APPENDIX F

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT FOR INTEGRATED VEGETATION MANAGEMENT ON THE HANFORD SITE, RICHLAND, WASHINGTON (DOE/EA-1728)

AGENCY: U.S. Department of Energy, Richland Operations Office

ACTION: Finding of No Significant Impact

SUMMARY

An *Environmental Assessment (EA) for Integrated Vegetation Management on the Hanford Site, Richland, Washington* (DOE/EA-1728) has been prepared by the U.S. Department of Energy (DOE) pursuant to the *National Environmental Policy Act of 1969* (NEPA); the Council on Environmental Quality's *Regulations for Implementing the Procedural Provisions of NEPA* (Title 40, Code of Federal Regulations [CFR], Parts 1500−1508); and DOE's *National Environmental Policy Act Implementing Procedures* (10 CFR 1021). The EA analyzes environmental impacts from vegetation management in the "project area" of the Hanford Site. The project area excludes most of the Hanford Reach National Monument (i.e., the Monument) that is managed by the U.S. Fish and Wildlife Service (USFWS) under permit from DOE. Vegetation management conducted under the EA would be consistent with and complement similar efforts currently being performed by the USFWS on the Monument.

Historically, DOE periodically reviewed and determined that vegetation management activities at the Hanford Site were categorically excluded and did not require an EA or *Environmental Impact Statement* (EIS). DOE now believes it appropriate to enhance its evaluation of vegetation management conducted in the project area of the Hanford Site. However, vegetation management in landscaped areas maintained for visual aesthetics will continue to be reviewed for potential eligibility under the DOE categorical exclusions [10 CFR 1021 Appendix B].

The Presidential Proclamation establishing the Hanford Reach National Monument outlines values that require protection of the last remaining areas of large shrub-steppe ecosystems in the Columbia River Basin that support an unusually high diversity of native plant and animal species. To this end, the Secretary of Energy was also directed to manage the central area of the Hanford Site (i.e., the project area) for the protection of the Monument values where practical. Implementation of the proposed action evaluated in this EA would protect the Monument values in accordance with these Presidential directives.

Based on the analyses of potential environmental impacts in the final EA and considering the public comments received on the draft EA, DOE has determined that the proposed action is not a major federal action significantly affecting the quality of the human environment within the meaning of the *National Environmental Policy Act of 1969* (NEPA), 42 U.S.C. 4321, et seq. Therefore, the preparation of an EIS is not required and the proposed action may proceed based on this "Finding of No Significant Impact."

PROPOSED ACTION

The proposed action would enhance the current approach (i.e., no action alternative) to vegetation management in the project area that is performed in an individual, project specific, or localized manner.

Current vegetation management in radioactive and chemical waste management areas, infrastructure areas, and rangelands where critical firebreaks are maintained has not presented significant environmental impacts, is effective, and would remain unchanged. DOE would initiate a more comprehensive, holistic, integrated, and adaptive IVM approach in rangelands that would be expanded from individual, project specific, or localized efforts focused on eradicating small invasive plant and noxious weed infestations within reach of existing roads, to treating larger areas at the landscape scale for improved overall land health and ecosystem restoration.

The IVM approach should result in a gradual reduction in the use of physical, chemical, biological, prescribed burning, and revegetation methods over time as invasive plants and noxious weeds are eliminated in favor of native shrubs, grasses, forbs, and other desirable plant species. The eradication of invasive plants and noxious weeds followed by revegetation with native shrubs, grasses, forbs, and other desirable plant species would reduce wildfire hazards, and protect, preserve, and restore natural, cultural, and ecological resources consistent with DOE's stated purpose and need for vegetation management in the project area of the Hanford Site.

ALTERNATIVES

Two alternatives to the proposed action were considered, but not further analyzed: (1) an alternative referred to as terminate vegetation management or (2) an alternative referred to as single method vegetation management. These alternatives would not meet DOE's stated purpose and need for integrated vegetation management and would not be fully compliant with regulatory requirements to manage noxious weeds and invasive plants.

