

From:



To:

CC:

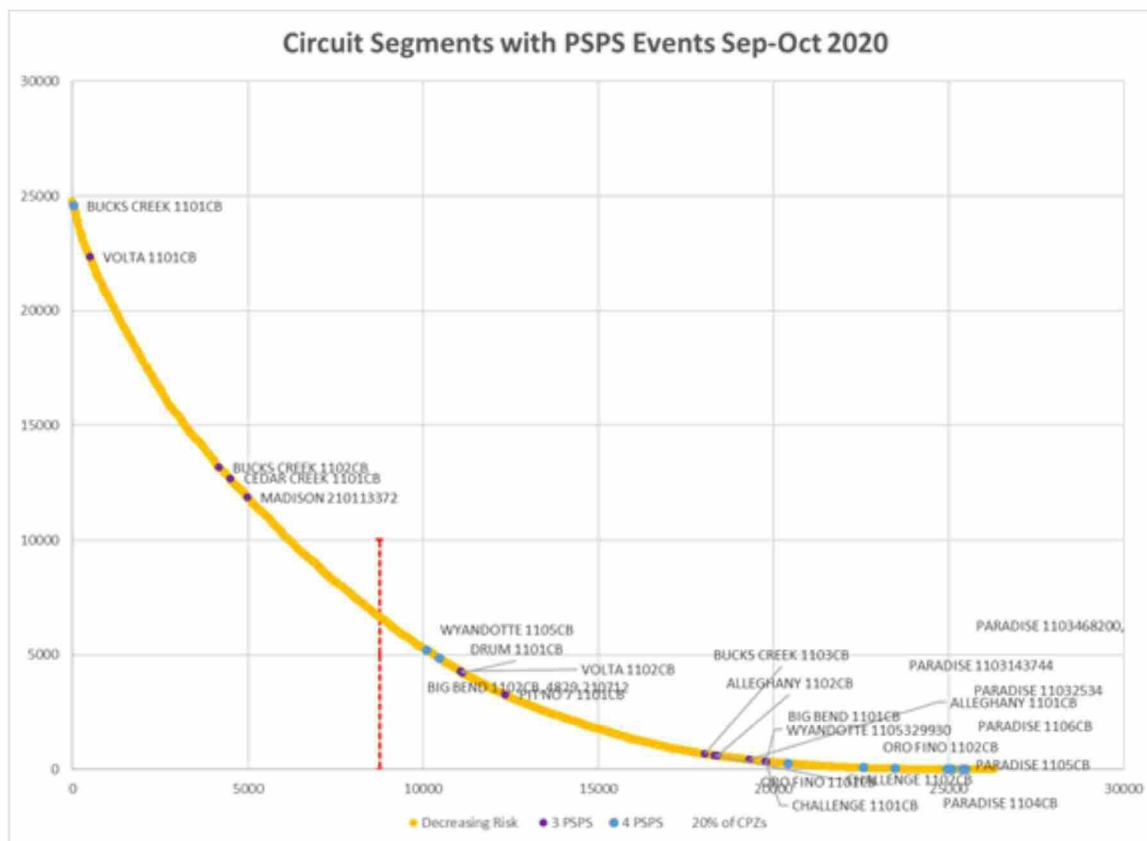
Sent: 12/1/2020 9:59:25 AM

Subject: RE: PSPS circuits

Attachments: PSPS\_System Hardening Risk Buydown Curve.xlsx



I hope you had a good break too. Below is an updated version of that graph with the labels of each circuit segment. Also find attached a copy of the native file with the data and graph for your records. The data covers the PSPS events in September and October this year, hence the graph title update.



Carlos

From:



Sent: Tuesday, December 01, 2020 8:47 AM

To:



Subject: RE: PSPS circuits

Hi



Good morning, I hope you had a good break. I wanted to include the analysis you've done in my overall analysis. Does the slide below correctly capture the information? Also, do you happen to know which PSPS events this covers? Thanks!



