

Analysis-Horse Heaven Wind Project

Wind Direction and Project Orientation

Based upon weather information from the Western Region Climate Center¹, the predominant wind direction is from the SW for approximately 7 months of the year (Mar-Jul, Oct-Nov) and is from the NW for 3 months (Dec-Feb).

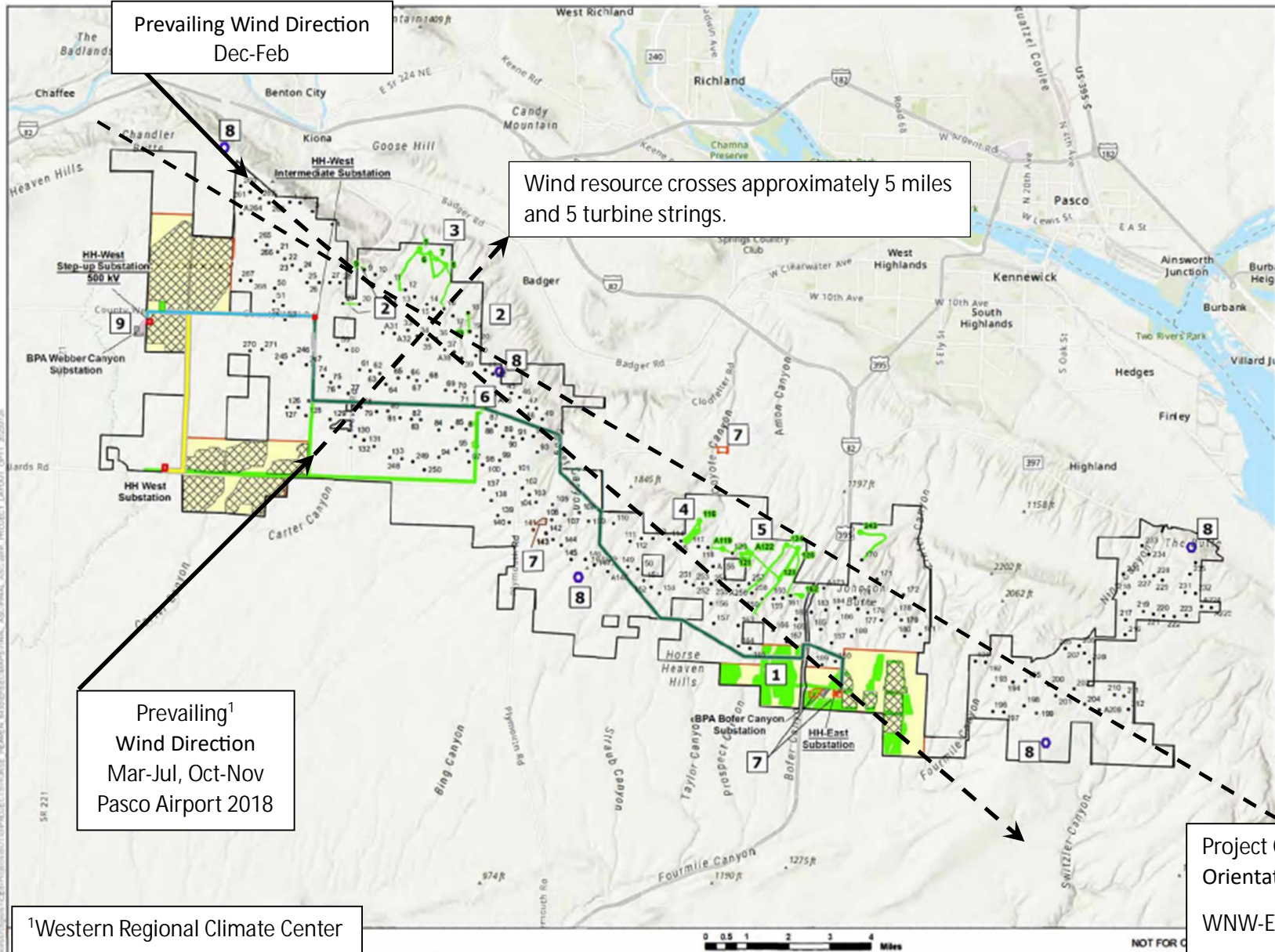
The following Figure is taken from the "Moon Memo," page 12, provided as a response to Data Request 9 to EFSEC.

