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Office of Energy Infrastructure Safety
Wildfire Safety Division

COMMENTS OF THE GREEN POWER INSTITUTE ON THE BVES 2026-2028 WILDFIRE MITIGATION PLAN

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The Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the BVES 2026-2028 Wildfire Mitigation Plan*.

Introduction

The GPI performed a review of the Bear Valley Electric Service (BVES) 2026-2028 WMP with a general focus on Risk Methodology and Assessment; Grid Design, Operations, and Maintenance; and Vegetation Management; particularly with respect to how these issues affect the BVES electrical system. BVES is a unique electrical corporation in the California context for several reasons, including being quite small in both footprint (32 sq. miles) and load (25,000 customers), being entirely surrounded by a single California IOU (SCE) that is its main source of energy, being entirely within designated high fire threat districts (HFTD) II and III, and serving a customer base that has a high proportion of seasonal habitation. All of these factors must be kept in mind in considering BVES's 2026-2028 WMP.

BVES notes that it has never ignited a wildfire, never had a wildfire hit their service territory, nor has it had to declare a PSPS. This lack of direct experience with wildfire makes statistical analysis of the wildfire risk in the BVES service territory particularly uncertain. In addition, while unacknowledged in the WMP, BVES faces a unique risk not faced by the other wires utilities in the state,[1] which is that if a major wildfire were to be ignited within their service territory, there is a real probability that the resulting fire could spread to all or most of their territory.[2] This is a level of consequence – a utility-wide service impact – that heightens the nature of the potential for widespread devastation from a wildfire in BVES's service territory compared to other utilities.

[1] PG&E, SCE, SDG&E, Liberty Utilities, and PacifiCorp.
[2] The Dixie fire, for example, burned more than 1,500 sq. miles, an area that dwarfs the BVES service territory.

Under this circumstance the entirety of the territory-wide infrastructure rebuild costs would fall to BVES's customer base, as compared to larger utilities where fire rebuild costs affecting a portion of the territory are socialized across the entire customer base. Similarly, for BVES, all wildfire mitigation costs are borne by customers that reside in the HFTD. This deviates from larger utilities that socialize the cost of wildfire mitigation across all customers whether they reside within or outside the HFTD.

Our comments and recommendations cover the following topics:

- Risk Assessment and Modeling: The link between updated risk modeling approaches, tools, and outputs and mitigation selection and prioritization
- Risk Methodology and Assessment: BVES has been and continues to engage Technosylva to model their wildfire risk planning, but is working on expanding their modeling capabilities
- Risk Assessment and Modeling: No consideration of Ingress/Egress in risk modeling
- Wildfire Mitigation Strategy Development: Overall approach to mitigation
- Public Safety Power Shutoff: Internal vs. external origination, mitigations
- Grid Design, Operations, and Maintenance: Covered conductor vs. undergrounding
- Grid Design, Operations, and Maintenance: Encouraging the installation of local renewable generation, microgrids
- Grid Design, Operations, and Maintenance: Encouraging the adoption of enhanced powerline safety settings (EPSS).
- Vegetation Management: Management of operations and residuals
- Vegetation Management: Integration with overall forestry operations in the region
- Emergency Preparedness, Collaboration, and Community Outreach: Plans for post fire restoration

Risk Assessment and Modeling: The link between updated risk modeling approaches, tools, and outputs and mitigation selection and prioritization.

