



PROPOSED PLAN

Munitions Removal at Former Lake Hancock Target Range

Naval Air Station Whidbey Island, Washington

June 2016

INTRODUCTION

This Proposed Plan provides information on the preferred approach for addressing munitions removal at Former Lake Hancock Target Range (LHTR), Naval Air Station (NAS) Whidbey Island, Washington. The Proposed Plan also discusses other cleanup approaches that were considered for this site and the reason for picking this particular cleanup approach. The Navy is the lead agency for all investigation and cleanup programs at NAS Whidbey Island, with input from Washington State Department of Ecology (Ecology).

The Department of Defense’s Military Munitions Response Program (MMRP), which began in 2001, addresses the potential explosives safety, health, and environmental issues resulting from past munitions use at current and former military training lands. The MMRP follows the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and its amendments of 1986. The Former LHTR is being addressed under the MMRP. The Proposed Plan gives basic information that can be found in more detail in the Site Hazard Assessment (SHA), Preliminary Assessment (PA), Site Inspection (SI), and Feasibility Study (FS) Reports and other documents are available at the Oak Harbor Public Library, Oak Harbor, Washington. If requested, the historical documents will be posted on-line at <http://go.usa.gov/cStwd>.

The Navy and Ecology encourage the public to review these documents to gain a better understanding of Former LHTR.

LHTR was used for aerial bombing training between 1943 and 1971. LHTR was listed as closed as a target range in 2002. This area is still underneath restricted air space and current activities at the site include launching and recovery of unmanned aerial systems and monitoring and support of ground and aerial training. Munitions used at this range included practice bombs and rockets with spotting charges or filled with sand. Several environmental investigations have been conducted to determine if there have been any impacts to soil, sediment, and surface water from former range activities and whether munitions and explosives of concern (MEC), such as unexploded ordnance (UXO) or material potentially presenting an explosive hazard (MPPEH) remain at Former LHTR upon the completion of four surface munitions removals. Based on the results of these investigations, no remedial action is necessary to address munitions constituent (MC) concentrations present in soil, sediment, and surface water at Former LHTR; however, the potential presence of MEC/MPPEH remaining at the site is a safety concern.

This Proposed Plan presents how the Navy would like to address the removal of munitions that may present an explosive hazard at Former LHTR. The preferred remedy (identified as Alternative 2) consists of:

- Surface removal of munitions items;
- Annual and five-year surface inspections and munitions removals, as necessary; and,
- Land Use Controls (LUCs).

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Munitions at Former LHTR

COMMENT PERIOD: June 27, 2016 to July 27, 2016

The Navy will accept written comments on the Proposed Plan during the comment period.

The Navy will hold an Open House to provide information on the site cleanup on July 11, 2016, from 6-8 pm at Greenbank Farm, Barn A, 765 Wonn Road, Greenbank, WA 98253

The Navy is asking for public comments on the Proposed Plan. The public can provide written comments through July 27, 2016. Additionally, the Navy will hold an Open House to discuss the project on July 11, 2016 from 6-8 pm at Greenbank Farm, Barn A. Please go to the Community Participation section on page 9 for details on where to send written comments and the time and location of the open house. After the public review, the Navy will respond to all comments received during the comment period. The Navy will consider all comments received and could pick a different remedy based on the comments. The final remedy for the site will be documented in the Record of Decision (ROD) for the site.

SUMMARY OF THE PREFERRED ALTERNATIVE

Four cleanup alternatives were considered for Former LHTR. They include different combinations of plans to restrict access (i.e., LUCs) and remove munitions. The goal of each alternative is to protect human and ecological receptors from a potential explosive hazard by preventing contact with MEC or MPPEH. The results of the SHA, PA, and SI were used to evaluate remedial alternatives described in the final FS Report of October 2011.

The preferred alternative, Alternative 2, would include the following:

- Surface removal of munitions items.
- Annual (in and around Target Area) and five-year (within removal action area) surface inspections and munitions removals, as necessary.
- LUCs.

The Former LHTR FS Report and related documents are available for public review at the Oak Harbor Public Library.

