



Department of Energy

Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

FREEDOM OF INFORMATION ACT PROGRAM

August 9, 2023

In reply refer to: FOIA # BPA-2023-00776-F

SENT VIA EMAIL ONLY TO: PII REMOVED

Sam Myers

PII REMOVED

Dear Mr. Myers,

This communication concerns your request to the Bonneville Power Administration (BPA) for agency records, made under the Freedom of Information Act, 5 U.S.C. § 552 (FOIA). BPA received your records request on March 30, 2023, and, after perfecting your request under the FOIA, formally acknowledged your request on May 9, 2023. This communication is the agency's first partial response to your FOIA request.

Request

Via several email exchanges with the agency, from March 30, 2023, through April 17, 2023, while you and agency worked to develop the scope of your request, your original March 30, 2023, request was expanded and agreed to as follows:

1. Agency records for a 5 year history of 500 Kv transmission line failures; including tower and/or conductor failures and faults, for BPA's transmission line system in the area comprising north central Oregon and eastward in Oregon; and
2. Incident Report from July 12, 1998, in re a transmission line conductor failure BPA's transmission line system in the area comprising north central Oregon and eastward in Oregon; said transmission line incident involving multiple structure fires; and
3. For the 10 year time period of 2013-Present, you seek agency records on estimations for extreme wind speeds, impacting transmission lines, for lines located throughout central and eastern Oregon. You are seeking data on estimated, or collected maximum, wind speeds in mph, specifically data for 80 mph and above and near established transmission lines; and
4. A 2020 accident report and/or incident report, generated from transmission line maintenance crews, in re BPA tower maintenance / welder-operator originated fire, which occurred in summer/fall 2002; and
5. For the 8 year time period from 1994 to 2002, during transmission line maintenance work season, agency records on welder fires, in the given time frame, from transmission line

maintenance crew incidents or accident reports, in BPA’s transmission line system in the area comprising central Oregon; and

6. Agency records showing the model configurations used for transmission line towers constructed in central and eastern Oregon, said records going back 45 years.

Searches Conducted

The FOIA requires agencies to perform a “sufficient search” for records and information responsive to FOIA requests. The agency sought/seeks information responsive to your request items from the following offices:

- Transmission Structural & Civil Engineering
- Internal Operations Management
- Weather & Streamflow Forecasting
- Transmission Program Management & Governance
- Construction Safety
- Field Safety
- Transmission Field Services

Process Update

Via email to you on July 11, 2023, the agency inquired on your specific interests regarding BPA’s transmission line system in the area comprising north central Oregon and eastward in Oregon. Because the agency has not received your feedback, records gathering was conducted, in good faith, for the following Central and Eastern Oregon transmission lines:

Line Name	Voltage
BKLY-GRIZ-1	500 kV
GRIZ-CPJK-1	500 kV
GRIZ-SUML-1	500 kV
JDAY-GRIZ-1	500 kV
JDAY-GRIZ-2	500 kV
LOMO-MCNY-1	500 kV
MCNY-CGSP-1	500 kV
MCNY-MORF-1	230 kV
MCNY-MORF-2	230 kV
MORF-BOAD-1	230 kV
MORF-JCSB-1	230 kV

Some information responsive to your FOIA request has been gathered. In compliance with the FOIA, BPA reviewed that information for exemptions described at 5 U.S.C. § 552(b).

First Partial Response

BPA continues to process your request. In an effort to both accommodate the collection and review of the responsive information and records, and to provide the responsive information and records expediently, within the limitations of available agency resources, BPA is releasing

responsive information to you in installments. Partial releases are permitted and encouraged by the FOIA.

BPA's Internal Operations Management office gathered information responsive to your request item 1. A first partial release of information responsive to your request item 1, above, accompanies this communication as a single page record, with no redactions applied.

BPA's Transmission Structural & Civil Engineering office gathered information responsive to your request item 6. A first partial release of information responsive to your request item 6, above, accompanies this communication as a two page record, with no redactions applied.

