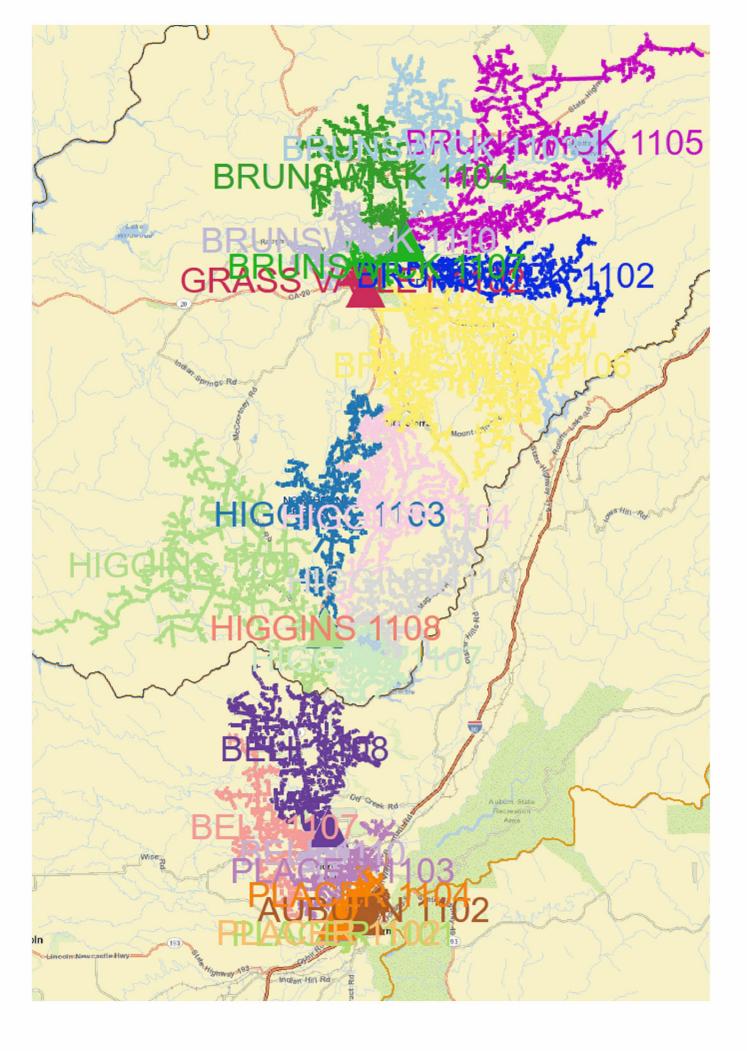
| F | rom: | |
|-----|------|--|
| - C | | |

To: Sent: Subject:

12/1/2020 12:24:48 PM RE: System Hardening Projects for Filsinger Visit December 14-16

FYI...



Sent: Tuesday, December 01, 2020 12:01 PM

To:

Subject: RE: System Hardening Projects for Filsinger Visit December 14-16

What would you like here? "Auburn/Grass Valley" is a pretty gigantic area.

Auburn is served by Auburn and Placer subs. The highest ranking zone is Placer 1103 LR 284874 which is #745 on the list which puts it in the 9000th mile. The rest score much lower

| feeder_name | device_operating_number | primary_length_m | primary_length_m_hftd_23 | |
|-------------|-------------------------|------------------|--------------------------|---|
| PLACER 1103 | 284874 | 7928.042267 | 3450.770959 | 2 |

Grass Valley is primarily served by Brunswick, which according to an old tracker of mine had ~127 miles that we put together to be hardened. The MAVF score on the highest zone on any Brunswick circuit is 715.

| feeder_name | device_operating_number | primary_length_m | primary_length_m_hftd_23 |
|-----------------------|-------------------------|------------------|--------------------------|
| BRUNSWICK 1106 | 2790 | 17696.04197 | 16028.20283 |
| BRUNSWICK 1104 | 2112 | 31201.90164 | 31201.90164 |
| BRUNSWICK 1106 | 7099 | 12439.43872 | 12439.43872 |

The area in between Auburn and Grass Valley is primarily served by Bell & Higgins. We didn't have any hardening jobs, but we did have one wire down job on Higgins that we converted to 08W accounting for about 3500 feet. The MAVF score on many Bell/Higgins zones is higher than Auburn or Brunswick zones:

| feeder name | device operating number | primary length m | primary length m hftd 23 | |
|--------------|-------------------------|------------------|--------------------------|---|
| BELL 1108 | 5703 | 12751.57052 | 8525.058627 | 5 |
| BELL 1108 | 2202 | 53635.09318 | 52339.43628 | 3 |
| HIGGINS 1109 | СВ | 37179.85472 | 36440.09888 | 2 |
| HIGGINS 1109 | 50072 | 68212.36565 | 68212.36565 | 4 |
| BELL 1107 | 50172 | 30233.91029 | 28142.3136 | 1 |
| HIGGINS 1109 | 50078 | 77925.00155 | 77925.00155 | 4 |
| BELL 1107 | 2400 | 44680.55493 | 41414.83486 | 2 |
| BELL 1108 | СВ | 9628.758198 | 0 | |
| HIGGINS 1109 | 594 | 23079.04472 | 23079.04472 | 1 |
| HIGGINS 1110 | 51794 | 6308.416651 | 6303.844559 | |
| BELL 1109 | СВ | 5601.540156 | 484.8416387 | 0 |
| BELL 1110 | 946229 | 3345.193843 | 352.391237 | 0 |
| HIGGINS 1107 | 746082 | 1306.131802 | 1306.131802 | С |
| HIGGINS 1103 | 9753 | 3306.116589 | 3306.116589 | 2 |
| HIGGINS 1103 | СВ | 45692.92596 | 45174.68385 | 2 |
| HIGGINS 1104 | СВ | 18716.51105 | 18050.1072 | 1 |

