Executive Summary – Wind Power GeoPlanner™

Licensed Microwave Search & Worst Case Fresnel Zone

Comsearch performed an analysis to evaluate the potential effects of the planned Howard Wind Farm in Steuben County, New York on existing non-Federal Government microwave telecom systems.

Microwave Search Results: Comsearch's Wind Power GeoPlanner™ provides a graphical representation of affected microwave paths and provides supporting technical parameters. The microwave path data is overlaid on topographic basemaps. Comsearch identified 5 microwave paths that intersect the project area (see Figure 1 and Table 1 below).

Comsearch then calculated a Worst Case Fresnel Zone (WCFZ) for each microwave path in the project area. The mid-point of a full microwave path is the location where the widest (or worst case) Fresnel zone occurs. Fresnel zones are calculated for each path using the following formula.

$$Rn \cong 17.3\sqrt{\frac{n}{F_{GHz}}\left(\frac{d1d2}{d1+d2}\right)}$$

The calculated WCFZ radius, giving the linear path an area or swath, buffers each microwave path in the project area. The distance unit is in meters and can be found in the column attribute "WCFZ." In general, this is the XY area where the planned wind turbines should be avoided, if possible. These areas are shown in Figure 2.

Please note that because the turbine locations were not provided, we could not determine if any potential obstruction cases exist between the planned wind turbines and the microwave systems. If the latitude and longitude values for turbine locations are provided, Comsearch can identify specific microwave telecom paths and turbines where a potential XY conflict exists. Additionally, when wind turbines need to be located inside a WCFZ, Comsearch can provide a detailed clearance study, which considers the vertical Z-height clearance objectives.

Map Projection: The ESRI® Shapefiles contained in the enclosed GeoPlanner CD are in NAD 83 UTM Zone 18 projected coordinate system.

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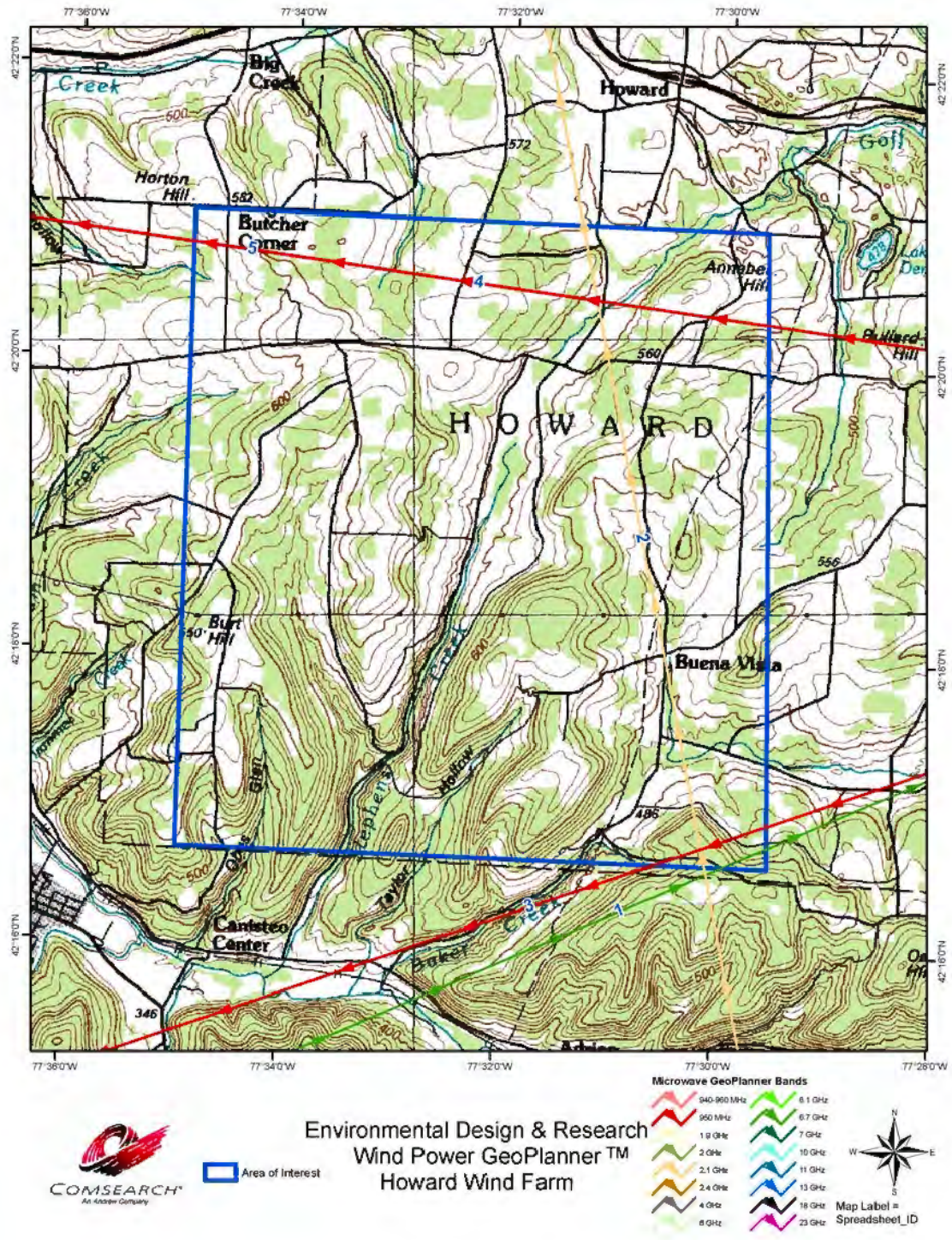


