FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR PROPOSED NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) NATIONAL WEATHER SERVICE (NWS) NETWORK RADAR TO SERVE COASTAL WASHINGTON

ENVIRONMENTAL ASSESSMENT SUMMARY

Purpose and Need

NWS is part of the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce. NWS operates a nationwide network of Doppler weather radars, which collect data on atmospheric conditions, and include precipitation type and intensity, wind speed and direction, and storms, from near ground level to above 10,000 ft in elevation above the ground. NWS staff use these data to prepare daily forecasts and issue severe weather watches and warnings, and to further NWS's mission to protect and enhance life and property and the nation's economy.

Existing NWS Weather Service Radar, Model 1988 Doppler (WSR-88D) radars located near Seattle, WA and Portland, OR provide only partial coverage of the Coastal Washington Area. In 2009, NOAA and the Collaborative Center for Adaptive Sensing of the Atmosphere (CASA) conducted a feasibility study that found that severe storm warnings and detection of precipitation and wind shear are below average in Coastal Washington and that the gaps in weather radar coverage are a contributing factor. Approximately 1,990 square miles of Washington State and a large section of the adjoining Pacific Ocean receive no radar coverage at elevations below 10,000 ft above ground or sea level. This area contains populations with high social vulnerability to weather hazards and weather-sensitive industries (for example, fishing and timber production). The NOAA/CASA study concluded that installation of an additional radar or radars would improve radar coverage of the area and provide substantial public safety and economic benefits. Installation and operation of a new Doppler radar is required to provide increased coverage of the Coastal Washington area, which would improve the accuracy and timeliness of forecasts and severe-weather warnings, thereby benefiting the local population and economy.

Description of Proposed Action

NWS will install and operate a WSR-88D weather radar to provide improved radar coverage of the Coastal Washington area in support of meteorological forecasting and severe weather alerts. The proposed radar will be quickly integrated into the existing WSR-88D network and will be upgraded with dual–polarization technology, which is being deployed throughout the WSR-88D network.

The radar facility will require road access, electric power, and telecommunications data link to the Weather Forecast Office in Seattle, WA and will be equipped with a transitional power maintenance system and a standby generator capable to ensure continuity of operation during loss of primary power. The facility will be automated and unstaffed; therefore, no water or wastewater service will be required.

Alternatives Considered

In July 2009, NWS issued a Preliminary Site Survey (PSS) report titled *Preliminary Site Survey, National Weather Service Network Radar to Serve Coastal Washington*. That report examined 23 alternative site locations for the proposed radar in Grays Harbor County and adjacent northern Pacific County, because this area has the largest concentration of population and economic activity within the area of concern. Additionally, to effectively provide low-altitude coverage of the area not currently receiving network radar coverage, the proposed radar will have to be located in or very near Grays Harbor County. The PSS considered the ability of each alternative site to meet established NWS radar site selection criteria. Based on the information contained in the PSS report, the NWS selected the following three most advantageous sites for additional detailed technical analysis and environmental review:

- Langley Hill Site, Grays Harbor County, WA
- Ocean City Site, Grays Harbor County, WA
- Saddle Hill Site, Grays Harbor County, WA

Environmental Consequences

NWS prepared a Expanded Site Survey/Environmental Assessment (ESS/EA) report analyzing the potential environmental consequences of the implementing the proposed action at each of the three alternate sites in compliance with the President's Council on Environmental Quality (CEQ) National Environmental Policy Act implementing regulations (40 Code of Federal Regulations Parts 1500 – 1508) and NOAA Administrative Order (NAO) 216-6, *Environmental Review Procedures for Implementing the National Environmental Policy Act.* As required by federal law, the alternative of taking no action is also examined in the ESS/EA report. Under the no-action alternative, the proposed NWS Network Radar to serve Coastal Washington would not be built and the benefits of a NWS Network Radar serving the Coastal Washington area would not be realized. The Final ESS/EA report compared the alternative Langley Hill, Ocean City, and Saddle Hill Sites to the following NWS radar site selection criteria:

Property Size

(S1) Minimum site size is 210 feet (ft) × 210 ft

Radar Coverage

(R1) Coverage would extend over the area of concern (that is, area not covered by existing NWS Network Radars), Pacific Ocean, and windward slopes of the Olympic Mountains