BPA's Weather & Streamflow Forecasting office gathered information responsive to your request item 3. A first partial release of information responsive to your request item 3, above, accompanies this communication as a two page record, with no redactions applied. That two page record is a storm survey of estimated microburst winds over central Oregon and Washington on May 30, 2020. Except for that specific incident, Weather & Streamflow Forecasting does not retain wind records.

BPA's Weather & Streamflow Forecasting office have provided additional information responsive to your request item 3. Weather & Streamflow Forecasting suggest that the [National Centers for Environmental Information](#) (NCEI) may have the data you seek; NCEI are the central repository for all weather observations in the US. While BPA's Weather & Streamflow Forecasting does not retain official, observed weather records, the official government custodian is the National Centers for Environmental Information (<https://www.ncei.noaa.gov>). You may also find publicly available data responsive to your request at the following web link:

<https://www.nodc.noaa.gov/access/>

Fees

There are no fees associated with processing your FOIA request.

Certification

Pursuant to 10 C.F.R. § 1004.7(b)(2), I am the individual responsible for the partial information and records release described above. Your FOIA request BPA-2023-00776-F remains open, with available agency records and information still being gathered, reviewed and processed.

Appeal

Note that the records release certified above is partial. Additional records releases will be forthcoming as agency resources and records volumes permit. Pursuant to 10 C.F.R. § 1004.8, you may appeal the adequacy of the records search, and the completeness of this partial records release, within 90 calendar days from the date of this communication. Appeals should be addressed to:

Director, Office of Hearings and Appeals
HG-1, L'Enfant Plaza
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585-1615

The written appeal, including the envelope, must clearly indicate that a FOIA appeal is being made. You may also submit your appeal by e-mail to OHA.filings@hq.doe.gov, including the phrase "Freedom of Information Appeal" in the subject line. (The Office of Hearings and Appeals prefers to receive appeals by email.) The appeal must contain all the elements required by 10 C.F.R. § 1004.8, including a copy of the determination letter. Thereafter, judicial review will be available to you in the Federal District Court either (1) in the district where you reside, (2) where you have your principal place of business, (3) where DOE's records are situated, or (4) in the District of Columbia.

Process Update

Additional records and information responsive to your FOIA request are being gathered and reviewed. In compliance with the FOIA, BPA is reviewing those records for permitted and/or required exemptions described at 5 U.S.C. § 552(b). At this writing the agency believes the requested records and information may contain pre-decisional or/and third party information subject to one or more FOIA exemptions. A review of that information may require additional consults and processing steps as prescribed by 5 U.S.C. § 552(b)(4) and (b)(5).

Critical Energy/Electric Infrastructure Information

Additionally, BPA currently believes that some of the information responsive to your request item 6 may contain Critical Energy/Electric Infrastructure Information ("CEII"). CEII is defined by the Federal Energy Regulatory Commission (FERC) as information related to critical electric infrastructure, or proposed critical electrical infrastructure, generated by or provided to FERC, or to other Federal agencies, that is designated as CEII by FERC, or by the Secretary of the U.S. Department of Energy ("DOE"), pursuant to section 215A(d) of the Federal Power Act. Specifically, CEII is engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure (physical or virtual) that: relates details about the production, generation, transmission, or distribution of energy; could be useful to a person planning an attack on critical infrastructure; is exempt from mandatory disclosure under the FOIA; and gives strategic information beyond the location of the critical infrastructure. Critical electric infrastructure means a system or asset of the bulk-power system, (physical or virtual) the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters. The records that may contain CEII include transmission tower drawing and technical design requirements. A review of that requested information will require additional consults and processing steps.

Next Partial Release Target Date

Owing to the ongoing review efforts described above, BPA currently estimates the completion of a response to your FOIA request by December 6, 2023. BPA invites you to contact the agency to narrow the scope of your request, if desirable, or to discuss this estimated completion date.

Additionally, you may contact the Office of Government Information Services (OGIS) at the National Archives and Records Administration to inquire about the FOIA mediation services they offer. The contact information for OGIS is as follows:

Office of Government Information Services
National Archives and Records Administration
8601 Adelphi Road-OGIS
College Park, Maryland 20740-6001
E-mail: ogis@nara.gov
Phone: 202-741-5770
Toll-free: 1-877-684-6448
Fax: 202-741-5769

Questions about this communication or the status of your FOIA request may be directed to James King, FOIA Public Liaison, at jjking@bpa.gov or 503-230-7621.

