

Quality Program Update

T&D SLT

April 30, 2021



Quality Update – Highlights

Incorrect Insulator Cause Evaluation

- Preliminary Findings - Material availability issues in San Joaquin
- Status: Initiate discussions with ERM and Engineering reclassifying QA/QC Notification as Non-Fire Risk

Initiating Cause Evaluation on Consistent use of Click Scheduling

- Results derived from distribution Datamart scoping are causing delays in work order inspection and subsequent assignment of findings to contractors

Technosylva Integration

- Scoping for Distribution programs with Technosylva data starting in May
- Transmission scoping scheduled for July

Quality Program Targets for 2021 (Tier 1 Metrics)

- Distribution Construction target 90% (+/- 5%) – Not meeting YTD March target
- Transmission Construction target 94% (+/- 4%) – Meeting YTD March target
- Overhead Detail Inspection target 97% (+/- 1%) – Not meeting YTD March target
- Vegetation Management CCD target 95% (+/- 4%) – Meeting YTD March target

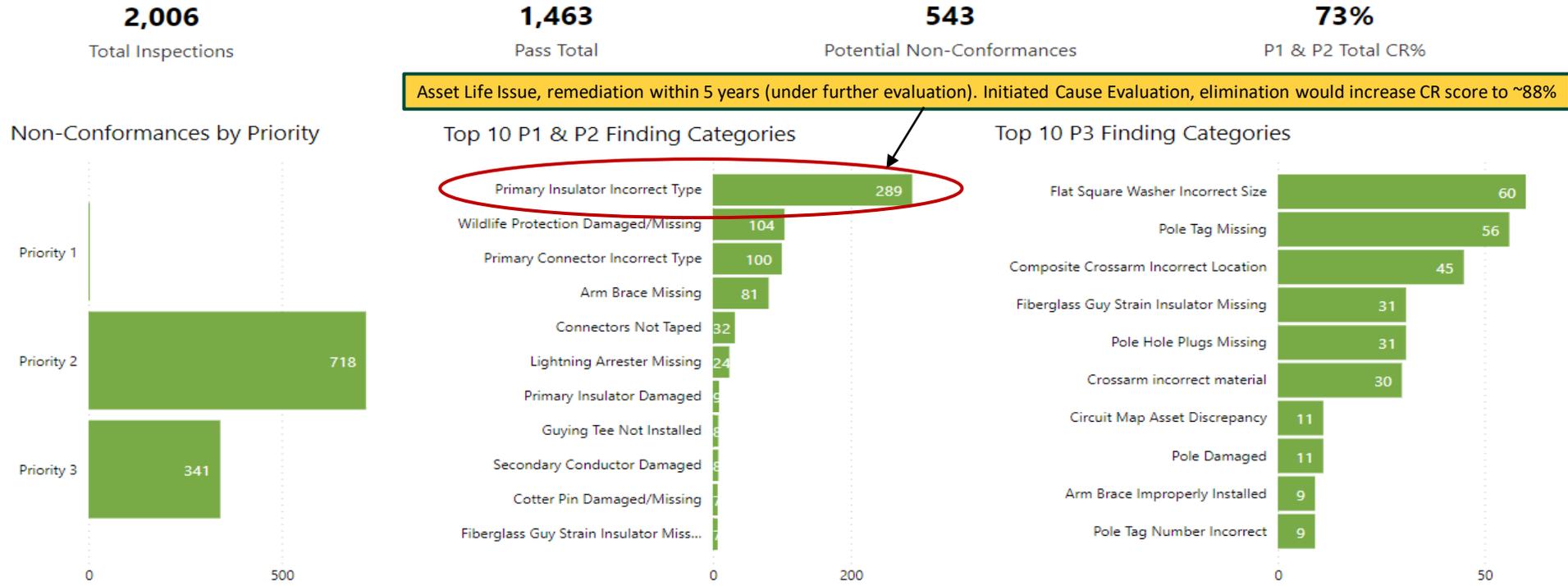
Program Performance – BI Dashboard thru March 2021

Header	QC Structures Inspected	2021 YTD						2020		Total			
		P1		P2		P3		P1 & P2 Findings		P1 & P2 Findings			
Program Name		Count	CR %	Count	CR %	Count	CR %	Open Count	Overdue Count	Open Count	Overdue Count	Open Count	Overdue Count
Distribution Construction	2,006	2	99.9%	680	73.8%	335	87.5%	602	0	595	573	1,197	573
Transmission Construction	277	0	100.0%	7	97.5%	19	93.5%	7	0	15	15	22	15
Aerial Distribution	0	0	0	0	0	0	0	0	0	8	8	8	8
ODI	2,711	2	99.9%	134	95.4%	235	92.1%	61	0	100	100	161	100
Planning	484	52	91.7%	75	86.2%	133	79.8%	127	0	0	0	127	0
Intrusive	256	0	100.0%	5	98.0%	15	94.5%	4	0	1	1	5	1
Generation Inspections	0	0	0	0	0	0	0	0	0	3	3	3	3
TIMP	167	0	100.0%	2	99.4%	1	99.4%	2	0	0	0	2	0