The Horse Heaven Hills project orientation (length) is generally in the WNW-ESE direction, as shown on the next page.

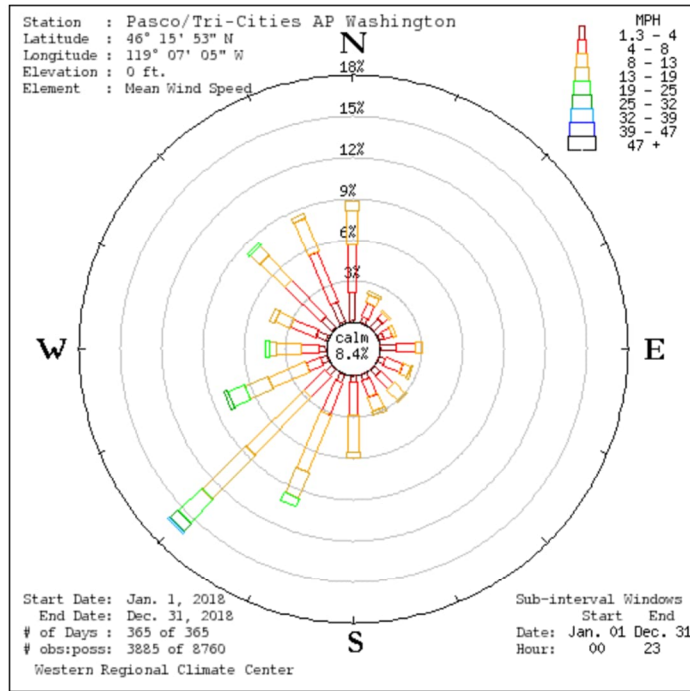
Summary-For 7 months of the year, prevailing wind direction pushes through the array designed wind project up to 5 strings deep, over 5 miles.

For the winter months, the prevailing wind direction is from the NW, aligning with the length of the project, approximately 25 miles.

¹ The Pasco Airport station data from the Western Region Climate Center's 2018 report was used, which is the last year for which full yearly data has been provided by the Center.



Pasco/Tri-Cities AP Washington



Pasco/Tri-Cities AP Washington - Wind Frequency Table (percentage)

Latitude : 46° 15' 53" N Start Date : Jan. 1, 2018 Sub Interval Windows
 Longitude : 119° 07' 05" W End Date : Dec. 31, 2018 Start End
 Elevation : 0 ft. # of Days : 365 of 365 Date Jan. 01 Dec. 31
 Element : Mean Wind Speed # obs : poss : 3885 of 8760 Hour 00 23

(Greater than or equal to initial interval value and Less than ending interval value.)

Range (mph)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
1.3 - 4	2.0	0.4	0.8	0.4	1.1	0.5	0.6	0.4	0.5	0.6	0.5	0.4	0.4	0.8	1.0	1.5	11.9
4 - 8	3.5	1.1	0.5	0.6	1.5	1.3	1.4	1.3	2.3	2.5	2.1	1.1	1.3	2.0	3.7	3.9	30.2
8 - 13	2.4	0.6	0.2	0.3	0.4	0.6	1.0	1.1	2.8	4.5	5.8	2.9	1.8	1.2	2.4	2.7	30.7
13 - 19	0.7	0.2	0.0	0.0	0.1	0.2	0.2	0.3	0.4	2.0	4.4	1.8	0.6	0.4	1.0	0.4	12.5
19 - 25	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	2.3	1.3	0.2	0.0	0.2	0.1	4.8
25 - 32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.3	0.1	0.0	0.0	0.0	1.2
32 - 39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2

