



TO: NextEra Energy Resources, LLC
FROM: Tetra Tech, Inc.
DATE: June 6, 2016
SUBJECT: Brady II Wind Energy Center –Noise and Shadow Flicker Analysis

Tetra Tech, Inc. was contracted by Brady Wind II, LLC, a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra), to analyze predicted noise and shadow flicker hours/year at receptors identified for the proposed Brady II Wind Energy Center. Results are shown below of a cumulative analysis impact scenario that considers results for the proposed Brady I Wind Energy Center (array dated 4/4/2016 with T17 removed and Alt2 activated) in addition to the Brady II (4/22/2016) turbine arrays.

Table 1 provides results of the noise analysis, organized by the decreasing values of predicted results under the Maximum Rotation Under Anomalous Meteorological Conditions scenario. **Table 2** provides results of the shadow flicker analysis, organized by the decreasing value of predicted expected shadow flicker hours per year for primary turbines only.

There is no new information contained within these tables. The original data was contained in the PSC filings - Acoustics Assessment Hettinger County, North Dakota May 2016 and the Shadow Flicker Impact Analysis for the Brady II Wind Energy Center Hettinger and Stark Counties, North Dakota May, 2016.

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Table 1: Brady II Wind Energy Center Noise Analysis (Cumulative Results with Brady I Wind Energy Center 4/4/16 (-T17, +Alt2) Primary Turbines Only)

Brady Wind Receptor ID	Receptor Information						Acoustic Analysis Results (Cumulative Results)*	
	Landowner Name	Status	Receptor located on participating land?	Landowner owns land participating in project (Brady I or Brady II)?	Nearest Turbine	Distance (feet)	Maximum Rotation under Anomalous (dBA)	Main Turbines Influencing Receptor
501138	Josephine Steier LE et al	Occupied	Yes	Yes	17	2,263	46	B17,B20,B18,B19,B22
501156	Mark Koiler et ux	Occupied	Yes	Yes	58	2,354	45	B56,B57,B60,B50,B54
610149	Richard Stagle et ux	Occupied	No	No	52	3,446	45	B52,B55,B54,B51,B53
501099	Daniel Stagle	Occupied	Yes	Yes	54	2,809	44	B54,B55,B58,B51,B50
501104	Daniel Stagle	Occupied	Yes	Yes	54	2,715	44	B54,B55,B56,B51,B50
501085	Jason Dornier et ux	Occupied	No	No	50	2,956	44	B50,B51,B43,B42,B41
501096	Jason Dornier et ux	Occupied	No	No	50	2,951	44	B50,B51,B43,B52,B41
501126	Dennis Dornier et ux	Occupied	No	No	16	3,441	43	B16,B14,B17,B15,B10
500028	Alvin Uriacher et al.	Occupied	No	Yes	56	2,854	43	B56,B53,B52,B59
800308	Kenneth Stagle et ux	Occupied	Yes	Yes	36	2,826	43	B36,B48,B49,B37,B38
500022	Alvin Uriacher et al.	Occupied	No	Yes	56	3,032	42	B56,B59,A53,B53,B52
500064	Harvey Herberholz	Occupied	No	Yes	46	3,979	42	B46,B47,B45,B44
610084	Dakota West Farms	Occupied	No	Yes	11	3,684	42	B11,B1,B6,B7,B2
800311	Michael Dubisar	Occupied	Yes	Yes	23	3,928	41	B23,B22,B21,B24,B26
501141	Kenneth Stagle et ux	Occupied	No	Yes	36	2,963	41	B49,B48,B36,B37,B38
610170	Marvin Wert	Occupied	No	No	22	4,536	41	B22,B20,B17,B19,B21
500059	John Kathrein	Occupied	Yes	Yes	26	5,338	41	B26,B27,B 23,B29,B24
501108	Harvey Herberholz	Occupied	No	Yes	46	4,139	41	B46,B47,B45,B40,B44
501131	Richard Stagle et ux	Occupied	No	No	46	5,715	39	B46,B47,B45,B40,B44
900039	Randy Fitterer	Occupied	No	No	22	6,728	39	B30,B16,B22,B20,B13
900035	Michael Madler et al	Occupied	No	Yes	36	6,146	38	B36,B37,B38,B31,B44
900027	Michael Madler et al	Occupied	No	Yes	36	6,142	38	B36,B37,B38,B31,B44
900059	David Madler	Occupied	No	No	30	9,229	38	B30,B31,B38,B37,B39
900002	Bryan Jirges et ux	Occupied	Yes	Yes	37	7,647	38	B37,B31,B36,B38,B30
900031	John Madler	Occupied	No	No	11	6,728	38	B11,B12,B13,B16,B14
500053	Jonathan Wert	Occupied	No	No	36	6,132	38	B37,B38,B36,B31,B39
900007	Bryan Jirges et ux	Occupied	Yes	Yes	11	8,599	36	B63,B61,B60,B65,B57
401	Monte Farms	Occupied	No	Yes	67	9,247	36	B11,B12,B6,B7,B13
501147	Marvin Wert et ux	Occupied	No	No	30	6,087	36	B67,B69,B72,B62,B66
								B30,B38,B31,B39,B32