Other Programs - Not in BI Dashboard

Header	QC Structures Inspected	P1		P2		P3		P1 & P2 Findings	
Program Name		Count	CR %	Count	CR %	Count	CR %	Open Count	Overdue Count
Pole Loading	336	0	100.0%	9	97.3%	0	100.0%	2	0

Distribution Construction – YTD 2021 Results Through March

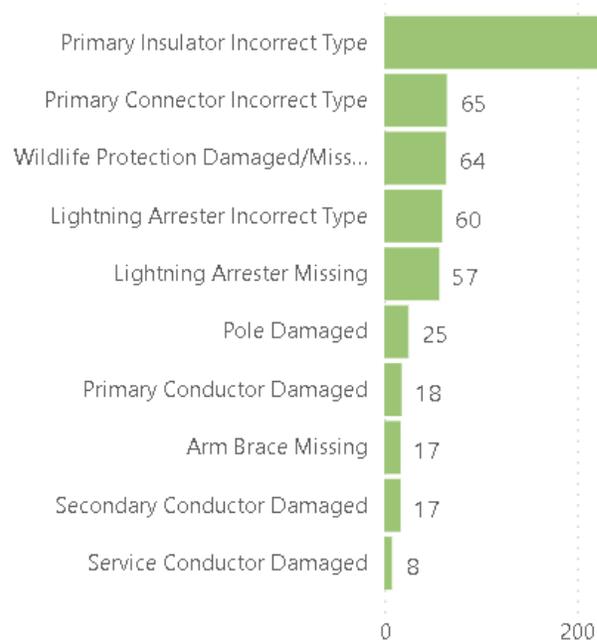


Program Name - REAX Score	Total QC Inspections	FLOCS			P1 & P2 Findings					P3 Findings	
		P1 & P2 PNC	P1 & P2 CR	Threshold Limit	P1	P2E	P2	Total P1 & P2	Open	Past Due	FLOC PNC
Distribution Construction (Very High)											
Very High	453	190	58%	100.0%	0	0	264	264	258	0	39
High	980	271	72%	98.0%	1	0	361	362	336	0	129
Medium	434	69	84%	95.0%	1	0	79	80	65	0	75
Low	139	13	91%	95.0%	0	0	14	14	13	0	12
Total	2,006	543	73%	97.0%	2	0	718	720	672	0	255

QC Results Dist. Construction – Q4 2020 vs Q1 2021

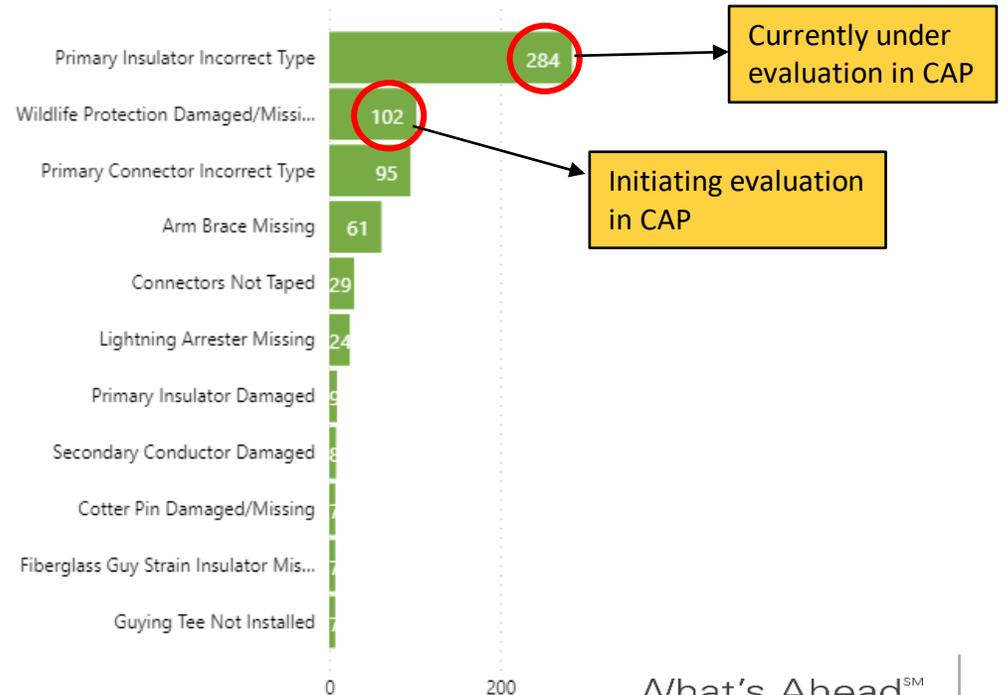
4th QTR, 2020	3,314 Total Inspections	2,723 Pass Total	591 Potential Non-Conformances	82% P1 & P2 Total CR%
1st QTR, 2021	2,006 Total Inspections	1,478 Pass Total	528 Potential Non-Conformances	74% P1 & P2 Total CR%

