

From: [REDACTED]
 To: [REDACTED]
 CC: [REDACTED]
 Sent: 1/29/2021 5:43:40 PM
 Subject: RE: 2019 Model

Thank you sir!

[REDACTED]
 Pacific Gas & Electric Company
 [REDACTED]

From: [REDACTED]
 Sent: Friday, January 29, 2021 5:43 PM
 To: [REDACTED]
 Subject: RE: 2019 Model

Here you go sir:

	Ranks					
	2021 Prob	2021 Con TS	2021 Risk	2019 Prob	2019 Risk - Egress	Risk w/ Egress
CLAYTON [REDACTED]	2582	281	377	222	1015	
BUCKS CREEK 1101CB	181	200	11	787	1395	1
VOLTA [REDACTED]	2835	6	39	1343	1893	2

[REDACTED]

From: [REDACTED]
 Sent: Friday, January 29, 2021 5:04 PM
 To: [REDACTED]
 Subject: RE: 2019 Model

On a similar but related topic, could you rank the following segments that are on deck at WGC today.

The following 3 projects have recommended mitigations:

Order No.	CPZ	Work Bucket	Total MAVF Core Risk Value	Mean MAVF Core Risk Rank	Recommendation	WGC Requ
WGC Inform						
1	CLAYTON 221296224	ECOP	32.63	377	Hybrid (OH/UG)	Inform
2	Bucks Creek 1101CB	CWSP - Top 50	9.55	11	Hybrid (OH/UG)	Inform
3	Volta 110149742	CWSP - Top 250	13	39	OH	Inform

[REDACTED]
[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Friday, January 29, 2021 4:12 PM
To: [REDACTED]
Subject: RE: 2019 Model

Thanks [REDACTED] – I appreciate the detailed response. As you get to know me, you will learn that I am a “roll up the sleeves and get into the details” guy so this is helpful.

[REDACTED]
[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Friday, January 29, 2021 4:08 PM
To: [REDACTED]
Subject: RE: 2019 Model

[REDACTED]
A couple of comments about the mismatch:

Ranking of Reax is not informative, the likelihood of spread and consequences column i.e., Reax in the 2019 model, only has 11 distinct values across the 3,205 segments.

Regarding the probability, there are many difference across models as you know that can explain the mismatches e.g., algorithms, input data, pixel aggregation, etc., but one that comes to mind when I have explored this question in the past is that the 2019 model used year round data from July 2013 to April 2018, while the 2021 model uses 2015-18 during fire season defined as June 1st – Nov 30th

Lastly, the results of the 2021 model closely align with the current (as of late-2020) as-designed configuration of the grid instead of the 2018, this caused the 2021 model results to be challenging to compare to the predecessor 2018 model results, because CPZs had changed so much in the interim.

This is what I found for Middletown 1102, and all its circuit segments:

	Ranks					
	2021 Prob	2021 Con TS	2021 Risk	2019 Prob	2019 Risk - Egress	Risk w/ Egress
MIDDLETOWN 1102CB	109	530	13	2033	982	974
MIDDLETOWN [REDACTED] – Not in 2019 model	357	121	8			
MIDDLETOWN [REDACTED]	519	315	125	1941	1040	1017
MIDDLETOWN [REDACTED]	755	1214	924	1650	2219	1830

MIDDLETOWN [REDACTED]	791	259	82	1485	895	855
MIDDLETOWN [REDACTED]	925	957	920	1103	1725	1575
MIDDLETOWN [REDACTED]	1266	329	176	914	555	486

From: [REDACTED]
Sent: Friday, January 29, 2021 2:43 PM
To: [REDACTED]
Subject: RE: 2019 Model

Thanks [REDACTED]

So to summarize for Brunswick 1103:

2019 PIO x Reax = 8
2019 PIO x Reax x Egress = 7
2021 POI rank = 1,394
2021 POI x TS Rank = 2,144

This is one where the 2019 ranking does not come close to the 2021 ranking. I wonder, and not sure if you have this information, what the pure Reax to TS rank was – i.e. is it the POI that is driving this mismatch?

For Middletown 1102, this is all I know until I hear back from the AM team.

