

OSA Data Request 1

Regarding your distribution infrastructure and your transmission infrastructure that is located within the boundaries of the Commission’s High Fire-Threat District Map, what are the maximum wind speeds that these existing facilities have been designed to withstand? Please provide total circuit miles and maximum wind speed data for facilities in each of the wildfire threat designation areas (Zone 1, Tier 2, and Tier 3). How many circuit miles located within each of the three designated areas are currently designed to withstand wind gusts greater than 100 mph?

Response to OSA Data Request 1

PacifiCorp designs its facilities in compliance with General Order 95, Rules 43.1, Heavy Loading, and 43.2, Light Loading, which require two different loading cases dependent upon elevation. Rule 43.2 applies to facilities that are less than or at 3,000 feet in elevation; these structures are designed with an 8 pounds per square foot (psf) load, projected onto a radial surface, which equates to a wind gust speed of 56 miles per hour (mph). Rule 43.1, Heavy Loading, applies to facilities that are more than 3,000 feet in elevation and requires two concurrent weather cases be evaluated: wind pressure of 6 psf, projected onto a radial surface, equivalent to a 48 mph wind gust but this wind loading is additive to ½ inch radial ice. The net effect of these loads results in more resilience when no ice is present yet the equivalent wind resilience is a function of the conductor diameter. If these diameters and wind resilience are calculated and summarized throughout PacifiCorp’s California service territory that lies at or above 3,000 feet the median wind gust speed the facilities are designed to withstand is 72.8 mph without ice.

The codes do not require the company to build facilities to withstand 100 mph wind gusts. Additionally the company has not determined that known local conditions would suggest such loading is reasonable.

Line Miles by Wildfire Threat Designation Area	Total	Not HFTD	Zone 1	Tier 2	Tier 3
OH Distribution Line Over 3,000'	1,191.5	896.5	4.5	258.09	32.4
OH Distribution Line Under 3,000'	1,329.1	795.3		527.11	6.7
Total OH Distribution line	2,520.6	1,691.8	4.5	785.2	39.1
Transmission Line Over 3,000'	399.9	230.9	1.2	111.4	56.4
Transmission Line Under 3,000'	384.0	158.6	-	211.4	14.0
Total Transmission Line	783.9	389.5	1.2	322.8	70.4
Total Line Miles	3,304.4	2,081.3	5.7	1,108.0	109.4

Responder(s): Dirk Frailey, Heide Caswell

R.18-10-007/ PacifiCorp

February 28, 2019

OSA – Pacific – 01-2

OSA Data Request 2

How many circuit miles of distribution facilities and of transmission facilities do you own and/or operate that are located within the Commission's High Fire-Threat District Map (including all areas Zone 1, Tier 2, and Tier 3) that are more than 50 years old? How many circuit miles are more than 80 years old? For the circuits that are more than 80 years old, where are they located physically, what fire threat area are they in, and what is their circuit number and/or name?

Response to OSA Data Request 2

PacifiCorp does not have age data for circuits as requested. While the original circuit may date to a specific time period, as circuits have expanded (due to growth of neighborhoods), or as circuit elements are replaced (such as poles when their strength has deteriorated), different portions of a circuit will be of different vintages; therefore, categorizing circuits in the manner requested is not feasible.

Responder(s): Heide Caswell

OSA Data Request 3

Do you have the ability now, or will you have the ability after your proposed mitigations are implemented, to be able to change the settings of your SCADA from one centralized control center? For instance, can you change the settings on your reclosers and de-energize your distribution circuits from one centralized location or is the architecture of your SCADA system decentralized and controls must be activated from multiple locations to be accomplished? What other types of circuit protection/isolation devices do you own that can be controlled by your SCADA system and where are those controls located?

Response to OSA Data Request 3

PacifiCorp currently has the ability to change any Supervisory Control and Data Acquisition (SCADA)-controlled equipment via a centralized system that can be controlled from any of PacifiCorp system operations centers. PacifiCorp is able to remote enable and remote disable auto-reclosing, and remotely de-energize circuits via circuit breakers or circuit switchers. This is only for equipment with SCADA capabilities. Not all equipment that PacifiCorp operates is controllable via SCADA. In the absence of SCADA capabilities, manual operations are required by PacifiCorp personnel at the location of each piece of equipment. In addition to the functionality already stated, SCADA is also used to enable and disable inputs and set points of remedial action schemes and voltage control equipment such as load tap changers, capacitors, and reactors.

