APPENDIX C

MITIGATION ACTION PLAN

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MITIGATION ACTION PLAN

FOR
EXPANSION OF THE
VOLPENTEST HAZARDOUS MATERIALS MANAGEMENT AND
EMERGENCY RESPONSE
TRAINING AND EDUCATION CENTER
HANFORD SITE, RICHLAND, WASHINGTON

Supplement to DOE/EA 1412

U.S. DEPARTMENT OF ENERGY
RICHLAND, WASHINGTON

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LIST OF TERMS

BPA	Bonneville Power Administration
CTF	Cold Test Facility
DOE	Department of Energy
DOE/RL	Department of Energy – Richland Operations
EVOC	Emergency Vehicle Operations Course
HAMMER	Volpentest Hazardous Materials Management and Emergency Response Training and Education Center
HCP-EIS	Hanford Comprehensive Land Use Plan Environmental Impact Statement
MBTA	Migratory Bird Treaty Act
NUTS	National Utility Training Services
NWPPA	Northwest Public Power Association

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1. SUMMARY OF PROJECT

The proposed project is to expand the current Hazardous Materials Management and Emergency Response Training and Education Center (HAMMER) facilities, located on the southern boundary of the U.S. DOE Hanford Site, Richland, WA. (Figure 1). The proposed action includes constructing and operating the Emergency Vehicle Operations Course (EVOC), which would be located on approximately 60 acres (24.2 hectares); expanding, operating, and transferring ownership of National Utility Training Services (NUTS) site, which is located on approximately 80 acres (32.3 hectares) [40 acres (16.2 hectares) from the original HAMMER footprint and 40 additional acres (16.2 hectares) from the expansion]; and reserving the remaining space [approximately 92 acres (37.2 hectares)] north of the original HAMMER, NUTS, and the Cold Test Facility (CTF) and south of the Bonneville Power Administration (BPA) power lines for future development (Figure 2). EVOC would provide training to emergency service personnel when driving in emergency response situations. NUTS would provide training for utility personnel.

1.1 Emergency Vehicle Operations Course

EVOC would be located on the approximate 60-acre (24.2-hectare) section to the west of Ila Lane and north of Horn Rapids Road (Figure 2). EVOC would consist of an asphalt course approximately 36 feet (11 meters) wide and 1 mile (1.6 kilometer) long. The course would include a quarter mile (0.4 kilometer) straightaway, a 180-degree corner, and a serpentine of several more turns of varying degrees and radii. The straightaway would be level while the rest of the course would follow approximately the natural elevations of the land. In addition to the asphalt course, a 160,000 square foot (14,864 square meter) asphalt pad would be constructed as a skills course for low speed vehicle maneuvers. A parking area, connex box pad, and shelter area pad also would be constructed at the entrance to the course. The parking area would be approximately 12,500 square feet (1,161 square meter), and the connex box and shelter area pads would be approximately 1,500 square feet (139 square meters) and 600 square feet (55.7 square meters) respectively.

1.2 National Utility Training Services Site

Title to the 80 acres (32.3 hectares) NUTS site, located on the eastern side of the existing HAMMER site (Figure 2), would be transferred to the Northwest Public Power Association (NWPPA). The NUTS site would have properly positioned spans of both wooden and steel transmission lines with room for erecting and dismantling. An area would be used for a helipad, a parking garage for equipment, and an expanded area for earthmoving training.

1.3 Areas Reserved for Future Development.

Approximately 92 acres (37.2 hectares) are reserved for future development and would be addressed under a future NEPA review once plans have been developed. These areas are located to the north of the original HAMMER and to the north of the CTF and south of the BPA power lines (Figure 2).

