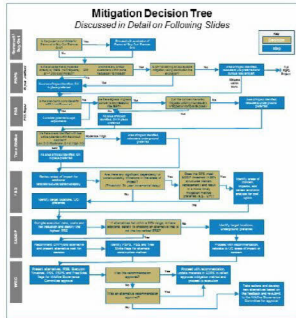


Wildfire Risk Governance Committee
System Hardening Project Approvals

January 29, 2021

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Decision Tree and Guiding Principles



Guiding Principles

The **primary purpose** of the system hardening program is to **reduce wildfire risk**.
Where relevant, **other risks may impact the preferred mitigation** (e.g., PSPS, EC tags).

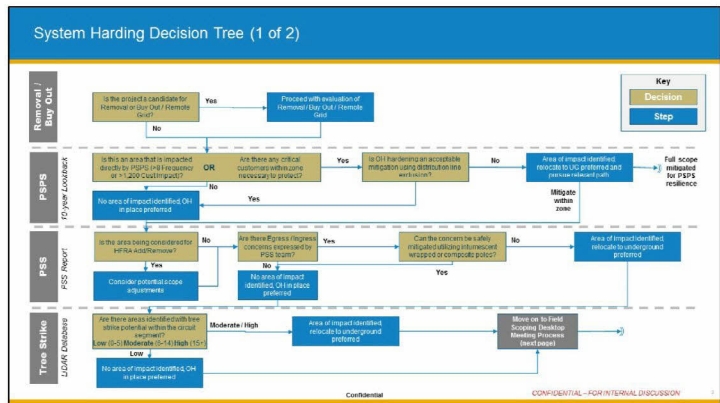
Decision Tree in Action:

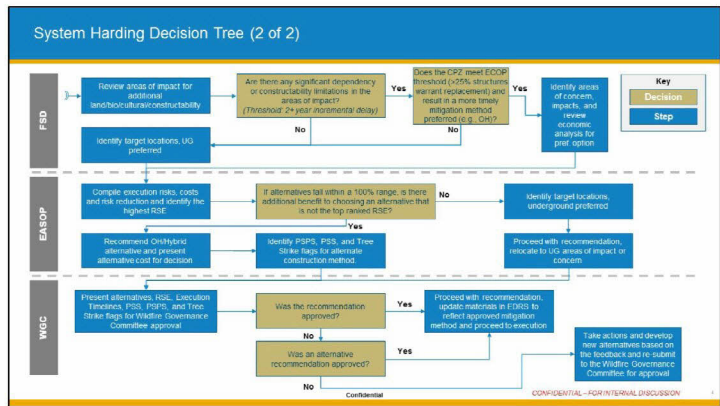
- System Hardening Team will leverage the decision tree in all mitigation scoping discussions
- Any jobs clearly defined by the decision tree logic will come to the committee as an inform
- All jobs which are "on the edge" or require exceptions to the decision tree will be brought to the committee for approval

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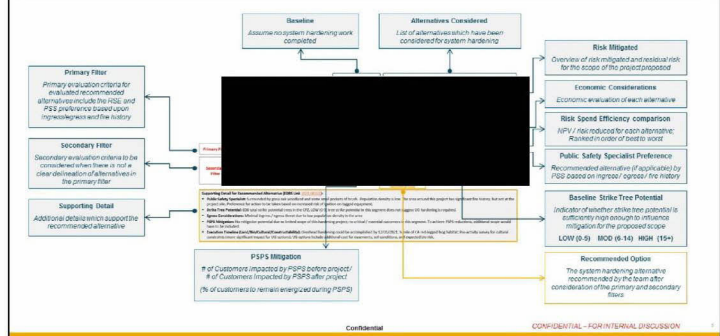
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System Hardening Decision Tree (1 of 2)





System Hardening Decision Framework Overview



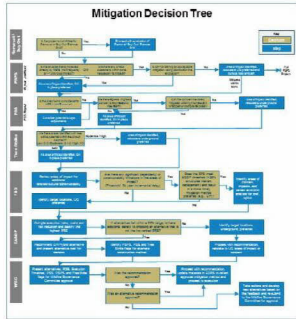
Today's discussion will include mitigation recommendations, as well as additional remote grid projects to be scoped for 2021