Figure 1 – Wind Power GeoPlanner™

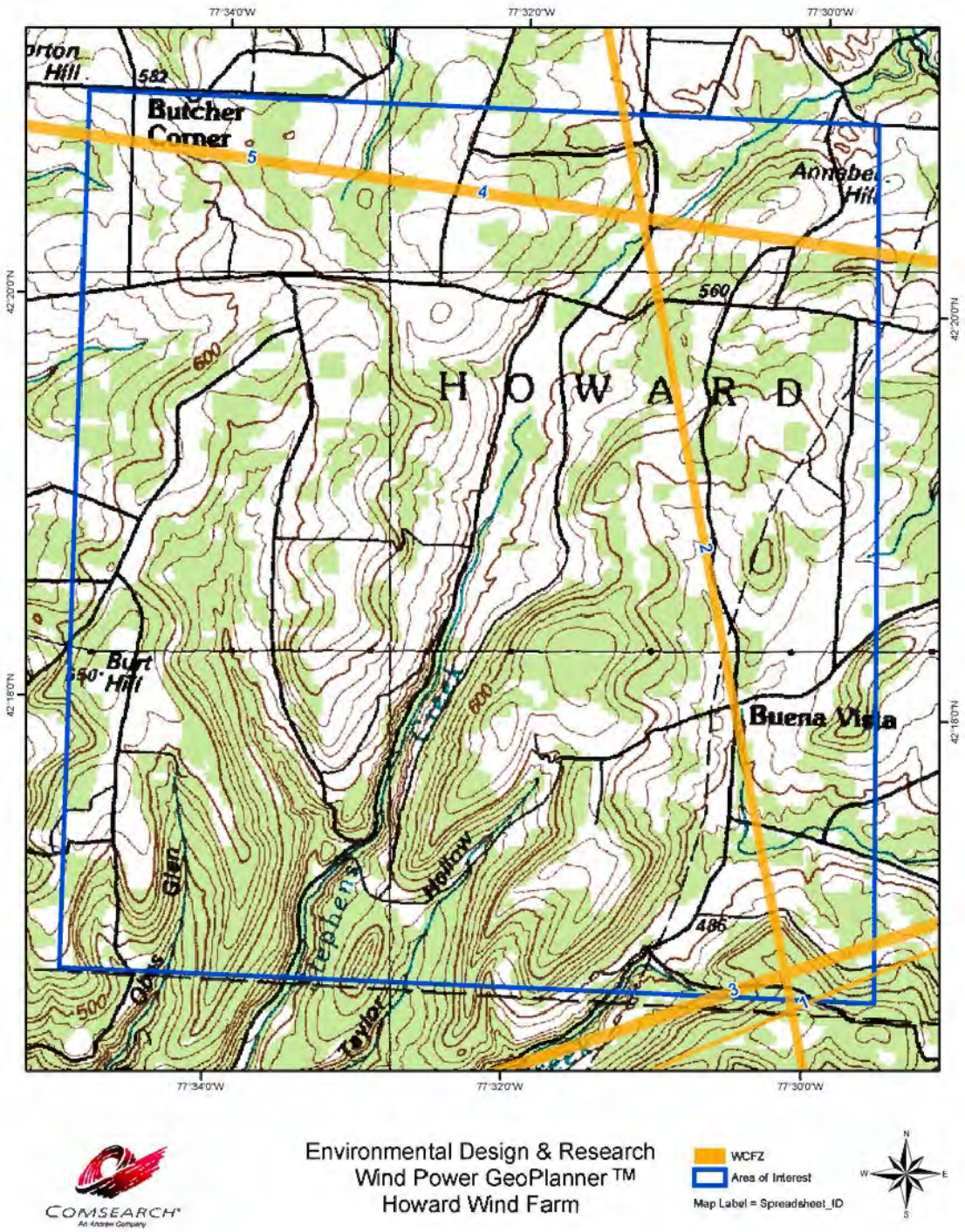
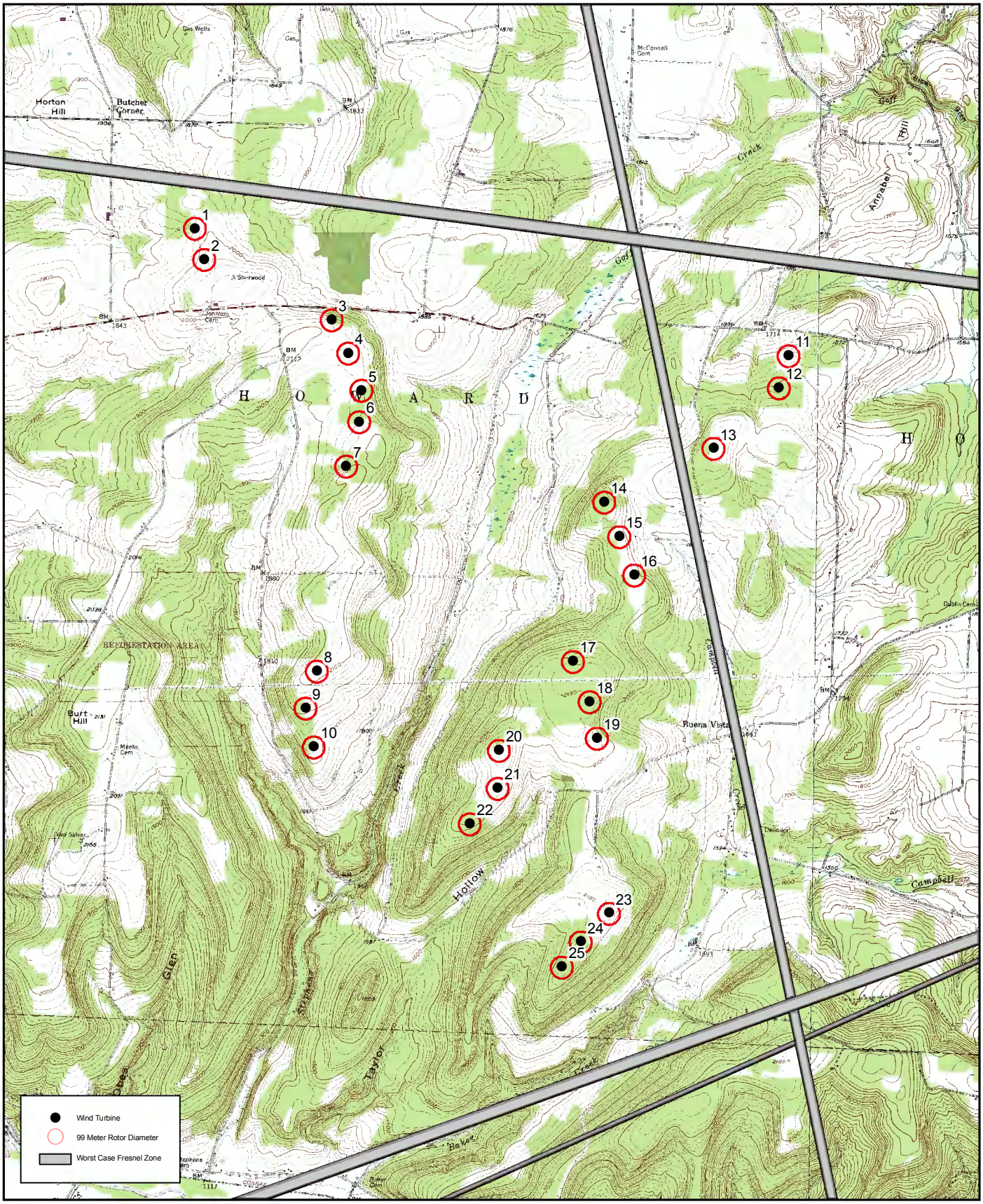


Figure 2 – Wind Power GeoPlanner™ & WCFZ

ID	Name Site 1	Name Site 2	Call Sign Site 1	Call Sign Site 2	BAND NAME	Licensee	WCFZ (m)
1	CALL HILL	MTWASHINGTON	WPWW920	WPNA288	Upper 6 GHz	STEUBEN COUNTY EMERGENCY SERVICES	20.72
2	CAMERON	MARROWBACK	KEH43	KEF48	2.1 GHz	Sunoco Partners Marketing & Terminals LP	43.40
3	MOORE ROAD	PINGRY ROAD	WPOP504	RXONLY	950 MHz	PEMBROOK PINES ELMIRA, LTD.	56.72
4	TURNPIKE RD	RECEIVER	WLP380	RXONLY	950 MHz	FAMILY LIFE MINISTRIES INC	53.81
5	BATH	MCMAHON RD	WMF907	RXONLY	950 MHz	FAMILY LIFE MINISTRIES INC	53.81

Table 1 – Microwave GeoPlanner Links Considered in Analysis (See enclosed mw_geopl.xls for more detailed information and GP_dict_matrix_description.xls for field description)