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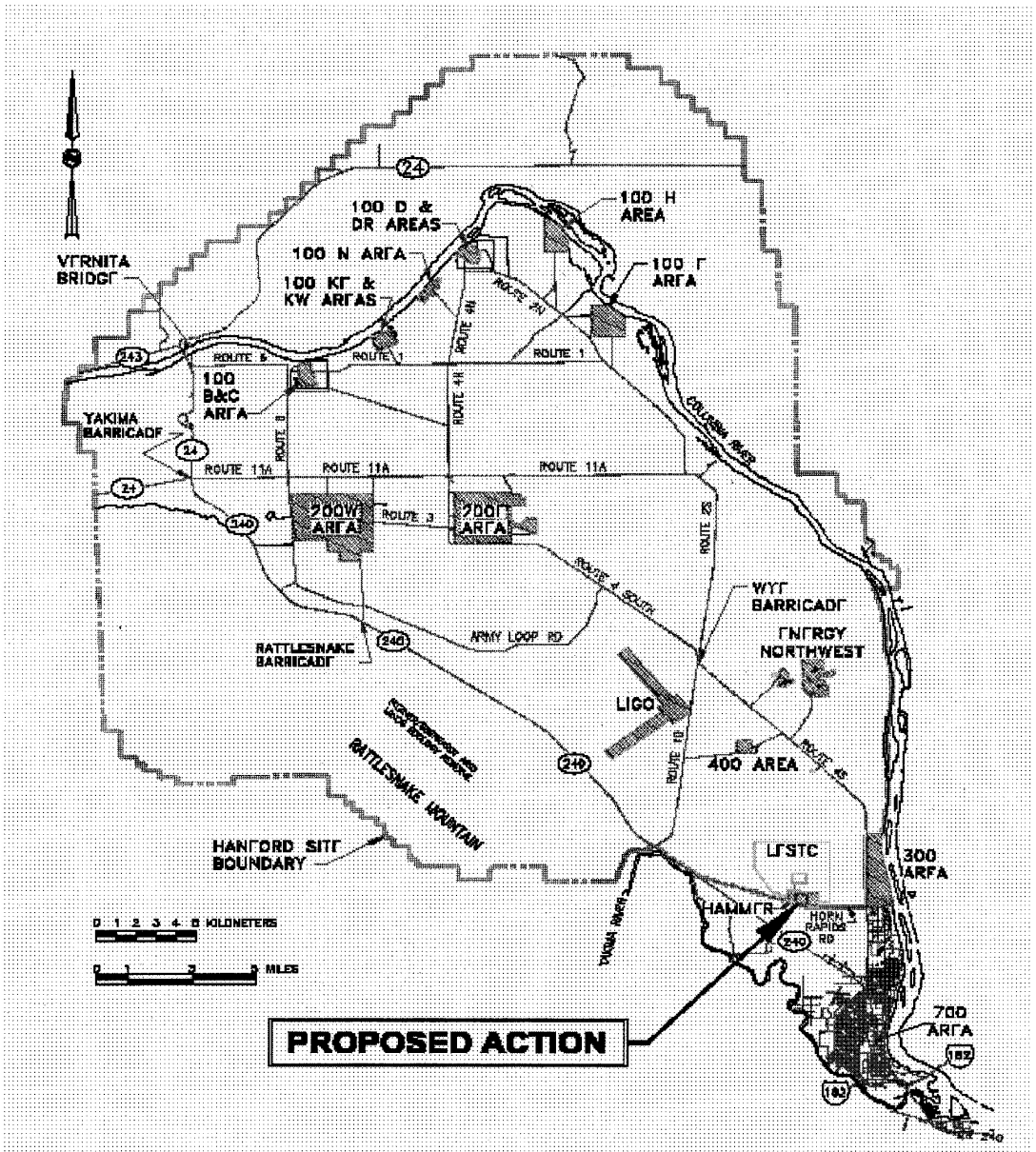

Figure 1. Hanford Site.

