

Air Force Center for Engineering and the Environment

Integrity - Service - Excellence



Renewable Energy Project Proposal Review Processes

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Air Force As A Consumer...

The Air Force spent over \$7 billion for energy in FY06

AVIATION

- Total Sorties: 333K in FY06
- Total Fleet Size: 5,984
- Total Fuel Used: 2.6B gallons
- Total Fuel Cost: \$5.77B

FACILITIES

- Total Installations: 166
- Total Buildings: 16K
- Total Energy Used: 73M MMBTU
- Total Energy Costs: \$1.1B

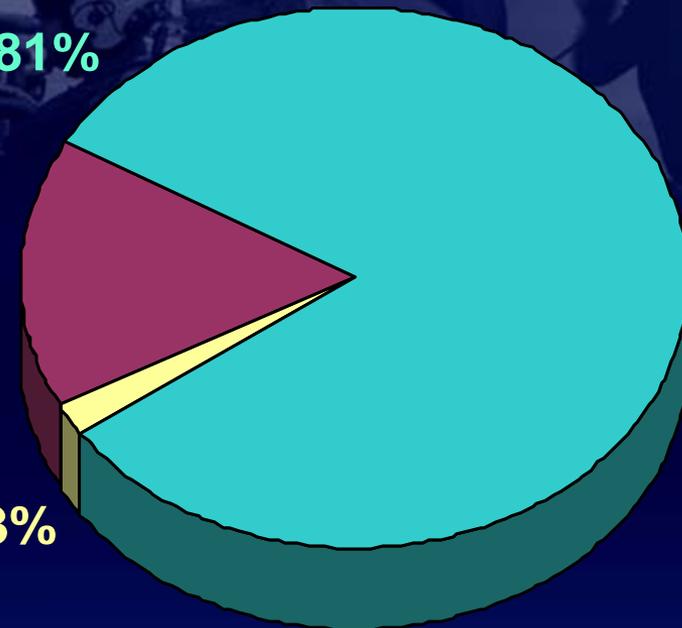
VEHICLES

- Total Fuel Used: 119.1M gallons
- Total Fuel Costs: \$231.2M

Aviation 81%

Facilities 16%

Vehicles 3%



Aviation fuel represented 81% of total energy costs.

Source: DESC FY06 Cost Data, AFTOC, Fuels Enterprise System & Defense Utility Reporting System, and VEMSO fuel reporting system



...A Consumer of Renewables

- **Renewable Energy**
 - Solar (Nellis AFB, Luke AFB, Fresno ANGB, March ARB)
 - Wind (F.E. Warren AFB, Dyes AFB)
 - Dyess and Fairchild—100% Green Power
- **Ground Vehicles**
 - Reduced fleet fossil fuel by 15% since 1999
 - Over 5,000 electric or low speed vehicles in use
 - Over 5,200 flex-fuel in use
 - Hickam Hydrogen fuel cell
- **Aviation**
 - Goal: Certify entire fleet to use 50/50 syn-fuel blend by 2011





DoD Policy—Wind Turbine Siting

The DoD does not oppose the development of wind farms and other sources of renewable energy that do not adversely impact military readiness or training of U.S. Armed Forces. DoD will continue to work with the Federal Aviation Administration (FAA) and other regulatory agencies as necessary to evaluate each wind farm proposal on a case-by-case basis. Where our assessment of a particular project suggests potential adverse impacts to military or other national security operations, we will raise those concerns with the appropriate regulatory authority in order to mitigate or prevent the adverse impacts of that project through appropriate technologies and techniques. We will continue to work with the FAA and others to achieve mutually satisfactory wind farm project solutions.

- Policy Board on Federal Aviation Memorandum, Jan 2007



Other Federal Agency Interests

- **Federal Aviation Administration**
 - **OE/AAA; Air Traffic Management Radar**
- **Department of Commerce**
 - **Interdepartment Radio Advisory Committee
(spectrum and frequency allocation)**
- **DoD/DHS Joint Program Office**
 - **Air Defense Radar**
- **NOAA**
 - **Weather Radar**
- **DOE**
 - **Energy Efficiency; Transmission Corridors**
- **DOI**
 - **Energy Production on Federal Lands; Habitat/Environment**



Inter-Agency Cooperation

- **Already working with other Federal agencies to improve current ad hoc processes**
 - **DoD/DHS Joint Program Office long range radar preliminary assessment tool posted on FAA obstructions review web page**
 - **DoD/DOE discussions on advancing the “science” of WGEF impacts on radar**
 - **Local cooperation on project reviews between Federal land management agencies and DoD**