(R2) High-value military assets and the Federal Aviation Administration's (FAA's) National Airspace System receive radar coverage

(R3) Terrain blockage of radar beam is minimized, particularly in weather approach directions of southwest through northwest

(R4) Radar beam is not blocked by trees (antenna should rise above nearby trees, accounting for future tree growth)

(R5) Structures (tall buildings, wind turbines) or terrain in vicinity will not cause excessive clutter returns

Infrastructure

(I1) Site is within short distance of suitable electric power (that is, three-phase 200-A 208Y/120V)

(I2) Site is served by commercial T-1 communication lines (or can receive T-1 service through minor line extensions)

(I3) Site is accessible by good condition all-weather roads

(I4) Construction access is not restricted by bridges or culverts with low weight capacity

Economic

(EC1) Sites on suitable government property are preferred over private land

(EC2) Site is available from a willing owner for purchase or 20 plus year lease

(EC3) Likelihood of substantial environmental contamination of the site by regulated materials or hazardous wastes is low

Environmental

(EV1) Radar would be compatible with nearby land uses and local zoning

(EV2) Radar structure would comply with FAA height restrictions at 14 Code of Federal Regulations Part 77

(EV3) Site is at least 3,000 ft from an airport surveillance radar or airport traffic control tower

(EV4) Site is sufficiently distant from radio transmitters or receivers to prevent electromagnetic interference

(EV5) Site is not eroded or geologically unstable

(EV6) Site is not within a 100-year floodplain or tsunami hazard zone

(EV7) Site does not contain federal-jurisdictional wetlands

(EV8) Construction of the radar will not cause significant conversion of farmland under the Farmland Protection Policy Act

(EV9) No taking of threatened or endangered species or destruction of critical habitat

(EV10) No significant effects on historic or traditional cultural properties

(EV11) No significant effects on scenic viewshed, such as a scenic highway, or wilderness area

(EV12) Not within one-quarter mile of a wild and scenic river

Table 1 summarizes the results of this analysis and shows that all three of the alternative sites satisfy the siting criteria with only minor exceptions.

Table 1: Comparison of Langley Hill, Ocean City, and Saddle Hill Alternative Sites to NWS Radar Siting Criteria

			Site Name		
			Langley Hill	Ocean City	Saddle Hill
Radar Siting Criteria	Property Size	S1	●	●	●
	Radar Coverage	R1	●	●	●
		R2	●	●	●
		R3	●	●	●
		R4	●	■	●
		R5	●	●	✕
	Infrastructure	I1	●	●	■
		I2	●	●	■
		I3	●	●	●
		I4	●	●	●
	Economic	EC1	✕	●	✕
		EC2	●	●	●
		EC3	●	■	●
	Environmental	EV1	●	●	●
		EV2	●	●	●
		EV3	●	●	●
		EV4	●	●	●
		EV5	●	●	●
		EV6	●	✕	●
		EV7	●	●	●
		EV8	●	●	●
		EV9	●	●	●
		EV10	●	●	●
		EV11	●	●	●
		EV12	●	●	●

Key:

● Meets Criterion

■ Partially Meets Criterion

✕ Does Not Meet Criterion

The Langley Hill site would provide the best overall coverage of the area. The Ocean City Site suffers from tree blockage to the northwest and the Saddle Hill Site suffers from structural blockage to the southwest. Additionally, the Saddle Hill Site would require costly extension of power and telecommunications lines to serve the radar. The Langley Hill and Saddle Hill Sites are privately owned, while the Ocean City site is owned by a local public school district. All three landowners have expressed willingness to lease or sell land to the NWS for this purpose.

In conformance with Federal Aviation Regulations (14 CFR Part 77) NWS completed form 7460-1 for a radar at each of the three sites and filed the completed forms with the Federal Aviation Administration (FAA). The FAA determined that an NWS Network Radar at any of the three sites would not be a hazard to air navigation. FAA also determined that the NWS's proposed operating frequency of 2,836 MHz for the radar would not interfere with licensed radio stations and would not require sector blanking.