The no action alternative would continue the current approach of individual, project-specific, or localized vegetation management in radioactive and chemical waste management areas, infrastructure areas, and rangeland where critical firebreaks are maintained. Over time, invasive plants and noxious weeds in rangelands would likely expand their range increasing wildfire hazards; impacts on native shrubs, grasses, forbs, and other desirable plant species and wildlife habitat; and impacts on natural, cultural, and ecological resources.

ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The EA analyzes potential environmental impacts of vegetation management on land use and visual resources, air quality, soils, water quality, ecological and biological resources, cultural and historic resources, human health and safety, transportation, noise, waste management, socioeconomics and environmental justice. Cumulative impacts from past, present, and reasonably foreseeable future actions are also considered.

Land Use and Visual Resources

There would be no foreseeable changes and no significant impacts to land uses from pursuing the proposed action. The proposed action would enhance visual resources by eradicating invasive plants and noxious weeds; reduce wildfire hazards; and restore the shrub-steppe ecosystem and wildlife habitat at the landscape scale.

Air Quality

The maximum Hanford Site concentrations for all criteria and other regulated air pollutants are below applicable standards and guidelines for ambient air quality. The Environmental Protection Agency considers Benton County and the Hanford Site to be "in attainment" for federal and state ambient air

quality standards. Emissions from prescribed burning would not be significant and roughly a factor of six smaller than potential wildfires that would be prevented. Greenhouse gas emissions from vehicles would not be significant and represent less than 2 percent of the total emissions from mobile sources on the Hanford Site during FY 2010. Criteria and toxic air pollutant emissions from vehicles would not be significant given reformulated gasoline, low-sulfur diesel fuel, advances in engine design and fuel metering systems, and highly efficient exhaust control devices which reduce emissions by approximately 98 percent. Emissions from aircraft engines would not be significant given that an aerial spray contractor can treat in one to two days an area that would take up to a year for ground-based crews to treat. Although fugitive dust emissions would occur, this would only be temporary and is not considered to be a significant impact.

Soil

Regardless of the vegetation management method employed, some adverse impacts to soils may occur. Intrusion into areas to be treated whether by foot, small motorized vehicles or heavy equipment will result in the potential for soil compaction. The use of heavy equipment would likely result in the greatest impacts to soil compaction. The area of potential soil compaction is very small (footprints or tire tracks) in comparison to the area treated and the project area of the Hanford Site.

Similarly, the application of herbicides could alter soil chemistry both beneficially by keeping some areas vegetation-free, and adversely by decreasing available soil nutrients. While the potential loss of some soil nutrients may be unavoidable, on balance, the impacts result in an overall beneficial effect of eradication of noxious weeds and invasive plants and the reestablishment of native shrubs, grasses, forbs, and other desirable plant species.

Biological, prescribed burning, and revegetation methods would not present significant impacts on soils.

Water Quality

Physical and biological methods and prescribed burning would not significantly impact surface water, wetland habitat, vadose zone, or groundwater due to the small and localized nature of soil disturbance, the unlikely potential for sediment deposition impacts, and the highly selective nature of these methods.

Chemical methods (i.e., herbicides) could have impacts to surface water, wetland habitat, vadose zone and groundwater. Soil properties (low permeability silt layers, calcic horizons, and anisotropic conditions) would lessen the potential impacts by impeding subsurface flow of herbicides. Meteorological and climatological conditions such as low annual precipitation, high evaporations rates, and plant transpiration would further reduce herbicide migration. Based on existing groundwater sample data, no significant impacts have been identified and none are anticipated.

Ecological and Biological Resources

Any vegetation management method (physical, chemical, biological, prescribed burning and revegetation) could result in some impact to ecological and biological resources. Physical methods (e.g., hand pulling, hoeing), chemical methods (e.g., hand or vehicle spraying), and biological methods are more localized and thus can avoid areas of ecological and biological importance and would not be expected to result in significant impacts. Aerial application of herbicides would increase non-target impacts on terrestrial habitat, biota, and special status species resulting in potentially adverse impacts. Early identification of plant and animal species of concern, routing and timing of the aerial application, or avoidance of aerial application in favor of more localized ground-based methods, are incorporated into the IVM approach proposed and evaluated in this EA, to minimize and prevent significant impacts.

