

EXECUTIVE SUMMARY

This report presents the results of the Range Condition Assessment (RCA) for two Whidbey Island Complex facilities, the Naval Weapons System Training Facility (NWSTF) Boardman, in Boardman, Oregon, and the Explosive Ordnance Disposal (EOD) Training Range, Naval Air Station Whidbey Island (NASWI), Washington. Phase I of the RCA, Range Site Selection, has already been completed. Phase II, Pre-Site Visit/Information Collection, is part of the scope of this effort. Phase II results are presented in Section 2 of this document. The results of Phase III, On-Site Visit Information Collection and Review, are presented in Section 3 of this document.

The purpose of the Range Sustainability Environmental Program Assessment (RSEPA) RCA Phase II, Pre-Site Visit Information Collection, is to gather and review as much pertinent information as possible prior to conducting on-site visits and to identify environmental statutes and regulations potentially applicable to the use of munitions and other U.S. Navy (Navy) range operations.

The purpose of the Phase III information collection process was to interview key personnel to assess the impact of range operations on the environment, with the emphasis on munitions use, and then summarize these impacts by subject area. Phase III was initiated after review of the documentation provided during Phase II. A site visit to NWSTF Boardman was conducted by Engineering Field Activity Northwest (EFA NW) and NASWI Technical Team personnel on October 1 and 2, 2003. A site visit to the EOD Training Range, NASWI, was conducted by EFA NW, NASWI and URS Corporation (URS) Technical Team personnel on February 24, 2004. Information from the site visits was used in conjunction with telephone interviews of key personnel to provide data used for the completion of the RCA forms and to determine compliance in RCA areas of interest. No significant findings were discovered related to compliance areas at either NWSTF Boardman or the EOD Training Range, NASWI.

Operational Range Site Models (ORSMs) were produced for both facilities. Predictive modeling of surface water and groundwater was performed for NWSTF Boardman. The predictive models rely on estimated concentrations of munitions constituents (MC), based on archive material and anecdotal evidence. The models were performed to include a range of concentrations for the potential transport of trinitrotoluene (TNT). No Royal Demolition Explosive (RDX), High Melting Explosive (HMX), or perchlorate contributions were discovered. The predictive modeling for TNT in groundwater yielded a potential for an off-site release, but current concentrations were estimated at 0.001 parts per billion (ppb), well below regulatory action limits. Surface water modeling indicated that sediment transported by surface water would not yield any appreciable TNT exposure.

The purpose of Decision Point One of the RSEPA process for NWSTF Boardman and the EOD Training Range, NASWI, is to determine if protective measures are needed, whether further evaluation is warranted, or whether the default of a repeat of the RCA five years hence is appropriate. To reach this decision, a determination of whether an off-range release is probable and if the scope of such a release is well-understood, must be made. The decision tree in the RSEPA guidance provides the framework to answer questions about a release. The data reviewed for the RCA indicate that both NWSTF Boardman and the EOD Training Range, NASWI, were used for munitions training. No laboratory data were available for NWSTF Boardman, so predictive modeling was performed. The modeling performed for NWSTF Boardman indicates that an off-range release was possible, but the magnitude of the release is unlikely to be above regulatory action levels. Despite very low levels of TNT release estimated by predictive modeling, RSEPA guidance indicates the need to perform groundwater sampling to validate these results. In addition, both ranges should be subject to another RCA in 5 years, in accordance with the RSEPA program.

Although the RSEPA guidance is explicit about the steps in the RCA process and the Decision Point One questions, other factors are present for NWSTF Boardman that are not specifically addressed. While the RCA did not indicate a potential range related source of perchlorate contamination in groundwater, regional sampling conducted by the ODEQ and EPA does indicate a potential for perchlorate contamination throughout the Lower Umatilla Basin Groundwater Management Area. In order to validate the RCA conclusion that a perchlorate source does not exist at NWSTF Boardman, it is recommended that additional analysis be conducted, (in context of a CRE) using wells specifically designed and constructed to monitor groundwater quality on the site, as well as appropriate perchlorate sampling and analytical methods. Another factor that influences the decision to undertake a CRE at the site is uncertainty that buried munitions may exist at NWSTF Boardman. Historical photographs and evidence of burial trenches at the range give reason to conduct additional data collection. The lack of adequate records and documentation of historical range activities does not allow for a conclusive understanding of the scope of all potential releases from NWSTF Boardman. Based on these considerations, it is recommended that NWSTF Boardman proceed to the CRE phase of the RSEPA process.