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FILE

November 24, 2009

Via Hand Delivery

Ms. Renee Jenkins
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: Hardin Wind Energy LLC, Case No. 09-479-EL-BGN

Dear Ms. Jenkins:

Attached please find Hardin Wind Energy LLC's (Hardin) additional response to Staff's Data Requests and Interrogatories Request No. 48.

If you have any questions, please call me at the number listed above.

Sincerely,

Sally W. Bloomfield

Attachment

Cc: Parties of Record

PUCO

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Responses to Data Requests and Interrogatories

Hardin Wind Energy LLC

November 24, 2009

- 48. *Please provide the results of a communications study that shows the specific effects of the project on PCS networks, AM & FM radio, television signals, and microwave transmission for the project area and vicinity. Specifically and separately, list any turbines, by turbine number, that are expected to interfere with microwave paths.***

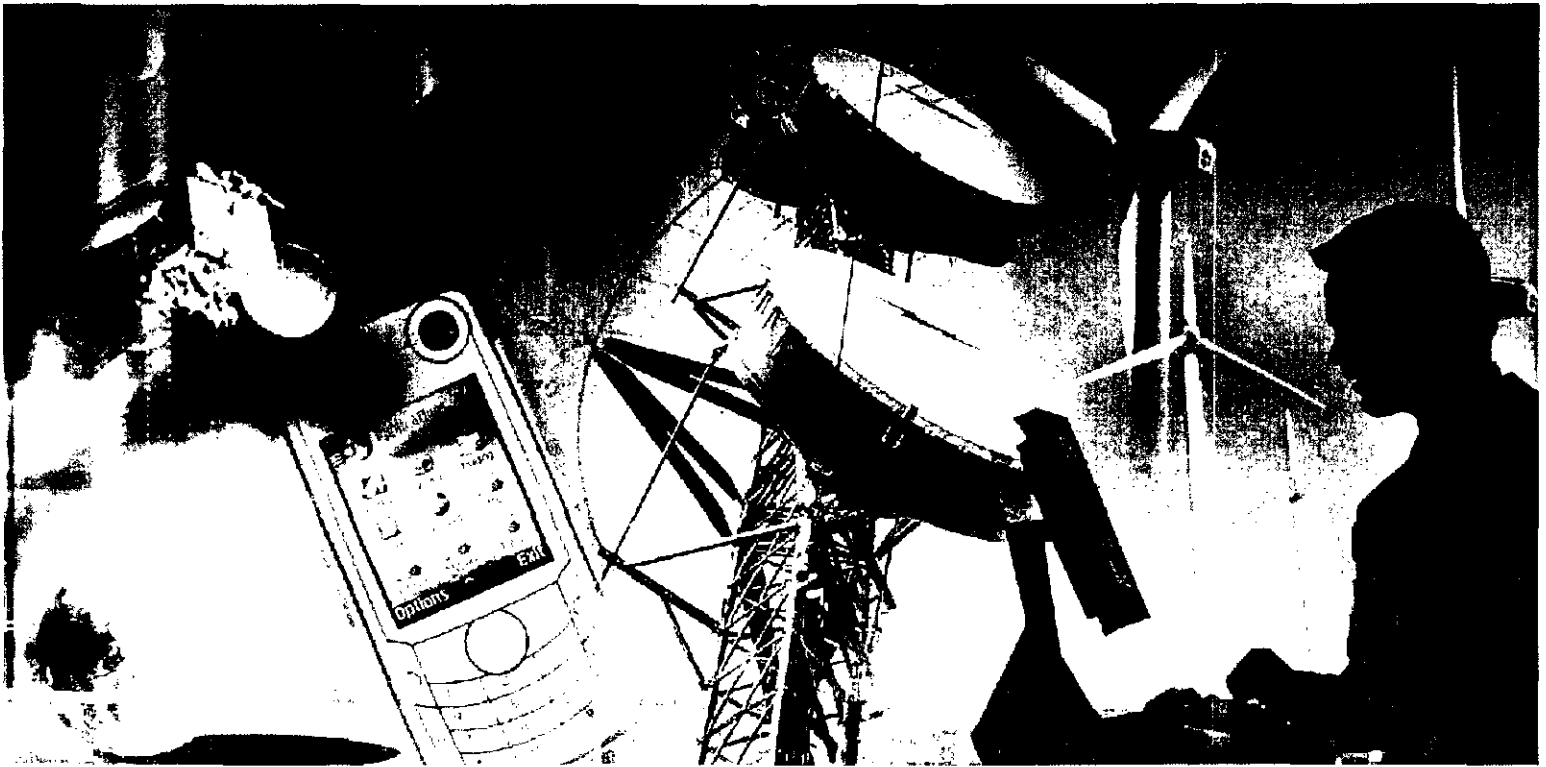
In its November 20, 2009 Response, Applicant provided communications studies for AM & FM radio, television signals and microwave transmission for the project area and vicinity.

