

From:

To:

CC:

Sent: 3/17/2021 12:54:40 PM

Subject: System Hardening Project vs Program RSE

Attachments: conductor\_pz\_summary\_hftd\_23\_release20201015offline\_combined.xlsx

Attached is the working file based off our discussion last night. These additional columns were added on top of the 2021 Wildfire Distribution Model output results. I wanted to summarize the importance of clarifying the distinction between project level risk units / \$ vs programmatic RSEs. This will continuously be a sticking point in any further analysis across many programs, so I wanted to provide this as context.

**Objective:** Framework to compare (System Hardening) Project vs Programmatic Risk Spend Efficiencies

**Background:** As System Hardening Risk MAVF Units/Risk Buydown is compared to the cost of the project, questions/confusion on if this is a representation of Risk Spend Efficiencies will arise. There needs to be additional clarity what the Risk Buydown Units mean vs the programmatic RSEs (RAMP/WMP/GRC) as currently they are not one and the same. The major gap that I currently see is that Risk Buydown Units from the 2021 Wildfire Distribution Model is only a 1 year view, not the long term benefit, in which RSEs are required to factor in.

### Summary

- With a System Hardening mitigation benefit length of 30 years, the Risk Buydown Unit to Long Term Risk Reduction Factor is **13.16** or 14.15 (with system level climate projections).
- As a talking point, for the top 20% of circuit segment HFTD miles, the top 20% RSE is **2.69x greater** than the overall System Hardening program across the entire system territory
- For example, if a risk buydown unit is 10 risk unit buydown points, for \$10M, the risk unit / \$M is 1.0, but the Risk Spend Efficiency is 13.16 to account for long term benefits

### Ramifications

- For data requests, meeting with external parties, please be careful of Risk Buydown Unit vs Risk Reduction when discussing project RSEs vs programmatic RSEs
- Recommendation: EASOP analysis for System Hardening projects to include the Benefit Life Factor to avoid confusion between Risk Buydown Unit / \$ vs RSE (as new field for reference)
- Integration with CopperLeaf C55 on 2021 Wildfire Risk Model Risk Scores, value framework, RSE against other programs, need to include this normalization of units of measure (in early discussions)
- **Please let me know if this information will be shared (especially externally), as I want to be careful how this information is disseminated**

### Details

- Many of the inputs can be adjusted as needed and is indicated as such. Defaulted values populated.
- In order to represent long term risk benefits, I took RAMP/MAVF discount factor of 7.1% (7% going into GRC) and spanned it over 30 years.
- Climate Projections were included to represent the growth in Wildfire Risk and subsequently Risk Reduction benefits. This was assessed at the system level regardless of circuit segment, so you can "turn it off" as you see fit
- Risk Unit Buydown à Long Term Risk Reduction factor is 13.16, can be adjusted depending on your inputs
- Comparatively, you can adjust the Top ##% of risk to understand how much higher RSE you get for targeting the higher portions of the Risk Buydown Curve. For example, top 20% is 2.69x higher than average, top 25% is 2.47x higher than average
- Individual RSEs for each Circuit Segment are available on Column AF, cost as be adjusted on Column AC

Side Note: the file also includes a mockup of WF+PSPS Combined Risk Scoring to assess by circuit what the combined risk is, which was also discussed last night in the same file.

Thanks.

Benefit Length	30	<-- adjust as necessary
Climate Growth Rate	FALSE	<-- adjust as necessary
Benefit Length Factor	13.16	
<b><u>System Hardening Overhead</u></b>		
Risk Buydown Effectiveness	62%	<-- adjust as necessary
\$M Per Mile	\$ 1.60	<-- adjust as necessary
<b><u>Entire HFTD</u></b>		
Total Risk Buydown	24,765	
Total HFTD Miles	26,262	
Average Risk / Mile	0.94	
Total Risk Buydown	15,354	
Long Term Risk Reduction	202,025	
Total Dollars (\$M)	\$ 42,020	
Risk Buydown / \$M	0.37	higher the better
\$M Per Point Risk Buydown	2.74	lower the better
Programmatic RSE	4.81	higher the better
<b><u>Top CS HFTD Miles</u></b>	20%	<-- adjust as necessary
Top 20% CS HFTD Miles	5,252	
Top 20% CS HFTD Miles - Nearest	5,258	
Top 20% CS HFTD Miles Risk	13,347	
Average Top 20% Risk Per Mile	2.54	
Top 20% Risk Buydown	8,275	
Top 20% LT Risk Reduction	108,878	
Top 20% Total Dollars (\$M)	\$ 8,412	
Risk Buydown / \$M	0.98	higher the better
\$M Per Point Risk Buydown	1.02	lower the better
Top 20% RSE	12.94	higher the better
Multiplier of Top 20% vs System	2.69	
RSE Multiplier of Top 20% vs System	2.69	
Check	OKAY	

# Annual Risk Reduction