BVES notes that:

> Due to the inherent risk across the utility footprint, there is significantly less risk variation between lines and circuits than other California IOUs. Therefore, BVES's risk scoring necessarily incorporates this understanding. Further, BVES seeks to be prudent with its ratepayer funds and is closely observing its fellow utilities and monitoring their developments as it pertains to risk methodology and assessment. Bear Valley continues to adopt, implement, and update appropriate risk methodologies, assessments, and modeling where such approaches and tools allow BVES to gain a better understanding of the risks and how those risks should be mitigated.[3]

BVES is correct. Their service territory is far more uniform than the service territories of the other five California wires utilities. For BVES prioritizing where to perform grid hardening operations can be more of an economic decision and less of a decision based on determining where the granular probability of ignitions and consequences is highest – the simple fact is that wildfire risk in the BVES service territory is high everywhere. Differences in ignition probability among various circuit segments are moderate, not dramatic, and the overriding imperative is to get the job done throughout the service territory. This makes detailed modeling for purposes of priority setting less crucial for BVES than for the other wires utilities. BVES is a small utility, making the fixed costs involved in modeling a greater burden for their customers than is the case for the other utilities. GPI does not recommend pushing BVES to greatly increase their use of modeling in order to prioritize where to perform grid hardening first.

However, wildfire risk mitigation is an ongoing endeavor. IOU probability of ignition models have revealed correlations between asset age as well as other system design parameters (e.g. overloading) and outage/ignition risk. These model results can inform proactive asset replacement standards, asset health monitoring programs, or grid operations (e.g. during heat waves). BVES will not be able to capture and granularly quantify these risk drivers through probability of ignition modeling. However, it can benchmark its asset tracking and mitigation approach to IOU risk-model-informed approaches. Establishing a risk assessment method that tracks asset conditions such as age and health, and that informs proactive asset replacement

[3] BVES 2026-2028 WMP, pg. 35.

based on these risk drivers, would be a valuable addition to BVES's long-term wildfire risk mitigation efforts.

Risk Assessment and Modeling: BVES has been using and continues to use Technosylva to model their wildfire risk planning, but is working to expand their modeling Capabilities.

Technosylva is the most widely used wildfire risk modeling software available. All of the wires utilities in California use it to some degree, if not exclusively. BVES's 2026-2028 WMP explains that the utility is currently planning to expand their modeling capabilities by adding Direxyon modeling to increase the granularity of their risk assessment analyses. The 2026-2028 WMP does not incorporate Direxyon modeling results, due to the still preliminary nature of the model as it pertains to BVES, but they expect to have it fully integrated and vetted by the next three-year plan (2029-2031).

As we argued in the previous section, because of BVES's small size and uniformity of terrain, risk modeling for the purpose of prioritizing where to perform grid hardening initially is relatively less important for BVES than for the other wires utilities. Nevertheless, fire risk modeling has additional value in terms of grid design and operations, and it is good to see that BVES is improving their modeling capabilities at a pace that is commensurate with the size of their utility. The BVES participants at the May 21, 2025, OEIS webinar provided information generated by Direxyon that goes beyond what is contained in the 2026-2028 WMP, which is a good indication that they are actively working on adopting the model into their operations. GPI encourages BVES to continue their efforts with Direxyon, but to do so in regular consultation with OEIS and the Risk Modeling Working Group (RMWG).

The RMWG often focuses on the risk models used by the three large IOUs. Allocating at least some time in the monthly meetings to the SMJUs to report on their parallel risk modeling efforts could facilitate SMJU benchmarking with IOU approaches, and would provide useful feedback to the IOUs as well. This would give more credence to the wildfire risks modeled by the SMJUs within the SMJU service territories and for their affected customers.

Risk Assessment and Modeling: Insufficient consideration of Ingress/Egress in risk assessments and modeling

The BVES 2023-2025 WMP evaluated egress and ingress based on CAL FIRE's OSFM Subdivision Review Program map (none identified) and primary evacuation routes. The Evacuation Route Hardening Project is included in its 2026-2028 WMP. Progress on evacuation route hardening with fire resistant mesh was made in 2024 and earlier, and is planned through 2028.[4] Notably, the BVES service territory is remote, with only limited road access. Because there has never been a serious wildfire in the area, there is no on-the-ground experience with moving firefighting equipment into the area, or residents out of the area. It would be prudent for BVES to expand its consideration of ingress and egress risk and mitigation options in the event of wildfire.