**4th Qtr. 2020
Top 10 P1 & P2 Finding Categories**



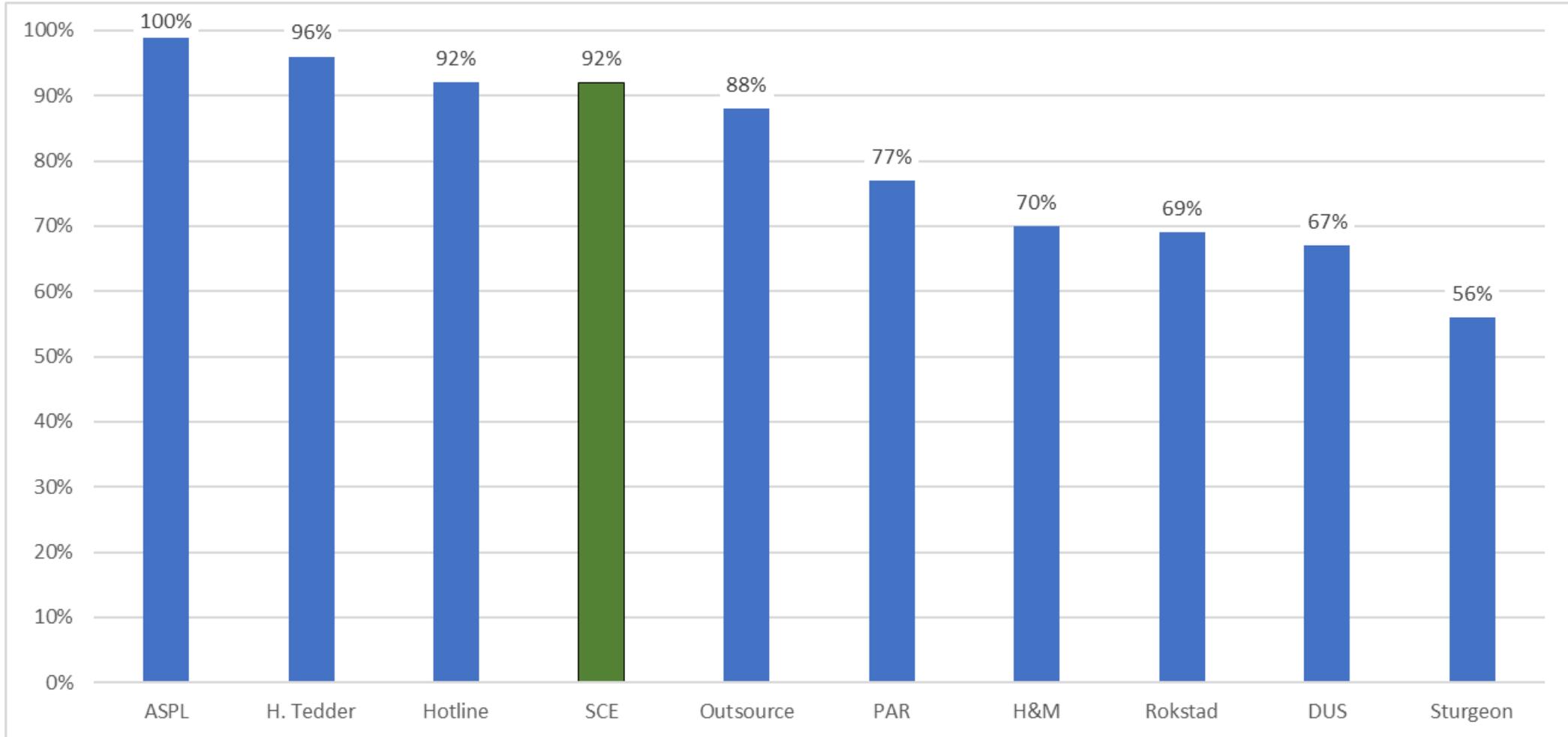
Same top 3

**1st Qtr. 2021
Top 10 P1 & P2 Finding Categories**



QC Results By Contractor

QC Distribution Construction Program – YTD March 2021
Conformance Rate (%) by Contractor



Transmission Construction – YTD 2021 Results Through March

Exceeding target of 94% (+/- 4%)