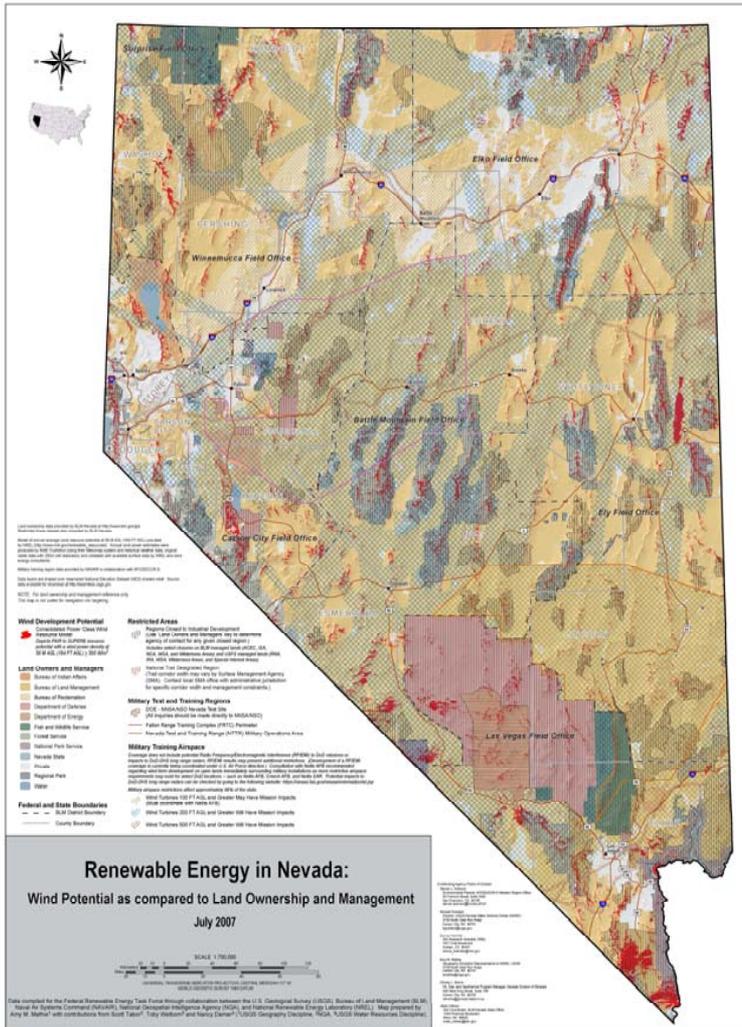
Existing Ad Hoc Process

- Engagement with developers must occur as early as possible, i.e. well before the official filing for the FAA's obstruction evaluation
 - FAA hosted website for vetting potential project locations to be launched in Summer 2008
- Installations must consider all potential operational impacts, e.g. air traffic management radar, airspace, frequency/spectrum, weather radar
- Red/Yellow/Green...what does it mean?
 - **Red**: highly likely to have an unacceptable operational impact and highly unlikely there are acceptable mitigations
 - **Yellow**: reasonable likelihood of operational impacts – project specific analysis required to identify possible mitigation
 - **Green**: operational impacts highly unlikely and high likelihood of mitigation if impacts are identified

Remember: R/Y/G is project specific and provides a framework for developer and installation discussions...Red doesn't necessarily mean NO and Green doesn't necessarily mean GO



“The Map”



- Provided and published through the Federal Renewable Energy Task Force
- Available as part of series of renewable energy resources maps at UNR website <http://www.unr.edu/geothermal/renewables.htm>
- Published in Governor’s NV Renewable Energy Transmission Access Advisory Committee Phase I Report, 31 Dec 07



Web Based Tool

Notice Criteria Tool - Windows Internet Explorer

https://oeaaa.faa.gov/oeaaa/external/gisTools/gisAction.jsp?action=showNoNoticeRequiredToolForm

File Edit View Favorites Tools Help

Notice Criteria Tool

Federal Aviation Administration
Bringing Safety to America's Skies

Obstruction Evaluation **Notice Criteria Tool** faa.gov Tools: Print this page

Home

FAA OE/AAA Offices

View Determined Cases (Form 7460-1)

View Proposed Cases (Form 7460-1)

View Supplemental Notices (Form 7460-2)

View Circularized Cases

Search Archives

Circle Search for Cases

Circle Search for Airports

Discretionary Review FAQs

Notice Criteria Tool

Long Range Radar Tool

Distance Calculation Tool

OE/AAA Account

Login

New User Registration

Information Resources

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.13](#).

