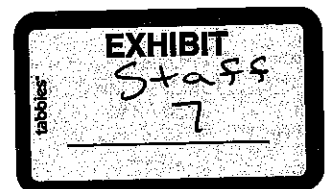


C.E.D QF Output Weighted LMP Avoided Cost

	C.E.D LMP-Output Weighted Avoided Cost		\$47.984
Year	QF Output	LMP Based Revenue	Output Wtd LMP
2018	271,831	\$7,804,714	\$28.71
2019	271,831	\$8,937,865	\$32.88
2020	273,071	\$9,730,586	\$35.63
2021	271,831	\$10,449,332	\$38.44
2022	271,831	\$11,123,816	\$40.92
2023	271,831	\$11,789,244	\$43.37
2024	273,071	\$12,304,563	\$45.06
2025	271,831	\$12,737,748	\$46.86
2026	271,831	\$13,409,271	\$49.33
2027	271,831	\$14,064,232	\$51.74
2028	273,071	\$14,580,696	\$53.40
2029	271,831	\$15,208,097	\$55.95
2030	271,831	\$15,857,530	\$58.34
2031	271,831	\$16,465,311	\$60.57
2032	273,071	\$17,133,790	\$62.74
2033	271,831	\$17,871,909	\$65.75
2034	271,831	\$19,283,590	\$70.94
2035	271,831	\$20,253,494	\$74.51
2036	273,071	\$21,163,643	\$77.50
2037	271,831	\$21,858,948	\$80.41

Column 2 was derived from data received in response to Staff 2-26 – CED provided hourly data for each wind plant which I aggregated to get totals by hour for total portfolio

Col 3 was derived by multiplying col 2 data on an hourly basis with CED response to 1-41 which provided the hourly SPP LMPs; Col 4 is col3/col2



Source of Output Data:

C.E.D Response to N.W.E 1-41 (Excel Spreadsheet)

1-41 Provide the hourly input variables for each variable, the hourly locational market prices for each node in NorthWestern's South Dakota Power system, and the hourly generating unit revenues, costs and operating statistics for each generating unit that Mr. Schiffman included as part of NorthWestern's South Dakota Power System.

Hourly energy prices are included in the attached spreadsheet labeled "Juhl Energy - Ventyx Reference Case LMP - Hourly.xlsx." Attached as Exhibit 3, hereto. Hourly input variables and hourly generator output variables were not written to the output database in the simulations completed by PMRG, so are not available without re-running the PROMOD model.

C.E.D Response to Staff 2-26 (Xcel spreadsheet Attachment)

2-26) Please provide an 8760 generation forecast for Juhl's wind projects in an excel spreadsheet that was used in Juhl's PROMOD model.

Please see Juhl Hourly Generation.xlsx.