It could be any of the following, which were all in the 500-2000 rank range in 2019:

MIDDLETOWN [REDACTED]

MIDDLETOWN [REDACTED]

MIDDLETOWN [REDACTED]

MIDDLETOWN [REDACTED]

MIDDLETOWN [REDACTED]

MIDDLETOWN [REDACTED]

[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Friday, January 29, 2021 2:16 PM
To: [REDACTED]
Subject: RE: 2019 Model

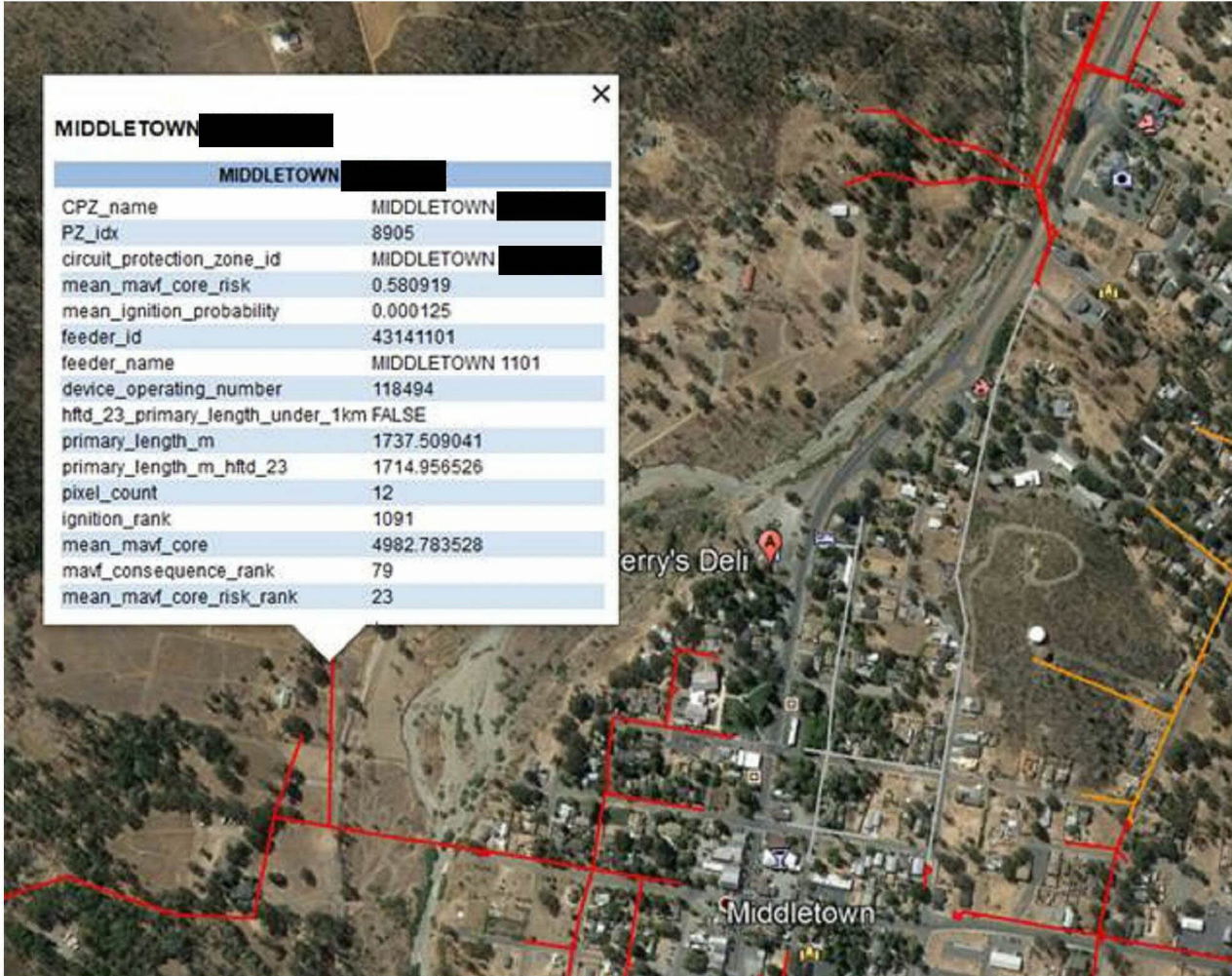
[REDACTED]

The location [REDACTED] is not close to any Middletown 1102 circuit segments. The closest are MIDDLETOWN 1101CB and MIDDLETOWN [REDACTED]. See picture below. Instead of giving you a bunch of numbers, can you confirm the exact circuit segment name?

As for the Brunswick [REDACTED] numbers, here they are:

2021 POI rank = 1,394

2021 POI x TS Rank = 2,144



From: [REDACTED]

Sent: Friday, January 29, 2021 1:53 PM

To: [REDACTED]

Subject: RE: 2019 Model

Hmm, I wonder if we will get the same answer for the other one:

Middletown 1102

Location: [REDACTED]

[REDACTED] – could you confirm the following:

2019 POI rank

2019 POI x Reax Rank

2021 POI rank

2021 POI x TS Rank

Can you provide the 2021 rank numbers for Brunswick too?

