



2022 Wildfire Mitigation Plan Public Safety Power Shutoffs



May 18, 2022



Overview



Decision-making Criteria



Exercises



Investing in Safety

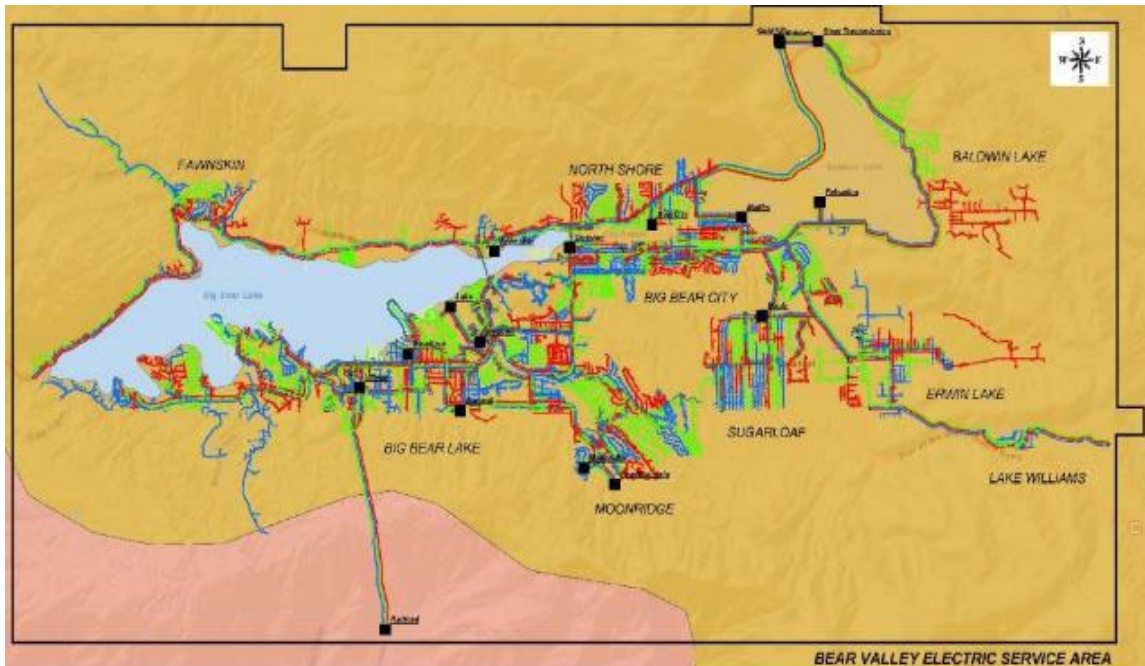


Questions?



Powering The Mountain Since 1929

Overview



Location: 32 square miles of rural and mountainous terrain at approximately 7,000 ft. in San Bernardino Mountains (80 miles East of Los Angeles). Heavy tree and vegetation density and mostly dry environment (80.5%)

Key jurisdictions: County of San Bernardino, City of Big Bear Lake, US Forest Service

Customers: 24,562 total [23,065 residential and 1,497 commercial]

CARE: 2,032; Medical Device: 238; AFN: 14

Decision-making Criteria

Criteria based on system design limits, system condition, fuel availability, and likelihood of wildfire spread.

BVES would invoke PSPS if actual sustained wind or 3-second wind gusts exceed 55 mph and conditions are High for wildfire threat.