500035	Eugene Urbacher	Occupied	No	Yes	63	8,165	35	B63,B61,B65,B60
900011	Dale Wannier	Occupied	No	Yes	11	9,219	35	B11,B12,B6,B7,B8
404	Monke Farms	Occupied	No	Yes	67	9,083	35	B67,B69,B62,B66,B59
900015	No landowner information provided	Occupied	No	No	1	10,955	34	B1,B11,B6,B7,B2
900019	No landowner information provided	Occupied	No	No	1	10,959	34	B1,B11,B6,B2,B7
900053	Heartland Community Credit Union	Occupied	No	No	37	11,087	34	B38,B31,B37,B36,B30
500012	No information provided	Occupied	No	No	71	9,432	34	B71,B70,B68,B64,B72
500039	Jonathan Wert	Occupied	No	No	46	11,011	34	B63,B61,B60,B65,B57
500006	No information provided	Occupied	No	No	71	9,602	33	B70,B71,B72,B68,B69
500002	No information provided	Occupied	No	No	71	9,803	32	B71,B72,B70,B69,B68
900047	Heartland Community Credit Union	Occupied	No	No	37	11,215	32	B37,B31,B36,B38,B30
900547	Clifford Stecher	Occupied	No	No	36	9,062	32	B36,B49,B37,B48,B38
450548	No information provided	Occupied	No	No	71	9,630	31	B71,B72,B69,B67,B70
800317	John Sticks	Occupied	No	No	36	17,044	28	B36,B37,B11,B38,B31
900542	No landowner information provided	Occupied	No	No	36	12,418	27	none
900546	No landowner information provided	Occupied	No	No	36	12,889	27	B49,B48,B36
900548	No landowner information provided	Occupied	No	No	49	10,383	21	none

**Table 2: Brady II Wind Energy Center Shadow Flicker Analysis
(Cumulative Results with Brady I Wind Energy Center 4/4/16 (-T17, +Alt2) Primary Turbines Only)**