The following 3 projects have recommended mitigations:

Order No.	CPZ	Work Bucket	Total MAVF Core Risk Value	Mean MAVF Core Risk Rank	Recommendation	WGC Request
1	CLAYTON	ECOP	32.83	377	Hybrid (OH/UG)	Inform
2	Bucks Creek 1101CB	CWSP - Top 50	9.55	11	Hybrid (OH/UG)	Inform
3	Volta	CWSP - Top 250	13	39	OH	Inform

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	Key Questions	Outcome
PSPS	Is this an area that is impacted directly by PSPS (>6 Frequency or >1,200 Cust Impact)?	Y N 1 event, OH preferred
	Are there any critical customers within zone necessary to protect?	Y N
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y N N/A
PEGS	Is the area being considered for HFRA Add/Remove?	Y N
	Ingress/Egress concerns identified by PEGS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y N Ingress / Egress concerns
Tree Strike	Moderate (8-14) or High (15+) strike tree potential areas in the segment.	Y N
	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y N
FSD	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y N
	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y N Hybrid and UO where 100% Hybrid Preferred

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INFORM: ECOP Top 20% - PM [REDACTED] – Clayton [REDACTED] H01

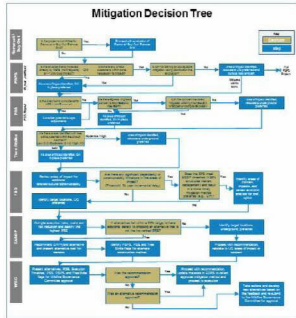
Clayton 2212 (5.42 Miles)	No System Hardening	Overhead Hardening	Under-grounding	Hybrid
Project Scope Work Reduced After Mitigation		1.48	2.36	3.97

Primary Filter	
Secondary Filter	

Recommended

Supporting Detail for recommended Alternative (LURS routing [REDACTED]):

- Public Safety Specialist:** Surrounded by grass oak. Population density is low. The area around this project has some fire history. Preference for action to be taken based on increased risk of ignition on lagged equipment.
- Strike Tree Potential:** 656 total strike potential trees in the CPZ, 1 OW (0-5) tree strike potential in this segment does not suggest UG hardening is required.
- Egress Considerations:** This road is not a main thoroughfare on a daily basis but is a route of egress for citizens from the Clayton Valley area when fire impacts the Clayton Valley area. The road is used for ingress for fire and emergency services from the south.
- SPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical / essential customers in this segment. To achieve SPS reductions, additional scope would have to be included.
- Execution Timeline (Land/Bio/Cultural/Constructability):** Oh hardening could be accomplished by 12/31/2021. 1.2 miles of CA red-legged frog habitat, CA tiger salamander, and Alameda Whipsnake; no activity survey for cultural constraints (more significant impact for us, customers); UG options include additional cost for easements, soil conditions, & expected fire risk.



	Key Questions	Outcome
PPSP	Is this an area that is impacted directly by PPSG (+8 Frequency or +1,200 Cust Impact)?	Y N Severe, UG Preferred
	Are there any critical customers within zone necessary to protect?	Y N N/A
	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y N N/A
PPS	Is the area being considered for HFRA Add/Remove?	Y N N/A
	Ingress/Egress concerns identified by PGG professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y N HWY 76, UG preferred
Tree Strike	Moderate (8-14) or High (15+) strike tree potential areas in the segment.	Y N N/A
	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y N N/A
FSD	Does the CPZ meet ECOP threshold (>25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y N N/A
	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y N PPSP and Ingress/Egress
EASOP		Hybrid 1 Preferred

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INFORM: CWSP TOP 50 – PM# [REDACTED] Bucks Creek 1101 CB

Bucks Creek 1101 (4.78 miles)	No System Hardening	Overhead Hardening	Hybrid 1	Hybrid 2
Project Score Rank Restored After Attribution		4.77	5.11	8.56

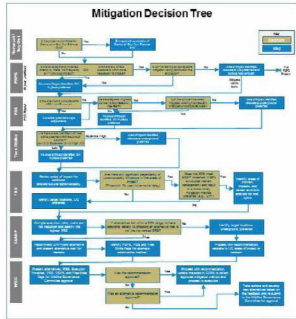
Primary Filter

Secondary Filter

Recommended

Supporting Detail for Recommended Alternative (DORS Link [DOI-2017-013](#)):