SITE DESCRIPTION

Former LHTR is about 423 acres. The Former LHTR site is a large and diverse coastal lagoon system that includes salt marsh, brackish marsh, freshwater marsh, and bog forest subsystems. The site also includes a saltwater lagoon, Lake Hancock (Figure 1). To the east, the site is bordered by a ridge. A 50-foot-wide channel connects Lake Hancock to Admiralty Inlet, which extends tidal influence to Lake Hancock (Figure 1).

LHTR was used for aerial bombing training between 1943 and 1971. Munitions utilized at this range included practice bombs and rockets equipped with spotting charges or filled with sand. A spotting charge is an explosive filler that is designed to produce a flash and smoke when detonated. Aircraft would approach the site from the east, make a steep diving approach over the target located on the ground, release the practice

Site Conditions, Former LHTR



bombs, and exit the area westward over Admiralty Inlet (Figure 1). The range included a triangular shaped yellow target with a white bull's-eye, a radar screen, two range and deflection observation shacks, a scoring house, and an observation post with a radio transmitter and receiver. All structures associated with the range have been removed from the site.

LHTR was listed as closed as a target range in 2002. The site is no longer used for aerial bombing target practice. Former LHTR is currently fenced on the northern, eastern, and southern sides with locked gates. Access by the public to the beach is restricted (via signage) by the Navy; however, there are no physical barriers to prevent access to the beach or lake.

Site investigations and munitions removals at Former LHTR began in the 1970s. Summaries of these activities are presented in the sections below.

Site Investigations and Removals - 1972 to 2012

1970s: Munitions Removal Actions - In 1972 and 1973, three separate surface munitions removal actions were performed. Divers also removed all visible munitions debris from the area from the beach to 50 yards out into Admiralty Inlet. During these clearances, more than 15 tons of munitions-related scrap were removed from the site. Approximately 97 percent of all munitions recovered during the 1970s clearances were aircraft rocket components. A fourth clearance was also conducted during this general time period. During the fourth clearance, several undetonated 25-pound bombs containing spotting charges were recovered from the site. There are no records indicating the use of live munitions (munitions containing explosives or active chemicals) at Former LHTR, and previous site investigations and searches did not find any evidence of live munitions.



Figure 1: Former LHTR Site Plan

1998: Site Hazard Assessment - The first phase of the SHA involved ecological, archaeological, and geophysical screening surveys to assess potentially elevated chemical levels near the target area. This phase of SHA included the collection of sediment and surface water samples near geophysical anomalies to determine if high levels of MC existed in site media near the target. Concentrations of lead in SHA sediment samples were greater than state screening concentrations that protect human health and ecological receptors. The next phase of activities conducted at Former LHTR involved removing rusted steel plates from the target area and contaminated sediments from the site. The Navy installed perimeter signs to prevent unauthorized entry into the site and to further reduce potential damage to the natural resources in this area.

2007: Preliminary Assessment – Because the MMRP was initiated in 2001, after the last remedial activity, the Former LHTR was included in the PA. The PA summarized the history of munitions use for several former ranges at NAS Whidbey Island including Former LHTR. A visual survey of Former LHTR conducted in August 2006 and concentrated on the target area and the area surrounding it, the beach, and the southern area around Lake Hancock. The only visual evidence of range

structures were timbers used as part of the range. Practice rocket motors and warheads were observed during the site visit. The greatest concentration of rocket motors was located near the target area. Several rocket motors were found at 900 feet or more from the center of the target, in the direction of the beach. Munitions debris surrounding the target area was located within water to a depth of approximately 6 to 8 inches. Munitions debris was also observed on the beach and extending out from embankments along surface drainages in some locations. All of the munitions debris was corroded.

MC were not detected in samples collected from the target area, where most of the munitions debris was observed during the visual survey.

2010: Site Investigation Report - The SI included MC surface and subsurface soil, sediment, and surface water sampling to determine whether any chemicals were present at the site at concentrations exceeding screening levels. No MC were detected at concentrations greater than screening values. It was recommended that the Former LHTR be considered NFA for MC. This recommendation has been approved by Ecology.