The Langley Hill and Saddle Hill Sites meet all environmental siting criteria. The Ocean City Site meets all environmental criteria, except EV6. The Ocean City Site is located in marginal tsunami hazard zone; however, the risk of tsunami inundation is estimated at less than 1% per year and the risk could be reduced even further by raising the site elevation and/or flood proofing ground level structures.

Construction of the proposed radar would result in soil disturbance over 1.1 to 1.2 acres of soil depending on the site chosen. Environmental Protection Agency regulations at 40 CFR 122.26 classify this as a small construction site. NWS would prepare and implement a storm water pollution prevention plan (SWPPP) describing best management practices to prevent erosion of soil and washing of soil into drainages or water bodies.

None of the three alternative sites contain federal jurisdictional wetlands or are located in the base (i.e., 100-year) floodplain. Installation of the proposed radar would conform with wetland protection policies of Executive Order (E.O.) 11990 and floodplain management policies of E.O. 11988.

The Environmental Protection Agency (EPA) classifies Grays Harbor County as in attainment of all National Ambient Air Quality Standards. The proposed action would result in minor air emissions from construction vehicles and generation of fugitive dust during site preparation. During operation of the radar, the standby generator would operate intermittently and generate air emissions. A Federal Conformity Determination is not required. The Olympic Region Clean Air Agency (ORCAA) does not require air permits for standby generators that are rated at 500 brake-horsepower or less, as would be the case for the generator serving the NWS Network Radar.

The radar sites are not located in critical habitat for threatened or endangered species. NWS reviewed the potential for listed species to occur at the sites and determined that no adverse effects would result to endangered or threatened species. The U.S. Fish and Wildlife Service (USFWS) concurs with the NWS determination. The proposed radar would conform to the

USFWS guidelines for bird collision hazards and would not significantly affect migratory birds protected under the Migratory Bird Treaty Act.

As required by the National Historic Preservation Act, NWS defined areas of potential effect (APE) at and near each of three sites and consulted with the Washington Department of Archaeology and Historic Preservation (DAHP) and Native American tribes of the area. No places listed or eligible for listing on the National Register of Historic Places or the Washington Heritage Register are present within the APEs for any of the sites. No effects on historic or cultural resources would result. DAHP concurs with the NWS determination.

The NWS Network Radar's main beam would not illuminate the ground in proximity to the radar. If mounted on the 30 m tower, the maximum average power density at ground level, the maximum radiofrequency level to which the general public could be exposed, would be 3,333 times lower than the current U.S. safety standard. No safety hazards would result.

Based on the analysis of environmental consequences and the results of consultations with federal, state, and local resource and regulatory agencies documented in the Final ESS/EA, construction and operation of the NWS Network Radar to serve Coastal Washington at the Langley Hill, Ocean City, or Saddle Hill Sites would not result in significant impacts to the quality of the human environment. The measures listed below will be implemented to further reduce the level of environmental impact.

Mitigation Measures

The following measures will be implemented by NWS to comply with environmental regulations and ensure that no significant effects on the quality of the human environment will result.

Measures Applicable to All Three Sites

NOAA will determine the extent to which the proposed radar would be consistent with the applicable Coastal Zone Management (CZM) policies and submit a consistency determination (if warranted) to the Washington Department of Ecology for review and concurrence.

NWS will provide building plans for the proposed action to Grays Harbor County for a 30-day courtesy review and allow normal inspections during the construction period as required by Title 40, U.S. Code, Chapter 33, Section 3312.

NWS will comply with EPA regulations for discharge of storm water from construction sites. NWS will prepare and implement a SWPPP, submit a Notice of Intent (NOI) to EPA Region 10 prior to start of construction, and a Notice of Termination (NOT) at the completion of construction. The SWPPP will identify best management practices to prevent soil erosions and retain soil and other potential pollutants at the construction site

Utility service providers would consult with Washington State Department of Transportation (WSDOT) and/or Grays Harbor Department of Public Works to coordinate the timing of work to

avoid traffic congestion and implement traffic controls necessary for safety of crews and motorists during installation of utility lines to serve the proposed radar.