NORTH

0 500 1,000 2,000 3,000 4,000 Feet

Fresnel Zones

Howard Wind Power Project

Town of Howard
Steuben County, New York

Source: WCFZ Digital Files Provided By Comsearch

Prepared By:

EDR

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Executive Summary of Off-Air TV Reception Analysis at the Proposed Howard Wind Power Project in Steuben County, New York

Comsearch was contracted by Environmental Design and Research (EDR) of Syracuse, New York on behalf of the Everpower Global Corporation of New York, NY to identify all of the off-air television stations within 100-mile radius of the proposed Howard Wind Power Project in Steuben County, NY. Off-air stations are television broadcast signals that can be received directly on a television receiver from terrestrially located broadcast facilities. Comsearch examined the coverage of the off-air TV stations and the communities in the area that could potentially have degraded television reception because of the location of the wind turbines. The proposed wind energy turbines are to be installed within the area shown in Figure 1 of this memorandum. Table 1 lists the U.S. based off-air television stations within a 100 mile radius of the wind facility. Table 2 lists the Canadian based off-air television stations within a 100 mile radius of the wind facility.

Table 1 List of All Off-Air U. S. TV Stations within 100-Miles of the Howard Wind Power Project

Location		Channel	Call Sign	Distance-miles	Service	Status
BUFFALO	NY	2	WGRZ-TV	59.3	TV	LIC
ELMIRA	NY	2	WETM-TV	37.1	DS	STA
ELMIRA	NY	2	WETM-TV	37.1	DT	CP MOD
SYRACUSE	NY	3	WSTM-TV	84.4	TV	LIC
CLEARFIELD	PA	3	WPSU-TV	94.5	TV	LIC
BUFFALO	NY	4	WIVB-TV	60.5	TV	LIC
BINGHAMPTON	NY	4	WIVT	83.6	DS	STA
BINGHAMTON	NY	4	WIVT	83.6	DT	LIC
SYRACUSE	NY	5	WTVH	85.2	TV	LIC
SYRACUSE	NY	5	WTVH	85.2	TV	CP
WILLIAMSPORT	PA	5	W05BG	81.2	CA	LIC
HORNELL	NY	6	W06AR	7.1	TX	LIC
GREECE/ROCHESTER	NY	6	WGCE-CA	60.9	CA	LIC
WESTVALE	NY	6	WMBO-LP	86.7	TX	APP
ELMIRA	NY	6	W06CD	39.1	TX	LIC
BINGHAMTON	NY	6	W06CC	84.8	TX	LIC
ITHACA	NY	7	W07BJ	57.2	TX	LIC
SYRACUSE-DEWITT	NY	7	W07BA	84.9	TX	LIC
BINGHAMTON	NY	7	WBNG-TV	83.2	DS	STA
BUFFALO	NY	7	WKBW-TV	59.6	TV	LIC
BUFFALO	NY	7	WKBW-TV	59.6	TS	CP
BINGHAMTON	NY	7	WBNG-TV	83.2	DT	LIC
SPRINGVILLE	NY	7	WNGS	59.6	DM	APP

ROCHESTER	NY	8	WROC-TV	56.8	TV	LIC
BINGHAMTON	NY	8	WICZ-TV	83.7	DS	STA
BINGHAMTON	NY	8	WICZ-TV	83.7	DT	LIC
WILLIAMSPORT	PA	8	W55AG	78.0	LD	APP
SYRACUSE	NY	9	WSYR-TV	88.6	TV	LIC
JAMESTOWN	NY	10	W10BH	87.2	TX	LIC
ROCHESTER	NY	10	WHEC-TV	56.8	TV	LIC
MORRIS	NY	10	WBPN-LP	83.7	TX	LIC
TOWANDA	PA	10	W10CP	69.7	TX	LIC
TOWANDA	PA	10	W10CP	69.7	LD	APP
SYRACUSE	NY	11	WONO-CA	86.7	CA	LIC
BINGHAMTON	NY	12	WBNG-TV	83.2	TV	LIC
ROCHESTER	NY	13	WHAM-TV	56.8	TV	LIC
SYRACUSE	NY	13	WBLZ-LP	86.7	CA	LIC
BATH	NY	14	870331LW	13.5	TA	-
BATH	NY	14	870331LW	16.2	TV	CP
SYRACUSE	NY	14	WSTQ-LP	86.7	TX	LIC
BUFFALO	NY	14	WUTV	86.2	DS	STA
BUFFALO	NY	14	WUTV	86.2	DT	CP
BUFFALO	NY	15	WBNF-CA	86.2	CA	LIC
BUFFALO	NY	15	WBNF-CA	86.2	TX	CP
CLEARFIELD	PA	15	WPSU-TV	94.5	DT	CP
CLEARFIELD	PA	15	WPSU-TV	94.5	DS	STA
CLEARFIELD	PA	15	WPSU-TV	94.5	DT	APP
TOWANDA	PA	15	W69CE	69.7	TX	CP
TOWANDA	PA	15	W69CE	69.7	LD	APP
HORNELL, ALFRED	NY	16	W16BE	5.7	TX	LIC
ITHACA	NY	16	W16AX	53.9	CA	LIC
ROCHESTER	NY	16	WXXI-TV	56.8	DT	CP MOD
ROCHESTER	NY	16	WXXI-TV	56.8	DT	LIC
BUFFALO	NY	17	WNED-TV	86.1	TV	LIC
SYRACUSE	NY	17	WSYR-TV	88.6	DT	LIC
SYRACUSE	NY	18	WNDR-LP	87.7	CA	LIC
ELMIRA	NY	18	WETM-TV	37.1	TV	LIC
BATAVIA	NY	18	W52CB	47.0	TX	APP
HAZLETON, ETC.	PA	18	W18CE	95.2	TX	CP
SYRACUSE	NY	19	WSYT	78.6	DS	STA
SYRACUSE	NY	19	WSYT	78.6	DT	LIC
OLEAN	NY	20	W20AB	48.5	TX	LIC
BATH	NY	20	W20BL	16.2	TX	LIC
ITHACA	NY	20	W20BT	53.5	TX	LIC
ROCHESTER	NY	20	WAWW-LP	56.8	TX	CP
BINGHAMTON	NY	20	WBGH-CA	83.6	CA	LIC
ITHACA	NY	20	WNYI	53.9	DM	APP
WILLIAMSPORT	PA	20	W20AD	79.0	TA	-
WILLIAMSPORT	PA	20	W20AD	78.0	TX	LIC
MANSFIELD	PA	20	W63AB	49.5	TX	CP
MANSFIELD	PA	20	W63AB	49.5	LD	CP
WILLIAMSPORT	PA	20	W20AD	78.0	LD	APP
ROCHESTER	NY	21	WXXI-TV	56.8	TV	LIC

