of “sharing data as available” and noted this is an ongoing process. In its QIU, BVES characterized this initiative as being part of other ongoing maintenance activities and did not provide any distinct status or progress updates to support a conclusion.
- Forest service and fuel reduction cooperation and joint roadmap (7.3.10.4) - BVES allocated \$15,000 in planned expenditure to this initiative and established an unmeasurable 2021 WMP target of “50% progress measured by achieving milestones.” In its QIU, BVES characterized this initiative as being part of other ongoing maintenance activities and did not provide any distinct status or progress updates to support a conclusion.

Energy Safety also had observations regarding the following qualitative initiatives with targets met.

- Circuit breaker maintenance and installation to de-energize lines upon detecting a fault (7.3.3.2) - BVES established a 2021 WMP target of “100% Normally Scheduled Maintenance” and noted “no immediate plans” existed for this initiative yet allocated \$41 thousand in planned expenditure. BVES did not provide any distinct status or progress updates. Per the IE ARC, the IE reviewed multiple reports generated by a BVES-subcontracted company to perform substation visual and mechanical inspections through 2021 and observed that circuit breakers were included as part of the scope of the inspections, which included operational timing, trip, insulation resistance, and power factor testing.¹⁵⁵ Energy Safety finds BVES compliant for this initiative, but makes note of BVES’s inconsistent approach towards identifying initiatives and failure to adequately support progress for the 2021 WMP period.
- Transformers maintenance and replacement (7.3.3.14) - BVES established a 2021 WMP target of “100% Normally Scheduled Maintenance” but did not provide any distinct status or progress updates. Per the IE ARC, after conducting interviews with BVES and reviewing work orders from standard inspection, maintenance, and replacement protocols, it was determined that transformer maintenance activities were part of the scope of the inspections, and that transformer replacements were drawn from existing inventory rather than new purchases.¹⁵⁶ Energy Safety finds BVES compliant for this initiative, but makes note of BVES’s inconsistent approach towards identifying initiatives and failure to adequately support progress for the 2021 WMP period.

¹⁵⁵ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p.41. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

¹⁵⁶ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p.43. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

- Additional efforts to manage community and environmental impacts (7.3.5.1) - BVES established a 2021 WMP target of “100% Communication and Outreach Plan Completion” but did not provide any distinct status or progress updates. Per the IE ARC, it was observed that BVES conducted community outreach by submitting a briefing to the City of Big Bear Lake’s council meeting, and the briefing presentation included an overview of BVES’s current vegetation management work.¹⁵⁷ Additionally, BVES provided additional context on its progress in response to issue # BVES-21-10 in its 2021 EC ARC, where BVES indicated it posted a training video on its website to demonstrate the activities performed within the utility’s vegetation management program, and utilized social media, bill inserts, communication emails, community workshop discussions, and radio advertisements to alert customers of vegetation management activities as well as general WMP related initiatives and possible PSPS risk during fire season.¹⁵⁸ Energy Safety finds BVES compliant for this initiative, but makes note of BVES’s inconsistent approach towards identifying and reporting progress on initiatives.
- Emergency response vegetation management due to red flag warning or other urgent conditions (7.3.5.4) - BVES established a 2021 WMP target of “100% Program in Place and Ready for Use.” BVES reported this initiative as “In Progress” in its QIU but did not provide any qualitative status or progress update. Per the IE ARC, BVES-hired contractors are required to perform emergency response vegetation management, when requested, per the Forester Contract and the Vegetation Management contract. It was also determined that BVES maintains an Emergency Vegetation Clearance Response section in the Vegetation Management contract which details the requirements of the contractor to clear vegetation that may have been moved or fallen during a weather event or other disaster.¹⁵⁹ Energy Safety finds BVES compliant for this initiative but makes note of BVES’s inconsistent approach towards identifying initiatives and failure to adequately support progress for the 2021 WMP period.
- Improvement of inspections (7.3.5.6) - BVES did not establish a clear 2021 WMP target for this initiative and did not provide any distinct status or progress updates.
- Remediation of at-risk species (7.3.5.15) - BVES did not establish a clear 2021 WMP target for this initiative and noted no immediate plans existed yet allocated \$145,000 in planned expenditure. Per the IE ARC, the IE was able to obtain a contract with Davey Resource Group, the forester group hired by BVES to support this initiative in 2021 (among other activities). Additionally, the IE reviewed a tree-removal spreadsheet listing trees that have been removed as part of the greater vegetation management

¹⁵⁷ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p.43. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

¹⁵⁸ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p.20. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

¹⁵⁹ Sargent & Lundy Engineers, Ltd., “Final Independent Evaluator ARC,” July 15, 2022. p.44. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

goal, in which the species of tree is listed, demonstrating that BVES and its contractor are noting the specific tree species that require removal.¹⁶⁰ Energy Safety finds BVES compliant for this initiative but makes note of BVES's inconsistent approach towards identifying initiatives and failure to adequately support progress for the 2021 WMP period.