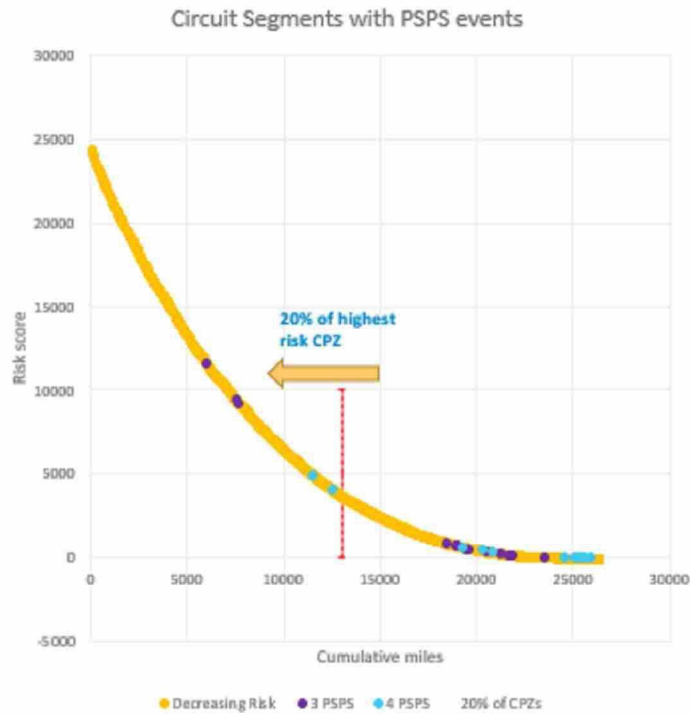
# Appendix – Circuit Segment analysis Risk vs. PSPS events

## Conclusion

- CPZs which experiences 3-4 events over the 2019/2020 PPS season are at the lower end of the risk buydown curve, suggesting there is not a strong correlation between risk and PPS event frequency

## Data

- Risk buydown curve with the CPZs that have been in PPS scope over 2019 and 2020 seasons highlighted
- Risk buydown curve uses the cumulative total MAVF risk to highlight how much risk is left across the system after a series of 1-N mitigations.



From: [REDACTED]  
 Sent: Monday, November 23, 2020 6:44 PM  
 To: [REDACTED]  
 Subject: RE: PPS circuits

I believe some of those are out of scope because they are not in a HFTD. Also I see some are substation which are out of scope of the conductor model.

From: [REDACTED]  
 Sent: Monday, November 23, 2020 12:32 PM  
 To: [REDACTED]  
 Subject: RE: PPS circuits

Thanks, [REDACTED]

Quick question – I couldn't find the following circuits on your list. However, they show-up in my PPS circuit data. Thanks!

Circuit	Sub	frequency
POWER HOUSE NO 3 1103	POWER HOUSE NO 3	12

POWER HOUSE NO 2 1103	POWER HOUSE NO 2	11
POWER HOUSE NO 3 1101	POWER HOUSE NO 3	11
ALPINE 1102	ALPINE	11
ALPINE 1101	ALPINE	11
POWER HOUSE NO 3 1102	POWER HOUSE NO 3	11
SUISUN 1109	SUISUN	5
TEXACO PIPELINE GRPVINE 1101	TEXACO PIPELINE GRPVINE	5
BRYANT 0401	BRYANT	2
TAMARACK 1102	TAMARACK	2
SAN ARDO 1102	SAN ARDO	1
COALINGA NO 2 1105	COALINGA NO 2	1
BRENTWOOD SUB 2105	BRENTWOOD SUB	1
COALINGA NO 1 1108	COALINGA NO 1	1
KING CITY 1106	KING CITY	1
DEVILS DEN 1101	DEVILS DEN	1
STELLING 1111	STELLING	1
ARBUCKLE 1101	ARBUCKLE	1
CARBONA 1101	CARBONA	1
RUSS RANCH 1101	RUSS RANCH	1

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**From:** [REDACTED]  
**Sent:** Friday, November 20, 2020 2:29 PM  
**To:** [REDACTED]  
**Subject:** FW: PSPS circuits

[REDACTED]

See the attached.

Sheet 1 has a list of circuit segments that experienced a PSPS.  
Group 1 = 1 PSPS event in last 2 years, Group 2 = 2 PSPS events in last two years, the same for Groups 3 and 4.

The sheet in the middle has all the outputs from the model and then I created the graph that focuses on circuit segments with 3 and 4 PSPS, but if you click the graph filter the ones with 1 and 2 events can be added.

Thanks,

[REDACTED]

PS: Using circuit segment instead of CPZ as it looks like we are headed in that direction.

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**From:** [REDACTED]  
**Sent:** Friday, November 20, 2020 2:24 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: PSPS circuits

[REDACTED]

See attached.

I added the labels for each circuit segments and it looks like it is still readable. Also changed the title to read Circuit Segment instead of CPZ

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Friday, November 20, 2020 1:30 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: PSPS circuits

[REDACTED]

This looks great. I agree that the chart is easier to read with the circuit segments with 3 or 4 PSPS events. Further the circuit segments with 1 or 2 PSPS events seem evenly distributed across the curve. I think we should anticipate that viewers will want to know the names of the circuit segments. Can those be added as labels?

Can we also change the use of CPZ to circuit segment?

