

LONG RANGE RADAR JOINT PROGRAM OFFICE (JPO) WIND FARM BRIEF



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OVERVIEW

- Radars Impacted
- Wind Turbine Impact on Radars
- Studies
- Obstruction Statistics
- Way Ahead



Air Defense/Homeland Security Radars Impacted

- 214 Total Radars
 - 83 Impacted by Wind Turbines
 - 39% of DoD/DHS Radars Impacted



Wind Farm Impact on Air Defense Homeland Security Radar

- Reduced Sensitivity (or Target Detection)
- Increased Clutter (or False Targets)
- Increased Screening on Azimuths of Wind Farm (Potential Loss of Coverage)
- Induced Beacon False Targets
- Reduced C2 System Tracking Capability



Wind Farm Studies

- UK [Report](#)
- OSD [Report](#)
- JASON [Study](#)
- King Mountain (ARSR-3) Test [Results](#)



Additional Radar Testing Required

- More technical analysis needed
 - Disparate radar systems
 - Better tools to analyze interference/mitigation concerns



Obstruction Statistics

Air Defense/Homeland Security

Radars Only!

	Antennas Towers Poles Cranes	Buildings	Water Tanks	Wind Turbines	Others (Power Transmission Lines, Chimney Stacks, etc.)	Total Obstruction	Determination of Hazards (DOH)
CY 2006	1406	616	60	2150	171	4403	0
CY 2007	2406	2511	167	5212	953	11249	3-Buildings 7- wind farms
CY 2008	514	1452	144	4781	305	7196	2 - Building 1- Antenna tower 8- wind farms 1 – wind farm mitigated (Fossil)

NOTE: LRR-JPO established a radar tool on the FAA website effective 1 Jun 07

[HTTPS://www.oaada.faa.gov/oaada/external/portal.jsp](https://www.oaada.faa.gov/oaada/external/portal.jsp)



LRR Radar Siting Tool

- Long range radar tool developed and activated June 06
 - Provides view of air defense/homeland security radars
 - Designed to aid wind developers in siting and reduce workload for DOD/DHS
 - Initial tool covered lower 48 states
 - Enhancements
 - Added Alaska, Hawaii, Guam, Virgin Islands and Puerto Rico
 - <https://www.oaana.faa.gov/oaana/external/portal.jsp>



Way Ahead

- Industry/DOE/DOD/DHS assistance with modeling tools
- Additional radar testing required
- Establish Industry/DOE/DHS/DOD wind farm work group
 - Ensure intra-agency mission requirements are considered



QUESTIONS????