PacifiCorp does not currently have the capability to remotely control or change settings on distribution feeder reclosers. Once the proposed mitigations are fully implemented, PacifiCorp will have the ability to remotely control and change settings on substation and recloser relays.

Responder(s): Kelly Myers, Jared Rusth

OSA Data Request 4

How many circuit miles do you currently have of small conductor (#6) in your distribution system located within the designated areas of the Commission’s High Fire-Threat Map? If you have small conductor located within the three designated areas (Zone 1, Tier 2, Tier 3) of the map, how many circuit miles do you have in each of the three areas and where are these circuits located?

Response to OSA Data Request 4

Distribution circuit mile summations of conductor size #6 and smaller are provided in the following table grouped by Zone and Tier. The locations are identified by county and originating substation.

Additional small conductor line segments outside the High Fire Threat District (HFTD) but electrically connected to the HFTD are possibly at risk of not properly coordinating with the circuit protective equipment and may require replacement.

OH Distribution Line #6 and Smaller Conductor		Line Miles by Wildfire Threat Designation Area			
County	Substation	Total HFTD	Zone 1	Tier 2	Tier 3
DEL NORTE	Gasquet	0.17		0.17	
DEL NORTE	Smith River	0.92		0.92	
DEL NORTE	Yurok	0.07		0.07	
SHASTA	Castella	1.02		1.02	
SHASTA	Nutglade	0.06		0.06	
SHASTA	Shotgun Creek	0.51		0.51	
SISKIYOU	COPCO II	0.22		0.22	
SISKIYOU	Fort Jones	3.91		3.91	
SISKIYOU	Greenhorn	2.87		2.87	
SISKIYOU	Happy Camp	1.89		1.89	
SISKIYOU	Hornbrook	4.19		4.19	
SISKIYOU	Lucerne	1.26		1.26	
SISKIYOU	McCloud	1.50		1.50	
SISKIYOU	North Dunsmuir	1.59		0.03	1.56
SISKIYOU	Nutglade	0.001		0.001	
SISKIYOU	Seiad	0.29		0.29	
SISKIYOU	Shastina	0.52		0.52	
SISKIYOU	South Dunsmuir	1.17		1.17	
SISKIYOU	Walker Bryan	2.26		2.26	
SISKIYOU	Weed	2.80		2.66	0.14

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R.18-10-007/ PacifiCorp

February 28, 2019

OSA – Pacific – 01-4

SISKIYOU	Yreka	2.64		2.64	
SISKIYOU	Yuba	1.10	0.18	0.92	
SISKIYOU	Dorris	0.07	0.07		
SISKIYOU	Mount Shasta	1.18		1.18	
SISKIYOU	Snow Brush	0.84			0.84
MODOC	Mile Hi	0.26		0.26	
MODOC	Cedarville	0.08		0.08	
Total OH Distribution Line		33.39	0.25	30.60	2.53

Responder(s): David Boese, Wyatt Pierce

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OSA Data Request 5

How many circuit miles do you currently have of primary voltage facilities that are configured with a three-wire system, which doesn't include a neutral wire, in your distribution network and are located within the designated areas shown on the Commission's High Fire-Threat Map? Where are these facilities located?

Response to OSA Data Request 5

Circuit mile summations of delta and unground line configurations are provided in the following table, grouped by Zone and Tier. The locations are identified by computer assisted distribution operations system (CADOPS) District Name and by the location of the substation where the given feeders originate.

