BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

IN THE MATTER OF IDAHO POWER COMPANY'S, PETITION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY.	**Docket: PCN 5** **Amended Opening Testimony** **Sam Myers**

Date: February 1, 2023

Sam Myers, Intervenor

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Wind Concerns

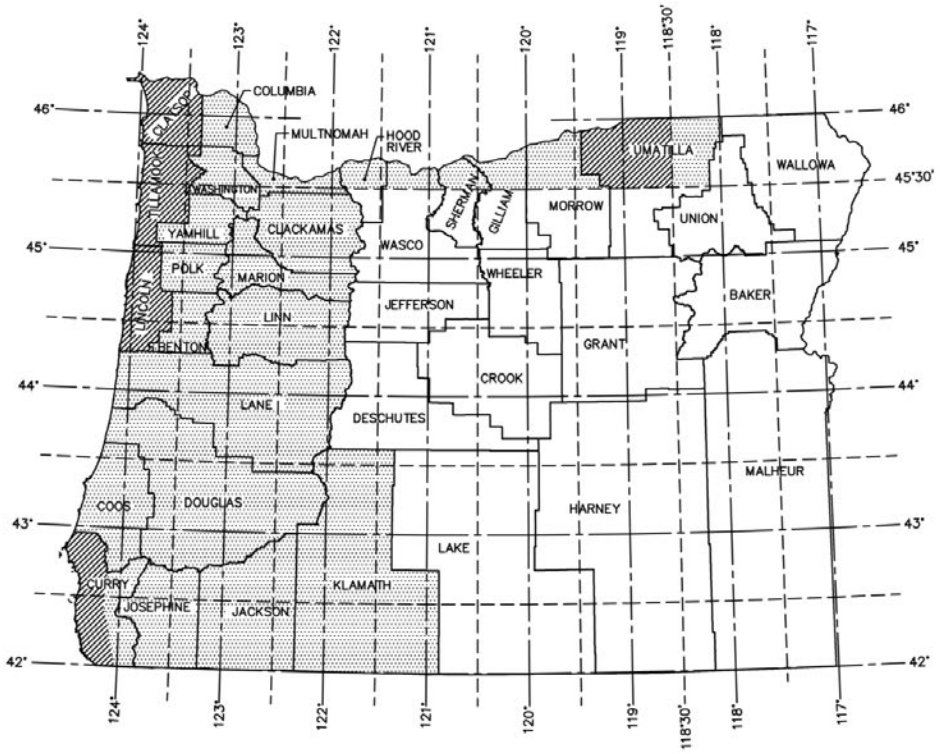
I would like to clarify the alternate route criteria. The Combined Oregon Wind Speed Map gives us the most important information for all building construction design standards.

The map reveals a high differential in the maximum wind load speeds that exists in Morrow county. The boundary has been created using the 45° 32’ latitude which is roughly south of my farm 4 miles. This huge differential serves as a guide to the placement of transmission lines and potential placement of renewable energy wind towers.

Idaho Power has proposed to use under engineered max wind load speed in its tower design and has placed the transmission line in a much higher wind load speed area. Idaho power has failed to move the transmission line south to a much lower max wind load speed area. Idaho power should have moved the line south into the lower max wind speed area to mitigate the risk of fire and tower failure in high wind areas. The Combined Oregon wind speed map(below) is the perfect guide for best placement of transmission lines and wind towers. i.e. wind towers in high wind areas and transmission lines in low wind areas.

State of Oregon
Building Codes Division
Better Buildings for Oregon

Combined
Oregon Wind Speed Map



1. All areas with full exposure to ocean winds shall be designed to the highest wind speed for that Risk Catagory.
2. Areas in Hood River and Multnomah Counties with full exposure to Columbia River Gorge winds shall be designed to the highest wind speed for that Risk Catagory.

RISK CATAGORY I	RISK CATAGORY II	RISK CATAGORY III & IV
125 mph	135 mph	145 mph
115 mph	120 mph	130 mph
100 mph	110 mph	115 mph

For SI: 1 mile per hour = 0.44 m/s

ULTIMATE DESIGN WIND SPEED, Vult BASED ON RISK CATAGORY

This map is a compilation of all 3 wind speed maps based on Risk Catagory in the 2014 OSSC. Refer to the actual maps in the code for exact code language.

