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Radar Operations Center
 NEXRAD WSR-88D

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WIND FARM DEVELOPERS

JUN 20 2013

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INTRODUCTION

www.roc.noaa.gov/WSR88D/WindFarmDeveloper.aspx

The goals of this web site are to increase awareness and understanding of potential wind turbine interaction with Doppler Weather Radars. We provide a point of contact, summarize our potential impact analysis process, and provide possible mitigation solutions to both wind farm developers and radar users.

The NEXRAD Radar (officially designated Weather Surveillance Radar-1988 Doppler (WSR-88D)), is the key tool National Oceanic and Atmospheric Administration (NOAA) forecasters use to track weather and make life and property protecting weather warning decisions. NEXRAD data also support operations of the FAA National Airspace System, Department of Defense, other government agencies, private industry, and the public. The NEXRAD uses an 8.8 m diameter parabolic antenna that produces a 0.95 degree beam width and is programmed to automatically scan the atmosphere (called Volume Coverage Patterns) by rotating 360 degrees through up to 14 elevation angles from 0.5 to 19.5 degrees. The NEXRAD transmits at a wavelength of about 10 cm (3 GHz) and at a peak power of about 750 kW. The radar has a 460 km range for Reflectivity detection and up to a 300 km range for Doppler velocity and spectrum width detection.

For wind farm developers, early consultation with the NEXRAD Program, via the Radar Operations Center (ROC) is the key to minimizing operational conflicts with NEXRAD network and weather warning program. Research tools and evaluation processes are in place to facilitate early consultation. For instance, you can perform your own preliminary, anonymous NEXRAD impact analysis on the FAA's Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) Database (<https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showLongRangeRadarToolForm>) under "DOD Preliminary Screening Tool" button and then follow-up with a formal analysis request through the National Telecommunications and Information Administration (NTIA) - contact information below. The NTIA acts as a one-stop clearinghouse for developers to reach many interested federal agencies, including the ROC, so please submit your proposal directly to the NTIA. They will forward your proposal to us and we will perform a case-by-case analysis at no cost to determine the potential for impacts to the nearby NEXRAD. If it appears that there could be significant impacts, we would like to work with you on mitigation options to reduce the impacts. While the NEXRAD Program has learned about many proposed wind farms via the NTIA, this represents a subset of the wind farms being planned. It also appears the timing of these notifications is after the wind energy developers have already invested considerable time and money in planning wind farm projects. Advance information on new planned projects, or expansions, would enable impact analysis and siting consultation earlier in the project lifecycle, potentially avoiding costly project changes. A preliminary analysis can be performed on wind farm area coordinates (polygons) and then reanalyzed when individual turbines locations are known.

Please note that the Federal Government cannot approve, disapprove, or recommend any action on part of the developer on private land. We can only provide an estimate of impacts and suggest mitigation options for developers to consider. We urge wind farm developers to take advantage of this consultation early in the planning process to arrive at mutually beneficial siting decisions.

Finally, we are sensitive to the proprietary and competitive nature of development plans and all information is treated as "For Official Use Only, Pre-Decisional, and Not Releasable to the Public".

Please consider reviewing the materials at the links provided below. They are intended to help you and increase our interaction with the wind energy industry.

You can contact us at the Radar Operations Center: Wind.Energy.Matters@noaa.gov

Department of Commerce's National Information Telecommunications Administration (NTIA) Contact:

Mr. Edward Davison
 U.S Department of Commerce/NTIA
 Room 4099A, HCHB
 1401 Constitution Ave., NW
 Washington, DC 20230
 Work Phone: (202) 482-1850 ext. 5526
 Fax: (202) 482-4396
 Email: edavison@ntia.doc.gov

*Guy Manor
 Tower of Rutland*

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1200 Westheimer Drive
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