ELMIRA	NY	21	W21BW	43.3	TX	LIC
SYRACUSE	NY	22	WTVU-LP	86.7	CA	LIC
CORNING	NY	22	NEW	26.4	TX	APP
SYRACUSE	NY	22	WTVU-LP	86.7	TX	CP
BUFFALO	NY	23	WNLO	86.1	TV	LIC
ARCADE	NY	24	NEW	28.3	DM	APP
SYRACUSE	NY	24	WCNY-TV	84.4	TV	LIC
ELMIRA	NY	24	W59DG	42.2	TX	APP
OLEAN	NY	25	WONS-LP	48.8	CA	LIC
SYRACUSE	NY	25	WCNY-TV	84.4	DT	LIC
TOWANDA	PA	25	W25AQ	69.5	TX	LIC
TOWANDA	PA	25	W25AQ	69.5	LD	CP
ELMIRA	NY	26	W26BF	40.4	TX	LIC
JAMESTOWN	NY	26	WNYB	86.7	TV	LIC
BINGHAMTON	NY	26	W26BS	83.7	TX	LIC
VICTOR	NY	26	W26BZ	50.2	TX	LIC
CANISTEO AND HORNELL	NY	26	W26CY	5.8	TX	CP
WILLIAMSPORT	PA	26	W26AT	78.0	TX	LIC
MANSFIELD	PA	26	W26CV	49.5	TX	LIC
WILLIAMSPORT	PA	26	W26AT	78.0	LD	APP
WILLIAMSPORT	PA	26	W26AT	78.0	LD	APP
MANSFIELD	PA	26	W26CV	49.5	LD	APP
CORNING	NY	27	NEW	26.3	TX	APP
JAMESTOWN	NY	27	WNYB	86.7	DS	STA
JAMESTOWN	NY	27	WNYB	86.7	DT	LIC
ROCHESTER	NY	28	WUHF	56.7	DS	STA
ROCHESTER	NY	28	WUHF	56.7	DS	STA
BUFFALO	NY	28	WDTB-LP	78.7	TX	CP
ROCHESTER	NY	28	WUHF	56.7	DT	LIC
BUFFALO	NY	29	WUTV	86.2	TV	LIC
WILLIAMSPORT	PA	29	WILF	79.7	DT	CP
STATE COLLEGE, ETC.	PA	29	WHVL-LP	98.8	TX	LIC
SYRACUSE	NY	30	W30AJ	87.0	TX	LIC
CORNING	NY	30	WSKA	43.3	TV	CP
CORNING	NY	30	960401KF	27.7	TV	APP
CORNING	NY	30	WSKA	27.3	TA	-
ELMIRA	NY	30	WTTX-LP	37.1	TX	LIC
OLEAN	NY	30	W30BW	48.7	TX	LIC
CORNING	NY	30	WSKA	26.4	DT	CP MOD
WILLIAMSPORT	PA	30	W30AN	78.0	TX	LIC
WILLIAMSPORT	PA	30	W30AN	78.0	LD	APP
ROCHESTER	NY	31	WUHF	56.8	TV	LIC
BUFFALO	NY	32	WNLO	86.1	DT	LIC
AUBURN	NY	32	WNNY-LP	65.5	TX	APP
BUFFALO	NY	33	WGRZ-TV	59.3	DS	STA
ELMIRA	NY	33	WETM	37.1	DR	APP
BUFFALO	NY	33	WGRZ-TV	59.3	DT	LIC
BUFFALO	NY	34	WNYO-TV	57.0	DS	STA
BINGHAMTON	NY	34	WIVT	83.6	TV	LIC
BUFFALO	NY	34	WNYO-TV	86.2	DT	CP

SYRACUSE	NY	35	WOBX-LP	86.7	TX	LIC
SYRACUSE	NY	35	WOBX-LP	86.7	CA	LIC
ELMIRA	NY	36	WENY-TV	37.1	TV	LIC
ROCHESTER	NY	36	WHSH-CA	56.8	CA	LIC
ROCHESTER	NY	38	WAWW-LP	56.8	TX	LIC
SYRACUSE	NY	38	W38CY	85.1	TX	LIC
BUFFALO	NY	38	WKBW-TV	59.6	DT	LIC
SYRACUSE	NY	38	W38CY	85.1	LD	APP
HAMBURG	NY	39	WDTB-LP	73.5	TX	LIC
BUFFALO	NY	39	WIVB-TV	60.5	DT	LIC
CORNING	NY	39	WJKP-LP	26.4	TX	LIC
WILLIAMSPORT	PA	39	W39BT	79.7	TX	LIC
WILLIAMSPORT	PA	39	W39BT	79.7	LD	APP
BINGHAMTON	NY	40	WICZ-TV	83.7	TV	LIC
ROCHESTER	NY	40	WBGT-CA	59.6	CA	LIC
DEWITT	NY	40	WIXT-CA	87.7	CA	LIC
BUFFALO	NY	40	WDTB-LP	78.7	TX	STA
RENOVO	PA	40	W40BS	70.3	TX	LIC
RENOVO	PA	40	W40BS	70.3	LD	APP
GENESEO	NY	41	NEW	26.3	DN	ADD
ROCHESTER	NY	41	NEW	59.3	DM	ADD
CORNING	NY	41	W41DB	26.4	TX	CP
ROCHESTER	MI	42	W42CO	56.8	LD	APP
ROCHESTER	NY	42	W42CO	56.8	TX	LIC
BINGHAMTON	NY	42	WSKG-TV	83.5	DS	STA
BINGHAMTON	NY	42	WSKG-TV	83.5	DT	LIC
SYRACUSE	NY	43	WNYS-TV	78.6	TV	LIC
BUFFALO	NY	43	WNED-TV	86.1	DT	LIC
MANSFIELD	PA	43	W43CJ	38.8	TX	CP
MANSFIELD	PA	43	W43CJ	38.8	TX	APP
SYRACUSE	NY	44	WNYS-TV	78.6	DT	LIC
ROCHESTER	NY	45	WROC-TV	56.8	DS	STA
ROCHESTER	NY	45	WROC-TV	56.8	DT	CP MOD
MANSFIELD	PA	45	W54AV	49.5	LD	APP
MANSFIELD	PA	45	W54AV	49.5	LD	APP
JAMESTOWN	NY	46	W46BA	91.3	TX	LIC
JAMESTOWN	NY	46	900725KG	91.3	TV	APP
JAMESTOWN	NY	46	W46BA	88.8	TA	-
SPRINGVILLE	NY	46	WNGS	59.6	DT	APP
BINGHAMTON	NY	46	WSKG-TV	83.5	TV	LIC
SYRACUSE	NY	46	W30AJ	84.4	TX	APP
ROCHESTER	NY	47	WROH-LP	56.8	TX	LIC
SYRACUSE	NY	47	WTVH	85.2	DS	STA
SYRACUSE	NY	47	WTVH	85.2	DT	CP MOD
AUBURN	NY	48	W48AO	65.4	TX	LIC
CORNING	NY	48	WYDC	27.7	TV	LIC
CORNING	NY	48	WYDC	26.4	TV	CP
BUFFALO	NY	49	WNYO-TV	57.0	TV	LIC
SYRACUSE	NY	49	WNDR-LP	86.1	CA	CP
CORNING	NY	50	WYDC	27.7	DT	CP