In the Combined Oregon Wind Speed Map for a category 3 or 4 structures should be designed for a max wind load speed of 130 mph or more for Morrow county. Idaho Power's transmission lines are designed for 94-112 mph max wind load speeds. This is a critical engineering oversight that could cause fire ignition from line failure.

It should also be concluded that the transmission line placement should not displace the ability of developers to place wind towers in the higher wind speed areas. The most productive use of our wind resources should not be negatively impacted by a transmission line that could be moved to a lower wind speed area.

Data(see below) received from a wind metering tower placed on our property by a wind developer which was placed less than 1 mile from the proposed transmission line saw winds as high as 88.7 mph on 12-11-2014. This data is from a tower within its first 4 years of operation. This is a meaningful realization that we do have a relatively high wind area and at minimum Idaho Power should be using a 300 year max wind event possibility as a guide to designing towers and has failed to adequately design its towers to the area.

Site Information:

Project: Myers 60M1

Location:

Elevation: 1542ft

Sensor Information:

1 NRG #40 Anem. m/s
2 NRG #40 Anem. m/s
3 NRG #40 Anem. m/s
4 NRG #40 Anem. m/s
5 No SCM Installed
6 No SCM Installed
7 #200P Wind Vane
8 #200P Wind Vane
9 NRG #110S Temp C
10 No SCM Installed
11 No SCM Installed
12 No SCM Installed
13 NRG #40 Anem. m/s
14 NRG #40 Anem. m/s
15 NRG #40 Anem. m/s

4/1/2011 to 12/31/2017

Myers Summary Report 2

SITE 7546

Myers 60M1

Channel	1	2	3	4			7	8	9				13	14	15
Height	60 m	60 m	50 m	50 m	-----	-----	38 m	38 m	0	-----	-----	-----	40 m	40 m	12 m
Units	m/s	m/s	m/s	m/s	-----	-----	deg	deg	C	-----	-----	-----	m/s	m/s	m/s
Intervals with Valid Data	355246	355246	355246	355246			355246	355246	355246				355246	355246	355246
Average Filtered Data	6.3	6.34	6.23	6.19			258.25	260.73	12.6				6.06	6.02	5.22
Average for All Data	6.3	6.34	6.23	6.19			258.25	260.73	12.6				6.06	6.02	5.22
Min Interval Average	0.4	0.4	0.5	0.4					-18				0.4	0.4	0.4
Date of Min Interval	4/8/2011	4/8/2011	4/4/2011	4/8/2011					12/7/2013				4/12/2011	4/12/2011	4/4/2011
Time of Min Interval	4:00:00 AM	3:40:00 AM	3:20:00 PM	3:40:00 AM					11:10:00 PM				10:10:00 PM	10:10:00 PM	3:30:00 PM
Max Interval Average	32.3	31.5	31.5	31.2					40.4				31.3	30.5	27.4
Date of Max Interval	12/11/2014	12/11/2014	12/11/2014	12/11/2014					6/27/2015				12/11/2014	12/11/2014	12/11/2014
Time of Max Interval	12:30:00 PM	12:30:00 PM	12:30:00 PM	12:30:00 PM					2:40:00 PM				12:30:00 PM	12:30:00 PM	12:30:00 PM
Average Interval SD	0.63	0.63	0.64	0.64			8.03	8.59	0.13				0.64	0.65	0.7
Min Sample	0.4	0.4	0.5	0.4					-18.1				0.4	0.4	0.4
Date of Min Sample	4/1/2011	4/1/2011	4/1/2011	4/1/2011					12/7/2013				4/1/2011	4/1/2011	4/1/2011
Time of Min Sample	7:30:00 AM	7:30:00 AM	7:20:00 AM	7:30:00 AM					11:00:00 PM				7:30:00 AM	7:30:00 AM	7:30:00 AM
Max Sample	39.5	38.9	38.6	38.3					41				39.7	38.5	36
Date of Max Sample	12/11/2014	12/11/2014	12/11/2014	12/11/2014					6/27/2015				12/11/2014	12/11/2014	12/11/2014
Time of Max Sample	12:30:00 PM	12:30:00 PM	12:30:00 PM	12:30:00 PM					2:40:00 PM				12:30:00 PM	12:30:00 PM	12:40:00 PM
Average Interval TI	0.14	0.14	0.14	0.14									0.14	0.15	0.17
Wind Speed Direction							WSW	WSW							