The NWS would implement the following measures during the construction period to minimize emissions of dust and other air pollutants:

- Stabilize unpaved roads at the construction site using water, chemical dust suppressants, and/or other stabilization techniques
- Pre-soak and/or periodically sprinkle water on areas to be cleared of vegetated and/or graded areas
- Periodically sweep streets surrounding the construction site, to minimize dust emissions
- Limit vehicle speeds on unpaved roads and areas to 15 miles per hour
- Promptly revegetate areas of exposed soil as soon as construction activities are completed
- Limit idling time of construction equipment to 10 minutes when not in use

NWS would allow USFWS personnel to access the radar site to conduct searches for deceased birds. If dead birds are found, they will be inspected by the USFWS personnel to identify species of bird and reason for death. NWS would cooperate with the USFWS in placement of monitoring equipment at the radar site, provided the equipment does not result in physical or electromagnetic interference with radar operations.

If potentially significant archaeological materials are uncovered during site preparation or construction of the radar, the NWS will halt construction activities that could affect the find and will immediately notify the DAHP, and the local tribal cultural staff and cultural committee, if warranted by the nature of the find.

To minimize the potential for exterior lighting of the radar facility to affect nearby properties, lighting would be shielded and directed to minimize the amount of light spilling outside the fenced area.

Measure Applicable Only to Langley Hill and Saddle Hill Sites

NWS would complete Form AD-1006 to document farmland conversion and submit it to the Natural Resources Conservation Service.

Measure Applicable Only to the Ocean City Site

NOAA would conduct a Phase 2 environmental due diligence audit (EDDA) of the proposed radar site and easements in conformance with ASTM E1527 Standard. The Phase 2 EDDA would include sampling and testing of soil at the proposed radar site to determine if contaminants have migrated onto the site from the adjacent bus storage yard. If the Phase 2 EDDA study finds that contaminants are present at levels of concern at the proposed radar site or access/utility easement, corrective action should be undertaken prior to construction of the NWS Network Radar.

PUBLIC INVOLVEMENT

The Draft and Final ESS/EA reports were prepared in conformance with procedural requirements for implementing the National Environmental Policy Act (NEPA) contained in 40 CFR Parts 1500–1508 and NAO 216-6. The Draft ESS/EA was distributed to government agencies, interested members of the public, and Native American tribes of the area for review and comment in March 2010. A notice of the availability of the Draft ESS/EA was published in the *Daily World*, a general circulation newspaper serving the Grays Harbor County, Washington, area. NWS accepted comments on the original Draft ESS/EA during an official 31-day comment period, lasting from March 15, 2010, through April 16, 2010. Eleven comment letters and email messages were received by NWS. Most of the comments supported installation of the NWS Network Radar, including a letter from the Grays Harbor County Office of County Commissioners. Two of the letters suggested alternative sites for the radar at Point Grenville and near Moclips. The NWS evaluated the suggested sites and found that they would provide less effective radar coverage than the alternative sites examined in the ESS/EA report. No comments were received in opposition to installation of the radar. The Final ESS/EA report contains official NWS responses to all comments received on the Draft ESS/EA report.

This Final ESS/EA report and this FONSI will be made available to interested members of the public. A notice of the availability of these documents will be published in a general circulation newspaper serving the Grays Harbor County, WA area.

FINDING OF NO SIGNIFICANT IMPACT

The CEQ Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, NAO 216-6, Section 6.01(b) 1 – 11, provides eleven criteria, the same ten as the CEQ Regulations and one additional for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

No. The Final ESS/EA report analyzes the proposed action at three potential sites and the no-action alternative. No other viable alternatives were considered. The Final ESS/EA report describes the proposed action and environmental settings, and analyzes associated environmental consequences based on established standards and criteria. The Final ESS/EA report contains an analysis of the potential for the proposed action to result in environmental impacts in the following topic areas: Land Use, Zoning, and Coastal Zone Management; Geology, Soils, and Seismic/Tsunami Hazards; Drainage and Water Quality; Transportation; Air Quality; Floodplains; Wetlands; Biological Resources/Protected Species; Cultural and Historic Resources; Environmental Justice/Socioeconomic Impacts; Farmlands; Energy Consumption;

Visual / Light Emissions; Radio Frequency Effect; Solid and Hazardous Waste; Wild and Scenic Rivers; Cumulative Impacts. The Final ESS/EA characterizes each environmental impact and recommends mitigation measures to reduce or avoid anticipated impacts.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

No. Radio emissions from the radar would comply by a wide margin with exposure standards for the general public established by the American National Standards Institute.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

No. No places listed or eligible for listing on the National Register of Historic Places or the Washington Heritage Register are present within the APEs for any of the sites. No effects on historic or cultural resources would result. DAHP concurs with the NWS determination.