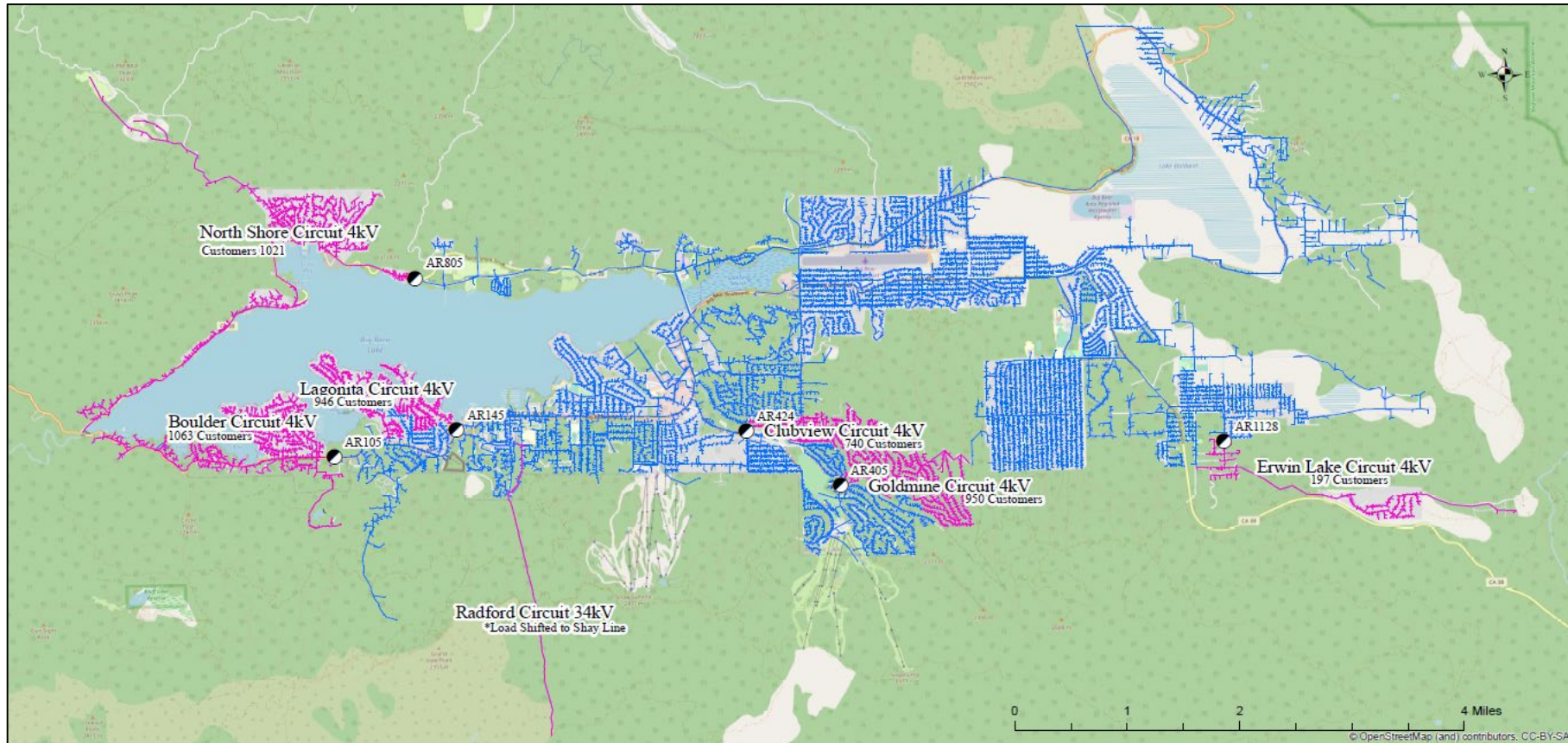
PSPS is measure of last resort in a progression of operational actions.

BVES did not have any PSPS events in 2021. Based on analysis of weather in last 5 years BVES has not met criteria to invoke PSPS.

BVES developed ignition probability & consequence maps to better understand local wildfire risk. In 2022, will gain access to real-time simulation modeling and live meteorological conditions mapping.

Chain of Responsibility	President	Utility Manager	Field Operation Supervisor	Utility Eng & WF Mitigation Supervisor	Customer Program Specialist
	Overall responsible for the PSPS Plan and ensuring it is properly implemented, resourced, trained upon, executed, and updated as appropriate	Responsible for executing the BVES PSPS Plan	Responsible for directing operations in the field	Responsible for fire prevention planning and engineering design of the electric distribution, sub-transmission and substations	Responsible for the BVES Communications Plan

High Risk Areas for PSPS Consideration



BVES "High Risk Areas" for PSPS Consideration



Legend

- Auto-Reclosers
- De-energized Lines
- Energized Lines

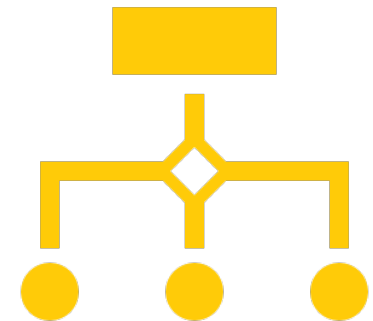
Exercises

Last exercise was conducted on April 14, 2022

- Several lessons learned, which resulted in updating BVES PSPS Policy and Procedure Plan