Attached is the communication study for PCS networks ("Wind Power GeoPlanner™ Mobile Phone Carrier Report").

Wind Power GeoPlanner™

Mobile Phone Carrier Report

Hardin



Prepared on Behalf of
Invenergy LLC

November 23, 2009





Table of Contents

1. Introduction	- 1 -
2. Summary of Results	- 2 -
3. Contact Us	- 5 -



1. Introduction

Comsearch has developed and maintains comprehensive technical databases containing information on licensed mobile phone carriers across the US. Mobile phone carriers operate in multiple frequency bands and are often referred to as Advanced Wireless Service (AWS), Personal Communication Service (PCS), and Cellular. They hold licenses on an area-wide basis which are typically comprised of several counties.

This report focuses on the potential impact of wind turbines on mobile phone operations in and around the project area. Comsearch provides additional wind energy services, a description of which is available upon request.

2. Summary of Results

Methodology

Our mobile phone analysis was performed using Comsearch's proprietary carrier database, which is derived from a variety of sources including the Federal Communications Commission (FCC). Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. Then we compiled a list of all mobile phone carriers in the main counties that intersect the area of interest. The area of interest was defined by the client and encompasses the planned turbine locations. A depiction of the wind project area and counties appears below.

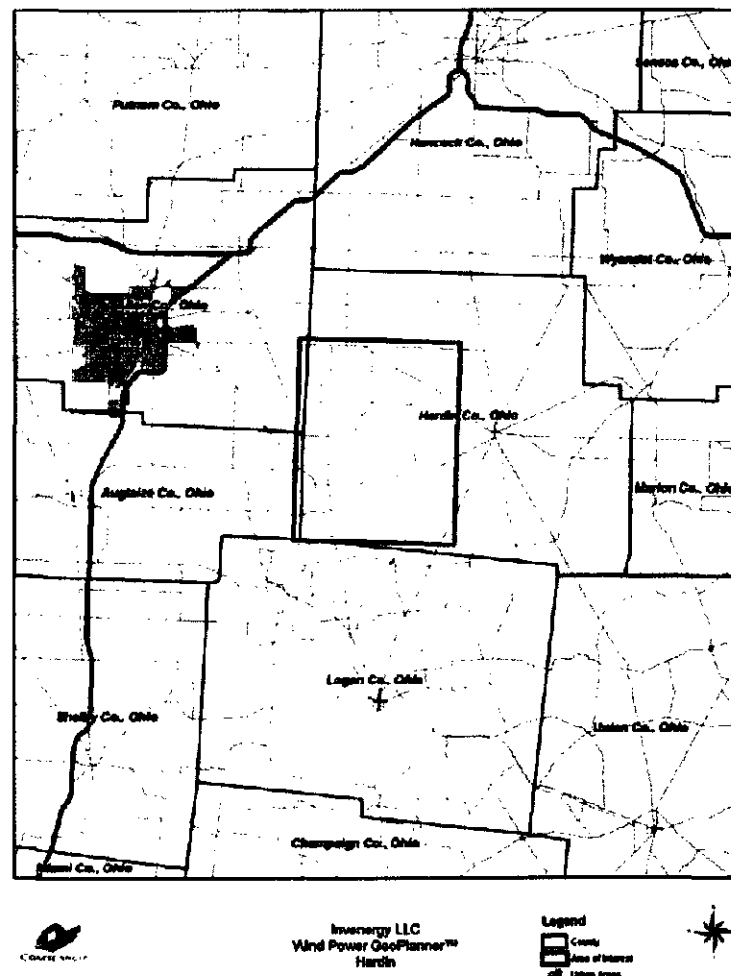


Figure 1: Counties that intersect the Area of Interest

Results

The Hardin project is located primarily in Hardin County, Ohio. We have identified the type of service, channel block, market ID and FCC callsign for each carrier in the county of interest. A description of the various service types and geographic market areas is below with a summary table on the following page.