2011: Feasibility Study Report - Because munitions, which may include MEC and MPPEH and which may present an explosive safety hazard, remain at the site, an FS was completed to develop, evaluate, and compare several remedial alternatives for munitions removal at Former LHTR. The FS established Remedial Action Objectives (RAOs) to screen proposed remedial technologies and to identify remedial alternatives.

2012: Wetland Impact Study Report – As described in the FS, an ecological survey was to be conducted prior to beginning any remedial action activities at Former LHTR; therefore, a wetland impact study and delineation field efforts were conducted in 2012. This report presented and evaluated potential impacts to Former LHTR as a result of implementation of the remedial alternatives described in the FS and quantified differences between the alternatives in terms of damage to wetlands and compliance with RAOs. The report concluded that selection of Alternative 2 would result in lower levels of impact over a shorter period of time and affect a smaller area than selection of either Alternative 3 or 4. Limiting munitions removal actions to the ground surface would reduce soil disturbance and disruption of wetland functions compared to subsurface removals and would result in a balance between protecting human health and safety and ecological resources.

SUMMARY OF SITE HUMAN HEALTH AND ECOLOGICAL RISKS

Human Health Risks

The potential threat to human health from MC was evaluated in the SHA and SI, and no risk to human health was identified.

The presence of munitions items, which may include MEC and MPPEH, at the site is a safety hazard. Munitions items have been observed on the ground surface at Former LHTR, and based on site history, are most likely present in the subsurface. Until these munitions items are moved and/or removed from the site, it is unknown whether or not they are MEC/MPPEH or munitions debris. Therefore, potential human receptors, including site trespassers, may come in direct contact with munitions items located at the ground surface and in the shallow subsurface.

Although a human health hazard associated with munitions items is present at Former LHTR, it is important to note that exposure to MEC/MPPEH does not mean that an incident or injury will occur. A receptor would have to disturb the MEC/MPPEH item and the item must detonate in order for injury or death to occur.

Ecological Risks

The potential risk to the environment from MC was evaluated in the SHA and SI and no risk to the environment was identified.

The presence of munitions items, which may include MEC and MPPEH, at the site is a safety hazard. Similar to the human health evaluation, ecological receptors at this site may come in direct contact with munitions items located at the ground surface and in the shallow subsurface (for example by burrowing animals).

REMEDIAL ACTION OBJECTIVES

RAOs are goals that a cleanup plan should achieve. They were developed during the FS to assist in identifying remedial alternatives that would protect human health and the

As a result of past activities at Former LHTR, munitions items are present on the ground surface and may be present in the subsurface which could result in a safety hazard to human and ecological receptors. It is the Navy's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect human health and the environment from actual or threatened explosive hazards.

environment now and in the future. The following RAOs were developed for the site:

RAO No. 1: Prevent and/or reduce the potential for site receptors to come in direct contact with MEC/MPPEH items remaining at Former LHTR.

RAO No. 2: Minimize the impact to wetlands and other natural and archaeological resources located at Former LHTR.

SUMMARY OF ALTERNATIVES

Remedial alternatives, or cleanup options, that would meet the RAOs were identified in Former LHTR FS. These alternatives are different combinations of plans to restrict access (i.e., LUCs) and to remove munitions to protect human health and the environment. The alternatives evaluated for Former LHTR FS included:

- **Alternative 1:** No Action
- **Alternative 2:** Surface Removal with LUCs
- **Alternative 3:** Surface and Subsurface Removal (to 1 foot below ground surface [bgs]) with LUCs
- **Alternative 4:** Expanded Surface and Subsurface Removal (to 1 foot bgs) with LUCs

Each remedial alternative is described below. Information on the time needed to design and construct each alternative and to achieve the RAOs is shown on Table 1 (page 8). Table 1 also shows the costs estimated for each alternative.

Alternative 1: No Action – A “No Action” alternative, where no cleanup activities would be completed at the site, was evaluated. This is required under the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) and it serves as a starting point for comparison with other alternatives. Former LHTR would be left as it is today under the No Action alternative.