Next PSPS exercise planned for June 21, 2022:

- Scenario will be a BVES directed PSPS event due to high winds and high wildfire threat conditions.
- Will execute communication and notification protocols.
- Will coordinate Community Resource Center and amenities.
- Will deploy Wildfire Response Team.
- Will conduct re-energization patrols.
- Will exercise all levels of communications with local government, agencies, stakeholders, and the public.
- Will encourage local government, agencies and stakeholders to participate.



Investing in Safety

Partnership with Davey Resource Group, Inc.

Following a successful program launch in 2021, BVES has extended their partnership with Davey Resource Group, Inc. (DRG) to conduct Unmanned Aerial Vehicle (UAV) fly-over inspections of its sub-transmission and distribution system throughout the months of April and May.

Covered Wire Program

BVES strives to exceed requirements in its WMP by using a variety of safety, fire-hardening and grid-hardening strategies to reduce and eliminate the risk of wildfires. As drought and dryness are expected to continue across California for years to come, the utility is taking measures to protect lives and the land. For example, BVES became the first IOU in the U.S. to install fire-resistant-non-propagating covered wire across its service territory. The all-aluminum alloy conductor wire replaced existing 34-kV lines running throughout the utility's high fire-threat areas.



Investing in Safety – WMP Execution Performance

Risk Assessment & Mapping

- Developed ignition probability risk and consequence maps
- Plans for 2022: Securing access to on-demand weather platforms for real-time simulations

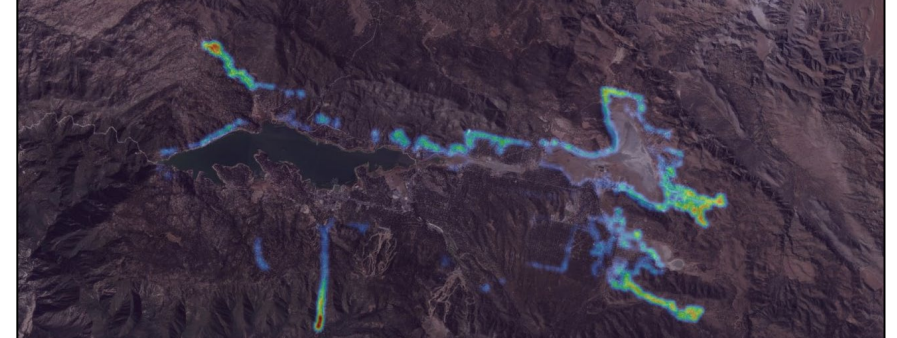
Situational Awareness & Forecasting

- Two final weather (of 20) stations installed in 2021
- 15 installed HD cameras for area-wide coverage

Grid Design & System Hardening

- Hardened 20 bare wire circuit miles, 12 of which hardened in 2021
- Technical/safety upgrades to the Palomino station
- Replaced all 862-remaining expulsion (conventional) fuses.
- 74 legacy tree attachments removed.
- BVES completed its Evacuation Route Pilot Program – with pole/cross-arm hardening
- All main evacuation routes will be hardened in 2022.

Risk from Powerline Ignitions (based on fire area)



Investing in Safety – WMP Execution Performance

Asset Management & Inspections

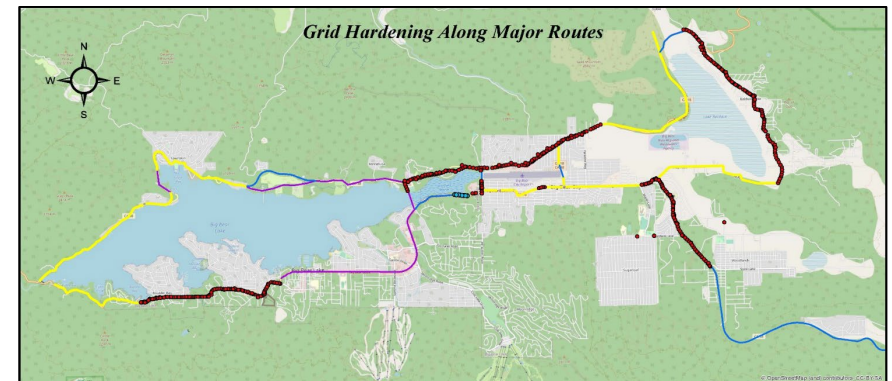
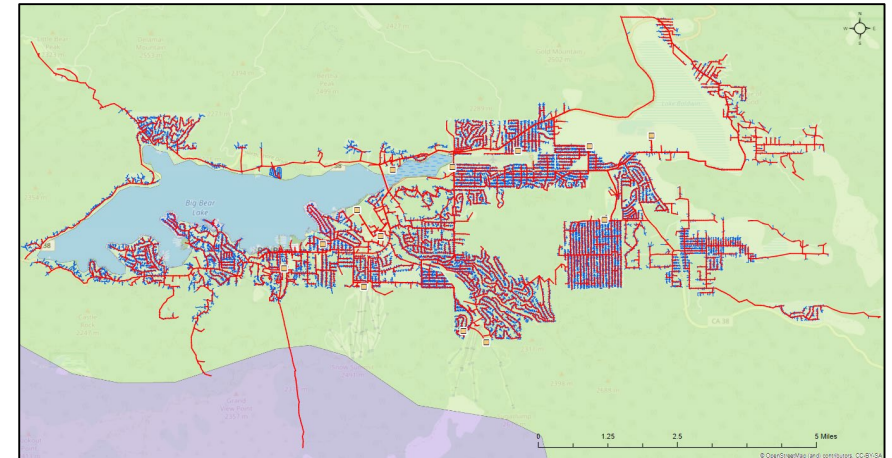
- Territory-wide inspections using UAVs and ground patrols covering 211 circuit miles
- An additional 78.56 circuit miles were LiDAR surveyed, raising total to 289.56 above the 211-circuit mile target
- Enhanced its QA/QC of inspections
- 3rd-party ground patrols with contracted forester

Vegetation Management & Inspections

- Annual detailed inspections exceeded planned 50 circuit mi. (54.9)
- UAV and ground patrol inspections covered 211 circuit miles along with the LiDAR inspections
- Vegetation density along ROWs by 18%.
- Developed QA/QC procedures for additional validation

Grid Operations & Operating Protocols

- Continued improvement for existing emergency preparedness and response program
- Further refinement of PSPS plan documentation targeted for mid-2022



Investing in Safety – WMP Execution Performance

Data Governance

- Addressed administrative gaps related
- Improved GIS data/mapping and continued refinement of its data schema mapping practice.

Resource Allocation Methodology

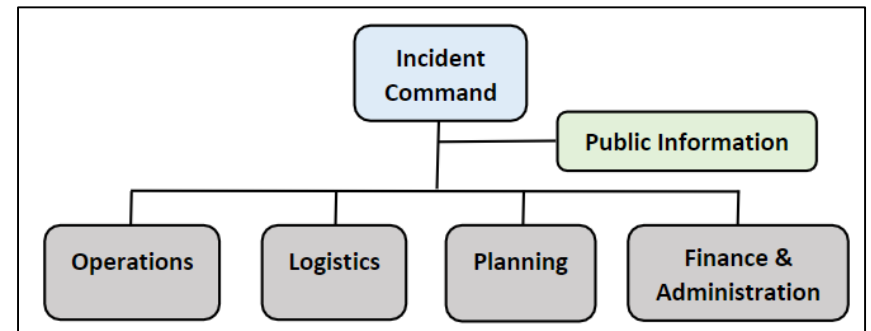
- BVES has met its targets for adequate resources in 2021
- For any immediate personnel needs, BVES hires outside consultants

Emergency Planning & Preparedness

- BVES reports no emergencies, PSPS events, or fire incidents in 2021, though remains prepared if program protocols are required
- Continued regular engagement with emergency responders/stakeholders

Stakeholder Cooperation & Community Engagement

- 602 engagement materials issued above target of 360 units
- BVES is improving AFN customers mapping within its GIS system and has issued self-identification notices to enhance tracking



Questions?



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