CORNING	NY	50	WYDC	26.4	DS	STA
SYRACUSE	NY	51	WHSU-CA	86.7	CA	LIC
BATAVIA	NY	51	WPXJ-TV	47.0	TV	LIC
WILLIAMSPORT	PA	51	W62CS	81.2	CA	CP
MORAVIA	NY	52	WNNY-LP	65.5	TX	LIC
ITHACA	NY	52	WNYI	78.8	TV	APP
ITHACA	NY	52	WNYI	53.9	TV	LIC
SAYRE	PA	52	W24DB	56.3	TX	LIC
BATAVIA	NY	53	WPXJ-TV	47.0	DT	APP
ENDICOTT	NY	53	W53CR	84.8	TX	CP
WILLIAMSPORT	PA	53	WILF	79.7	TV	LIC
AUBURN	NY	54	W54AK	65.4	TX	LIC
SYRACUSE	NY	54	WSTM-TV	84.4	DS	STA
SYRACUSE	NY	54	WSTM-TV	84.4	DT	LIC
MANSFIELD	PA	54	W54AV	49.5	TX	LIC
GREENWOOD	NY	55	DW55AD	13.1	TX	LIC
ELMIRA	NY	55	WENY-TV	37.1	DT	CP
WILLIAMSPORT	PA	55	W55AG	78.0	TX	LIC
FORT ERIE	ON	55	-	89.9	TA	-
WELLSVILLE & SCIO	NY	56	W56AU	25.9	TX	LIC
HAMMONDSPORT	NY	56	DW56AI	15.9	TX	LIC
KENNEDY	NY	56	W56AD	79.8	TX	LIC
RUSHFORD & HOUGHTON	NY	56	W56AV	33.1	TX	LIC
BUFFALO	NY	56	WBXZ-LP	78.7	TX	LIC
ARCADE	NY	56	NEW	44.6	DM	APP
WAVERLY	NY	57	961213KE	51.7	TV	APP
WAVERLY	NY	57	961213KF	55.5	TV	APP
WAVERLY	NY	57	961213KE	54.5	TA	-
BROCKPORT	PA	57	W57AH	93.0	TX	LIC
BUFFALO	NY	58	WFHW-LP	78.7	TX	LIC
ROCHESTER	NY	58	WHEC-TV	56.8	DS	STA
ROCHESTER	NY	58	WHEC-TV	56.8	DS	STA
ROCHESTER	NY	58	WHEC-TV	56.8	DT	LIC
ALLENTOWN, ETC.	NY	59	W59AH	31.8	TX	LIC
ELMIRA	NY	59	W59DG	42.2	TX	LIC
ROCHESTER	NY	59	WHAM-TV	56.8	DS	STA
ROCHESTER	NY	59	WHAM-TV	56.8	DT	LIC
STATE COLLEGE	PA	59	W59AI	99.5	TX	LIC
CUBA	NY	60	W60AJ	38.7	TX	LIC
SYRACUSE, ETC.	NY	60	WMBO-LP	86.1	TX	LIC
SAVONA	NY	60	W60AD	16.2	TX	LIC
FORT ERIE	ON	60	CIII-TV-55	89.9	DT	APP
ANDOVER	NY	61	W61AJ	18.9	TX	LIC
ROCHESTER	NY	61	960228KF	56.8	TV	APP
ROCHESTER	NY	61	960228KF	58.6	TA	-
FRIENDSHIP & BELMONT	NY	62	W62AS	27.8	TX	LIC
FILLMORE	NY	62	W62AQ	27.8	TX	LIC
ARCADE	NY	62	960111KN	53.9	TV	APP
ARCADE	NY	62	960404KL	35.3	TV	APP
ARCADE	NY	62	960404LB	34.1	TV	APP

ARCADE	NY	62	960404LH	34.8	TV	APP
ARCADE	NY	62	960405L4	48.7	TV	APP
ARCADE	NY	62	960405L7	50.1	TV	APP
ARCADE	NY	62	960405LR	56.9	TV	APP
ARCADE	NY	62	960405LY	40.7	TV	APP
ARCADE	NY	62	960405XF	38.4	TV	APP
ARCADE	NY	62	960405XN	53.9	TV	APP
ARCADE	NY	62	960111KN	38.4	TA	-
CHERRY CREEK, ETC.	NY	62	W62AE	80.9	TX	LIC
SINCLAIRVILLE	NY	62	W62AG	90.5	TX	LIC
WILLIAMSPORT	PA	62	W62CS	81.2	TX	LIC
MANSFIELD	PA	63	W63AB	49.5	TX	LIC
WHITESVILLE	NY	64	W64AJ	23.0	TX	LIC
ANGELICA, ETC.	NY	65	W65AJ	26.3	TX	LIC
MESHOPPEN	PA	66	W66AB	93.6	TX	LIC
SPRINGVILLE	NY	67	WNGS	58.0	TV	LIC
SPRINGVILLE	NY	67	WNGS	59.6	TV	APP
BOLIVAR & RICHBURG	NY	68	W68AJ	37.2	TX	LIC
SYRACUSE	NY	68	WSYT	78.6	TV	LIC
UNION SPRINGS, ETC.	NY	69	W69AN	58.5	TX	LIC
TROUPSBURG	NY	69	DW69AF	14.7	TX	LIC
TOWANDA	PA	69	W69CE	69.7	TX	LIC

TV-Normal Broadcast Station
DS-Digital Service Television, Temporary Operation, STA Operation
DT-Digital Television Broadcast Station
DR- Indicates Station has Applied for FCC Rule Making
GRA-Indicates Rule Making was granted by FCC
LP-Low Power Television Broadcast Station
LD-Low Power Digital Broadcast Station
TX-Translator Television Broadcast Station
LIC – Licensed and operational station
CA – Class A Operation is at Lower Power
CP – License approved construction permit granted
APP – License application, not yet operational
STA – Special transmit authorization, usually granted by FCC for temporary operation

Table 2 List of All Off-Air Canadian TV Stations within 100-Miles of the Howard Wind Power Project

Location		Channel	Call Sign	Distance-miles	Service	Status
Fort Erie	ON	55	CIII-TV-55	89.9	TV	LIC
Fort Erie	ON	60	CIII-DT-55	89.9	DT	LIC
Welland	ON	42	ON-DT-189	98.7	DT	LIC
Welland	ON	50	ON-TV-489	98.7	TV	LIC

The most likely stations that will produce off-air coverage to the Steuben County, NY area will be those stations at a distance of 40 miles or less. These stations are listed in Table 3. All of the TV stations at this range are located in the U. S. with the closest one being within 5.7 miles of the Howard Wind Power Project. It is a Low Power Translator

Station. The closest full service Licensed TV Station is located at a distance 27.7 miles in Corning, NY. There are only three full service Licensed TV Stations within 40 miles of the Howard Wind Power Project. This includes the one in Corning and two in Elmira, NY. The remainder of the Licensed TV stations in the 40-mile range are translators providing limited service. There are twenty-one Low-Power Licensed Translator TV stations within this range. However, these stations normally have an effective coverage range of less than twenty miles. There only eight of the twenty-one that are within the twenty mile range. Therefore, one must conclude that there are very few Off-Air TV channels available to the communities in the vicinity of the Howard Wind Power Project. This probably means that most area residents presently use means other than Off-air TV reception for their primary TV service, which likely includes cable service, when it is available, and/or direct satellite broadcast (DBS).