Alternative 2: Surface Removal with Land Use Controls - Visual and metal detecting surveys would be conducted to locate surface munitions items within the removal action area. Surface munitions items would be manually removed from the removal action area (see Figure 2). Surface metallic non-munitions debris will also be manually removed from the removal action area. If MEC or MPPEH are identified on the surface within 50 feet of the edge of the removal action area, additional surveys would be conducted outward. As necessary, MEC, MPPEH, and other munitions items would be treated on site (for example by blow in place techniques). Metallic debris would be transported off site to a metal recycler for disposal. Disturbance to wetlands would be low

because only surface remedial activities would be conducted. Annual and five-year surface inspections and munitions removals would be conducted as necessary to account for items that may migrate over time as a result of surface erosion and/or tidal activity. Annual inspections would be conducted near the target area, and five-year inspections would be conducted within the entire removal action area. The need for continued annual and five year inspections and munitions removals would be evaluated regularly. LUCs to prevent exposure to MEC/MPPEH at Former LHTR would include: residential use restrictions, UXO support during construction activities, and perimeter fencing and signage designating the area as a restricted access area and potential UXO area.

Alternative 3: Surface and Subsurface Removal (to 1 foot below ground surface) with Land Use Controls - Alternative 3 is similar to Alternative 2 with the exception of munitions removal depth which would extend to 1 foot bgs. Note that disturbance to wetlands would be greater under this alternative than Alternative 2 because subsurface munitions removals would be conducted. All other components of Alternative 3 are the same as Alternative 2.

Alternative 4: Expanded Surface and Subsurface Removal (to 1 foot bgs) with Land Use Controls - Alternative 4 is similar to Alternative 3 with an expanded removal action area as shown on Figure 3. Note that disturbance to wetlands would be greater under this alternative than Alternative 3 because surface and subsurface munitions removals would be conducted over a larger area. All other components of Alternative 4 are the same as Alternative 3.



Figure 2: Alternative 2 and 3 Removal Action

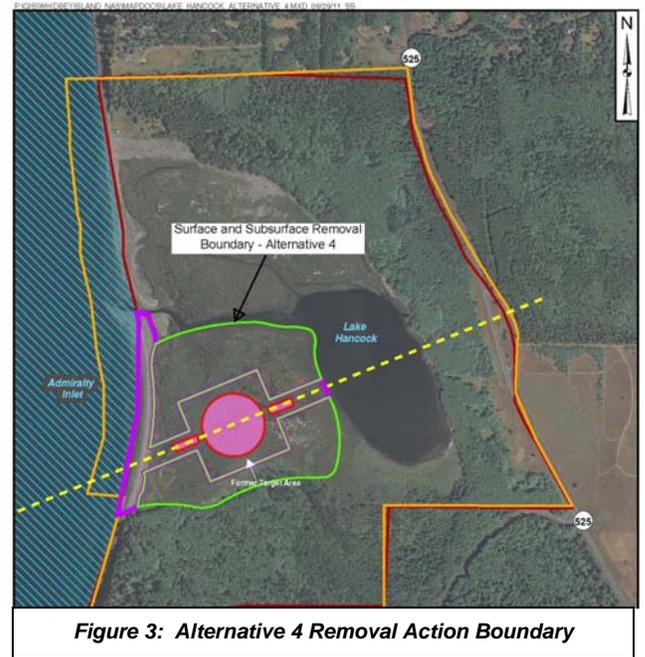


Figure 3: Alternative 4 Removal Action Boundary

EVALUATION OF ALTERNATIVES

The United States Environmental Protection Agency (EPA) has established nine criteria for use in comparing the advantages and disadvantages of cleanup alternatives. These criteria fall into three groups, threshold criteria, primary balancing criteria, and modifying criteria. These nine criteria are explained in the text box, “What are the Nine Evaluation Criteria?” on page 6.

This section of the Proposed Plan explains and compares each of the evaluated alternatives to seven of the nine criteria. Two modifying criteria, State Agency and Community Acceptance, are evaluated following the public comment period. The evaluation criteria are summarized in Table 1. The detailed analysis of alternatives can be found in the FS.