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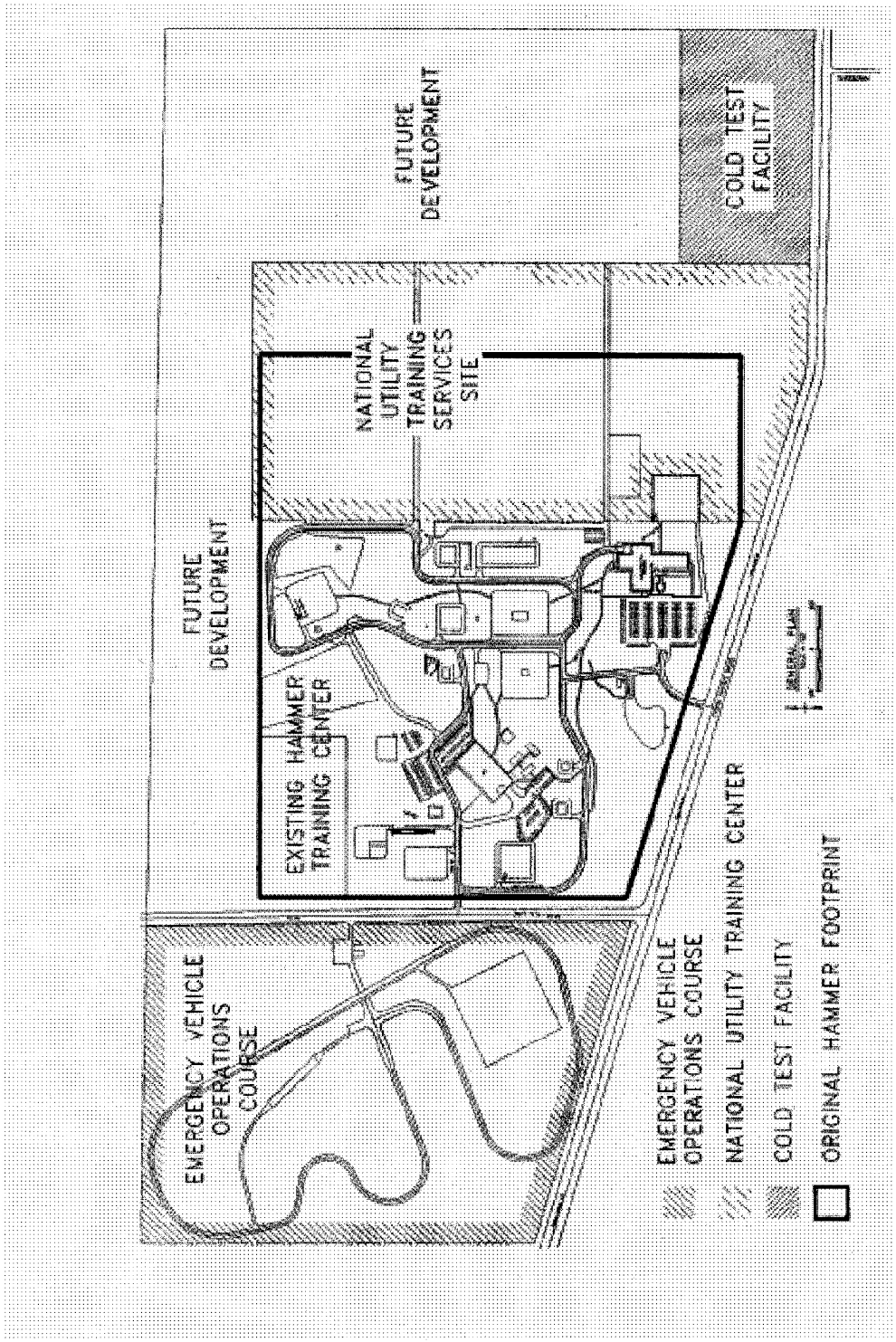

Figure 2. HAMMER Facilities

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2. SUMMARY OF IMPACTS TO BE MITIGATED

Much of the proposed expansion area was burned during the 24 Command Fire in June, 2000. This resulted in a significant reduction in the proportion of shrub cover present. The burned area is now dominated by cheatgrass (*Bromus tectorum*) and Sandberg's bluegrass (*Poa secunda*). A relatively high diversity of forbs and some sprouting bitterbrush (*Pursia tridentata*) are also present. The unburned portions of the expansion area contain many mature shrubs including big sage (*Artemisia tridentata*), bitterbrush, and snow buckwheat (*Eriogonum niveum*).