Table 3 List of All Off-Air TV Stations within 40-Miles of the Howard Wind Power Project

Location		Channel	Call Sign	Distance-miles	Service	Status
HORNELL, ALFRED	NY	16	W16BE	5.7	TX	LIC
CANISTEO AND HORNELL	NY	26	W26CY	5.8	TX	CP
HORNELL	NY	6	W06AR	7.1	TX	LIC
GREENWOOD	NY	55	DW55AD	13.1	TX	LIC
BATH	NY	14	870331LW	13.5	TA	-
TROUPSBURG	NY	69	DW69AF	14.7	TX	LIC
HAMMONDSPORT	NY	56	DW56AI	15.9	TX	LIC
SAVONA	NY	60	W60AD	16.2	TX	LIC
BATH	NY	20	W20BL	16.2	TX	LIC
BATH	NY	14	870331LW	16.2	TV	CP
ANDOVER	NY	61	W61AJ	18.9	TX	LIC
WHITESVILLE	NY	64	W64AJ	23.0	TX	LIC
WELLSVILLE & SCIO	NY	56	W56AU	25.9	TX	LIC
GENESEO	NY	41	NEW	26.3	DN	ADD
ANGELICA, ETC.	NY	65	W65AJ	26.3	TX	LIC
CORNING	NY	27	NEW	26.3	TX	APP
CORNING	NY	22	NEW	26.4	TX	APP
CORNING	NY	39	WJKP-LP	26.4	TX	LIC
CORNING	NY	41	W41DB	26.4	TX	CP
CORNING	NY	48	WYDC	26.4	TV	CP
CORNING	NY	50	WYDC	26.4	DS	STA
CORNING	NY	30	WSKA	26.4	DT	CP MOD
CORNING	NY	30	WSKA	27.3	TA	-
CORNING	NY	30	960401KF	27.7	TV	APP
CORNING	NY	48	WYDC	27.7	TV	LIC
CORNING	NY	50	WYDC	27.7	DT	CP
FRIENDSHIP & BELMONT	NY	62	W62AS	27.8	TX	LIC
FILLMORE	NY	62	W62AQ	27.8	TX	LIC
ARCADE	NY	24	NEW	28.3	DM	APP
ALLENTOWN, ETC.	NY	59	W59AH	31.8	TX	LIC
RUSHFORD & HOUGHTON	NY	56	W56AV	33.1	TX	LIC
ARCADE	NY	62	960404LB	34.1	TV	APP
ARCADE	NY	62	960404LH	34.8	TV	APP

ARCADE	NY	62	960404KL	35.3	TV	APP
ELMIRA	NY	2	WETM-TV	37.1	DS	STA
ELMIRA	NY	2	WETM-TV	37.1	DT	CP MOD
ELMIRA	NY	18	WETM-TV	37.1	TV	LIC
ELMIRA	NY	33	WETM	37.1	DR	APP
ELMIRA	NY	30	WTTX-LP	37.1	TX	LIC
ELMIRA	NY	36	WENY-TV	37.1	TV	LIC
ELMIRA	NY	55	WENY-TV	37.1	DT	CP
BOLIVAR & RICHBURG	NY	68	W68AJ	37.2	TX	LIC
ARCADE	NY	62	960111KN	38.4	TA	-
ARCADE	NY	62	960405XF	38.4	TV	APP
CUBA	NY	60	W60AJ	38.7	TX	LIC
MANSFIELD	PA	43	W43CJ	38.8	TX	CP
MANSFIELD	PA	43	W43CJ	38.8	TX	APP
ELMIRA	NY	6	W06CD	39.1	TX	LIC
ELMIRA	NY	26	W26BF	40.4	TX	LIC
ARCADE	NY	62	960405LY	40.7	TV	APP

Based on the small number of Off-Air TV Stations servicing the Steuben County area it can be concluded that most residents have already turned to cable, where it is available, and DBS TV for satisfactory TV reception. Neither of these TV delivery services will be affected by the presence of the wind turbines. For those residents in the area who still rely on Off-Air TV as their main means of television reception and encounter reception problems from the wind turbines they can be switched by the Howard Wind Power Project Developer to cable or DBS. If for some reason this is not an acceptable alternative for them, improved reception can be achieved with the installation of a tower mounted steer-able high-gain TV antenna that can be used to help avoid the variations in picture and sound quality of the video reception caused by the motion of the wind turbines. This will improve, but will probably not totally eliminate, the wind turbine degradation affects of Off-Air TV reception for all channels in the area.

Figure 2 shows the location of the TV stations with respect to the Howard Wind Power Project Area.

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Cellular/PCS Telephone Operation in the Vicinity of the Proposed Howard Wind Power Project in Steuben County, NY

Comsearch was contracted by Environmental Design & Research (EDR) of Syracuse, NY on behalf of the Everpower Global Corporation of New York, NY to analyze the impact that the installation of a wind energy facility called the Howard Wind Power Project in Steuben County, NY would have on the operation of cellular and PCS telephones in and around the facility. Table 1 contains the licensed cellular operators in the Steuben County, NY area. Table 2 contains the PCS operators in the Steuben County, NY area. Cellular and PCS telephone for the Howard Wind Power Project Vicinity is based on the underlying county for the facility which is Steuben County. Steuben County is in (Cellular Market Area) CMA561, New York 3- Chautauqua for Cellular and (Basic Trading Area) BTA127 and (Market Trading Area) MTA001 New York for PCS.

Table 1 Cellular Telephone Operators in the Steuben County, NY Area

Operator	Band of Operation	Call Sign
Dobson Communications	A	KNKN865
Verizon	B	KNKQ273

Table 2 PCS Telephone Operators in the Steuben County, NY Area

T-Mobile	A	KNLF202
Cingular	A	WPSL626
Dobson Communications	A	WOEY218
Sprint NEXTEL	B	KNLF204
None	C1	None
Verizon	C2	WPTB342
Cingular	D	KNLG419
Cingular	E	KNLG420
Buffalo-Lake Erie Wireless Systems Co.	F	KNLG727

In order to evaluate the operation of the Cellular and PCS telephones near the Howard Wind Power Project Comsearch has to obtain the exact layouts of the cells used by each technology, which is proprietary information held closely by the operating companies. We can request this information, but the request may not be honored. If the request is not honored there is no way the networks can be evaluated. If it is honored by some, but not all, of the operators the networks of those offered systems can be evaluated by Comsearch.

However, the telephone mobile communications in the Cellular and PCS frequency bands should be unaffected by the presence of the wind turbines. This is true for the following reasons:

- audio signals are not that noticeably affected by wind turbines,
- the blockage caused by the wind turbines is not very destructive to the propagation of the signals in these frequency bands, and
- the way the mobile telephone network systems are designed to operate is if the signal cannot reach one cell because of blockage or a weak signal condition it will be able to reach one or more other cells in the network. Therefore, local obstacles are not normally a problem for these mobile phone systems whether they are installed in urban areas near large structures and buildings, or in a rural area such as the Steuben County, NY area near a wind energy facility.

If a Cellular or PCS company could show that their coverage has been compromised by the presence of the wind energy facility, an unlikely condition, the way to restore the coverage is to add an additional cell or an additional sector antenna to an existing cell. Utility, meteorology, and/or the turbine towers within the wind facility can serve as the platforms for the Cellular or PCS base station or sector antennas that the mobile phone operators wish to add subject to notification and approval of the local authorities such as planning, utility, zoning and/or town board.