Generated Wednesday, February 16, 2022

NRG Systems SDR Version 7.08

Fire Concerns

Idaho Power has sought to understate the effects of fire on our dryland farming soils. My testimony has demonstrated the long term yield impacts on our cropping system and soil types (letter from Roger Morter). Researchers have described the actual soil/fire dynamics that cause the yield limiting impacts to our soil in the following resource.(Dryland Ecohydrology: Chapter 2)

“The postfire increase in runoff and soil erosion was initially attributed to the loss of infiltration capacity due to rain splash and soil compaction. In addition, fires were believed to decrease surface soil permeability by clogging the soil pores with ashy particles (DeBano 2000). Krammes and DeBano (1965) showed that the decrease in infiltra- tion capacity is in large part associated with water repellency developed by the fire at the soil surface or at shallow depths. Organic compounds of chaparral and other vegetation types are volatilized by the fire and transported downward into the soil by the strong temperature gradients existing through the soil profile. These gasses condensate at a certain depth (of only a few centimeters), developing a hydrophobic coating around the soil particles (e.g., DeBano 2000). This effect depends on the fire regime (Chap. 14), in particular on fire temperature, as repellency is observed to develop neither with relatively low (e.g., T < 175 C) nor with high temperatures (T > 300 C) (e.g., Doerr et al. 2000). The organic compounds released by the fire affect the physical-chemical properties of the grain surfaces, possibly forming a hydrophobic layer and influencing the infiltration processes (Letey 2001). Thus, fire occurrences have important ecohydrological implications because the increase in runoff and the associated erosion of the soil surface redistribute water and nutrients, while the heterogeneity of burnt areas partly contributes to the emergence of patchy patterns of vegetation.”

Above is a detailed explanation into the damaging effects of fire on our soils. List of impacts:

1. Increased water runoff
2. Increased soil erosion
3. Loss of soil water infiltration (hydrophobic coating around soil particles and seals in soil nutrients)
4. Produces poor crop emergence and patchy vegetation

The book describes in detail what extension agents, Oregon state university researchers, and local farmers understand about the yield impacts from fires which our soils are vulnerable to.

Concerning “Net Zero Emissions by 2050”

Idaho Power's recent statement using “Net Zero Emissions by 2050” as an argument in favor of their powerline is an unsubstantiated claim to push their own agenda. There is currently no consensus that exists towards the possibility of “Net Zero in 2050”. Many energy variabilities currently exist to make any kind of reasonable conclusion towards the necessity of a transmission line in this effort is overreaching and flawed in logic.

Budget Concern

The current budget that Idaho power is using from 2017 is extremely out of date with current economic factors. With post covid inflation, cost of materials, and labor concerns, the cost of the current design should be much higher even before re-engineering towers for higher winds. This will no doubt reduce the feasibility of the project from a budget standpoint.

In Summary

Due to high wind and tower design concerns we recommend for the safety and well being of the public plus the overall reliability of the transmission line be moved south of Gleason Butte. Moving the transmission line may shorten the overall distance the transmission line has to travel. We recommend that Idaho Power list our area as a high risk fire zone. We also recommend Idaho Power financially supports the local fire department for these areas and develop crop loss and soil damage mitigation policies. Currently there are no such policies that cover losses from fire damages that the transmission line could cause.

PENDING AN EMAIL FROM MORROW COUNTY FIRE OFFICIAL

OUTLINING PROBLEMS IN THE IDAHO POWER FIRE MITIGATION PLAN

Sincerely,

/s/ Sam Myers

Sam Myers