Prescribed burning would over time have beneficial impacts on terrestrial habitat, biota, and special status species by reducing wildfire fuel and the frequency, intensity, and duration of wildfires.

Reestablishment of native plant communities through revegetation or natural plant succession would improve terrestrial habitat and protect native species from displacement and competition by aggressive invasive plants and noxious weeds. Revegetation would have a beneficial impact by restoring shrub-steppe habitat that has been lost due to natural and man-made perturbations on the landscape. Revegetation would contribute to the protection and recovery of special status plant and animal species dependent upon such areas for food and shelter.

There would be no significant impacts to aquatic habitat. Vernal pools are seasonally flooded depressions that occur in the spring and dry up during the summer; only plants and animals adapted to this cycle of wetting and drying can survive and freshwater crustaceans would be of temporary value to terrestrial species. West Lake consists of a group of small isolated pools and mudflats that do not support fish populations and are too saline to support aquatic plants; although some riparian plants exist along the shoreline. The artificial wastewater process ponds (LERF and TEDF) do not support fish populations and rarely contain much water; however, they are accessible to some wildlife.

Cultural Resources

The potential exists for impacts to cultural resources when treating invasive plants and noxious weeds. Early identification of plant and animal species of concern, routing and timing of the aerial application or avoidance of aerial application in favor of more localized ground-based methods are considered in the IVM approach proposed and analyzed in this EA to minimize or prevent impacts to artifacts, sites, or plant and animal species of cultural significance.

Human Health and Safety

Workers engaged in vegetation management in radioactive and chemical waste management areas may be exposed to radiological materials and wastes only incidentally. Annual dose would be less than 70 mrem (i.e., about 10 percent above average natural background). Radiological impacts on human health and safety are not anticipated to be significant.

The greatest potential for human health and safety impacts would be to workers involved in the mixing, spraying, and rinsing of herbicides. Given careful observance of instructions and procedures, impacts from the mixing, spraying, and container rinsing operations are not expected to be significant and are estimated at two or more orders of magnitude below applicable occupational exposure limits. The potential for significant herbicide related impacts to the public would be even less than those for onsite workers.

The analysis in the EA concludes that impacts resulting from radiological, chemical, and industrial hazards on human health and safety would not be significant.

Besides the obvious impacts of fire itself, smoke from prescribed burning and wildfires carries the potential to affect human health and safety. Although prescribed burning would produce smoke, the amount would be relatively small compared to wildfires due to the controlled nature of prescribed burning. Estimated airborne emissions associated with prescribed burning would be roughly a factor of six smaller than that which has resulted from previous wildfires. Implementing prescribed burning limitations (e.g., land area, weather, and prevailing wind conditions) would help minimize or prevent significant impacts to human health and safety.

Transportation

Impacts of vegetation management on accident rates or fatalities from the transportation of equipment would not be significant.

Noise

Because of the remote locations at which vegetation management would occur on the Hanford Site, all public receptors would be located well beyond the applicable "region of influence" within which noise levels would be limited to specified levels and would either be immeasurable or barely distinguishable from background noise levels. Impacts to vegetation management workers due to noise would be minimized through the use of hearing protection (i.e., ear plugs, headphones, etc.) and are not expected to result in significant impacts.

Waste Management

It is estimated that the volume of municipal solid waste generated from vegetation management and delivered for disposal in an offsite landfill would be 375 cubic yards annually; slightly more than 1 percent of the total annual municipal waste volume generated by the entire Hanford Site. About 200 cubic yards of potentially contaminated tumbleweeds would be collected annually as a result of vegetation management. This vegetation would be compacted and disposed of in the onsite Environmental Restoration Disposal Facility. Potential impacts of solid waste generated in an IVM approach are not anticipated to be significant.