There is a good deal of information that can be gleaned from wildfire experience elsewhere in the state with ingress and egress for small remote communities. The IOUs have also been working on understanding ingress/egress risk drivers (e.g. age, AFN status) and building ingress and egress risk into their modeling activities. This information should be incorporated into BVES's current modeling efforts, as it may inform incremental expansions to its evacuation hardening project. The RMWG would be a good place to start.

Wildfire Mitigation Strategy Development: Overall approach to mitigation

BVES articulates five overall objectives for the 2026-2028 WMP on page 86:

- Additional grid hardening efforts
- Increased situational awareness and control improvements expected from completion of the grid automation initiatives
- Continued vegetation management, asset inspections, and equipment maintenance/repairs
- Real-time fire risk modeling
- Increased resiliency to serve load via local generation through the solar and storage projects

[4] BVES 2026-2028 WMP, pgs. 13, 112.

These are laudatory objectives, but the details lie in how BVES allocates its limited resources among them. The first bullet point, additional grid hardening efforts, involves the use of conventional technology and techniques (covered conductor and undergrounding). The biggest impediment to hardening of the system is the fact that it is expensive. In the opinion of GPI, BVES is reasonably on track with respect to the hardening of their grid.

The second bullet point calls for increased situational awareness and control improvements expected from the completion of various planned grid automation initiatives. On this topic, in the opinion of GPI, BVES needs to accelerate their efforts. As we understand it most of the hardware components needed for grid automation on BVES's grid are now in place or about to be. The next big step is to harness the power of the grid-automation equipment with the software side of the equation, and to build these new capabilities into improved system operations. It is in this phase of the process that we would like to see a speed up in implementation. We also believe that the ultimate goal of the grid automation efforts should be the timely implementation of EPSS, as discussed later in these comments.

Continued and improved vegetation management is an imperative for the safety and management of the BVES grid, which is located entirely in heavily forested, mountainous land. It appears that the utility is conducting its vegetation management activities under the supervision of a staff professional forester, and with an outside contractor who performs both routine and emergency work in the field. Vegetation management operations can be optimized by the use of improved inspection techniques and schedules. BVES performs most of the needed inspection services in-house, supplemented by outside contractors.

BVES appears to have done an admirable job for a small utility in developing wildfire risk modeling capability to provide guidance for prioritizing their wildfire mitigation activities. They began by contracting their modeling efforts to Technosylva, which is the leading wildfire risk modeling service in California. Technosylva has been their sole modeling provider for the 2026-2028 WMP. BVES is currently in the process of adding to their modeling capabilities by employing a more granular risk model by Direxyon, and they expect to have that operational by the 2029-2031 WMP cycle. In the opinion of GPI, BVES is on a reasonable trajectory with regards to the development of their wildfire risk modeling capabilities.

Finally, we support BVES's efforts to develop a solar generation/battery facility in order to serve load on their grid and to defer or avoid the need for expanded sub-transmission lines through the HFTD into BVES's service area. The facility will also enhance its resiliency, especially with respect to PSPS events and forced outages, putting BVES in a proactive position ahead of its PSPS risk. This integrated planning approach, or value stacking, addresses both wildfire risk and growing customer demand. We also urge them to go further by encouraging the development of DERs and microgrids.

Public Safety Power Shutoff: Internal vs external origination, mitigations

BVES has an established set of criteria for what conditions require the declaration of a PSPS, but the 2026-2028 BVES WMP states that BVES has never actually had to declare a PSPS. This makes it imperative that BVES collaborate with SCE and the other IOUs to learn as much as possible about the execution of a PSPS event when one has to be declared. It also means that BVES should establish additional outreach to their customers about the possibility of a PSPS event, and how to minimize the negative impacts when one is declared. This should include how it will optimally and safely energize select circuit segments, including those in the highest PSPS risk areas, with its planned solar generation/battery facility.[5]

In addition to being subject to conditions within their service territory that might necessitate the declaration of a PSPS event, BVES is also subject to be forced to declare a PSPS event should their power supply from SCE be cut off due to a PSPS in the SCE system. The BVES grid has two different interconnection points to the SCE grid, one from the north and one from the south, either or both of which could be shut off by an SCE PSPS. We applaud BVES's efforts to develop a solar and battery facility to proactively mitigate the risk that an SCE PSPS would force them to declare a PSPS event in their own service territory.