- Cooperation with suppression agencies (7.3.10.3) - BVES established a 2021 WMP target of "100% Cooperation with Suppression Agencies Program in Place and Ongoing" but did not provide any distinct status or progress updates. Per the IE ARC, Section 6.5 of BVES's PSPS procedures ("Key Partners"), describes BVES's views on mutual aid agreements, and notes the importance of maintaining and understanding these agreements, including how to request resources. The partner organizations identified overlaps with the list of what is considered critical facilities and infrastructure as reviewed by the IE.¹⁶¹ Energy Safety finds BVES compliant for this initiative but makes note of BVES's inconsistent approach towards identifying initiatives and failure to adequately support progress for the 2021 WMP period.

3.1.3 2021 Grid Design and System Hardening Initiatives Analysis

BVES's Grid Design and System Hardening initiatives represented 81% of BVES's total planned expenditure for its 2021 WMP Update.¹⁶²

Energy Safety assessed whether BVES met its qualitative and quantitative commitments in its 2021 WMP Update for its Grid Design and System Hardening (Section 7.3.3)¹⁶³ initiatives. To perform this assessment, Energy Safety reviewed available information and, where necessary, requested additional documentation from BVES. Energy Safety found that in 2021, BVES met its quantitative targets and implemented its verifiable statements for seven out of the 11 Grid Design and System Hardening initiative commitments reviewed, as detailed in Table 4 below.

¹⁶⁰ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.45. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

¹⁶¹ Sargent & Lundy Engineers, Ltd., "Final Independent Evaluator ARC," July 15, 2022. p.57. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52694&shareable=true>

¹⁶² Bear Valley Electric Service, Inc., "Wildfire Safety Division Attachment 2.3 Wildfire Mitigation Plan Quarterly Report - Q4 2021 (Table 12)," Jun. 03, 2021. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_table12_revision_20210603.xlsx

¹⁶³ Bear Valley Electric Service, Inc., "2021 Wildfire Mitigation Plan Update Revised," Jun. 03, 2021. pp. 58-60, 110-135. [Online]. Available: https://energysafety.ca.gov/wp-content/uploads/docs/misc/wmp/2021/utility/bves/bves_2021_wmp_revised_june_03_2021.pdf

Table 4: Energy Safety's Analysis of BVES's 2021 WMP Grid Design and System Hardening Initiatives

Initiative Number and Name	2021 WMP Update Quantitative Target	2021 Actual Reported	2021 WMP Update Qualitative Target	2021 Actual Reported	Method of Verification	Energy Safety Finding
7.3.3.3: Covered Conductor Installation (4kV & 34.5kV Systems)	12.9 Circuit Miles Hardened	12.3 Circuit Miles Hardened	n/a	n/a	Data Request, QIU, EC ARC	Commitment substantially met
7.3.3.3.2: Covered conductor installation (Radford Line)	12.9 Circuit Miles Hardened	0 Circuit Miles Hardened	n/a	n/a	QIU, EC ARC	Commitment not met
7.3.3.6: Distribution pole replacement and reinforcement, including with composite poles (GO 95 Projects)	100% within Normally Scheduled Maintenance	216 Poles Hardened	n/a	n/a	Data Request, QIU	Commitment met
7.3.3.6: Distribution pole replacement and reinforcement, including with composite poles (Evacuation Route Pilot & Program)	400 Poles Hardened (Wire Mesh Installed)	Pilot Completed 400 Poles Hardened	n/a	n/a	Data Request, QIU, EC ARC	Commitment met
7.3.3.6.4: Distribution pole replacement and reinforcement, including with composite poles (Radford Line Subtransmission Project)	Not specified	0	n/a	n/a	QIU, QN, EC ARC	Commitment not met
7.3.3.7: Expulsion fuse replacement	1,113 Fuses Replaced	862 Fuses Replaced	n/a	n/a	Data Request, QIU	Commitment met
7.3.3.9.1 &	50% of Project Milestones	10% Yearly Percent of Overall	n/a	n/a	Data Request, QIU	Commitment not met