- Public Safety Benefits:** Fuel types are consistent with moderate to heavy brush and mixed conifer, however, the general area has been heavily fire scarred and the fire scar areas are interspersed with a significant amount of standing dead fuel.
- Wildfire Tree Potential:** US total strike potential trees in the CPZ Moderate (0-15) tree strike potential.
- Keyway Considerations:** This project crosses HWY 70 near the Bucks Creek River/riparian and then parallels the highway for a roughly 2-mile stretch, and then runs along Stonie Rd, paralleling the Feather River on the canyon opposite side of Highway 70. HWY 70 is a main thoroughfare for ingress/egress for emergency responders and to the few residents who live in that district area. It is also a major route for commerce, both by vehicle and on foot. If Highway 70 was closed in this area it would make ingress and egress difficult. Fuel impossible for responders and citizens and economically be a substantial hit to commerce. There are no alternative routes within the Feather River Canyon.
- PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical/essential customers in this segment. Cannot achieve PSPS reduction due to required overhead conductor over the water crossing near the expansion.
- Excavation Timeline (and/Resilience/Cost/Constructability):** Work required during the dry season (May 15 - Oct 15) and/or biomonitoring and potential herbicide applications (Feb 7 - July 15) due to owl activity centers. CAUTION: 100% equipment requirements and 100% culturally sensitive areas in mid and S. Buck creek further down HWY 70 is undergrounding line consistent with the regional 3 alternative.



	Key Questions	Outcome
PPSP	Is this an area that is impacted directly by PSPG (-8 Frequency or >1,200 Cust Impact)?	Y N
	Are there any critical customers within zone necessary to protect?	Y N
PS	Is OH hardening an acceptable mitigation using distribution line exclusion?	Y N N/A
	Is the area being considered for HFRA Add/Remove?	Y N
Tree Strike	Ingress/Egress concerns identified by PS professionals cannot be mitigated by utilizing intumescent wrapped or composite poles.	Y N
	Moderate (8-14) or High (15+) strike tree potential areas in the segment.	Y N
FSD	Are there any significant dependency or constructability limitations in the areas of impact? (Threshold: 2+ year incremental delay)	Y N
	Does the CPZ meet ECOP threshold (<25% structures warrant replacement) and result in a more timely mitigation method preferred (e.g., OH)?	Y N
EASOP	If alternatives fall within a 100% range, is there additional benefit to choosing an alternative that is not the top ranked RSE?	Y N
		OH Preferred

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INFORM: CWSP TOP 250 – PM# [REDACTED] Volta 1101 LR 49742

Volta 1101 (8.55 miles)	No System Hardening	Overhead Hardening	Undergrounding	Hybrid
Project Scope Risk Reduced After Mitigation	-	8.06	12.87	10.79

Primary Filter

Secondary Filter

Recommended

Supporting Detail for Recommended Alternative (PDF Link [2024.07.23](#)):

- **Public Safety Specialist:** Fuel types are consistent with mainly grass look woodland, brush, and intermixed patches of conifers/Gray Pines. Area has a significant fire history but not directly in the project footprint but shows the ability of the area fuels to resist containment and become a major fire.
- **Strike Tree Potential:** 2 total strike potential trees in the CP2, LCV (0-5) tree strike potential in this segment does not suggest US hardening is required. To under-build for most of job.
- **Fire Considerations:** Evacuees have multiple ways out of the area, depending on the location of the fire. IP responders will have 2 access roads.
- **PSPS Mitigation:** No mitigation potential due to limited scope of this hardening project; no critical/essential customers in this segment. To achieve PSPS reductions, additional scope would have to be included. 2 PSPS operations in 10 year lookback.
- **Execution Timeline (Land/Bio/Cultural)/Constructability:** Work required during the dry season (May 15 – Oct 15) and/or biomonitoring. Mitigation expenses should be considered for ground disturbance. Potential permitting for multiple waterways. Tribal monitoring may be required. Cultural resources work and reporting may need be required, 1-2 days of O&M time.