Thanks,

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Friday, November 20, 2020 1:17 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: PSPS circuits

[REDACTED]

Attached is the risk buydown curve with the CPZs that have been in PSPS scope last two years highlighted. The chart has filtered out CPZs with 1 or 2 events as I thought it was cleaner if we focus on those with 3 or 4 events, you're welcome to add those back in by clicking the filter in the right side of the graph.

I also took a couple of recommendation from [REDACTED] to keep the risk curve orange and create a line highlighting where the top 20% of CPZ in high risk are, the reason is that this is a view everyone has become familiarized.

Please let me know if you have further questions.

[REDACTED]

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**From:** [REDACTED]  
**Sent:** Wednesday, November 18, 2020 4:57 PM  
**To:** [REDACTED]  
**Subject:** RE: PSPS circuits

**\*\*\*\*\*CAUTION: This email was sent from an EXTERNAL source. Think before clicking links or opening attachments.\*\*\*\*\***

Hi [REDACTED],

The risk buydown curve uses the cumulative total MAVF risk to highlight how much risk is left across the system

after a series of 1-N mitigations.

Closer to the point, the order of the rankings is based off of the Mean MAVF score and that can be used to determine where along the curve the CPZ will fall. We have a tool that can help show this. If you input CPZs into the grouping columns on sheet 1, a template for the risk buydown curve will be created.

Happy to connect if more detail or support is needed.

Thank you

[REDACTED]  
[REDACTED]  
KPMG LLP | Manager, Strategy  
[REDACTED]

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**From:** [REDACTED]  
**Sent:** Wednesday, November 18, 2020 7:05 PM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** [EXTERNAL] RE: PSPS circuits

I believe so. [REDACTED] can you confirm?

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**From:** [REDACTED]  
**Sent:** Wednesday, November 18, 2020 1:43 PM  
**To:** [REDACTED]  
**Subject:** RE: PSPS circuits

Is the risk buy down curve the same as the Mean MAVF score in the conductor model?

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**From:** [REDACTED]  
**Sent:** Wednesday, November 18, 2020 12:14 PM  
**To:** [REDACTED]  
**Subject:** FW: PSPS circuits

This is the item that I need your help on.

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**From:** [REDACTED]  
**Sent:** Tuesday, November 17, 2020 8:55 AM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** PSPS circuits

[REDACTED]

From the EOC, can we get all the 2019 and 2020 PSPS events and the circuits and circuit protection zones that were impacted.

[REDACTED] might have that as well.

Then we plot it on the risk buy down curve for system hardening.

I am not expecting it to show up high or low. The model was not developed to predict where we would have PSPS events, so this is an action that we are closing out to put this issue to bed.

Would love to have that closed out by this coming Friday.

If we have the materials assembled (basically 1 page) I will host a call and close it out before Friday.

[REDACTED] | PG&E | Electric Operations – Business Operations | [REDACTED]  
[REDACTED]

•  
There is no such thing as a small act of kindness; every act creates a ripple with no logical end.

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**From:** [REDACTED]  
**Sent:** Tuesday, November 17, 2020 8:45 AM  
**To:** [REDACTED]  
**Cc:** [REDACTED]  
**Subject:** RE: Follow-up conversation

[REDACTED]  
Happy to include you. We have not put the meeting on the calendar.  
I do want to clarify.

What we committed to doing was.

1. Make sure [REDACTED] and the System Hardening team did a review led by [REDACTED] on the PSPS projects that [REDACTED] was proposing during the Governance Review. This was to ensure that based on 2020 information, these projects were still going to be needed.
2. Get an understanding based on 2020 PSPS Events, if there are circuits where system hardening could provide enough safety buffer thus making them less likely to be impacted by future PSPS events
3. Lastly, plot the circuit protection zones that have been impacted by PSPS events in 2019 and 2020 and show where they fall on the System Hardening Risk Buydown Curve (this is the part you want to be invited to).

[REDACTED]  
[REDACTED] | PG&E | Electric Operations – Business Operations | [REDACTED]  
94105 | (C) 925-953-3008 |

•  
There is no such thing as a small act of kindness; every act creates a ripple with no logical end.

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**From:** [REDACTED]  
**Sent:** Tuesday, November 17, 2020 7:53 AM  
**To:** [REDACTED]  
**Subject:** Follow-up conversation

On Friday's Wildfire Risk Governance Ctt call, you committed to a follow-up conversation about assessing alignment between the risk model and the PSPS frequent flyer circuits. I would appreciate being included in these conversations please.

thanks

-- [REDACTED]

[REDACTED]  
PG&E PSPS Coordinator  
[REDACTED]

Note – Central time zone

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