Thanks

[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Friday, January 29, 2021 1:46 PM
To: [REDACTED]
Subject: FW: 2019 Model

Yes, I called [REDACTED] and confirmed that Brunswick is a current project identified by the previous model. Some sections have already been hardened and the rest of the circuit segment is being finished this year.

From: [REDACTED]
Sent: Friday, January 29, 2021 1:33 PM
To: [REDACTED]
Subject: RE: 2019 Model

Thanks – so this site was probably selected from the 2019 model then

[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Friday, January 29, 2021 11:17 AM
To: [REDACTED]
Subject: RE: 2019 Model

2019 PIO x Reax = 8
2019 PIO x Reax x Egress = 7

From: [REDACTED]
Sent: Friday, January 29, 2021 11:10 AM
To: [REDACTED]
Subject: RE: 2019 Model

[REDACTED] – can you quickly let me know where this circuit rank prioritized under 2019 PIO and Reax

1. Brunswick 1103 LR 50070 Phase 2 2 ([REDACTED])

Location: [REDACTED]
[REDACTED]

[REDACTED]
Pacific Gas & Electric Company

[REDACTED]

From: [REDACTED]
Sent: Thursday, January 28, 2021 3:13 PM
To: [REDACTED]
Subject: RE: 2019 Model

Thanks [REDACTED] – so the net question is: what moved? And why?

And another angle might be to plot consequence only, so Reax vs TS vs MAVF CORE to see if there is vast movement there; and also to plot POI 2018 vs POI 2021 to see if it was driven by the POI component.

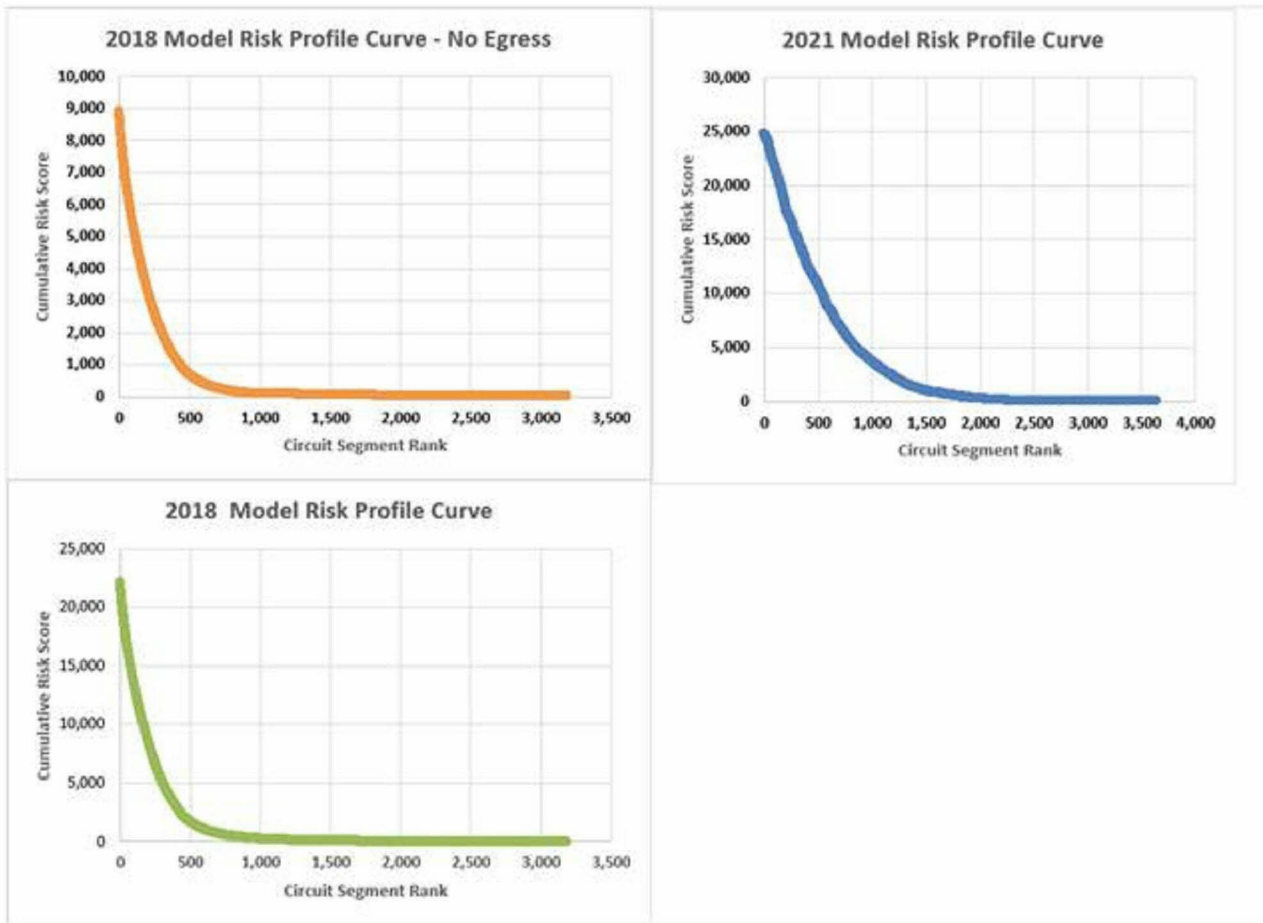
[REDACTED]
[REDACTED]
Pacific Gas & Electric Company
[REDACTED]