I can put together a slide for the Higgins job, but it will take a bit more time to do one for Brunswick since there is so much we did out there. I don't see much use in doing a slide for Placer/Auburn...

Let me know what you'd like me to do.

Thanks,

| Sent: Tuesday, December 01, 2020 11:23 AM To: |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cc Subject: RE: System Hardening Projects for Filsinger Visit December 14-16 |
| |
| Can you help me out with this? I think you know the Auburn Grass Valley area better than most of us. |
| |
| From: Sent: Tuesday, December 01, 2020 11:20 AM To: Cc: Subject: RE: System Hardening Projects for Filsinger Visit December 14-16 |
| Importance: High |
| Thank you for this, very helpful. Filsinger also asked for a couple of projects in the in the Auburn/Grass Valley area, even if they are not in top 50 miles (let's say in top 100 miles). Could you please look into that? |
| Thanks, |
| From: Sent: Tuesday, December 01, 2020 9:44 AM To: Cc: Subject: RE: System Hardening Projects for Filsinger Visit December 14-16 |
| Here is some information slides for the locations discussed yesterday. |
| |
| From: Sent: Monday, November 30, 2020 8:22 AM To: Cc Subject: Fwd: System Hardening Projects for Filsinger Visit December 14-16 |
| |
| FYI. |
| will be scheduling a call with us on this request since is out. |
| Get <u>Outlook for iOS</u> |
| From: Sent: Sunday, November 29, 2020 7:36:10 PM To: Subject: System Hardening Projects for Filsinger Visit December 14-16 |

PGE-DIXIE-NDCAL-000000197

Filsinger will be conducting another field observation visit December 14-16 and they would like to visit one or two System Hardening project locations. These projects should be form the top 50 miles of CPZs (please see below below) and should be CPZ targeted in 2021 base don the new risk model. They do understand that the actual projects are not yet scoped – the do, however, want to visit the locations to better understand the risk drivers and potential mitigations. They requested to have a Safety Specialist join them for the visit to discuss the wildlife risk drivers and potentially someone from the execution / planning team to understand the possible SH mitigations. If we already have the projected scoped and know what we'll be doing (undergrounding, OH reconducting, etc.), that's even better.

From the list below – which CPZs / locations would you recommend for inclusion in the visit? We need a couple of projects and a back -up options (there are definitely weather / altitude considerations, so ideally we want projects back-up options in the lower altitude / interim zones). In addition to these projects, they will be visiting the Calistoga substation for the demo of the Rapid Earth Fault Current – they mentioned that there 2020-2021 projects in the Fitch Mountain area or fire impacted areas that they also visit while in that area.

Thanks!



| Protection Zone Name | Miles | Cumulative Miles | Mean MAVF Score | Total CPZ Mavf | % total risk reduced (62%) |
|--------------------------|-------|---------------------|--------------------|----------------|-------------------------------|
| OREGON TRAIL | | | | | |
| 1103CUS391 | 0.02 | 0.02 | 3.16 | 3.16 | 0.01% |
| CALPINE 1144276-G | 0.01 | 0.03 | 1.88 | 1.88 | 0.01% |
| MARIPOSA 210190130 | 0.08 | 0.12 | 1.69 | 1.69 | 0.02% |
| SHEPHERD 2111688294 | 0.01 | 0.13 | 1.44 | 1.44 | 0.02% |
| MIDDLETOWN 1103CB | 0.05 | 0.18 | 1.30 | 5.20 | 0.03% |
| UPPER LAKE 1101CB | 1.00 | 1.17 | 1.26 | 3.77 | 0.04% |
| KESWICK 11011586 | 6.66 | 7.83 | 1.25 | 48.84 | 0.17% |
| MIDDLETOWN 1102302610 | 4.21 | 12.04 | 0.92 | 48.56 | 0.29% |
| KONOCTI 1102965078 | 5.61 | 17.65 | 0.88 | 51.70 | 0.42% |
| MARIPOSA 2102241564 | 0.64 | 18.29 | 0.77 | 10.81 | 0.44% |
| BUCKS CREEK 1101CB | 4.29 | 22.58 | 0.73 | 9.55 | 0.47% |
| DEL MAR 2109378446 | 0.09 | 22.67 | 0.73 | 2.19 | 0.47% |
| MIDDLETOWN 1102CB | 0.42 | 23.08 | 0.72 | 8.70 | 0.49% |
| MIDDLETOWN 1103830 | 24.80 | 47.88 | 0.72 | 151.83 | 0.87% |