District	Location (Circuit Origin)	Delta Miles			Unground Miles			Total Miles
		Zone 1	Tier 2	Tier 3	Zone 1	Tier 2	Tier 3	
ALTURAS	Alturas (41.500, -120.534)				0.26	12.46	-	12.7
ALTURAS	Cedarville (41.532, -120.182)	-	0.41	-	-	6.45	-	6.9
CRESCENT CITY	Belmont (41.773, -124.208)	-	-	-	-	0.65	-	0.6
CRESCENT CITY	Morrison Creek (41.925, -124.140)	-	-	-	-	-	-	-
CRESCENT CITY	Northcrest (41.766, -124.199)	-	-	-	-	-	-	-
CRESCENT CITY	Redwood_CA (41.761, -124.164)	-	-	-	-	-	-	-
CRESCENT CITY	Smith River (41.886, -124.141)	-	-	-	-	2.29	-	2.3
CRESCENT CITY	Yurok (41.543, -124.050)	-	-	-	-	1.49	-	1.5
LAKEVIEW	Mile Hi (42.189, -120.366)				-	5.93	-	5.9
MT SHASTA	Castella (41.146, -122.320)	-	6.26	-				6.3
MT SHASTA	International Paper (41.432, -122.383)	-	0.12	-				0.1
MT SHASTA	McCloud (41.267, -122.126)				-	28.23	-	28.2
MT SHASTA	Mt Shasta (41.306, -122.323)	-	0.07	0.02	-	0.64	1.65	2.4
MT SHASTA	North Dunsmuir (41.221, -122.276)				-	2.31	3.34	5.7

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R.18-10-007/ PacifiCorp

February 28, 2019

OSA – Pacific – 01-5

MT SHASTA	Nutglade (41.178, -122.291)	-	8.17	-				8.2
MT SHASTA	Shotgun Creek (41.055, -122.382)				-	7.68	-	7.7
MT SHASTA	Snow Brush (41.268, -122.240)	-	1.28	2.89				4.2
MT SHASTA	Weed (41.432, -122.389)				-	11.68	0.32	12.0
TULELAKE	Clearlake (39.105, -112.847)				-	-	-	-
TULELAKE	Dorris (41.967, -121.914)				1.72	-	-	1.7
TULELAKE	Macdoel (41.832, -122.005)				0.02	-	-	0.0
TULELAKE	Merrill_OR (42.026, -121.602)				-	-	-	-
TULELAKE	Newell (41.888, -121.378)	-	-	-	-	-	-	-
TULELAKE	Perez (41.634, -121.224)				0.29	-	-	0.3
TULELAKE	Tulelake (41.953, -121.471)	-	-	-	-	-	-	-
TULELAKE	Tunnel (41.925, -121.566)	-	-	-	-	-	-	-
TULELAKE	Turkey Hill (42.013, -121.418)				-	-	-	-
YREKA	Big Springs (41.617, -122.399)	0.07	9.95	-				10.0
YREKA	COPCO II (41.976, -122.358)				-	12.27	-	12.3
YREKA	Fort Jones (41.606, -122.850)	-	0.20	-	-	72.46	-	72.7
YREKA	Greenhorn (41.712, -122.649)	-	-	-	-	18.15	-	18.2
YREKA	Happy Camp (41.803, -123.373)	-	0.06	-	-	30.77	-	30.8
YREKA	Hornbrook (41.898, -122.540)	-	-	-	-	33.90	-	33.9
YREKA	Iron Gate (41.933, -122.437)	-	-	-				-
YREKA	Little Shasta (41.702, -122.370)	-	-	-	-	-	-	-
YREKA	Lucerne (41.604, -122.522)				-	4.50	-	4.5
YREKA	Montague (41.727, -122.536)	-	-	-	-	-	-	-

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R.18-10-007/ PacifiCorp

February 28, 2019

OSA – Pacific – 01-5

YREKA	Scott Bar (41.743, -122.999)				-	57.58	-	57.6
YREKA	Seiad (41.841, -123.192)	-	0.61	-	-	23.44	-	24.1
YREKA	Shastina (41.549, -122.364)	-	-	-	-	-	-	-
YREKA	Walker Bryan (41.493, -122.906)	-	0.14	-	-	28.39	-	28.5
YREKA	Yreka (41.729, -122.631)	-	-	-	-	1.46	-	1.5
YREKA	Yuba (41.373, -122.833)	-	-	-	0.53	6.49	-	7.0
Grand Total		0.07	27.28	2.92	2.83	369.21	5.30	407.6

Responder(s): Marshall Payne, Wyatt Pierce

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R.18-10-007/ PacifiCorp

February 28, 2019

OSA – Pacific – 01-6

OSA Data Request 6

Please provide copies of all transmission line maps and all distribution circuit maps of facilities located within the boundaries of the Commission's High Fire-Threat Map including the three designated areas (Zone 1, Tier 2, Tier 3) or a link that provides access to these maps.

Response to OSA Data Request 6

Please refer to Confidential Attachment OSA 6.

The confidential information is submitted as confidential in accordance with D. 16-08-024.

Responder: Marshall Payne

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