Grid Design, Operations, and Maintenance: Covered conductor vs. undergrounding

Electric utility companies have two major options for replacing bare wire power lines – covered conductors vs. undergrounding. Undergrounding is significantly more expensive, but

[5] BVES 2026-2028 WMP, p. 108.

underground lines are capable of providing wildfire risk reduction without the need for PSPS declarations and EPSS, as compared to an overhead mitigation package that includes covered conductors. In BVES' case the difference in cost between the two options is exacerbated by mountainous terrain, both due to the inherent difficulty of working on the ground in mountainous terrain, and the fact that the length of wire needing to be undergrounded in mountainous terrain is much greater than is the case in flat terrain, because the length of line needed in mountainous terrain is minimized by slinging it over valleys, which cannot be done for underground lines. The entire BVES service territory is located in mountainous terrain. BVES estimates that for their situation, undergrounding their 34 kV bare wire lines would cost ten times as much as rewiring them with covered conductor. In the 2026-2028 WMP BVES concludes that they will focus their grid hardening efforts on installing covered conductor on both the sub-transmission and distribution system, and GPI strongly supports this approach. Getting the system hardened ten times faster (assuming the same amount of funds available) is more valuable than the incremental improvement in risk reduction provided by undergrounding. Moreover, future risk reductions provided by EPSS and other improvements will advance its overhead system mitigation package, shrinking the difference in the risk level between the two grid-hardening options.

BVES has approximately 260 miles of overhead lines, approximately 30 miles of which operate at sub-transmission voltage, and the rest at distribution voltage. Their 2026-2028 WMP expresses a plan to rewire approximately 10 miles of bare line annually with covered conductor. Since 2019 the utility has focused initially on rewiring their sub-transmission lines with covered conductor, with the result that 83 percent of their sub-transmission lines are now wired with covered conductor. Less than 45 percent of the distribution lines have been rewired with covered conductor or undergrounded to date. In the 2026-2028 WMP, the remaining bare-wire segments of the sub-transmission system will be replaced with covered conductor, and the bulk of BVES's rewiring efforts will be focused on the distribution system. By the end of the 2026-2028 WMP planning period, assuming all goes according to plan, all of BVES's sub-transmission system will be hardened, and the distribution grid will be 57 percent hardened. This represents significant progress, but there is still a long way to go. At the present rate of bare wire replacement it will take up to an additional 9-10 years after the end of the 2026-2028 WMP

planning period, or three or four more WMP planning cycle periods, to complete the operation. Accelerating this process to the maximum extent possible is prudent.

Grid Design, Operations, and Maintenance: Encouraging the installation of local renewable generation and microgrids

BVES currently has an Application pending before the CPUC for a 5 MW solar generator/battery storage installation that would be able to carry essential load through limited PSPS and other outage events that may occur in the future. GPI supports that effort, which would culminate in a utility owned and operated generating asset. We also note that the BVES service territory would appear to have areas with high winds, and a couple of modern wind turbines strategically located could provide a complementary clean energy source to the solar and battery installation currently under development.

We also want to encourage BVES to consider soliciting non-utility renewable distributed energy resource (DER) installations in their service territory, such as rooftop solar or solar-covered parking lots. Such installations would help the utility cope with PSPS and EPSS events as well as other outages, and they would contribute to meeting expanding loads such as vehicle and building electrification with zero-carbon energy sources. Such an integrated planning strategy can support wildfire and reliability risk management, as well as Integrated Resource Planning mandates.

