

## EXECUTIVE SUMMARY

A Range Condition Assessment (RCA) is used to support range planning and management decisions as part of the Navy's Range Sustainability Environmental Program Assessment (RSEPA). This document contains the RCA of the Dixie and Yankee Targets at the McMullen Bombing and Gunnery Range. These targets are land-based components of the Gulf of Mexico (GOMEX) Range Complex. This RCA includes the Range Selection (Phase I) Review; Pre-Site Visit Information (Phase II) Review; Onsite Visit Information (Phase III) Review, including the Operational Range Site Model (ORSM) for munitions-related training activities; and the Decision Point 1 (DP1) conclusions.

This report concludes that there are no environmental issues that adversely impact range operations or the overall sustainability of the Dixie and Yankee Targets. However, the following issues should be addressed to maintain compliance with regulations, maintain conformance to Navy and Department of Defense (DoD) policies, and improve the sustainable use of the range:

- Mobile fuel storage volume at the Yankee Target exceeds Spill Prevention, Control, and Countermeasure requirements.
- Range scrap management procedures should be modified to conform to the Navy's Operational Range Clearance (ORC) Policy (2 April 2004).
- The potential for buried munitions exists on the Yankee Target.
- Cultural resource surveys have not been conducted on the range.
- An Integrated Natural Resource Management Plan (INRMP) is needed for the Yankee Target.
- The interservice support agreement (ISA) between NAS Kingsville and the Texas Air National Guard should be updated to include all operational and environmental requirements for Yankee Target.

Decision Point 1 concludes that no further analysis for potential off-range releases of munitions constituents is necessary, but recommends protective measures to improve range sustainability.

The following sections summarize the steps used to develop DP1 for the Dixie and Yankee Targets:

### **Phase I — Range Selection Review**

This section emphasizes the strategic value of the GOMEX Range Complex and the need to define the environmental condition of its land-based assets with an RCA.

### **Phase II — Pre-Site Visit Information Review**

This section describes how a team of U.S. Navy civilians and personnel from EnSafe Inc. (EnSafe) conducted the RCA Pre-Site Visit Information Collection (Phase II) in June 2004. During Phase II, this team collected as much information as possible from Navy personnel familiar with the range operations, as well as publicly available information on the targets. The team used this information to plan the onsite visit and identify key information that would be needed to complete

the RCA. Information collected during the RCA is compiled in a range data folder (RDF), described in Section 5.0.

### **Phase III — Onsite Visit Information Review**

#### ***Site Visit***

This section describes the July 2004 onsite visit by a team of U.S. Navy civilians and personnel from EnSafe. During the visit, the team interviewed key U.S. Navy personnel responsible for range and environmental operations and collected range and environmental information specifically related to munitions operations.

#### ***Operational Range Site Model***

This section explains how the ORSM provides a summary of the operational, environmental, cultural, and land-use information used to evaluate the potential for the off-range release of munitions constituents (MCs) and the potential for exposure to off-range receptors. This initial ORSM is part of the RCA Phase III component of RSEPA. Critical information for each target is discussed below.

**Range Boundary:** Section 3.1 of this report presents the range boundaries for the Dixie and Yankee Targets. These boundaries encompass the target impact areas and the surrounding buffer areas.

**Operational Component:** Operational records for the Dixie and Yankee Targets indicate that no live munitions (those containing high explosives) have been used at either range; only practice munitions incapable of producing a high-order detonation were employed. These practice munitions may contain spotting charges that detonate and produce a visual indication upon impact to facilitate scoring. Complete detonation of the spotting charge consumes 100% of the material. The Yankee Target simulates anti-aircraft rockets by launching surface-to-air missile simulators (Smokey SAMs).

**Environmental Component:** The McMullen Range is located in rural south Texas. The water table is very deep and is overlain by low permeability geology. No karst formations have been identified in the area. Due to the high clay content of the local soils, percolation of surface water and possible transport of chemicals from the range impact areas to the underlying aquifer is severely limited. Intermittent streams cross both the Dixie and Yankee Targets. Storm water runoff from the target areas ultimately discharges to nearby creeks, wetlands, and ponds used by wildlife and livestock. Only practice munitions are used on the range, and no other contamination concerns were identified.

**Cultural Component:** The Navy has not conducted surveys for historic properties or archaeological resources. The Navy plans to conduct archaeological surveys in the near future.

**Land-Use Component:** Current and future land-use on the targets is military training, specifically air-to-ground bombing and gunnery training. Public land around the targets is used for cattle grazing, hunting, and oil and natural gas production.

**Predictive Modeling:** RSEPA recommends predictive modeling for TNT, DNT, RDX, HDX, and perchlorate. These MCs are modeled in RSEPA because they make up a majority of the masses of energetic compounds in munitions, have readily available Environmental Protection Agency-approved testing methods, and are more mobile in the environment than other MCs. The

RCA team found no records indicating that these MCs were used on the Dixie Target. The Yankee Target uses tactical surface-to-air simulators called Smokey SAMs, which contain 238 grams of perchlorate in the propellant. The perchlorate is wholly consumed during firing of Smokey SAMs. In the rare event of a dud or misfire, the Smokey SAM does not leave the launcher and is subsequently removed from the range. Therefore, solid propellant from the Smokey SAM has little opportunity to be released to the environment. Since the McMullen Range uses only practice munitions and no other contamination concerns were identified, predictive modeling was not performed.

### **Decision Point 1 Outcome**

#### ***Are Further Steps Required to Maintain Compliance?***

Overall, training and the operation of the Dixie and Yankee Targets are in compliance with applicable environmental programs. This report recommends that range scrap management procedures be modified to conform to the Navy's ORC Policy (2 April 2004) including: development of an ORC Plan, establishment of a Range Holding Area (RHA) at the Yankee Target, and proper management of legacy scrap. In addition, this report recommends that mobile storage tanks at the Yankee Target be made compliant with Spill Prevention, Control, and Countermeasure requirements, that cultural resource surveys be conducted for the McMullen Range, and that the ISA for Yankee Target be updated to include all operational and environmental requirements.

#### ***Is Further Analysis Required to Assess Risk of Potential Off-Range Release?***

Based on the results of the ORSM, no further analysis is required to assess the risk of off-range releases of MCs.

### **Recommendations/Protective Measures**

No further analysis or protective measures are needed to assess risk of potential off-range release of MCs. This report recommends the following protective measures to maintain compliance with regulations and conformance to Navy and DoD policies:

- Reduce mobile fuel tank capacity.
- Prepare and implement an ORC Plan in accordance with the Navy's policy (2 April 2004) to address range scrap management issues.
- Conduct a surface and subsurface (geophysical) survey of the area suspected of containing buried munitions and manage existing scrap in accordance with current Navy and Department of Defense policy.
- Conduct surveys for historic properties and archeological resources on the range.
- Update ISA with the Texas Air National Guard to include all operation and environmental requirements for Yankee Target.