

# STAFF RECOMMENDATION

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NCPC File No. 6841



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## RONALD REAGAN WASHINGTON NATIONAL AIRPORT AIRPORT SURFACE DETECTION EQUIPMENT - MODEL X UPGRADE

Arlington, VA  
U.S. Naval Reservation, Washington, DC

Submitted by the U.S. Department of Transportation  
Federal Aviation Administration

July 3, 2008

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### Abstract

The Federal Aviation Administration (FAA) has submitted site development plans for the installation of an ASDE-X Upgrade System to serve Ronald Reagan Washington National Airport in Arlington, Virginia; the system upgrade would enhance safety of airport operations by tracking the movement of aircraft and surface vehicles, thereby assisting air traffic controllers with routing of airport ground traffic. The proposed automated surveillance system would consist of the existing surface movement radar mounted on a remote tower, eight new remote unit sensors, and two new reference transmitters. All construction activities would occur on airport grounds, except for one remote unit sensor that would be located on the east side of the Potomac River on FAA-leased property owned by the United States Department of the Navy.

### Commission Action Requested by Applicant

Approval of preliminary and final site development plans pursuant to 40 U.S.C. § 8722(a), (b)(1), and (d).

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### Executive Director's Recommendation

The Commission:

**Approves**, for a period not to exceed ten (10) years, the preliminary and final site and building plans for the installation of the ASDE-X Upgrade System to serve Ronald Reagan Washington National Airport in Arlington, Virginia, as shown on NCPC Map File No. 2105.00(47.10)42533.

**Notes** that the applicant has agreed to coordinate with the National Park Service, both prior to and during installation of the system upgrade, to minimize the visual effects of Remote Sensor Units 2 and 8.

**Recommends** that the applicant camouflage the masts of the remote unit sensors by painting them grey rather than red, or by screening them with landscaping, where air traffic control standards would not be compromised.

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## PROJECT DESCRIPTION

### Site

The Ronald Reagan Washington National Airport is located in Arlington, Virginia, and is bounded on the east by the Potomac River and on the west by the National Park Service's George Washington Memorial Parkway. The proposed work will be located in various perimeter locations within airport boundaries, and in a single location on the east side of the Potomac River at the U.S. Naval Reservation in the District of Columbia.

### Proposal

The Federal Aviation Administration (FAA) proposes to install an ASDE-X Upgrade System to serve Ronald Reagan Washington National Airport; the system upgrade would enhance safety of airport operations by tracking the movement of aircraft and surface vehicles, assisting air traffic controllers with routing of airport ground traffic. The proposed automated surveillance system would consist of the existing Airport Surface Detection Equipment, Model 3 (ASDE-3) surface movement radar (SMR) mounted on a remote tower, eight new remote unit (RU) sensors, and two new reference transmitters (RTs). All construction activities would occur on airport grounds, except for one remote unit sensor that would be located on property owned by the United States Department of the Navy and leased by the FAA on the east side of Potomac River.

Six components (RT 1 and 2, RU 1, 3, 5, and 7) will be mounted on existing buildings, structures or towers, with equipment boxes mounted inside or onto existing buildings; of these, only RU5 will require limited ground disturbance for installation of foundations and conduit. Four remote unit sensors (RU 2, 4, 6, and 8) will be located at "greenfield" sites – sites with limited or no available infrastructure; two will be at the north end of the airport grounds, one at the south end, and the last on the east side of the Potomac River. The remote "greenfield" sensors would range in height from 34 to 40 feet, and would require a combined total of ground disturbance of approximately 4,000 square feet. Each RT and RU is composed of an equipment box (3' x 3.25' x 1') and an omni antenna (6.5" diameter x



**PROPOSED REMOTE UNIT  
(Greenfield Site)**

20.1”) or sector antenna (19” x 15.25” x 5.6”) mounted on a mast. Data from each RU would be transmitted via underground telephone lines or fiber-optic lines to a multi-processor located inside the Air Traffic Control Tower (ATCT).

The ASDE-X SMR and RUs would conform with the safety standards for human exposure to RF radiation, and the applicant has certified that no hazards would be posed to humans from the electromagnetic radiation produced by the system.



**SITE PLAN WITH PROPOSED EQUIPMENT LOCATIONS**

## PROJECT ANALYSIS

### Executive Summary

Staff finds that the proposed work meets the general criteria of Section 3 of the NCPC Antenna Guidelines, and recommends approval of the proposed antenna installation, for a period not to exceed ten (10) years. The applicant has demonstrated that the antennas would not be visually incongruous relative to existing historic properties, other facilities, or nearby land uses; and will not be readily apparent to the public. The National Park Service has identified two units (RU2 and RU8) that may affect the viewsheds of the George Washington Memorial Parkway; staff notes that the applicant has agreed to coordinate with the National Park Service, both prior to and during installation, to minimize the visual effects of Remote Sensor Units 2 and 8. The proposal is consistent with the Commission's Antenna Guidelines.

The submission indicates that remote unit sensor masts will be painted red; this may increase their visibility in locations proximate to the GW Memorial Parkway and the Potomac River. Staff recommends that the applicant camouflage the masts of the remote unit sensors by painting them grey rather than red, or by screening them with landscaping, where air traffic control standards would not be affected.

### Radiofrequency Radiation

The applicant has submitted certification that the proposed equipment would conform with the safety standards for human exposure to RF radiation. Neither FAA or airport staff nor the general public would be exposed to radio signals at levels exceeding the applicable safety levels. No hazards posed to humans would result from the electromagnetic radiation produced by the system.

## CONFORMANCE

### Comprehensive Plan for the National Capital

Staff has determined that the antenna installation would not be inconsistent with the Federal Elements of the Comprehensive Plan nor adversely affect any other federal interests.

### National Environmental Policy Act (NEPA)

Pursuant to the regulations implementing the National Environmental Policy Act, the FAA conducted an independent NEPA evaluation of this project and submitted the results to NCPC. According to the documentation submitted to NCPC, the results of this evaluation demonstrate that this project will not have any adverse impact on the natural, built, or human environment. Based on their environmental review, the FAA has concluded that the project is categorically excluded from NEPA, per FAA Order 1050.1E, paragraph 309 (d). Staff also finds that the project is categorically excluded from NEPA, per Section 8(C)(20) of the Commission's *Environmental and Historic Preservation Policies and Procedures*.

### National Historic Preservation Act

The applicant has determined that the proposed project will not have direct or visual adverse effects on historic properties in the area; the Virginia State Historic Preservation Office has concurred with this determination. The D.C. Historic Preservation Office has determined that the proposed project will not adversely affect any historic properties.

### COORDINATION

#### Coordinating Committee

The Coordinating Committee reviewed the proposal on June 18, 2008, and forwarded it to the Commission with the statement that the project has been coordinated with all agencies represented, except the National Park Service (NPS). The representative for NPS requested additional time to assess the impacts on the George Washington Memorial Parkway. The participating agencies were NCPC; the District of Columbia Office of Planning; the District Department of Transportation; the Department of Housing and Community Development; the General Services Administration; and the Washington Metropolitan Area Transit Authority.

The National Park Service coordinated the project on June 19, 2008, and has requested ongoing coordination during installation of the project to minimize the visual impacts of RU2 and RU8 on the George Washington Memorial Parkway. The applicant has committed to the requested coordination.

#### United States Navy

The applicant has coordinated this proposal with the United States Navy (Navy). In their letter dated 04 June 2008, the Navy has “endorsed” the project based on confirmation that RU4 will be a receive-only antenna.