THRESHOLD CRITERIA

Overall Protection of Human Health and the Environment

Alternative 1 would not be protective because the site would remain as it is today. Alternatives 2 and 3 would cover the same area while Alternative 3 would also remove munitions in the subsurface, thereby providing more protection than Alternative 2. Alternative 4 would cover an expanded remedial action area and would include subsurface munitions removal, thereby providing the most protection. The same LUCs are proposed under each alternative and so would provide equal protection.

Compliance with ARARs

MC analysis have resulted in an NFA recommendation for environmental media at the site because there are no unacceptable human health and ecological risks. Therefore, there are no chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs) for Former LHTR. Alternative 1, 2, 3, and 4 would comply with all location- and action-specific ARARs including those addressing wetlands and other ecologically sensitive areas. Although impacts to wetlands would not be avoided during the conduct of Alternatives 2, 3, and 4, they will be minimized to the extent practicable during remediation, with Alternative 2 having the least impact because munitions removal would only be conducted on the surface as compared to Alternatives 3 and 4 where munitions removal would also be conducted in the subsurface. Alternatives 2 and 3 also include a smaller surface area than compared to Alternative 4. Therefore, Alternative 2 would comply the most followed by Alternative 3 and then Alternative 4.

What are Applicable or Relevant and Appropriate Requirements (ARARs)?

ARARs, are the legal requirements that must be met during clean up of a site. Three types of legal requirements are addressed in a cleanup action:

- Chemical-specific ARARs address concentrations of contaminants that must be cleaned up.
- Action-specific ARARs regulate how a cleanup remedy is implemented. Regulations define where and how contaminants are managed.
- Location-specific ARARs address legal issues for special locations such as wetlands and tribal lands.

BALANCING CRITERIA

Long-Term Effectiveness and Permanence

Alternative 1 would have no long-term effectiveness and permanence because no remedial activities would take place. Alternative 2 would provide long-term effectiveness and permanence through the surface removals of munitions items. Alternatives 3 and 4 would provide additional long-term effectiveness and permanence through a combination of surface and shallow subsurface removal of munitions items. Also, conducting annual surface munitions removals within target areas and surface munitions removals within each alternative's removal action area boundary every 5 years under Alternatives 2, 3, and 4 would reduce risks from explosive hazards that may remain on site after the initial munitions removal is completed. LUCs for Alternatives 2, 3, and 4 would provide equal long-term effectiveness and

What are the Nine Evaluation Criteria?

Threshold Criteria (The selected remedy must satisfy these criteria.):

Overall Protection of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

Balancing Criteria (These criteria are used to weigh the relative merits of the alternatives.):

Long-Term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Short-Term Effectiveness considers the length of time needed to implement an alternative and the risk the alternative poses to workers, residents, and the environment during implementation.

Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

Cost includes estimated capital and annual operation and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

Modifying Criteria (These criteria are also considered during remedy selection and incorporated into the ROD.):

State/Support Agency Acceptance considers whether the state agrees with the Navy's analyses and recommendations, as detailed in the FS and Proposed Plan.

Community Acceptance considers whether the local community agrees with the Navy's analyses and Preferred Alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

permanence. Overall, Alternative 4 would provide the highest degree of long-term effectiveness and permanence because more munitions would be removed initially, followed by Alternative 3 then Alternative 2.

Reduction of Toxicity, Mobility, or Volume through Treatment

Because NFA for MC has been recommended for this site, reduction of toxicity, mobility, or volume through treatment of chemical contaminants is not applicable. However, munitions items that present an explosive safety hazard remain at Former LHTR. Alternative 1 would not achieve reduction of volume of munitions items at Former LHTR. Alternatives 2, 3, and 4 would reduce the volume of munitions items present at Former LHTR by manually removing these items from the site or treating these items on site. Alternative 4 would remove the most munitions items initially followed by Alternative 3 and then Alternative 2. As necessary, additional future annual and 5-year inspections and munitions removal actions would continue to reduce the volume of munitions items that may remain at the site after the initial munitions removal is completed.