Initiative Number and Name	2021 WMP Update Quantitative Target	2021 Actual Reported	2021 WMP Update Qualitative Target	2021 Actual Reported	Method of Verification	Energy Safety Finding
7.3.3.9.2¹⁶⁴: Installation of system automation equipment	Completed ¹⁶⁵	Program Target				
7.3.3.12: Other corrective action (Safety & Technical Upgrades of Substations)	n/a	n/a	Complete Palomino upgrades	Completed technical and safety updates to Palomino substation	Data Request, EC ARC	Commitment met
7.3.3.12: Other corrective action (Tree Attachment Removal)	100% of Project Milestones Completed, or 714 Tree Attachments Removed by 2026 ¹⁶⁶	74 Tree Attachments Removed	n/a	n/a	Data Request, QIU, EC ARC	Commitment met
7.3.3.13: Pole loading infrastructure hardening and replacement program based on pole loading assessment program	500 Poles Assessed for Loading Criteria	557 Poles Assessed	n/a	n/a	Data Request, QIU	Commitment met

¹⁶⁴ The QIU appears to omit a second sub-activity that was meant to be tracked as part of this initiative per the 2021 WMP Update (7.3.3.9.2 Fault Isolation Localization and Service Restoration (FLISR)). In the 2021 WMP Update, BVES stated this project would begin and be completed in 2021 and established a quantitative target of "100% of FLISR switches installed." However, BVES did not track this activity in the QIU or provide an update via the EC ARC.

¹⁶⁵ BVES QIU tracks against a quantitative annual target of 10%. However, this target is not consistent with the target established in the 2021 WMP Update, and a change order was not completed to support this modified target.

¹⁶⁶ BVES QIU tracks against a quantitative target of 70. However, this target is not consistent with the target established in the 2021 WMP Update, and a change order was not completed to support the modified target.

4. Appendix D

4.1 Ignition Risk and Outcomes Metrics

Energy Safety assessed the performance BVES's infrastructure relative to its wildfire risk, as measured by changes in the occurrence of events that correlate to wildfire risk.

Energy Safety requires electrical corporations to report data, such as ignitions in the HFTD, that help Energy Safety assess whether an electrical corporation reduced its wildfire risk while also reducing its reliance on PSPS. In 2021, Energy Safety evaluated each electrical corporation's performance metric¹⁶⁷ data by conducting the following analyses:

- 1) For Ignition Risk Metrics:
 - a. A trend analysis of performance metrics from 2015-2021.
 - b. A year-over-year analysis of performance metrics from 2020-2021.
- 2) For Outcome Metrics:
 - a. A trend analysis of performance metrics from 2015-2021.
 - b. A year-over-year analysis of performance metrics from 2020-2021.

For this analysis, Energy Safety relied on data reported in BVES's 2021 WMP Update and its May 2, 2022, QDR submission.

4.1.1 Ignition Risk Metrics

Energy Safety reviewed the ignition risk metrics BVES reported in its May 2, 2022, QDR submission,¹⁶⁸ including:

1. **Ignitions** – incidents in which electrical corporation infrastructure was involved
2. **Wire down events** – incidents in which overhead electrical lines fall to the ground or land on objects
3. **Vegetation-caused outages** – outages experienced in which the cause was determined to be vegetation contact with electrical lines
4. **Unplanned outages** – all unplanned outages experienced

For applicable metrics, Energy Safety normalized each electrical corporation's data using the unit "Red Flag Warning Overhead Circuit Mile Days" (RFWOCMD). Energy Safety uses RFWOCMD for overhead assets to present wildfire risk normalized to the number of fire weather events in an electrical corporation's service territory. Use of this metric allows for