In conjunction with encouraging DER installations, BVES should also consider establishing microgrids in various parts of their system where there are discrete clusters of customers. Based on a cursory examination of the map of the service territory in BVES's WMP, prime candidates for early microgrids correlate well with circuits that BVES identifies as Areas at Risk of PSPS on the map on page 108 of the 2026-2028 BVES WMP – Boulder Circuit, North Shore Circuit, Holcomb Circuit, and Pioneer Circuit. We recommend that BVES conduct community outreach in these clusters in order to gage whether there is community interest in developing a microgrid for their cluster. BVES should also use these sessions to inform their customers as to whether and how its planned hybrid solar/battery facility is interconnected to serve these elevated PSPS risk locations.

Grid Design, Operations, and Maintenance: Encouraging the adoption of EPSS

The bulk of the discussion about grid hardening in the 2026-2028 BVES WMP is focused on the tradeoffs between covered conductor and undergrounding. Of the two largest IOUs in the state, SCE has favored covered conductor while PG&E has favored undergrounding. However, PG&E has also focused increasingly on the use of enhanced powerline safety settings (EPSS) to minimize wildfire ignition risk along its overhead lines as both an interim and a long-term mitigation approach. EPSS is a complimentary component of an overhead mitigation package that enhances risk reduction and elevates the CBR, especially as compared to undergrounding. In conjunction with BVES's overhead hardening strategy, it makes abundant sense for BVES to adopt it as fully as possible and as quickly as possible.

In its 2026-2028 WMP, BVES states that it is discussing EPSS programs with PG&E and SDG&E. It also completed a third-party study with a power distribution consultant, which resulted in recommendations for improving its EPSS coverage and effectiveness through hardware and software modifications. BVES has accepted all recommendations and is in the process of developing an EPSS policy, and a circuity-by-circuit implementation plan. Its plan development queries "Which circuits should have EPSS capability?" GPI suggests the answer is "all" for a small utility located entirely in the HFTD that will rely on a robust overhead system mitigation package to mitigate wildfire risk and a consequence scale that includes its entire territory. BVES's plan extends its EPSS implementation timeline through 2027. Although it is currently benefiting from its manufacturer's fast trip settings, GPI encourages BVES to give the adoption of EPSS a significantly higher priority than is indicated in the WMP. BVES should accelerate its EPSS enablement and related automation capabilities to the maximum extent possible. BVES should also benchmark any existing or planned ground fault settings with PG&E's DCD capabilities. The OEIS should order BVES to report on its EPSS enablement progress in the next WMP Update

Vegetation Management: Management of operations and residuals

In the opinion of GPI, BVES has been a leader among the wires utilities in conducting their vegetation management (VM) operations in relative harmony with the community it serves. In addition to cutting and trimming trees along the electric line rights-of-way to code specifications

under the supervision of professional foresters, BVES offers various cleanup services to the landowners, who have rights to the wood and residues that are produced in the course of vegetation management operations on their property. The utility's contractor will aid the property owner in preparing and delivering the residues in usable form if that is what they want, or they will remove all residues from the rights-of-way and clean up the work site. BVES specifications for vegetation management operations require that residues are never left on site where they can act as embers for ignitions, or fuel for already ignited wildfires. This is an exemplary approach to proactive fuels management and risk mitigation associated with vegetation management activities. We note that VM operations not only can prevent wildfire ignitions, they also protect against outages due to tree and branch falls that are not associated with wildfire ignitions.

BVES's vegetation management operations are conducted in two separate but associated tracks. The first track involves the utility's ongoing equipment inspection operations. The second track involves the execution of vegetation management operations, including tree removals, vegetation trimming, and related activities. Most of the equipment inspection work is performed by BVES personnel, who are backed up by an on-staff professional forester, while most of the vegetation management operations are carried out by BVES's forestry contractor, who is contracted to provide both routine maintenance VM, emergency VM, and post-fire restoration VM operations.