Short-Term Effectiveness

Implementation of Alternative 1 would not result in risks to site workers or adversely impact the surrounding community or environment because no remedial activities would be performed. The differences between Alternatives 2, 3, and 4 is the area and depth where the munitions removals would take place. These differences would affect the length of time for completion for the initial munitions removal. It is assumed that Alternative 2 would be completed within the shortest amount of time. Alternative 3 would be next, and Alternative 4 would take the longest time to complete. However, it is assumed that all would require follow-on annual and five-year inspections and munitions removals.

Alternatives 2, 3, and 4 would reduce the explosive safety hazard risks in the short term because risks to trespassers and the environment would be reduced as soon as the first munitions item was removed from the site. Implementation of Alternatives 2, 3, and 4 may result in exposure of site workers to explosive hazards during remedial activities; however, these explosive hazards would be controlled by compliance with site-specific health and safety and other explosive safety procedures. Alternative 4 would pose the highest explosive hazardous risk, followed by Alternative 3 and Alternative 2 would have the lowest risk.

Activities performed under Alternatives 2, 3, and 4 would be conducted to mitigate damage to wetlands. Alternative 2 would result in the least impact to wetlands over the shortest period of time and would affect a smaller area than either Alternative 3 or 4. In order to mitigate damage to archeological areas, an archeological expert would also be on site during the conduct of all alternatives to ensure that

potential archeological areas are not disturbed, thereby being equally effective for all alternatives.

Implementation of Alternatives 2, 3, and 4 would have a slight adverse impact on the surrounding community and the environment if munitions detonations occur during remedial activities due to the noise and potential damage to wetlands. Alternatives 2, 3, and 4 would also have short-term impacts associated with transport of metallic items for off-site metal recycling due to increased truck traffic. Alternative 4 would have the greatest greenhouse gas emissions (GHG) emissions and energy demand, followed by Alternative 3, with Alternative 2 having the lowest GHG emissions and energy demand.

Implementability

Alternative 1 would be easiest to implement because there would be no action. Alternative 4 would be the hardest to implement because subsurface munitions removal would be conducted over a larger area. Alternative 2 would be the easiest to implement with Alternative 3 in between. Ease of implementation of LUCs under Alternatives 2, 3, and 4 would be the same.

Cost

Estimated capital costs are \$388,000 for Alternative 2, \$561,000 for Alternative 3, and \$907,000 for Alternative 4 and estimated net present worth (NPW) costs are \$1,265,000 for Alternative 2, \$1,483,000 for Alternative 3, and \$1,806,000 for Alternative 4, respectively.

| Table 1: Description of Remedial Alternatives | | | | |
|---|---|----------|----------|----------|
| Alternative | 1 | 2 | 3 | 4 |
| Estimated Time Frames | | | | |
| Design and constructing the alternative, initial munitions removal (months) | NA | 0.8 | 1.2 | 2.2 |
| Achieving the RAO, including annual and five-year inspections (years), assumed to be 3 annual inspections and 2 five-year inspections | NA | 10 | 10 | 10 |
| Criteria Analysis | | | | |
| Threshold Criteria | | | | |
| Protects human health and the environment | ○ | ● | ● | ● |
| Meets federal and state ARARs | ● | ● | ● | ● |
| Primary Balancing Criteria | | | | |
| Provide long-term effectiveness and is permanent <ul style="list-style-type: none"> Will the effects of the cleanup last? | ○ | ● | ● | ● |
| Reduces mobility, toxicity, and volume of contaminants through treatment <ul style="list-style-type: none"> Are the harmful effects of the contaminants, their ability to spread, and the amount of contaminated material present reduced? Reduces the volume of munitions items on site? | NA | NA | NA | NA |
| Provides short-term protection <ul style="list-style-type: none"> How soon will the site risks be reduced? Are there hazards to workers, residents, or the environment that could occur during cleanup? | ○ | ● | ● | ● |
| Can be implemented <ul style="list-style-type: none"> Is the alternative technically feasible? Are the goods and services necessary to implement the alternative readily available? | NA | ● | ● | ● |
| Cost (\$) <ul style="list-style-type: none"> Upfront cost to design and construct the alternative (called capital cost, includes initial removal) Operating and maintaining any system associated with the alternative (called O&M cost, includes costs for annual and 5-year inspections) Total cost in today's dollars (called the present worth cost) | 0 | 388K | 561K | 907K |
| | NA | 877K | 877K | 898K |
| | 0 | 1,265K | 1,483K | 1,806K |
| Modifying Criteria | | | | |
| State agency acceptance <ul style="list-style-type: none"> Do state agencies agree with the Navy's recommendation? | To be determined after the public comment period. | | | |
| Community acceptance <ul style="list-style-type: none"> What objections, suggestions, or modifications does the public offer during the comment period? | To be determined after the public comment period. | | | |
| Relative comparison of Criteria and each alternative: ● – High, ● – Medium, ○ – Low; NA – not applicable | | | | |
| Cost (\$): K – thousand | | | | |
| <u>Alternatives:</u> 1: No Action; 2: Surface Removal with LUCs; 3: Surface and Subsurface Removal (to 1 foot bgs) with LUCs; 4: Expanded Surface and Subsurface Removal (to 1 foot bgs) with LUCs. | | | | |