Socioeconomics and Environmental Justice

Vegetation management is expected to be accomplished using employees from the existing Hanford Site workforce. However, even if vegetation management were to create additional service sector jobs, the total increase in employment would be less than 1 percent (0.02 percent) of the current employment level in Benton and Franklin counties. Increases of less than 5 percent of an existing labor force would not have a significant impact.

The majority of potential environmental impacts would be associated with onsite activities that are remote from the general public and would not significantly impact populations residing offsite. There are no aspects of vegetation management that would reasonably be determined to significantly impact any member of the public, and the potential for high and disproportionately adverse impacts on minority or low-income groups within an 80 kilometer (50-mile) radius of the project area would be extremely low. Vegetation management on the project area has potential impacts on cultural resources of significance to the Tribes. However, given their access to the Hanford Site, the same practices and methods that are used to minimize impacts to onsite workers would be used for Tribal members who access any part of the project area, so that overall potential impacts would not be expected to be significant.

Cumulative Impacts

DOE expects that the incremental impacts of vegetation management would not contribute in a meaningful or significant way to cumulative impacts when considering other DOE and non-DOE actions and would in fact be beneficial to the protection, preservation, and restoration of natural, cultural, and ecological resources; including the desirable shrub-steppe ecosystem lost to past activities. In general, DOE considers the potential impacts that would occur from implementing vegetation management under the proposed action would be small, localized to the project area of the Hanford Site, and not significant.

The analyses found that vegetation management would not have significant impacts to land use and visual resources; air quality; soils; water resources; ecological and biological resources; cultural resources; human health and safety; transportation; noise; waste management; or socioeconomics and environmental justice. Vegetation management in the project area has the potential for short-term impacts to non-target biological resources which would contribute to cumulative impacts to the same animals and plants from similar vegetation management conducted by the USFWS on the Monument or other Federal, state, local and private entities in the immediate vicinity of the Hanford Site. However, in the longer term, DOE's implementation of the proposed action would help protect, preserve, and restore native shrubs, grasses, forbs, and other desirable plant communities and wildlife habitat in the shrub-steppe ecosystem and reduce the potential for wildfires that would negatively impact the ecosystem. This would constitute a beneficial cumulative impact when considering similar vegetation management efforts by others. In addition, implementation of the proposed action would have a positive cumulative impact on DOE's need to manage vegetation in the project area of the Hanford Site for the purposes of eradicating invasive plants and noxious weeds; minimizing plant uptake and biological transport of contaminants; reducing wildfire hazards; preserving and restoring native shrubs, grasses, forbs, and other desirable plant communities and wildlife habitat; and protecting natural, cultural, and ecological resources.

Over the long term, loss of resource values would be slowed by implementing the proposed action, and in some cases, would be reversed. Short-term losses in resource functions would be compensated for by long-term gains in ecosystem health.

DETERMINATION

Based on the analyses of potential environmental impacts in the final EA and considering the public comments received on the draft EA, DOE concludes that the proposed action to implement an IVM approach in the project area of the Hanford Site that would reduce or eradicate invasive plants and noxious weeds; minimize plant uptake and biological transport of contaminants; reduce or eliminate wildfire hazards; restore and preserve native shrubs, grasses, forbs, and other desirable plant communities and wildlife habitat; and protect natural, cultural, and ecological resources does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS for the proposed action is not required. With this determination, DOE can proceed with vegetation management actions as described in the final EA.

Issued in Richland, Washington, on this 13th day of March in the year 2012.

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AVAILABILITY OF EA AND FURTHER INFORMATION

The EA (DOE/EA-1728) is available at the DOE Public Reading Room, Consolidated Information Center at Washington State University-Tri-Cities, and may be accessed electronically at:

http://www.hanford.gov/page.cfm/EnvironmentalAssessments

Requests for single copies of the EA or other related information may be referred to:

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