COMSEARCH

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Analysis of AM and FM Broadcast Station Operations in the Vicinity of the Proposed Howard Wind Power Project in Steuben County, NY

Comsearch was contracted by Environmental Design & Research (EDR) of Syracuse, NY on behalf of the Everpower Global Power Corporation of New York, NY to determine if there would be any degradation to the operational coverage of AM and FM Radio Broadcast Stations located in the vicinity of the proposed Howard Wind Power Project in Steuben County, NY.

Comsearch determined that there were two licensed AM stations within a 15 mile search radius of the Howard Wind Power Project. The stations are listed in Table 1 of this report. There are two distinct FCC records for each station. One entry is for normal transmit power and the other is for low power operation. Because the separation distances of the AM station antennas from the Howard Wind Power Project turbines are 5.8 and 7.1 miles no degradation of the AM broadcast coverage will occur due to the presence of the wind farm.

Table 1 Location of AM Radio Station in Vicinity of Howard Wind Power Project in Steuben County, NY

Location		Call Sign	TX-EIRP-kW	Frequency	Distance-mi
HORNELL	NY	WHHO	5.0 kW	1320 kHz	7.1
HORNELL	NY	WHHO	0.022 kW	1320 kHz	7.1
HORNELL	NY	WLEA	2.5 kW	1480 kHz	5.8
HORNELL	NY	WLEA	0.019 kW	1480 kHz	5.8

Comsearch determined that there were eight Licensed FM stations within a 15 mile search radius of the Howard Wind Power Project. The stations are listed in Tables 2 of this report. One of the FM Stations was a full-power station located in Hornell, NY (WKPQ). Two of the FM stations are medium power FM stations. Three of the stations are low power FM stations; two of them serving college campuses and the other a religious ministry. The other two FM stations are owned and operated by a religious organization and are very low power and cover a very limited area.

Table 2 Location of FM Radio Station in Vicinity of Howard Wind Farm in Steuben County, NY

Location		Call Sign	Tx-EIRP-kW	Frequency	Distance-mi
HORNELL	NY	WSQA	4.5 kW (mp)	88.7 MHz	5.8
ALFRED	NY	WALF	0.2 kW (lp)	89.7 MHz	13.4
ALFRED	NY	WETD	0.36 kW (lp)	90.7 MHz	13.8
HORNELL	NY	WCKR	2.55 kW (mp)	92.1 MHz	5.0
HORNELL	NY	W257AX	0.01 kW (vlp)	99.3 MHz	7.0
ALFRED	NY	W262BE	0.01 kW (vlp)	100.3 MHz	12.1
BATH	NY	WCIK	0.79 kW (lp)	103.1 MHz	4.4
HORNELL	NY	WKPQ	43. kW (fp)	105.3 MHz	7.1

fp =full power, mp = medium power, lp = low power, vlp = very low power -stations

All of the FM Station antennas are located at distances greater than 4.4 miles from the Howard Wind Power Project. At these distances the wind farm effects to the FM coverage for all of the stations will be essentially non-existent.

For the very low power FM stations since their coverage does not extend as far their separation from the wind facility no degradation of their coverage will occur. This is also true for the low power systems. The low-power FM stations are designed for very limited coverage. They will cover a college campus or a small-town church community with special broadcasting for a limited audience. Normal coverage for these stations is usually less than 1 mile. For the very low power FM stations coverage of a church or shopping center parking lot is usually the range desired.

No problems are expected for the coverage of the medium or full power FM station coverage for the following reasons.

1) The separation distances of the FM station antennas from the wind farm are five miles or greater.
2) The FM broadcast audio signal is not that noticeably affected by wind turbines for three reasons:
    a) The blockage caused by the wind turbines is not very degrading to the propagation of the signals in the FM frequency band because of their longer wavelength.
    b) The signal modulation is frequency modulated (FM) and the wind turbines have the affect of varying the amplitude of the signal, which produces audio distortion to an amplitude modulated (AM) signal because of the change in signal level. However, the frequency modulated signal is immune to distortion caused by signal level changes because its audio output is dependent on frequency variations rather than amplitude level changes. This is true as long as the frequency modulated signal level stays above the receiver's effective reception range the FM receiver will produce a quality audio output.
    c) Changes to audio coverage or distortion are not that noticeable to a listener when factored together with other causes of degradation to radio coverage such as being out of range of the station or signal fades. In other words, the effects to FM audio coverage will not be as objectionable or noticeable as the distortion that will occur to amplitude modulated video signal in the presence of wind turbines.

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August 22 , 2006
Mr. Karl Nebbia
U. S. Department of Commerce
1401 Constitution Avenue N.W.
Washington DC 20230

RE: Notification of Wind Energy Facility Development in Steuben County, New York.

Dear Mr. Nebbia:

This letter and its attachments will serve as notice to the government that Everpower Global Corporation of New York, NY. plans to install a Wind Energy Facility in Steuben County, New York. The installation will be called the Howard Wind Power Project.

Enclosed are a data table and maps that describe the location of the Howard Wind Power Project in Steuben County, NY.

Table 1 contains the coordinates of the approximate boundaries of the Howard Wind Power Project. The locations for the individual turbines for the project have not yet been identified.
Figure 1 is a map of the general area showing the outline of the wind energy project boundaries in New York.
Figure 2 is a local map of the proposed wind project area.

The dimensions of the Wind turbines to be installed at this facility are not anticipated to exceed:

Turbine Hub Heights AGL: 80 meters
Turbine Blade Diameter: 93 meters
Highest Blade Tip Height AGL: 126.5 meters

If you have any questions with regard to this notification, please call Kurt Oliver (703) 726-5675 or me at (703) 726-5860.
Sincerely,
COMSEARCH

Lester E. Polisky
Senior Principal Engineer
Field Services Department
Attachments

Table 1 Boundary Coordinates of the Steuben County, NY Howard Wind Power Project in NAD 83

	Latitude	Longitude
Southwest	42.27750242000	-77.58270775020
Northwest	42.35017118390	-77.58237391140
Northeast	42.34914407970	-77.49419204660
Southeast	42.27649574870	-77.49195899460