PREFERRED ALTERNATIVE

The Preferred Alternative for the cleanup of Former LHTR is Alternative 2. This alternative includes surface removal of munitions items; annual and five-year surface inspections and munitions removals, as necessary; and, LUCs. Alternative 2 has an estimated net present worth cost of \$1,265,000.

The Preferred Alternative selected by the Navy was chosen over the other alternatives because:

- Provides the removal of explosive safety hazards through munitions removals;
- Provides controls, including annual and five-year inspections and munitions removals and LUCs, to minimize future exposure to munitions items potentially remaining at the site;

- Provides the lowest level of impact to wetlands;
- Provides protection to human health and the environment and complies with all applicable ARARs;
- Is the easiest to implement and can be implemented within a reasonable time frame;
- Is the lowest cost.

Concluding Statement by Lead Agency

The Navy expects the Preferred Alternative to: (1) be protective of human health and the environment; (2) comply with ARARs; (3) be cost effective; and (4) utilize permanent solutions to the maximum extent practical. The preferred alternative for Former LHTR is Alternative 2. Acceptance of the preferred alternative by Ecology will be made after the public comment period.

Input from the public will be evaluated in the final selection of the preferred alternative.

COMMUNITY PARTICIPATION

■ Dates of public comment period for the Proposed Plan:

June 27 to July 27, 2016

*Comments must be postmarked by July 27, 2016 to be considered.

The Navy will conduct an Open House to provide information on the site cleanup on July 11, 2016, from 6-8 pm, at Greenbank Farm, Barn A, 765 Wonn Road, Greenbank, WA 98253.

■ Name, phone number, and address of lead agency personnel who will receive comments or can supply additional information:

Ms. Leslie Yuenger, Public Affairs Officer

NAVFAC Northwest

1101 Tautog Circle, Silverdale WA 98315-1101

Phone: 360-396-6387

GLOSSARY OF TERMS

This glossary defines the technical terms used in this Proposed Plan. The definitions in this glossary apply specifically to this Proposed Plan and may have other meanings when used in different circumstances.

Applicable or Relevant and Appropriate Requirements (ARARs): The federal, state, and local environmental rules, regulations, and criteria that must be met by the selected cleanup action under CERCLA.

- Chemical-specific ARARs address concentrations of contaminants that must be cleaned up.
- Action-specific ARARs regulate how a cleanup remedy is implemented. Regulations define where and how contaminants are managed.
- Location-specific ARARs address legal issues for special locations such as wetlands and tribal lands.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law also known as “Superfund” that was passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Former LHTR is not a Superfund site.

Explosive Hazard: A condition where danger exists because explosives are present that may result (e.g., detonate) in a mishap with potential unacceptable effects (e.g., death, injury, damage) to people, property, or the environment.

Feasibility Study (FS): A report that presents the description and analysis or evaluation of potential cleanup alternatives for a site.

Information Repository: The public location for community access to documents regarding installation cleanup activities. The NAS Whidbey Island Information Repository is located at the Oak Harbor Public Library.