277
Total Inspections

270
Pass Total

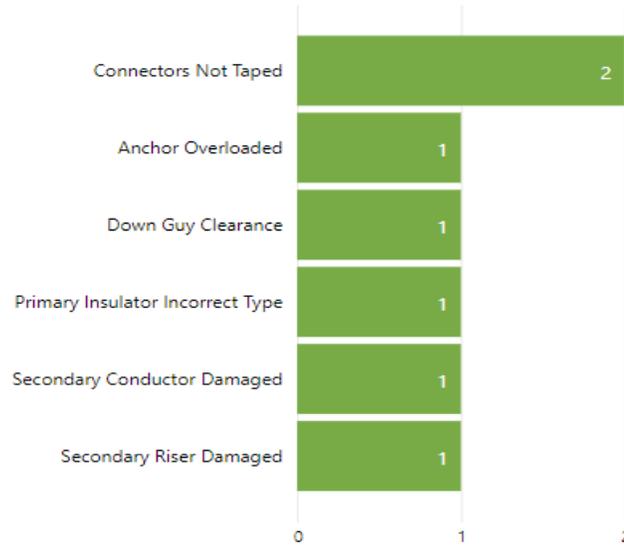
7
Potential Non-Conformances

97%
P1 & P2 Total CR%

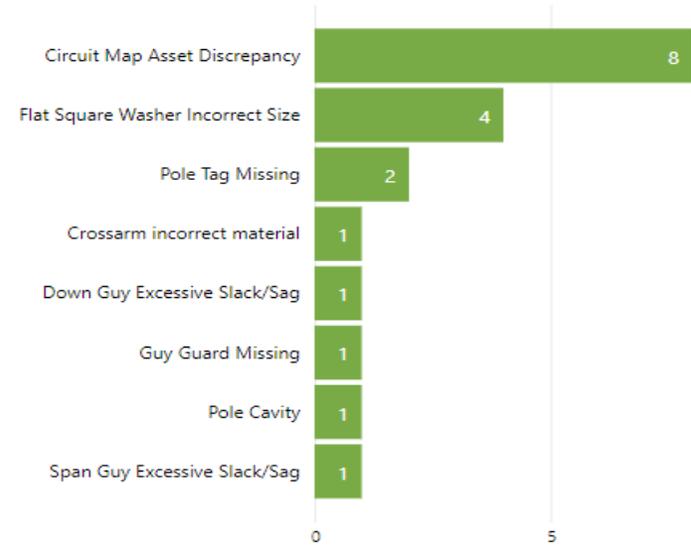
Non-Conformances by Priority



Top 10 P1 & P2 Finding Categories



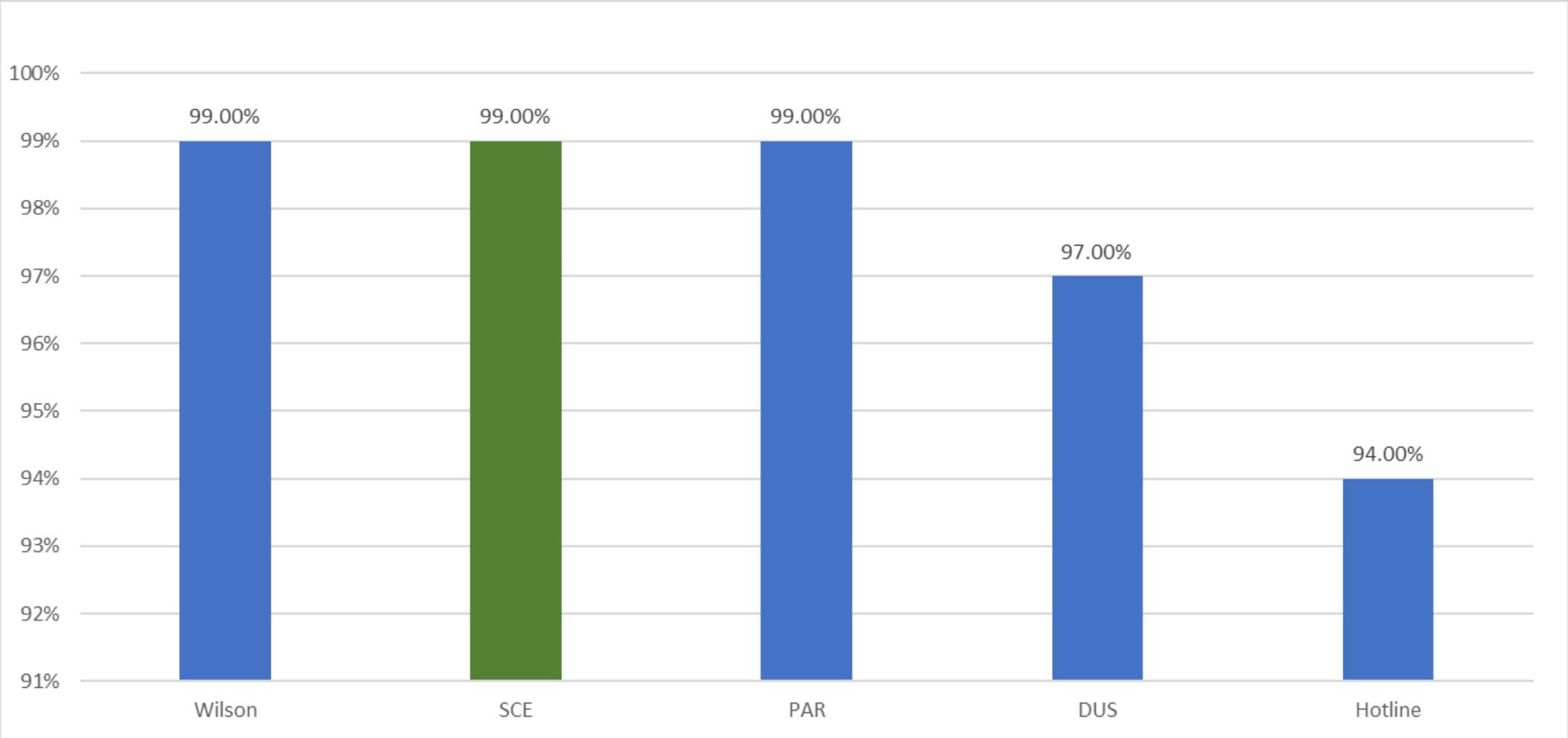
Top 10 P3 Finding Categories



Program Name - REAX Score	FLOCS				P1 & P2 Findings						P3 Findings	
	Total QC Inspections	P1 & P2 PNC	P1 & P2 CR	Threshold Limit	P1	P2E	P2	Total P1 & P2	Open	Past Due	FLOC PNC	P3
Transmission Construction (Very High)												
Low	164	4	97.6%	95.0%	0	0	4	4	4	0	5	6
Medium	97	2	97.9%	95.0%	0	0	2	2	2	0	13	13
High	16	1	93.8%	98.0%	0	0	1	1	1	0	0	0
Total	277	7	97.5%		0	0	7	7	7	0	18	19