Receptor Information				Shadow Flicker Analysis Results (Cumulative Scenario)				
Brady Wind Receptor ID	Landowner Name	Status	Receptor located on participating land?	Landowner owns land participating in project (Brady I or Brady II)?	Nearest Turbine	Distance to Nearest Turbine (feet)	WindPro Predicted Expected Shadow Flicker - Primary Turbines Only (Hours per Year)	Main Turbines Influencing Receptor
610149	Richard Stagi etux	Occupied	No	No	52	3,446	13:09:00	B55, B52, B53
501138	Josephine Steier LE etal	Occupied	Yes	Yes	17	2,263	10:53:00	B22, B14, B16
501118	Dakota West Farms	Occupied	No	Yes	11	3,684	10:39:00	B11
500028	Alvin Uriacher etal.	Occupied	No	Yes	56	2,854	9:29:00	B56, B53, B52
800311	Kenneth Stagle etux	Occupied	Yes	Yes	36	2,963	9:07:00	B48, B49
800308	Kenneth Stagle etux	Occupied	Yes	Yes	36	2,826	9:05:00	B48, B49
500022	Alvin Uriacher etal.	Occupied	No	Yes	56	3,032	7:10:00	B56, B53
501156	Mark Koller etux	Occupied	Yes	Yes	58	2,354	5:00:00	B57
610084	Michael Dubisar	Occupied	Yes	Yes	23	3,928	2:56:00	B22
501085	Jason Dornier etux	Occupied	No	No	50	2,956	2:15:00	B51
501096	Jason Dornier etux	Occupied	No	No	50	2,951	2:07:00	B51
610170	John Kathrein	Occupied	Yes	Yes	26	5,338	1:12:00	B26
501099	Daniel Stagle	Occupied	Yes	Yes	54	2,809	1:08:00	B50
501104	Daniel Stagle	Occupied	Yes	Yes	54	2,715	1:07:00	B50
500059	Harvey Herberholz	Occupied	No	Yes	46	4,139	0:35:00	B48
401	Monke Farms	Occupied	No	Yes	67	9,247	0:00:00	NA
404	Monke Farms	Occupied	No	Yes	67	9,083	0:00:00	NA
450548	No information provided	Occupied	No	No	71	9,630	0:00:00	NA
500002	No information provided	Occupied	No	No	71	9,803	0:00:00	NA
500006	No information provided	Occupied	No	No	71	9,602	0:00:00	NA
500012	No information provided	Occupied	No	No	71	9,432	0:00:00	NA
500035	Eugene Uriacher	Occupied	No	Yes	63	8,165	0:00:00	NA
500039	Jonathan Wert	Occupied	No	No	46	11,011	0:00:00	NA
500053	Jonathan Wert	Occupied	No	No	63	8,653	0:00:00	NA
500064	Harvey Herberholz	Occupied	No	Yes	46	3,979	0:00:00	NA
501108	Richard Stagi etux	Occupied	No	No	46	5,715	0:00:00	NA
501126	Dennis Dornier etux	Occupied	No	No	16	3,441	0:00:00	NA
501131	Randy Fitterer	Occupied	No	No	22	6,728	0:00:00	NA
501141	Marvin Wert	Occupied	No	No	22	4,536	0:00:00	NA
501147	Marvin Wert etux	Occupied	No	No	30	6,087	0:00:00	NA

800317	John Sticka	Occupied	No	No	No	36	17,044	0:00:00	NA
900002	Bryan Jirges etux	Occupied	Yes	Yes	Yes	11	6,728	0:00:00	NA
900007	Bryan Jirges etux	Occupied	Yes	Yes	Yes	11	8,599	0:00:00	NA
900011	Dale Wanner	Occupied	No	No	Yes	11	9,219	0:00:00	NA
900015	No landowner information provided	Occupied	No	No	No	1	10,955	0:00:00	NA
900019	No landowner information provided	Occupied	No	No	No	1	10,959	0:00:00	NA
900027	David Madler etal	Occupied	No	No	No	30	9,229	0:00:00	NA
900031	John Madler	Occupied	No	No	No	36	6,132	0:00:00	NA
900035	Michael Madler etal	Occupied	No	No	Yes	36	6,142	0:00:00	NA
900039	Michael Madler etal	Occupied	No	No	Yes	36	6,146	0:00:00	NA
900047	Heartland Community Credit Union	Occupied	No	No	No	37	11,215	0:00:00	NA
900053	Heartland Community Credit Union	Occupied	No	No	No	37	11,087	0:00:00	NA
900059	David Madler	Occupied	No	No	No	37	7,647	0:00:00	NA
900542	No landowner information provided	Occupied	No	No	No	36	12,418	0:00:00	NA
900546	No landowner information provided	Occupied	No	No	No	36	12,889	0:00:00	NA
900547	Clifford Stecher	Occupied	No	No	No	36	9,062	0:00:00	NA
900548	No landowner information provided	Occupied	No	No	No	49	10,383	0:00:00	NA