In the opinion of GPI, BVES's system inspection operations are in good shape, although there is room for additional efforts, for example for performing multiple system inspections annually with UAVs (drones), rather than performing the drone inspections just one time per year. On the VM operations side, BVES is an industry leader in residue removal and cleanup operations after VM, and in partnering with the landowners whose trees are subject to right-of-way VM operations.

Vegetation Management: Integration with overall forestry operations in the region

The BVES service territory is located within the San Bernadino National Forest, so other than the residential landowners along the lakes, the greater forest surrounding BVES is owned and managed by the US Forest Service. The risk of wildfire in the BVES service territory includes not only ignitions caused by BVES equipment, but also the risk of fires originating by other

means and/or offsite burning into the BVES territory. While the US Forest Service is the manager and decision maker for the management of Forest Service land, BVES has a clear interest in encouraging forest safe operations and activities on the part of the Forest Service on their lands inside and adjacent to the BVES service territory. The new federal government has been issuing mixed messages as to their policies for the management of federal lands, ordering increased forestry operations while at the same time cutting staffing. GPI encourages BVES to make outreach efforts to the US Forest Service and to encourage them to perform wildfire risk reduction forestry operations on their acreage in the vicinity of BVES as an integrated risk management strategy. BVES's and SCE's Technosylva consequence outputs may provide additional context to inform an integrated risk management strategy that includes fuels management in and around the BVES service territory.

Emergency Preparedness, Collaboration, and Community Outreach: Plans for post fire restoration

To date the service territory of BVES has not experienced a destructive wildfire in this century. This means that neither the utility nor the community it serves have any experience with coping with and recovering from wildfire. This limits BVES to learning whatever lessons it can from the utilities that do have this experience, especially PG&E, SCE, and SDG&E.

Several of our suggestions in these comments include pursuing expanded and new community outreach efforts in association with various initiatives in order to integrate various improved utility practices into BVES's operations. This is certainly the case when it comes to formulating plans for post-fire restoration. Post-fire restoration involves so much more than just the restoration of electric service in the community, and BVES will want to go beyond conventional practice in promoting community restoration efforts. The only way to do this effectively requires extensive community outreach and interaction on the part of BVES. That community outreach should be established as quickly as possible, in order to ensure that there is a structure in place for community communications when a wildfire hits.

In the opinion of GPI the BVES 2026-2028 WMP is seriously deficient in its development of plans for post fire restoration. Serious efforts during the initial year of the 2026-2028 three-year WMP cycle should be dedicated to accelerating the development of BVES's plans for post

wildfire restoration. The OEIS should order BVES to build a plan for this effort into the 2026-2028 WMP before it is deemed accepted.

Conclusions

We respectfully submit these comments on the 2026-2028 WMP of BVES. BVES is much smaller than California's IOUs, and hence it is unable to apply the same level of resources to their wildfire mitigation efforts compared to the IOUs. On the other hand, the more homogeneous service territories of BVES allows them to concentrate their efforts on the particular features of their system, and to work in greater partnership with the needs and interests of their customers. Our current analysis of the 2026-2028 WMPs of the IOUs and BVES show that the IOUs are significantly ahead in terms of their use of risk modeling information, and in the execution of their grid-hardening efforts, while BVES is ahead in terms of transparency and successfully interacting with their customer base to reach common goals. We provide herein a series of critiques and suggestions for BVES and the OEIS to improve the BVES 2026-2028 WMP. It is our hope that BVES will continue to absorb the lessons learned by the IOUs with respect to the strengths in their WMPs, and equally that the IOUs will learn from BVES and the other SMJUs in the areas of the SMJUs' strengths.

For the reasons stated above, we urge the OEIS to adopt our recommendations herein.

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Respectfully Submitted,

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