QC Results By Contractor

QC Transmission Construction Program – YTD March 2021
Conformance Rate (%) by Contractor



Overhead Detail Inspection - YTD 2021 Results Through March

2,711
Total Inspections

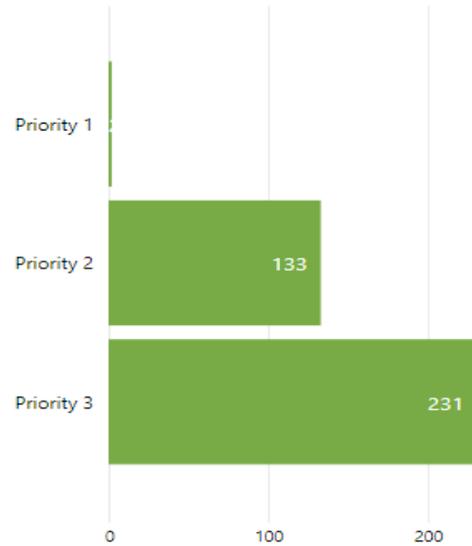
2,584
Pass Total

127
Potential Non-Conformances

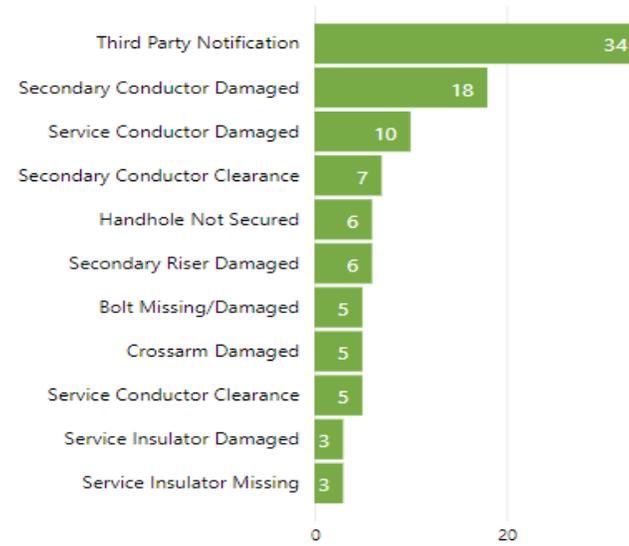
95%
P1 & P2 Total CR%

Tier 1 Target 97% (+/- 1%)