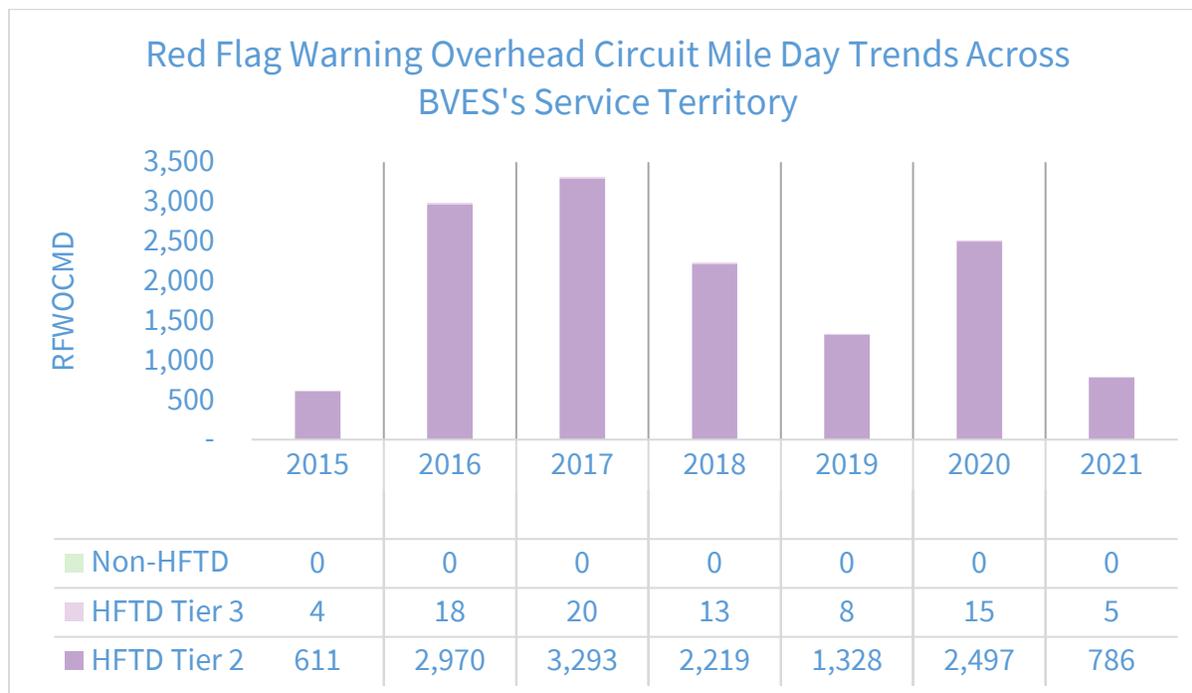
¹⁶⁷ Progress Metrics are defined as Measurements that track how much BVES wildfire mitigation activity has changed the conditions of BVES wildfire risk exposure or BVES ability to manage wildfire risk exposure, in terms of leading indicators of ignition probability and wildfire consequences.

¹⁶⁸ Tables 7.1 and Table 7.2.

comparisons across reporting years of varying weather conditions and enables assessment of performance in 2021 relative to previous trends from 2015 through 2020.

Displayed in Figure 1, the RFWOCMD in BVES’s territory indicated a decline in RFWOCMDs from 2020 to 2021. 2021 marked the second lowest rate of RFWOCMD for the BVES service territory since 2015, contrasted by a peak in exposure in 2017.

Figure 1: Variances in Extreme Fire Weather Across BVES Territory from 2015-2021 by HFTD location



4.1.2 Ignition Data Analysis

BVES reported no ignitions in 2021. It has historically reported no ignitions during the 2015-2020 period as well.

4.1.2.1 Wire Down Data Analysis

QDR Table 7.1, metrics 1 through 16, include data on BVES’s distribution and transmission wire-down events from 2015 through 2021, which are normalized for RFWOCMD and depicted in Figure 2 below.

While BVES saw a significant increase in normalized wire down events in 2021, the absolute number of wire down events in 2021 was five, as compared to three in 2020. The absolute count of wire down events in 2021 was in line with the preceding six-year average of five events per year.

It should be noted that BVES has reported it does not own or operate any transmission infrastructure. As such, transmission-related trends are not discussed as part of Energy Safety’s analysis.

