████████████

The attached file was downloaded and updated to also include the CESO and SAIFI benefits (as also shown in the picture below). In summary, this program is expected to result in a SAIDI reduction of 1.15 and a SAIFI reduction of 0.0083 by 2026.

Please confirm if the 62% is an accurate reduction estimate and if you concur with the notes shown below or if further adjustments should be made.

Thanks

████████

Customers = 5,631,670

62% effectiveness
Reduced Cmin/mile   3,207
Reduced Outage/mile   0.12
Reduced CESO/mile   23

Year	Miles 08W	Reduced Cmin	Reduced Outages	Reduced CESO	Reduced SAIDI	Reduced SAIFI	Running To Reductio SAIDI
2021	180	577,300	21.2	4,161	0.103	0.0007	0
2022	470	1,507,396	55.4	10,866	0.268	0.0019	0.103
2023	470	1,507,396	55.4	10,866	0.268	0.0019	0.370
2024	450	1,443,251	53.1	10,403	0.256	0.0018	0.638
2025	450	1,443,251	53.1	10,403	0.256	0.0018	0.894
2026	450	1,443,251	53.1	10,403	0.256	0.0018	1.150
2027							1.407

Notes:
1. No bene
2. Reliabili

62% is the ignition probability not the outage reduction probability, but the 62% might be reasonable as a lower limit. I couldn't access the spreadsheet to check the math.

From: ███████████████████████

Sent: Monday, April 19, 2021 3:26 PM

To: ████████████████████████████

Cc: ██

Subject: RE: Hardening Circuits

Not sure I have the math right, but if System Hardening is calculated to be 62%, then I would expect a 62% improvement in reliability for each hardened circuit.

62% effectiveness

Reduced Cmin/mile   3,207

Reduced Outage/mile   0.12

	Miles 08W	Reduced Cmin	Reduced Outages
2021	180	577,300	21.2
2022	470	1,507,396	55.4
2023	470	1,507,396	55.4
2024	450	1,443,251	53.1
2025	450	1,443,251	53.1
2026	450	1,443,251	53.1

So these are my estimates of reliability improvements.

████████████

From: ████████████████████████████

Sent: Thursday, April 8, 2021 12:19 PM

To: ███████████████

Cc ████████████████████████

Subject: FW: Hardening Circuits

████████

As discussed during our call last night, the attached file contains the unique circuits from the HFTD circuits/zones provided from your master file and the associated line miles from Column have been summed/provide. Then for each unique circuit, we merged the 2020 distribution unplanned CESO and CMin values (excluding MEDs and omitting any UG equipment failure outages). In addition and for reference, we also added the total OH and UG distribution circuit miles from EDGIS for each circuit.

As discussed, please use this file to estimate the reliability benefits of the hardening work for use in the GRC reliability forecasts and let us know if we can provide any additional information.

Thanks

████████████

From: ████████████████████

Sent: Thursday, April 8, 2021 11:57 AM

To: ████████████████████████

Cc: ██████████████████████████████████████

Subject: RE: Hardening Circuits

Hi, ██████████

Here's the data for the circuits in the attachment…

From: ██████████████████████████████
Sent: Thursday, April 8, 2021 6:02 AM
To: ████████████████████████████████████
Cc: ██████████████████████████
Subject: Hardening Circuits

Please use columns C and D in the attached file to determine all unique circuits on this worksheet and add the miles in Column I for each of these circuits. Then take these summary results and merge it with a summary by circuit of the 2020 <u>distribution unplanned</u> CESO and CMin values (excluding MEDs and excluding the Basic cause of Equipment Failure and Supplemental Cause of Underground). In other words, we want to omit major events and outages that occurred on the UG system. In addition, please also provide the total OH circuit miles from EDGIS for each circuit.

Please complete this request by today if possible and let me know if there are any questions.

Thanks