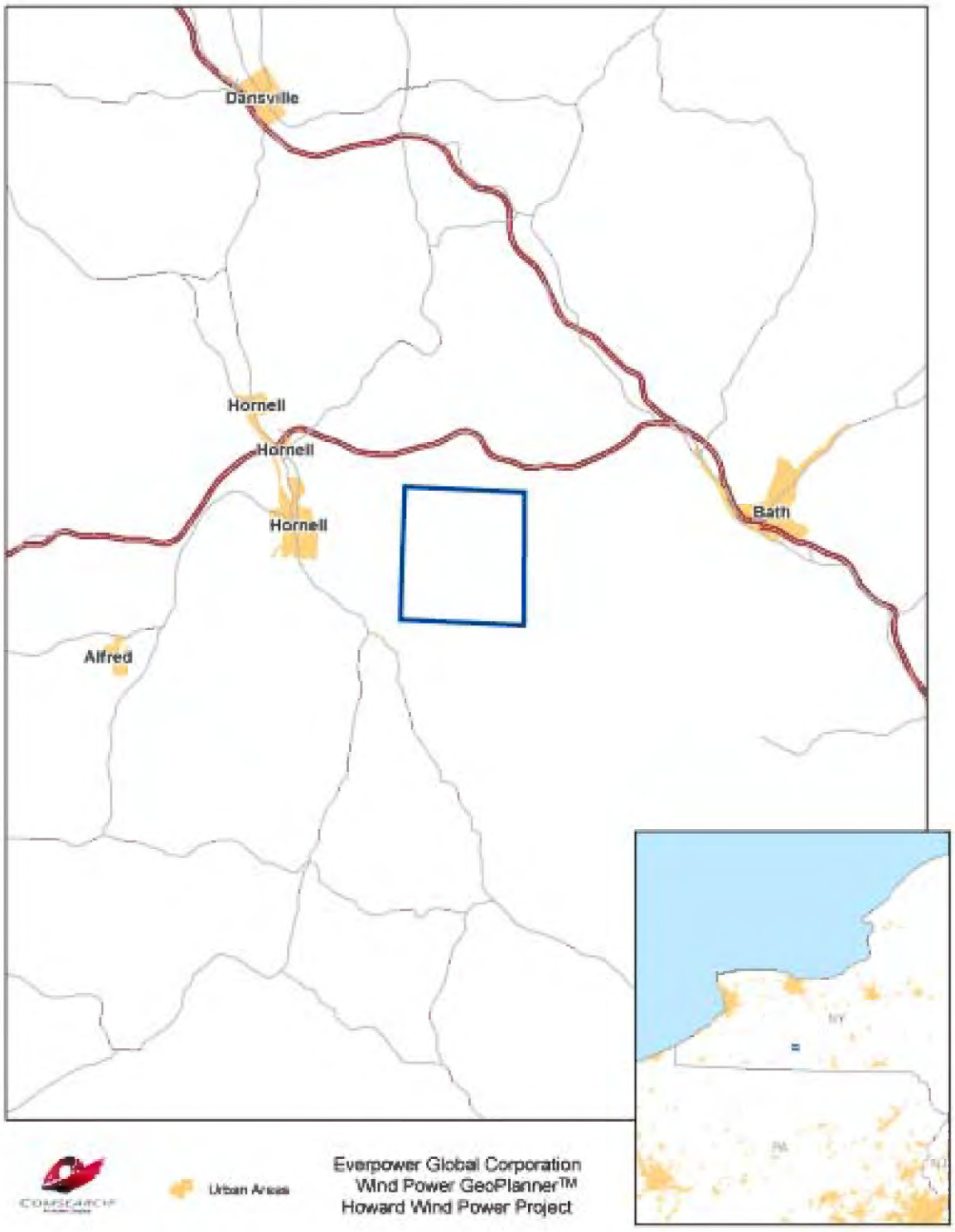

Figure 1 General Area of Howard Wind Power Project

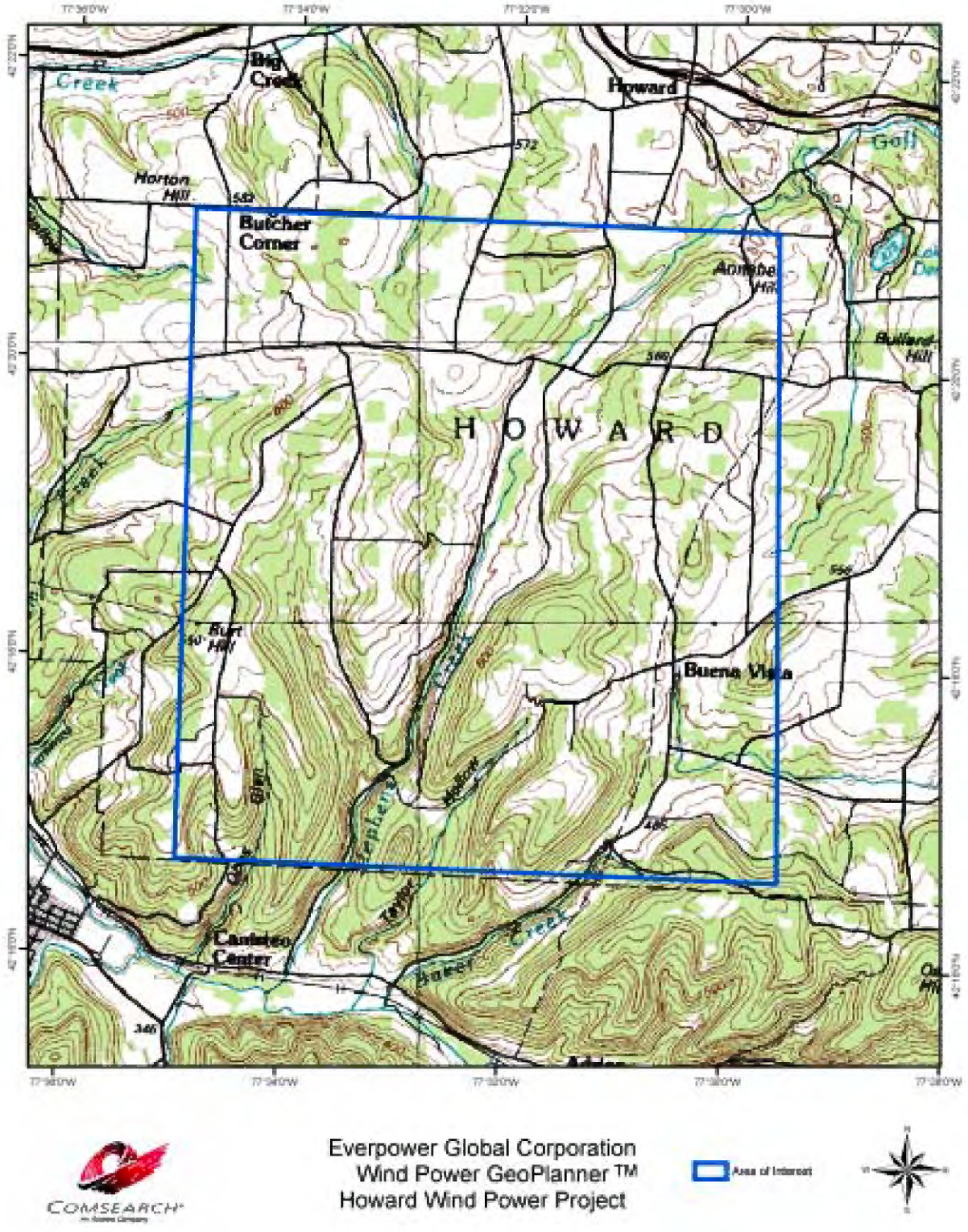

Figure 2 Howard Wind Power Project Local Area

UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

SEP 23 2006

Mr. Lester E. Polisky
Comsearch
Senior Principal Engineer
Field Services Department
19700 Janelia Farms Blvd
Ashburn, VA 21147

RE: Howard Wind Energy Facility in Steuben County, NY

Dear Mr. Polisky:

In response to your request, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC) the plans for the Howard Wind Energy Facility in Steuben County, NY. After a 30 day period of review, the agencies have not identified any concerns regarding blockage of their radio frequency transmissions.

While the IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,

Karl B. Nebbia
Deputy Associate Administrator
Office of Spectrum Management