None of three alternative sites are in proximity to park lands, prime farmlands, wetlands or wild and scenic rivers. The project area is not within and/or does not contain any environmentally sensitive habitats (ESH) or other ecologically critical areas..

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

No. The Draft ESS/EA was distributed to government agencies, interested members of the public, and Native American tribes of the area for review and comment in March 2010. NWS accepted comments on the original Draft ESS/EA during an official 31-day comment period, lasting from March 15, 2010, through April 16, 2010. Eleven comment letters and email messages were received by NWS. Most of the comments supported installation of the NWS Network Radar, including a letter of support from the Grays Harbor County Office of County Commissioners. No comments were received in opposition to installation of the radar.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. The Final ESS/EA analyzes the potential for construction and operation of the proposed radar to result in environmental impacts. The impact analysis addresses utility and road extensions needed to install the radar. NWS has extensive experience constructing and operating 159 existing network radars; thus there is very little potential for unknown or uncertain impacts to result.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

No. The proposed action is limited to construction and operation of a single NWS Network Radar in Grays Harbor County, WA. No precedents would result for future actions with significant effects or a decision in principle about a future consideration.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

No. The Final ESS/EA report evaluates the potential for the proposed action, in conjunction with past, present, and reasonably foreseeable future actions to cause significant environmental effects. The proposed action is not reliant upon or connected to other actions, nor is it relied upon for the occurrence of other actions. Therefore, the proposed action will not result in a significant cumulative impact to the human environment.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

No. NWS defined APE at and near each of three sites and consulted with DAHP and Native American tribes of the area. No places listed or eligible for listing on the National Register of Historic Places or the Washington Heritage Register are present within the APEs for any of the sites. No effects on historic or cultural resources would result. DAHP concurs with the NWS determination.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

No. The radar sites are not located in critical habitat for threatened or endangered species. NWS reviewed the potential for listed species to occur at the sites and determined that no adverse effects would result to endangered or threatened species. The USFWS concurs with the NWS determination. The proposed radar would conform to the USFWS guidelines for bird collision hazards and would not significantly affect migratory birds protected under the Migratory Bird Treaty Act.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

No. The effect of the proposed action on the human environment has been analyzed relative to applicable Federal, state and local environmental laws or regulations. No regulatory violations or other significant environmental effects are expected to result provided that mitigation measures recommended in the EA are implemented.

11. Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

No. No transport, release, propagation or spread of non-indigenous species is associated with the proposed action.

DETERMINATION

After careful and thorough consideration of the Final ESS/EA report, the undersigned finds that the construction and operation of an NWS Network Radar to serve Coastal Washington is consistent with existing national environmental policies and objectives set forth in sections 101(a) and 101(b) of NEPA and will not significantly affect the quality of the human environment or otherwise result in any condition requiring consultation pursuant to section 102(2) (c) of NEPA. This finding is applicable to installation and operation of the proposed NWS Network Radar at any one of the three alternative sites analyzed in the Final ESS/EA. Based on technical and environmental considerations, the preferred site for installation of the proposed NWS Network Radar to serve Coastal Washington is the Langley Hill Site, located in Grays Harbor County. However, NWS may determine that installation of the Network Radar at the Ocean City or Saddle Hill alternative sites would be more advantageous due to land acquisition costs or other factors and may implement the proposed action at one of the alternative sites.

As described in section 5.03.c of NAO 216-6, a Finding of No Significant Impact is supported and appropriate for installation and operation of the proposed NWS Network Radar at any one of the three sites (i.e., Langley Hill, Ocean City, or Saddle Hill Sites) analyzed in the Final ESS/EA report. Preparation of an environmental impact statement for this action is not necessary.

Richard Vogt
Director, Radar Operations Center
National Weather Service

July 19, 2010
Date