The relatively high diversity of forbs and sprouting of bitterbrush since the fire indicates the area is recovering from the fire. The nature of the firefighting activity around the HAMMER facility has resulted in small unburned sagebrush "islands" which contain the only remaining sagebrush in the general vicinity of HAMMER. Most of these islands are contained within the proposed expansion area. Although the density and aerial extent of existing sagebrush within the project area are below previously defined mitigation threshold levels (DOE-RL 2001), DOE has chosen to mitigate for the loss of these islands, if such loss occurs, because of the potential importance of these residual patches in the recovery of the native habitats in the vicinity of the HAMMER site. At present, there are no plans to disturb the remaining sagebrush islands.

There are two remaining sagebrush islands within the HAMMER expansion area. One is within the area reserved for future development north of the exiting HAMMER; this contains a sparse stand of sagebrush that covers approximately 9 acres (3.6 ha). The other remaining island covers approximately 10 ac (4 ha) surrounding the CTF.

Portions of the areas disturbed during the construction of new facilities will not be required for the operation of the facilities. The adverse impacts to such areas can therefore be rectified via revegetation with native species.

Three burrowing owls (*Athene cunicularia*) and a single active burrow were observed within the proposed EVOC site during August 2001 field surveys. The burrow collapsed prior to a resurvey of the area in August 2002. However, the area is still considered to be suitable habitat for burrowing owls. Other species protected under the Migratory Bird Treaty Act (MBTA) such as Western meadowlarks (*Sturnella neglecta*), loggerhead shrikes (*Lanius ludovicianus*), and horned larks (*Eremophila alpestris*) have been observed in the project area.

3. MITIGATION GOALS AND OBJECTIVES,

The overall goal of this mitigation plan is to compensate for the loss of burrowing owl habitat and, if necessary, to replace any sagebrush steppe habitat that may be disturbed during future HAMMER expansion activities.

The objectives of this mitigation action plan are to maintain (or preferably to increase) the population of burrowing owls in the vicinity of HAMMER via installation of artificial burrows, to maintain a no-net-loss of sagebrush habitat in the vicinity via replacement plantings, to maintain native species diversity via replanting native grasses and forbs in disturbed areas, and to minimize adverse impacts to other resources such as nesting migratory birds.

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4. DESCRIPTION OF MITIGATION ACTIONS AND MITIGATION SITES

4.1 Sagebrush Habitat

HAMMER will maintain responsibility for compensatory sagebrush mitigation for the areas within the HAMMER expansion, but outside of the CTF site and the NUTS site. In the event HAMMER would need to remove sagebrush from either of the identified residual islands, then the sagebrush will be replaced at a replacement ratio of 1.5:1. The planting effort will be based on the recommended replacement units in the Hanford Site Biological Resources Mitigation Strategy (DOE/RL 1996), presently defined as 1000 tublings or bareroot/ha + structural components such as perch sites. Therefore, 1500 plants, spread out over 1.5 ha (3.7 ac) will be planted for each ha (2.5 ac) of sagebrush steppe that is disturbed.

If such mitigation is required, it will be performed at a location adjacent or near the HAMMER facility; or further from HAMMER if such a location would provide for better long term protection of the mitigation site (the area surrounding HAMMER is within a designated Industrial development zone within the HCP-EIS [DOE 1999]). The specific location will be selected based on the current development plans for the region, and in conjunction with Hanford Site biologists.

4.2 Burrowing Owls

HAMMER Operations will construct and place 20 artificial burrowing owl nests at strategic locations throughout the unused portions of the EVOC site and/or areas adjacent to the EVOC site.

4.3 Migratory Birds

To the extent possible, construction activities will be performed outside of the nesting season (assumed to be April through July). In the event that ground clearing activities must occur during the nesting season, additional surveys will be performed to identify possible nesting sites, and plans to mitigate the disturbance of identified nests will be evaluated and carried out on a case-by-case basis in cooperation with Hanford Site biologists.