Sincerely,

Candice D. Palen
Freedom of Information/Privacy Act Officer

[Responsive agency records accompany this communication.](#)

Central and Eastern Oregon lines.

Line Name	Voltage
BKLY-GRIZ-1	500 kV
GRIZ-CPJK-1	500 kV
GRIZ-SUML-1	500 kV
JDAY-GRIZ-1	500 kV
JDAY-GRIZ-2	500 kV
LOMO-MCNY-1	500 kV
MCNY-CGSP-1	500 kV
MCNY-MORF-1	230 kV
MCNY-MORF-2	230 kV
MORF-BOAD-1	230 kV
MORF-JCSB-1	230 kV

The following tower types have been used and are still in service:

02	230 kV single circuit	
	02A	Standard tangent suspension with ground wire
	02L	Light tangent suspension without ground wire
04	287 kV single circuit	
	04A	Standard tangent suspension with ground wire
	04B	Heavy tangent suspension with ground wire
	04D	Dead-end with ground wire
	04DS	Strain dead-end with ground wire
	04L	Light tangent suspension without ground wire
	04S	Standard tangent suspension without ground wire
08	500 kV single circuit	
	08A	Standard tangent suspension with ground wire
	08B	Heavy tangent suspension with ground wire
	08H	Heavy tangent suspension without ground wire
	08L	Light tangent suspension without ground wire
	08S	Standard tangent suspension without ground wire
09	500 kV double circuit	
	09A	Standard tangent suspension with ground wire
	09B	Heavy tangent suspension with ground wire
	09D	Dead-end with ground wire
	09DL	Light dead-end with ground wire
	09M	Light tangent suspension with ground wire
15	287 kV double circuit	
	15DL	Light dead-end with ground wire
18	500 kV single circuit	
	18D	Dead-end with ground wire
	18G	Heavy angle dead-end with ground wire
	18M	Light tangent suspension with ground wire
	18T	Transposition

19	500 kV double circuit	
	19A	Standard tangent suspension with ground wire
	19D	Dead-end with ground wire
	19DS	Strain dead-end with ground wire
	19G	Heavy angle dead-end with ground wire
28	500 kV single circuit	
	28A	Standard tangent suspension with ground wire
	28D	Dead-end with ground wire
	28L	Light tangent suspension without ground wire
	28M	Light tangent suspension with ground wire
	28P	Dead-end with ground wire
	28S	Standard tangent suspension without ground wire
	28T	Transposition
32	230 kV single circuit	
	32A	Standard tangent suspension with ground wire
	32DL	Light dead-end with ground wire
	32G	Heavy angle dead-end with ground wire
148	500 kV single circuit	
	148D	Dead-end with ground wire
	148M	Light tangent suspension with ground wire
238	500 kV single circuit tower	
	238D	Dead-end with ground wire
	238G	Heavy angle dead-end with ground wire
248	500 kV single circuit	
	248M	Light tangent suspension with ground wire
318	500 kV single circuit	
	318M	Light tangent suspension with ground wire
338	500 kV single circuit	
	338A	Standard tangent suspension with ground wire
	338B	Heavy tangent suspension with ground wire
	338D	Dead-end with ground wire
	338DS	Strain dead-end with ground wire
	338M	Light tangent suspension with ground wire