Figure 2: BVES Total Wire Down Events from 2015-2021 Normalized by RFWOCMD

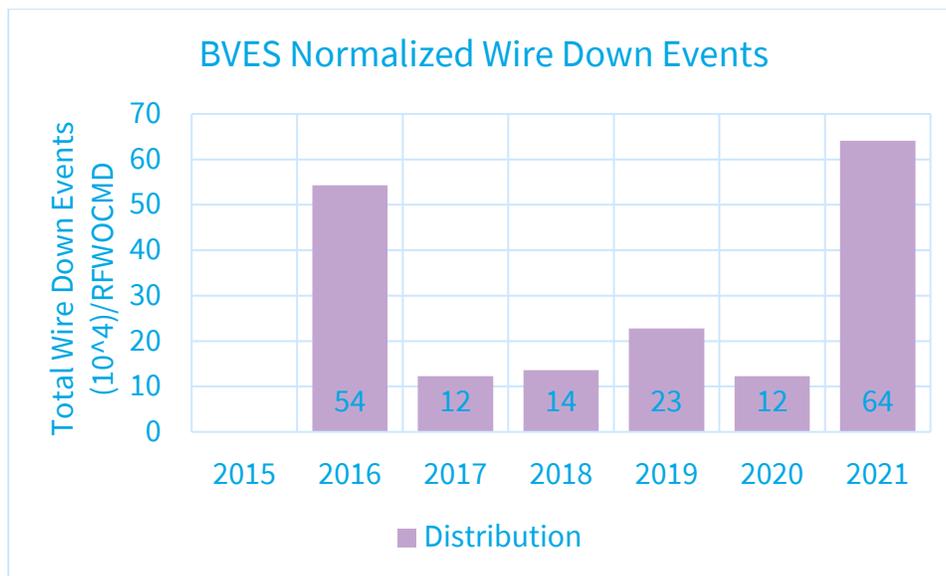


Table 5: BVES Count Wire Down Events (2015-2021)¹⁶⁹

Description	2015	2016	2017	2018	2019	2020	2021	6 Year Avg (2015-2020)
Distribution	0	16	4	3	3	3	5	5
Total	0	16	4	3	3	3	5	5

4.1.2.2 Outage Data Analysis

QDR Table 7.1, metrics 17 through 32, include data on distribution and transmission outages of all cause types from 2015 through 2021. Figure 3 below plots BVES’s distribution outages from 2015 to 2021, normalized for RFWOCMD.

Table 6 shows a time series of BVES outages since 2015. As BVES reported no outages in 2015, there are no data from that year to display in Figure 3.

¹⁶⁹ Bear Valley Electric Service, Inc., " Wildfire Safety Division Attachment 2.3 Wildfire Mitigation Plan Quarterly Report - Q4 2021 (Table 7.1)," Jan. 1, 2022. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51989&shareable=true>

It should be noted that BVES has reported it does not own or operate any transmission infrastructure. As such, transmission-related trends are not discussed as part of Energy Safety’s analysis.