WASHINGTON
PREVAILING WIND DIRECTION

STATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
ARLINGTON AP, WA (KAWO). WI	SSE	SSE	S	S	NW	NW	NW	NW	NW	SSE	SSE	SSE	SSE
BELLINGHAM AP, WA (KBLI). W	S	S	S	S	S	S	S	S	S	S	S	NNE	S
BREMERTON MUNI AP, WA (KPWT)	SSW	SSW	SSW	SSW	SSW	SSW	SSW	NE	NE	SSW	SSW	SSW	SSW
DEER PARK AP, WA (KDEW). WI	N	NNE	S	S	S	S	S	S	SSE	N	N	N	S
ELLENSBURG AP, WA (KELN). W	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	E	E	NW
EPHRATA AIRPORT, WA (KEPH).	N	N	N	N	S	S	S	S	N	N	N	N	N
EVERETT-PAINE FIELD, WA (KPA	S	S	S	S	N	N	N	N	N	S	S	S	N
FORT LEWIS AAF, WA (KGRF).	S	S	S	S	S	S	S	S	S	S	S	S	S
FRIDAY HARBOR AP, WA (KFHR).	SE	SE	SE	WSW	SW	SW	SW	SE	SE	SE	SE	SE	SE
HANFORD, WA (KHMS). WIND RO	NW	NW	NW	W	NW	NW	NW	NW	W	W	NW	NW	NW
HOQUIAM AIRPORT, WA (KHQM).	E	E	E	W	W	W	W	W	W	E	E	E	E
KELSO-LONGVIEW AP, WA (KKLS)	SSE	S	S	S	N	WNW	N	N	N	SSE	SSE	SSE	SSE
MOSES LAKE AP, WA (KMMH). W	N	N	N	N	S	SSW	S	N	N	N	N	N	N
OLYMPIA AP, WA (KOLM). WIND	S	S	S	S	S	S	SSW	S	S	S	S	S	S
OMAK AIRPORT, WA (KOMK). WI	S	S	N	N	N	N	N	N	N	N	S	S	N
PASCO-TRI CITIES AP, WA (KPS)	NW	NW	SW	SW	SW	SW	SW	SSW	NNW	SW	SW	NW	SW
PORT ANGELES AP, WA (KCLM).	WSW	SW	W	W	W	W	W	W	W	W	SW	SW	W
PULLMAN-MOSCOW AP, WA (KPUW)	E	E	E	SW	WSW	WSW	WSW	WSW	WSW	E	E	E	E
QUILLAYUTE AP, WA (KUIL). W	ENE	ENE	S	S	W	W	W	S	S	ENE	ENE	ENE	S
RENTON MUNI AP, WA (KRNT).	S	S	S	S	S	S	NNW	S	NNW	S	S	S	S
SCAPPOOSE AIRPORT, WA (KSPB)	S	S	S	N	N	N	N	N	N	W	SSE	S	N
SEATTLE-BOEING FIELD, WA (KB	S	S	S	S	S	S	NW	NW	NW	SSE	SSE	SSE	S
SEATTLE-TACOMA AP, WA (KSEA)	S	S	S	S	SSW	SSW	SW	N	N	S	S	S	S
SHELTON AIRPORT, WA (KSHN).	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	WSW
SKYKOMISH AP, WA (SBB). WIN	SSE	SSE	NW	S	NW	NW	NW	NW	NW	S	SSE	S	NW
SPOKANE-FAIRCHILD AFB, WA (K	SSW	NE	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW
SPOKANE-FELTS FIELD, WA (KSF)	SW	SSW	SW	SSW	SSW	SSW	NNE	NNE	NNE	NNE	SSW	SW	SW
SPOKANE-GEIGER FIELD, WA (KG	NE	NE	S	S	SSW	S	SW	S	S	NE	NE	S	S
STAMPEDE PASS, WA (KSMP). W	E	E	E	WSW	WSW	WSW	WSW	WSW	SW	WSW	E	E	WSW
TACOMA NARROWS AP, WA (KTIW)	S	S	S	S	S	S	N	S	N	S	S	S	S
TACOMA-MCCHORD AFB, WA (KTCM	S	S	S	S	S	S	S	S	S	S	S	S	S
TOLEDO AIRPORT, WA (KTD0).	S	S	S	S	NW	NW	NW	NW	NW	S	S	S	S
VANCOUVER AIRPORT, WA (KVUO)	ESE	ESE	ESE	NW	NW	NW	NW	NW	NW	ESE	ESE	ESE	ESE
WALLA WALLA AP, WA (KALW).	S	S	S	S	S	S	S	S	S	S	S	S	S
WENATCHEE AP, WA (KEAT). WI	W	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
WHIDBEY ISLAND NAS-OAK HARBO	SE	ESE	SE	W	W	W	WSW	W	W	ESE	SE	E	W
YAKIMA AIRPORT, WA (KYKM).	W	W	W	W	W	W	W	W	W	W	W	W	W

PASCO-TRI CITIES AP, WA (KPS | NW NW SW SW SW SW SW SSW NNW SW SW NW | SW