Land Use Controls (LUCs): Engineering and institutional controls formulated and enforced to regulate current and future land use options. Engineering controls are cleanup methods such as barriers or signage that are designed to prevent or minimize exposure to hazards. Once in place, engineering controls are perpetual, unless formally released, and must be maintained by current and future owner(s) to ensure the continued protection of public health and the environment. Institutional controls are administrative and legal controls that help minimize the potential for human

exposure to contamination, hazards and/or protect the integrity of the remedy. Institutional controls reduce exposure by limiting land or resource use and guide human behavior at a site. For instance, zoning restrictions can prevent certain site land uses, like residential uses, that are not consistent with the level of cleanup.

Live Munitions: Ammunition containing explosives or active chemicals, as distinguished from inert or training ammunition.

Munitions Constituents (MC): Any material originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and nonexplosive materials, emissions, degradation, or breakdown elements of munitions.

Material Potentially Presenting an Explosive Hazard (MPPEH): Material owned or controlled by the Department of Defense (DoD) that, prior to determination of its explosives safety status, potentially contains explosives or munitions (e.g., munitions containers and packaging material; munitions debris remaining after munitions use, demilitarization, or disposal; and range-related debris) or potentially contains a high enough concentration of explosives that the material presents an explosive hazard (e.g., equipment, drainage systems, holding tanks, piping, or ventilation ducts that were associated with munitions production, demilitarization, or disposal operations). Excluded from MPPEH are munitions within the DoD-established munitions management system and other items that may present explosion hazards (e.g., gasoline cans and compressed gas cylinders) that are not munitions and are not intended for use as munitions.

Military Munitions: Military munitions means all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the DoD, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives, and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. The

term does not include wholly inert items, improvised explosives devices, or nuclear weapons, nuclear devices, and nuclear components, other than non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 have been completed.

Military Munitions Response Program (MMRP): A DoD program consisting of actions necessary to ensure protection of human health, welfare, and the environment from the hazards associated with MEC and MC at locations impacted by historical military activities.

Munitions and Explosives of Concern (MEC): This term means unexploded ordnance, discarded military munitions, or MC present in high enough concentrations to pose an explosive hazard.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): More commonly called the National Contingency Plan, is the federal government's blueprint for responding to both oil spills and hazardous substance releases. The NCP is the result of our country's efforts to develop a national response capability and promote overall coordination among hierarchy of responders and contingency plans.

Operation and Maintenance (O&M): Activities conducted after a site action has been completed to ensure that the action is effective.

Preliminary Assessment (PA): An assessment of available information about a site. This stage of CERCLA investigation is designed to distinguish, based on limited data, between sites that pose little or no threat to human health and the environment and those sites that may pose a threat and require further investigation.

Proposed Plan: A fact sheet describing the various cleanup options under consideration and identifies the remedial option preferred by the Navy.

Range: A designated land or water area set aside, managed, and used for range activities of the DoD. Ranges include firing

lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, electronic scoring sites, buffer zones with restricted access and exclusionary areas, and airspace areas designated for military use in accordance with regulations and procedures prescribed by the Administrator of the Federal Aviation Administration.

Record of Decision (ROD): An official document that describes the selected cleanup action for a specific site. The ROD documents the cleanup selection process and is issued by the Navy following the public comment period.

Remedial Action Objective (RAO): A cleanup objective agreed on by the Navy and Ecology. One or more RAOs are typically formulated for each environmental site.

Site Hazard Assessment (SHA): Under the Model Toxics Control Act, one of the first steps in the process for cleaning up a hazardous waste site is an SHA. During a site hazard assessment, Ecology collects environmental data about a site to determine the type and extent of contamination. If further action is needed, Ecology ranks the site using the Washington Ranking Method (WARM) and places it on the Hazardous Sites List.

Site Inspection (SI): The SI is an onsite inspection intended to gather enough information to determine whether there is a release of hazardous substances, and to characterize the nature of the release and associated threats to human health and the environment.

Spotting Charge: An explosive filler that is designed to produce a flash and smoke when detonated. Spotting charges are used in practice ordnance to give observers or spotters a visual reference of ordnance impact.

Unexploded Ordnance (UXO): Military munitions that have been primed, fused, armed, or otherwise prepared for action; have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and remain unexploded either by malfunction, design, or any other cause.