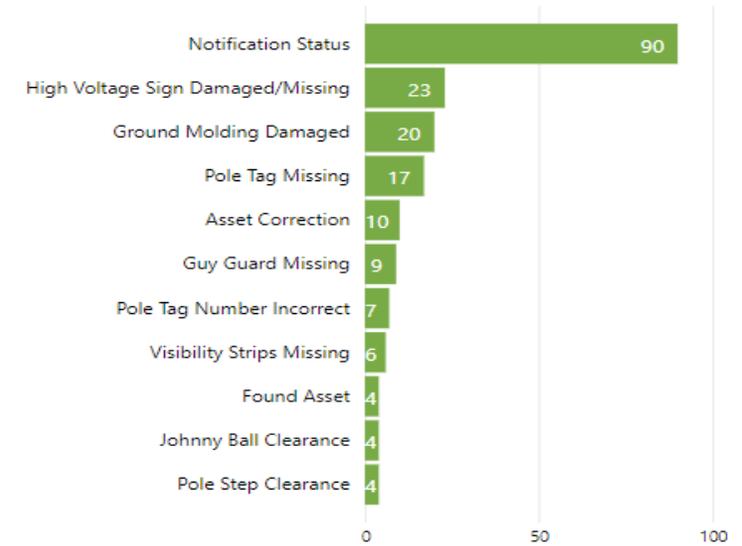
Non-Conformances by Priority



Top 10 P1 & P2 Finding Categories

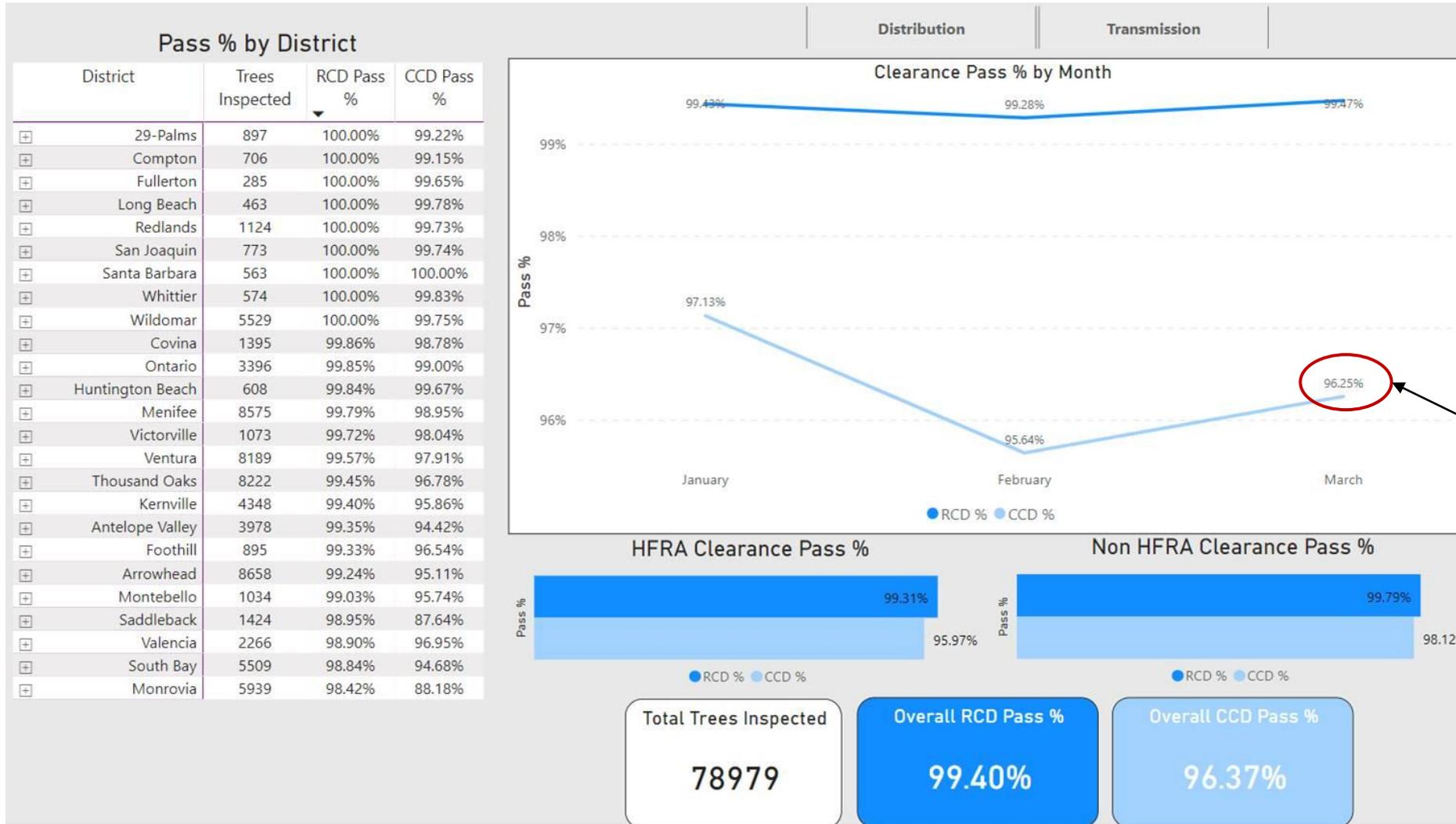


Top 10 P3 Finding Categories



Program Name - REAX Score	FLOCS				P1 & P2 Findings						P3 Findings	
	Total QC Inspections	P1 & P2 PNC	P1 & P2 CR	Threshold Limit	P1	P2E	P2	Total P1 & P2	Open	Past Due	FLOC PNC	P3
ODI (High)												
Low	948	42	95.6%	90.0%	0	0	43	43	32	0	79	85
Medium	840	62	92.6%	95.0%	2	0	67	69	14	0	66	79
High	891	22	97.5%	95.0%	0	0	22	22	14	0	63	66
Very High	32	1	96.9%	98.0%	0	0	1	1	0	0	1	1
Total	2,711	127	95.3%		2	0	133	135	60	0	209	231

Vegetation Management T&D – YTD 2021 Results Through March



Tier 1 Target 95% (+/- 4%)

February decline in CCD % primarily resulting from UTS performance in Monrovia District. CCD in Monrovia was 80.19%. Discussed with UTS on 3/5/21

NOTE: RCD & CCD results indicate tree condition clearance at time of QC, not at time of trim

T	Compliance Zone		HFRA	D	Compliance Zone		HFRA	Non-HFRA
	RCD = Regulation Clearance Distance	CCD = Compliance Clearance Distance (RCD x 1.5)			RCD = Regulation Clearance Distance	CCD = Compliance Clearance Distance (RCD x 1.5)		
	10'	15'	4'	6'	18'	3'		