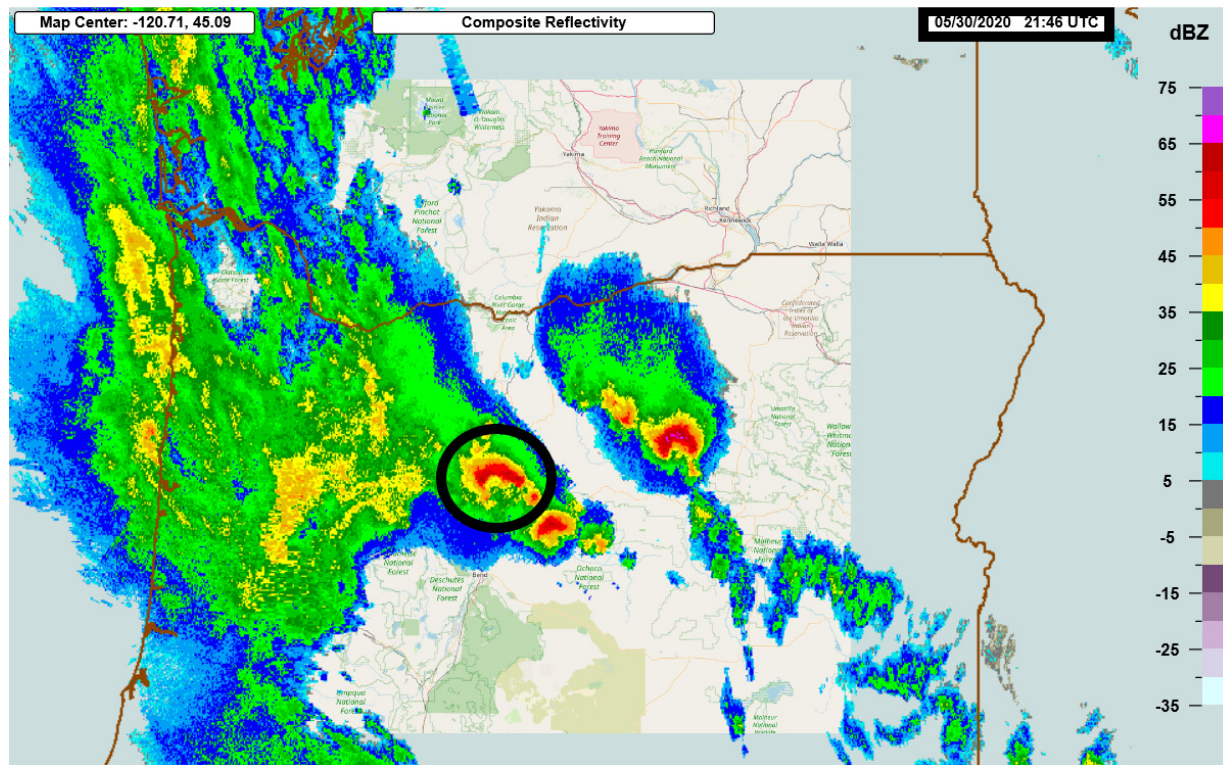
Note: any new or rebuilt structures will be of the newest design version.

May 30, 2020 Microburst Event:

On Saturday, May 30, 2020 a strong storm system moved north-northeast from off the southern California coast through central Oregon and eastern Washington. Friday afternoon, and again Saturday morning, PGPW issued a Transmission Weather Alert for the possibility of widespread thunderstorms associated with the incoming system. As expected, unusually widespread and severe thunderstorms developed, including a few supercells which produced straight line winds, one to two-inch diameter hail, and even stronger microbursts. Several hours after severe thunderstorms struck this tower, a wind gust to 97mph was measured near Wanapum Dam.

Radar data:

The radar imagery from the incident shows a severe, but non-rotating thunderstorm over the site at the time of the microburst (see image below with storm circled in black). Even more severe thunderstorms were off to the east at the time, including one which did have rotation signatures.



Observations from nearby wind sensors:

- Davis Weather Station, 5 miles south of Madras, OR, Jefferson County, **2:29 pm PDT, 85 mph measured gust.** This was about an hour prior to this particular microburst, but timing correlates well with the supercell storm motions. It took about an hour for the storms to move north and reach the damage site.
- North Pole Ridge RAWs weather station, Wasco County, **3:48 pm PDT, 85 mph measured gust** The timing correlates very well to the timing of the downed towers.

NOAA National Weather Service SPC Wind Speed Estimation:

We used guides from the Storm Prediction Center (SPC), which give meteorologists engineering guidance for rating storm damage. Wind speed estimates are available for transmission tower damage: (<https://www.spc.noaa.gov/efscale/24.html>)

For this type of damage, wind speed estimates can range from 115 to 160 mph. However, since only a couple of towers were heavily damaged, and adjacent towers appear to have been relatively undamaged, the microburst winds were on the low end of this wind range.