From: [REDACTED]
Sent: Thursday, January 28, 2021 3:05 PM
To: [REDACTED]
Subject: RE: 2019 Model

[REDACTED]

I plotted the 3 models below (2021, 2018 and 2018 minus Egress), not sure what level of analysis you'd like to pursue, so let me know your thoughts.

Attached is the workbook for your reference.



[REDACTED]

From: [REDACTED]
Sent: Wednesday, January 27, 2021 2:57 PM
To: [REDACTED]
Subject: FW: 2019 Model

[REDACTED]

I know we talked about this request some but my email does not show that I forwarded it to you. Let's not lose track of this one.

Thanks,

[REDACTED]

From: [REDACTED]
Sent: Wednesday, January 13, 2021 6:12 AM
To: [REDACTED]
Subject: FW: 2019 Model

[REDACTED]

Following on from our discussion last night, attached is the 2019 KPMG risk model which was filed as a DR response to PA so it is a public document. As you will see for each tab, in PURPLE I have ranked the model outputs using the (regression/Reax/egress) model, then re-ranked using just regression/Reax (omitting egress). Could you have one of the team take a look at this and perform some analysis to produce a visual representation of:

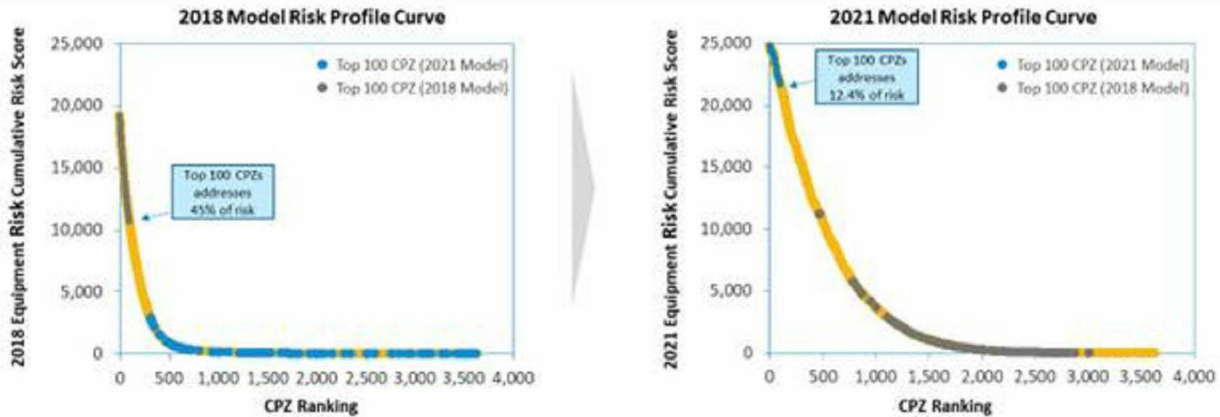
1. 2019 KPMG risk model (regression/Reax/egress)
2. 2019 Regression and Reax only
3. 2021 Conductor model with Technosylva consequence

I would like to understand the differences in the outputs similar to what was presented to the WGC (and Board) below.

Thanks

Risk models provide risk profile curves to guide workplan

The risk profile curve shows *the amount of risk that can be addressed* with every subsequent mile within a Circuit Section or CPZ that is mitigated. This view illustrates the relative magnitude of risk associated with the top 100 CPZs and the visualization highlights the consolidation of risk by CPZ as you move down the prioritization list.



The improvement in the Risk Model results in a significant shift in the highest risk circuit protection zones

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[Redacted]
[Redacted]
Pacific Gas & Electric Company
[Redacted]

From: [Redacted]
Sent: Tuesday, January 12, 2021 9:06 PM
To: [Redacted]
Subject: 2019 Model

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