You must file with the FAA at least 30 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your structure will be on an airport or heliport

If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#).

The tool below will assist in applying the appropriate slope calculations per part 77.13(a)(2)(i) through (iii)

Latitude: 38 Deg 19 M 28.99 S N

Longitude: 83 Deg 1 M 46.75 S W

Datum: NAD83

Site Elevation (SE): 786 (nearest foot)

Structure Height (AGL): 315 (nearest foot)

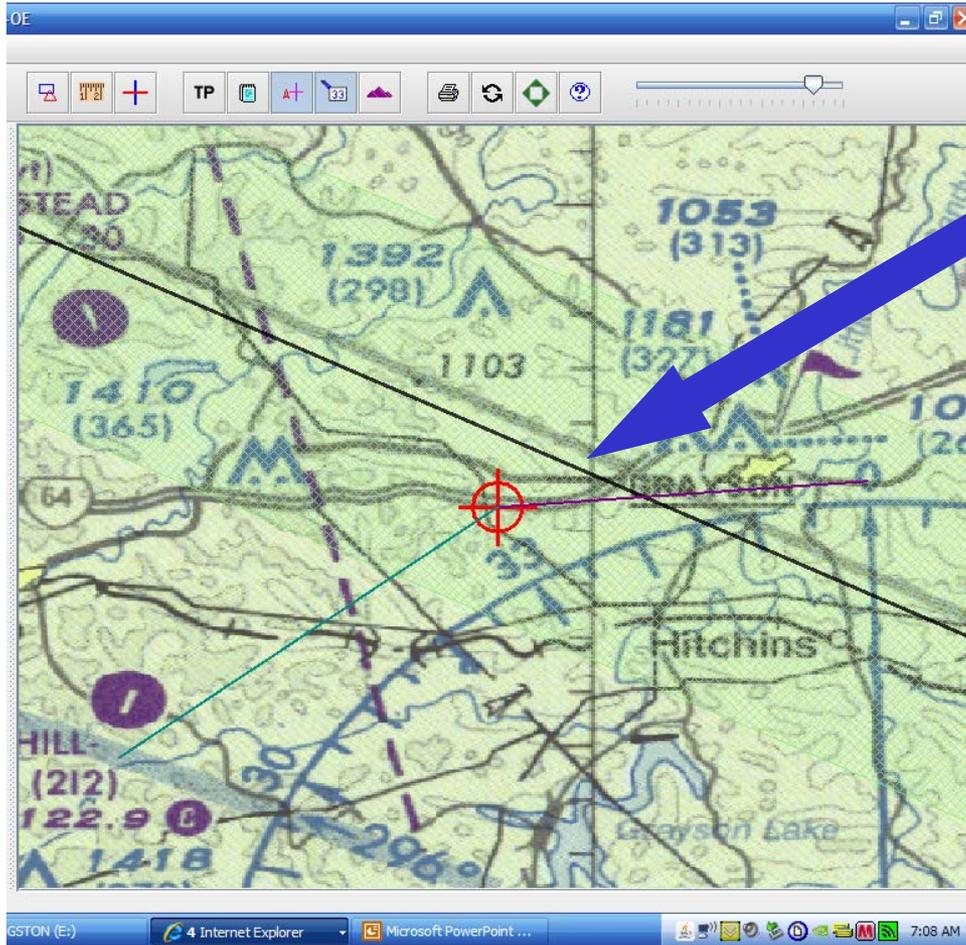
Submit

Internet 100%

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What the Developer Gets Back



The sectional map is displayed with the MTR/SUA depicted and the outline of the route with the structure plotted

“Your proposal underlies VR123 and has the potential to impact AF operations. For a more detailed review, please provide this information to the Sample AFB Airspace Manager at 703-555-1212.

Your proposal is unlikely to impact military operations. The Regional Coordinator at 703-555-1212 is available to confirm and provided supporting documentation



AF Next Steps

- **Release updated guidance to AF personnel (Summer 08)**
 - Review process spans many diverse organizations
 - Institutionalize mission-focused screening
 - Improve responses to industry
 - Assign Office of Primary Responsibility
- **Enhance internal AF processes for proposal evaluation**
 - Launch internal website with maps, tools, response letters
 - Provide quick, standardized responses to industry
- **Launch FAA-hosted screening tools**
 - Create one entry point to start process
 - Directs developers to appropriate single contact
- **Continue multi-agency collaboration toward a cohesive federal process**

Goal: minimize mission degradation and risk



QUESTIONS?