4.4 Rectification / Revegetation

Areas disturbed by the construction activities will be re-vegetated using species native to the Hanford Site. All disturbed areas will be revegetated with a grass seed mix approved by Hanford Site biologists. Grass species will include Indian ricegrass (*Oryzopsis hymenoides*), big bluegrass and Sandberg's bluegrass (Varieties of *Poa secunda*), bluebunch wheatgrass (*Pseudoroegneria spicata*) and Needle-and-thread grass (*Stipa comata*). This seeding will probably occur during the fall or early winter of 2002.

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Native forb species will be planted in selected portions of the site to increase the overall species diversity within the revegetated areas. Forbs will be broadcast planted with the grass seed during Autumn 2002. Forb species may include stalk-pod, crouching, and buckwheat milkvetch (*Astraglaus sclerocarpus*, *A. succumbens*, and *A. caricinus*), Balsamroot (*Balsamorhiza cayeyana*), hawksbeard (*Crepis atrabarba*), turpentine spring parsley (*Cymopteris terebinthinus*), Fleabanes such as *Erigeron filifolius*, *E. piperianus, E poliospermus, and E. pumilus*, wallflower (*Erysimum asperum*), sand beardtongue (*Penstemon accuminatus*) prairie clover (*Petalostemon ornatum*), Longleaf phlox (*Phlox longifolium*), scorpionweed (*Phacelia hastata*), globe mallow (*Sphaeralcea munroana*), and mariposa lily (*Calochortus macrocarpus*). Hanford Site derived seed of these species are currently in storage at Pacific Northwest National Laboratory.

5. PERFORMANCE STANDARDS

Performance standards are established to provide a benchmark to judge the success of the mitigation actions, or to establish a threshold to trigger implementation of contingency measures.

The following performance standards are defined:

- Sagebrush planting, if performed, will be considered successful if there is 60% survival of planted individuals after 5 years.
- The artificial burrowing owl nests will be considered successful if at least 5% of the burrows are used by burrowing owls on an annual basis.
- Rectification / revegetation plantings will be considered successful if there is a minimum of 10% total cover of the planted grass species after 5 years.

6. MONITORING PLAN

The artificial owl burrows will be inspected at least twice per year, once in the winter for maintenance and cleaning, and at least once in the nesting season to determine usage. This monitoring will continue for at least 5 years.

The grass planting / forb introduction areas will be monitored along permanent transects for at least 5 years post-planting. Monitoring will occur during years 1, 3, and 5 after planting. A modified Daubenmire plot technique (Bonham 1989) will be used.

Sagebrush plantings, if performed, will be monitored for at least 5 years post-planting. Monitoring will occur during years 1, 3, and 5 after planting. Survival will be monitored by following the fate of all individuals along a series of permanent transects.

The annual monitoring results will be publicly available by the end of September of each monitoring year.

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7. SITE PROTECTION

All compensatory mitigation areas (owl burrows, forb introduction areas, and sagebrush planting areas) will be noted as mitigation areas on land-use and planning maps for the Hanford Site. Additionally, these areas will be physically delineated in the field, as needed, with chains, fences, or other means to prevent or minimize inadvertent intrusion or disturbance.

8. MAINTENANCE

All of the artificial burrows will be inspected each winter, and appropriate maintenance such as clearing out debris, repairing entrances, etc. will be conducted at that time.

HAMMER Operations will work with the appropriate Hanford Site organizations to control the spread of Rush skeleton weed (*Chondrilla juncea*) and other noxious weeds on the existing and expanded HAMMER Site.

9. CONTINGENCIES

If the performance standard for the sagebrush transplanting (i.e. 60% survival) is not met after any of the three monitoring events, enough additional tublings or bare-root plants will be obtained and planted such that a minimum of 600 surviving plants / ha (240/acre) will be present within the mitigation area.

If native grass coverage within the revegetated areas is below 10% after 5 years, the area will be over-seeded with additional native grass seed.

If, after 5 years, the artificial owl burrows have not been used, the distribution and placement of the burrows will be evaluated. If reasons for non-use can be determined the burrows may be moved or re-constructed to encourage use.

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