AWS

AWS licensees won their spectrum in an auction that started in August 2006. The licenses are authorized by 734 Cellular Market Areas (CMA) for Block A, 176 Economic Areas (BEA) for Blocks B and C, and 12 Regional Economic Area Groupings (REA) for Blocks D, E and F. This spectrum at 1.7 and 2.1 GHz was allocated for mobile broadband and advanced wireless services. Partitioning and leases are permitted in the band.

Cellular

Licensees are authorized by Metropolitan and Rural Statistical Areas, also known as CMAs. Unserved areas can be covered by licensees other than the original A or B block licensee. To determine the most realistic coverage, we compiled the Cellular Geographic Service Areas (CGSA) from the 32 dBu contours defined by Part 22.911(a) of the FCC rules. Mobile services are provided at 800 MHz and partitioning and leases are permitted in the band.

PCS

There have been nine auctions for this band, with the last one being held in August 2008. Licensees are authorized by 51 Major Trading Areas (MTA) for Blocks A and B, and 493 Basic Trading Areas (BTA) for Blocks C through F. This band has been heavily partitioned and disaggregated both by counties and by smaller polygons within counties (known as undefined areas or partial counties). The 1.9 GHz PCS carriers provide mobile services and leases are permitted in the band.

AWS	Triad AWS – transferring to Revol Wireless	A	Hardin	OH	CMA589	WQGV787
AWS	SpectrumCo	B	Hardin	OH	BEA056	WQGA948
AWS	Atlantic Wireless	C	Hardin	OH	BEA056	WQGV774
AWS	Cricket/Leap	D	Hardin	OH	REA003	WQGV784
AWS	T-Mobile	E	Hardin	OH	REA003	WQGB376
AWS	Verizon	F	Hardin	OH	REA003	WQGA717
CELL	Verizon	A	Hardin	OH	CMA589	KNKQ445
CELL	Alltel/Verizon – in the process of being divested	B	Hardin	OH	CMA589	KNKN942
PCS	AT&T	A	Hardin	OH	MTA005	KNLF210
PCS	Sprint Nextel	B	Hardin	OH	MTA005	KNLF211
PCS	Centennial Communications – acquired by AT&T	C	Hardin	OH	BTA255	WPOK674
PCS	Verizon	C	Hardin	OH	BTA255	WQJ462
PCS	T-Mobile	D	Hardin	OH	BTA255	KNLF975
PCS	T-Mobile	E	Hardin	OH	BTA255	KNLH299
PCS	Telephone Service Company	F	Hardin	OH	BTA255	KNLG229

Table 1: Mobile Phone Carriers in the Area of Interest

Impact Assessment

The telephone communications in the mobile phone carrier bands are typically unaffected by the presence of the wind turbines. Mobile phone systems are designed with multiple base transmitter stations covering a specific area. Since mobile telephone signals are designed with overlap between adjacent base transmitter sites in order to provide handoff between cells, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user may be receiving from multiple transmitter locations. For example, if a particular turbine attenuates the signal reception into a mobile phone, the phone may receive an alternate signal from a different transmit location, resulting in no disruption in service. Mobile phone systems that are implemented in urban areas near large structures and buildings often have to combat even more problematic signal attenuation and reflection conditions than rural areas containing a wind energy turbine facility. Thus we do not predict that the Hardin wind project will adversely affect mobile phone services in the area.

In the unlikely event that a mobile phone carrier believes their coverage has been compromised by the presence of the wind energy facility, they have many options to improve their signal coverage to the area through optimization of a nearby base transmitter or even adding a new sector or cell site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base transmit site or cell enhancer.



3. Contact Us

For questions or information regarding the Mobile Phone Carrier Report, contact:

Contact person:	Denise Finney
Title:	Account Manager
Company:	Comsearch
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