Figure 3: Outages from 2015-2021 Normalized by RFWOCMD

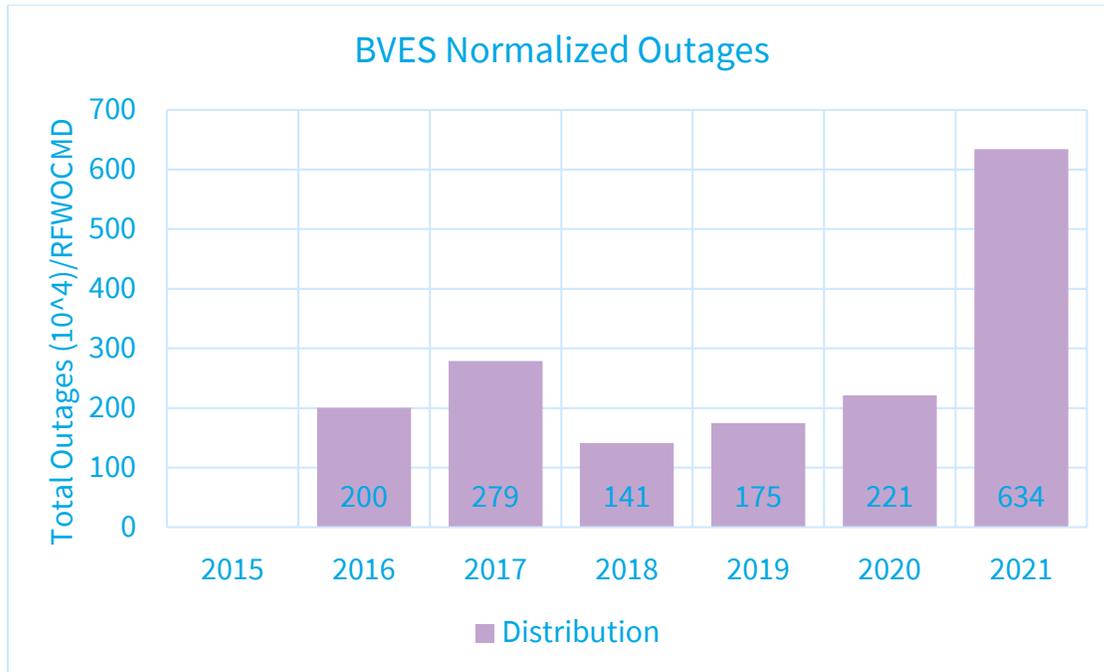


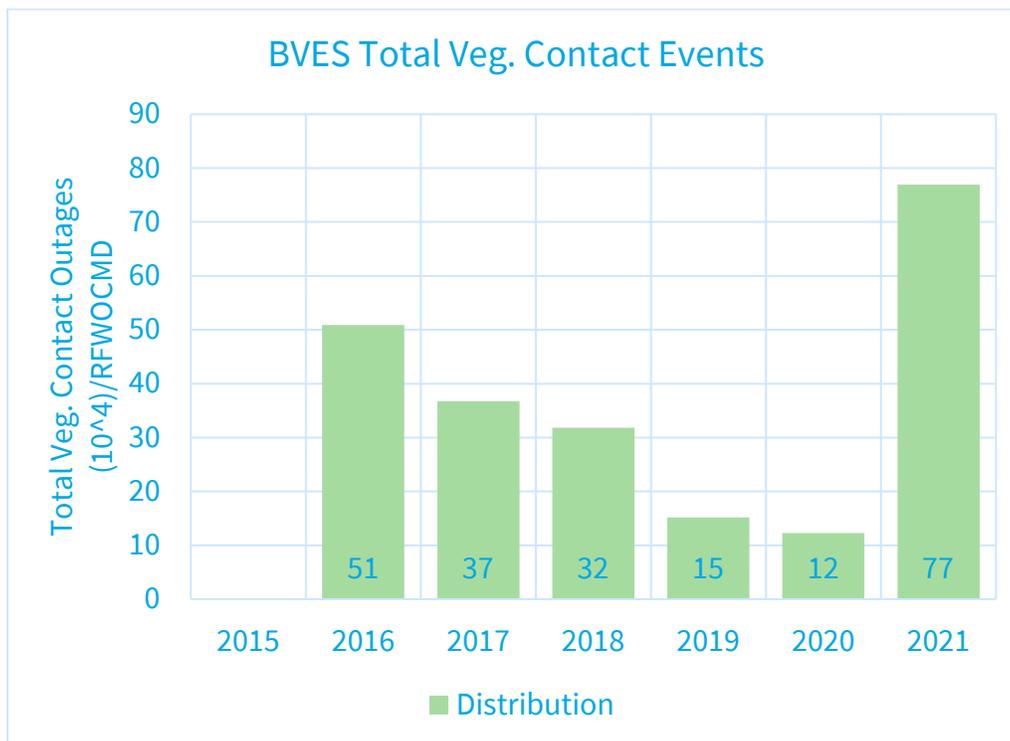
Table 6: BVES Count of Outages (2015-2021)¹⁷⁰

Description	2015	2016	2017	2018	2019	2020	2021	6 Year Avg (2015- 2020)
Distribution	0	59	91	31	23	54	49	43
Total	0	59	91	31	23	54	49	43

Figure 4 below plots BVES’s vegetation contact-caused outages normalized for RFWOCMD, all within the distribution infrastructure. As BVES reported no outages in 2015, there are no data from that year to display in Figure 4.

¹⁷⁰ Bear Valley Electric Service, Inc., " Wildfire Safety Division Attachment 2.3 Wildfire Mitigation Plan Quarterly Report - Q4 2021 (Table 7.1)," Jan. 01, 2022. [Online]. Available: <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51989&shareable=true>

Figure 4: Outages from Vegetation Contacts for 2015-2020 Normalized by RFWOCMD



4.1.2.3 PSPS Data Analysis

BVES reported that it did not have any PSPS events in 2021. It has historically reported no PSPS events during the 2015-2020 period as well.

4.1.3 Outcome Metrics

BVES did not report any data for any of the following outcome metrics, due to the fact that BVES did not report any BVES-related wildfires for the 2021 compliance year:

1. Acres burned
2. Structures damaged/destroyed
3. Injuries/fatalities
4. Value of assets destroyed

Therefore, Energy Safety does not assess BVES's outcome patterns for these metrics.