Appendix

Energy for What's AheadSM



Distribution Construction – YTD 2021 Results Through March

Total

2,006
Total Inspections

1,463
Pass Total

543
Potential Non-Conformances

73%
P1 & P2 Total CR%

SCE

322
Total Inspections

289
Pass Total

33
Potential Non-Conformances

90%
P1 & P2 Total CR%

Contractor

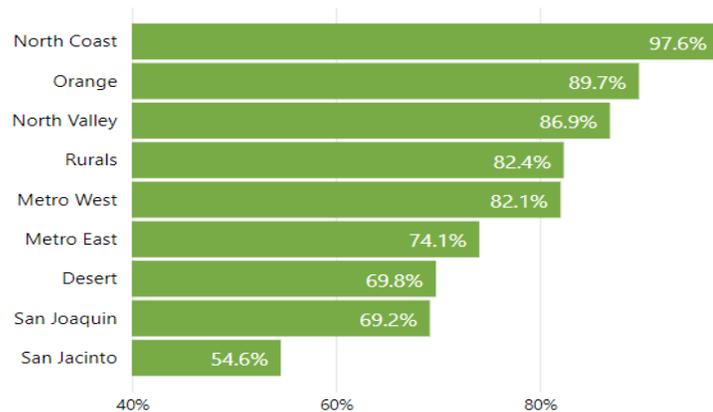
1,684
Total Inspections

1,174
Pass Total

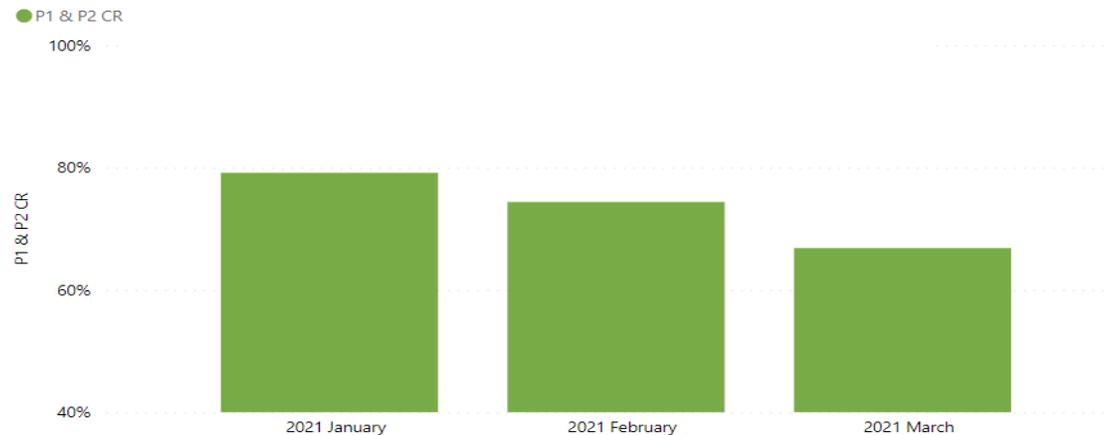
510
Potential Non-Conformances

70%
P1 & P2 Total CR%

Conformance Rate by Region | District



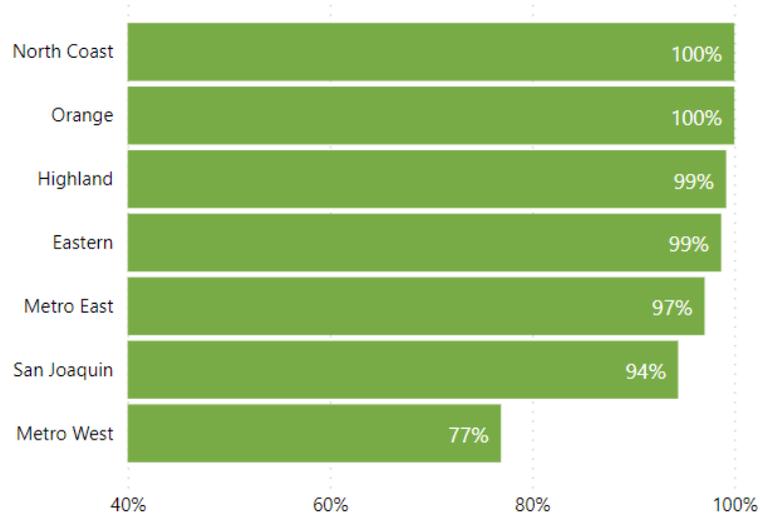
Conformance Rate Trending



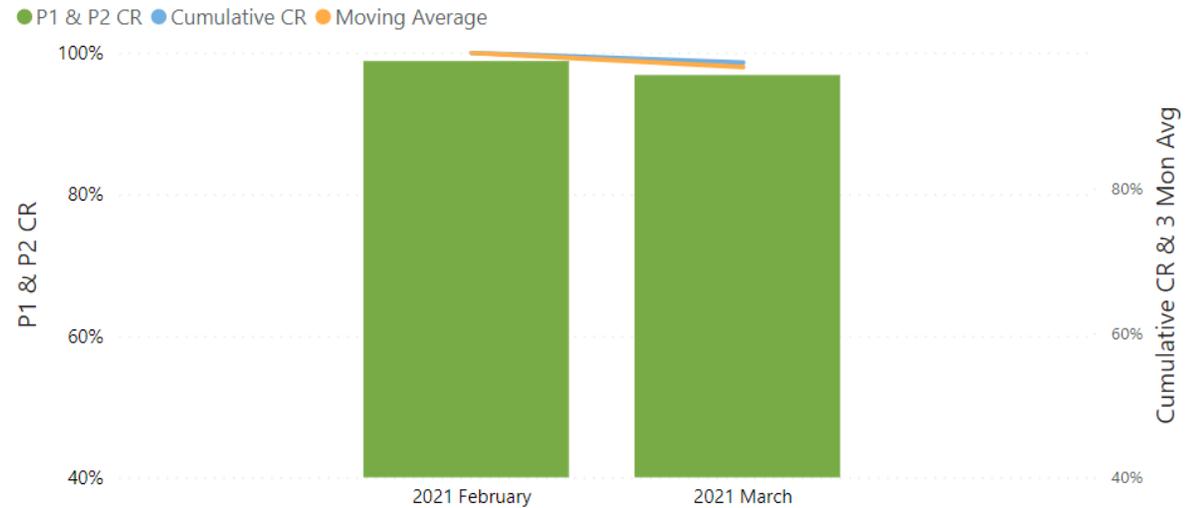
Transmission Construction – YTD 2021 Results Through March

Total	277	270	7	97%
	Total Inspections	Pass Total	Potential Non-Conformances	P1 & P2 Total CR%
SCE	91	90	1	99%
	Total Inspections	Pass Total	Potential Non-Conformances	P1 & P2 Total CR%
Contractor	186	180	6	97%
	Total Inspections	Pass Total	Potential Non-Conformances	P1 & P2 Total CR%

Conformance Rate by Grid



Conformance Rate Trending



Quality Program Scope Targets w/ Revised Quality Rankings

Program	2020 Actuals	Proposed Minimum 2021 Scope Targets	Delta from 2020 Actuals	DRIVERS FOR 2021 MINIMUM SCOPE TARGETS		
				Quality Ranking	NC Rate used for sampling	Additional Comments
Overhead Detailed Inspection (ODI)	18,088	4,378	-13,710	HIGH	5%	NC rate proxy of 25% used in 2020 (revised program, no history), actual NCR below 5%
Distribution Planning	753	4,243	3,490	HIGH	10%	2020 QC pilot NC rate was ~10%
Underground Inspections	0	500	500	MEDIUM	7%	QC was performed last in 2018. Using 2018 NC rate for sampling.
Intrusive Pole Inspections	801	500	-301	MEDIUM	1%	Using 2020 NC rate of 1% for sampling
Pole Loading Program	1,011	400	-611	MEDIUM	N/A	Scope will be 100 a month until the program retires in April 2021
Distribution Construction	6,533	8,235	1,702	VERY HIGH	19%	2019 NC rate of 11% was used for 2020 sampling; 2020 NC rate of 19% was used for 2021 sampling
Transmission Construction	476	800	324	MEDIUM	6%	2019 NC rate of 10% was used in 2020, 2020 NC rate of 6% used for 2021. Quality ranking decreased from VH