For reference, this is the excerpt from the actual NWS SPC Field Guidance:

24. ELECTRICAL TRANSMISSION LINE (ETL)

Typical Construction

- Single wood poles with wood cross arms
- Single steel or concrete poles with metal cross arms
- Metal trussed towers

DOD*	Damage description	EXP	LB	UB
1	Threshold of visible damage	83	70	98
2	Broken wood cross member	99	80	114
3	Wood poles leaning	108	85	130
4	Broken wood poles	118	98	142
5	Broken or bent steel or concrete poles	138	115	149
6	Collapsed metal truss towers	141	116	165

* Degree of Damage

Conclusion:

Based on the photos from Transmission Field Ops (TF) and radar imagery on the day of the storm, we conclude the site was struck by microburst winds of around 110-120mph.

Line Name	Length (Mi)	OutDatetime	InDatetime	Cause	Component	Weather	Temperature (F)
Ashe-Marion No 2 500kV line	224.01	1/8/2017 23:22	1/26/2017 15:42	Line Material Failure	Ground Wire	[ASHE170109]:Snow and Ice [MARN170109]:rain	[ASHE170109]:20 degrees [MARN170109]:35 F
Ashe-Marion No 2 500kV line	224.01	12/26/2017 22:02	12/26/2017 22:02	Line Material Failure	Transmission Equipment	[ASHE171227]:Cloudy/ Snow [MARN171227]:	[ASHE171227]:Low 20s [MARN171227]:
Ashe-Marion No 2 500kV line	224.01	12/27/2017 4:51	12/27/2017 4:51	Line Material Failure	Transmission Equipment	[ASHE171227]:Cloudy/Snow [MARN171227]:	[ASHE171227]:Low 20s [MARN171227]:
Ashe-Marion No 2 500kV line	224.01	12/27/2017 5:19	12/27/2017 5:19	Line Material Failure	Transmission Equipment	[ASHE171228]:Cloudy/Snow [MARN171228]:	[ASHE171228]:Low 20s [MARN171228]:
Ashe-Marion No 2 500kV line	224.01	1/15/2019 19:15	1/16/2019 17:20	Line Material Failure	Ground Wire	[ASHE190313]:Cloudy [MARN190117]:	[ASHE190313]:30F [MARN190117]:
Ashe-Marion No 2 500kV line	224.01	2/6/2021 4:12	2/6/2021 14:42	Line Material Failure	Ground Wire	[ASHE210225]:wind [MARN210206]:	[ASHE210225]:45-50 degrees F [MARN210206]:
Buckley-Marion No 1 500kV line	99.33	12/14/2016 0:27	12/14/2016 0:33	Line Material Failure	Terminal Equipment	[MARN161214]: [BKLY161214]:Snowing	[MARN161214]: [BKLY161214]:10
Buckley-Marion No 1 500kV line	99.33	12/14/2016 1:00	12/14/2016 1:00	Line Material Failure	Transmission Equipment	[MARN161214]: [BKLY161214]:Snowing	[MARN161214]: [BKLY161214]:10
Buckley-Marion No 1 500kV line	99.33	12/14/2016 1:30	12/14/2016 19:59	Line Material Failure	Transmission Equipment	[MARN161214]: [BKLY161214]:snowing	[MARN161214]: [BKLY161214]:10
Buckley-Marion No 1 500kV line	99.33	2/5/2021 10:16	2/6/2021 15:41	Line Material Failure	Transmission Equipment	[MARN210206]: [BKLY210216]:clear	[MARN210206]: [BKLY210216]:44
John Day-Grizzly No 1 500kV line	88.41	1/17/2019 8:07	1/17/2019 14:31	Line Material Failure	Ground Wire	[GRIZ190118]:cloudy/ice [JDAY190118]:FOG, FREEZING	[GRIZ190118]:28 F [JDAY190118]:32
Slatt-Buckley No 1 500kV line	52.32	9/7/2022 18:19	9/7/2022 18:41	Line Material Failure	Transmission Equipment	[SLAT220919]:SMOKE IN THE AREA [BKLY220915]:	[SLAT220919]:82 [BKLY220915]: