

Possible Incremental Vegetation Management Activities in Response to the Drought

April 22nd, 2014





Drought State of Emergency Overview

State of Emergency Declared by Governor Edmund G. Brown Jr.

- ┆ “We can’t make it rain, but we can be much better prepared for the terrible consequences that California’s drought now threatens * .”
- ┆ “ * the risk of wildfires across the state is greatly increased * ”
- ┆ “The California Department of Forestry and Fire Protection (CalFire) will hire additional seasonal firefighters to suppress wildfires and take other needed actions to protect public safety during this time of elevated fire risk.”
- ┆ Board of Forestry letter encourages the CPUC to support funding the Utilities at the appropriate levels to conduct this important electric vegetation management work
- ┆ SED letter related to declaration states “be aggressive to help reduce the risk of fires * ”

Drought conditions creating potential for a large and devastating fire

- ┆ Fuel loading
- ┆ Vegetation is stressed and more prone to disease & decay

California suppression & detection resources strained with more fire events

- ┆ January 14April 5, 2014, CalFire responded to ~900 wildfires compare to average 340 wildfires in the same timeframe
- ┆ Longer response times to fires
- ┆ Access often difficult
- ┆ Agencies’ early detection personnel and systems are strained



Possible Incremental Vegetation Management Initiatives

Enhanced Vegetation Inspections & Mitigation

Urban Wild Land Interface Protection

High Fire Risk Tree Identification & Mitigation

Fuel Reduction and Emergency Response Access

Early Detection of Forest Disease/Infestation

Early Detection and Response to Wildfires



Possible Initiatives

Enhanced Vegetation Inspections and Mitigation

Current Related Efforts:

- As part of our routine vegetation management inspections, PG&E patrols all overhead high4voltage distributon and transmission lines annually

Proposed Additional Efforts in Response to the Drought:

- Schedule 10420% additional patrols 4 expanding the fequency in targeted areas
- Red Flag and Pre/Event (Heat/Wind) Targeted Patrols
- Aerial Inspection of 6,700 miles in addition to routine patrol

Estimated Incremental Cost: \$6M

Urban Wild Land Interface Protection

Current Related Efforts:

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Proposed Additional Efforts in Response to the Drought:

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Estimated Incremental Cost: \$1.7M



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High Fire Risk Tree Identification and Mitigation

Current Related Efforts:

- PG&E currently identifies high fire risk trees using LiDAR on selected NERC transmission lines

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Estimated Incremental Cost: \$10M

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Estimated Incremental Cost: \$5M



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Early Detection of Forest Disease/Infestation

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Proposed Additional Efforts in Response to the Drought:

- Partner with USFS, CalFire, universities, and NGOs monitoring forest health to identify data gaps, offer data collection cost share opportunities near PG&E's electric assets, and use information to augment annual work

Estimated Incremental Cost: \$2M-\$5M

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- PG&E – none. U.S. Forest Service (USFS), CalFire, and various universities and non-governmental organizations (NGOs) conduct limited forest health monitoring, not necessarily in proximity to PG&E electric assets

Proposed Additional Efforts in Response to the Drought:

- Partner with USFS, CalFire, universities, and NGOs monitoring forest health to identify data gaps, offer data collection cost share opportunities near PG&E's electric assets, and use information to augment annual work

Estimated Incremental Cost: \$2M-\$5M

Early Detection and Response to Wildfires

Current Related Efforts:

- PG&E – none. Current state agency detection and response efforts to fires include watch towers, CalFire fire detection flights, and other conventional methods, but without a specific focus on protecting utility facilities.

Proposed Additional Efforts in Response to the Drought:

- Partner with state and federal agencies such as USFS, CalFire, State Parks, National Park Service, and the Bureau of Land Management to provide funding for added personnel at currently unmanned critical fire lookout towers near PG&E facilities, additional fire detection flights along power lines, and standby fire suppression crews while agency resources are engaged on large fires.
- Partner with agencies for deployment of more early detection devices such as high-resolution remote and infrared cameras oriented towards utility facilities.
- Create a mutual alert system between PG&E and agencies, directing them to areas critical to PG&E

Estimated Incremental Cost: \$3M

Possible Incremental Vegetation Management Activities in Response to the Drought

April 22nd, 2014





Drought State of Emergency Overview

State of Emergency Declared by Governor Edmund G. Brown Jr.

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Drought conditions creating potential for a large and devastating fire

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Possible Incremental Vegetation Management Initiatives

Enhanced Vegetation Inspections & Mitigation

Urban Wild Land Interface Protection

High Fire Risk Tree Identification & Mitigation

Fuel Reduction and Emergency Response Access

Early Detection of Forest Disease/Infestation

Early Detection and Response to Wildfires



Possible Initiatives

Enhanced Vegetation Inspections and Mitigation

Current Related Efforts:

- As part of our routine vegetation management inspections, PG&E patrols all overhead high4voltage distributon and transmission lines annually

Proposed Additional Efforts in Response to the Drought:

- Schedule 10420% additional patrols 4 expanding the fequency in targeted areas
- Red Flag and Pre/Event (Heat/Wind) Targeted Patrols
- Aerial Inspection of 6,700 miles in addition to routine patrol

Estimated Incremental Cost: \$6M

Urban Wild Land Interface Protection

Current Related Efforts:

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Estimated Incremental Cost: \$1.7M



Possible Initiatives, cont.

High Fire Risk Tree Identification and Mitigation

Current Related Efforts:

- PG&E currently identifies high fire risk trees using LiDAR on selected NERC transmission lines

Proposed Additional Efforts in Response to the Drought:

- Expand hazard trees identification in selected high fire danger areas to additional overhead transmission and distribution assets by application of new techniques. Hazard identification techniques may include LiDAR, Hyperspectral Imaging and ground-based tree evaluation methods not typically used in routine vegetation management operations

Estimated Incremental Cost: \$10M

Fuel Reduction and Emergency Response Access

Current Related Efforts:

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Estimated Incremental Cost: \$5M



Possible Initiatives, cont.

Early Detection of Forest Disease/Infestation

Current Related Efforts:

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Proposed Additional Efforts in Response to the Drought:

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Estimated Incremental Cost: \$2M-\$5M

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Estimated Incremental Cost: \$3M

Possible Incremental Vegetation Management Activities in Response to the Drought

April 22nd, 2014





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Current Related Efforts:

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Estimated Incremental Cost: \$1.7M



Possible Initiatives, cont.

High Fire Risk Tree Identification and Mitigation

Current Related Efforts:

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Proposed Additional Efforts in Response to the Drought:

- Expand hazard trees identification in selected high fire danger areas to additional overhead transmission and distribution assets by application of new techniques. Hazard identification techniques may include LiDAR, Hyperspectral Imaging and ground-based tree evaluation methods not typically used in routine vegetation management operations

Estimated Incremental Cost: \$10M

Fuel Reduction and Emergency Response Access

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Estimated Incremental Cost: \$3M

Possible Incremental Vegetation Management Activities in Response to the Drought

April 22nd, 2014





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April 22nd, 2014





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