Aerial Inspections Distribution	586	1,820	1,234	MEDIUM	5%	2020 QC pilot NC rate was 2%; using NC rate of 5% for 2021 due to small sample size. Quality ranking decreased from VH
Transmission Overhead Inspections	380	1,493	1,113	MEDIUM	5%	2020 QC pilot NC rate was 1%; using NC rate of 5% for 2021 due to small sample size. Quality ranking decreased from VH
Generation (Pilot)	38	120	82	N/A	N/A	Pilot program scope is still being defined
Aerial Inspections Transmission (Pilot)	0	500	500	N/A	N/A	Pilot program scope is still being defined
QA Notification Gatekeeper Program	4,439	3,935	-504	HIGH	2%	NC rate proxy of 50% used in 2020 (pilot program, no history). Using conservative NC rate of 2% for 2021 sampling
QA Mapping Program	1,286	1,843	557	HIGH	10%	NC rate proxy of 50% used in 2020 (pilot program, no history). Using 2020 NC rate of 10% for 2021 sampling
Total	34,391	28,767	-5,624			

Quality Program Process Improvement Initiatives

Completed:

- Modified Quality Dashboard (added Photos, Added W/O, Filter by Contractor, Updated Regions, and various other changes based on customer requests)
- Changes in Quality Terminology
- Revised Quality Program Ranking Methodology and Reassessed all Quality Programs
- Developed Monthly Quality Dashboard Emails by Program
- Completed Aerial Program (T&D) Data Management Infrastructure

Pending:

- Implementation of Technosylva for Distribution (04/30/21)
- Add Reporting of Tier 1 Metrics on the Quality Dashboard (04/30/21)
- Implementation of Technosylva for Transmission (06/30/21)
- Weekly Dashboard Updated with finalized Results by the Third of each month (05/03/21)
- Data Management Program (Consolidate Scoping Process into SAS, Standardize Random Sampling Process – (10/31/21)
- Data Management Program Development Migrate to SQL Server (12/31/21)
- Transition from Crystal Reports to power Bi Reporting (12/31/21)

2022:

- Quality Program Refresh (Risk Based QC Inspection Strategy, Sampling Methodology, Quality Threshold Levels, Communication protocols with Front Line Supervisors)