Operational Range Assessment
Joint Base Charleston – Weapons Station

Air Force Operational Range Assessment Program May 2024

Background

The Department of Defense (DoD) uses and manages operational ranges to support national security objectives and maintain the high state of operational readiness essential to its mission requirements. The Department conducts non-regulatory, proactive, and comprehensive operational range assessments (ORAs) to support the long-term sustainability of these ranges while protecting human health and the environment. The purpose of an ORA is to determine if there is a release or substantial threat of a release of munitions constituents (MC) from an operational range to an off-range area that exceeds an applicable regulatory standard or creates a potential unacceptable risk to human health or the environment.

The United States Air Force (USAF) Operational Range Assessment Program (ORAP), established to comply with DoD policy, sets forth procedures for consistently conducting ORAs throughout the USAF. The USAF ORAP assessment methodology uses an installation-wide approach to verify the ORAP inventory and accomplish range-specific assessments. A USAF ORA is comprised of two primary phases: Qualitative Assessment, Phase 1, and Quantitative Assessment, Phase 2 (if required).

- A Qualitative Assessment, Phase 1, encompasses records review, interviews, and a visual survey.
- A Quantitative Assessment, Phase 2, encompasses records review, interviews, visual survey, and environmental media sampling.

Installation Overview

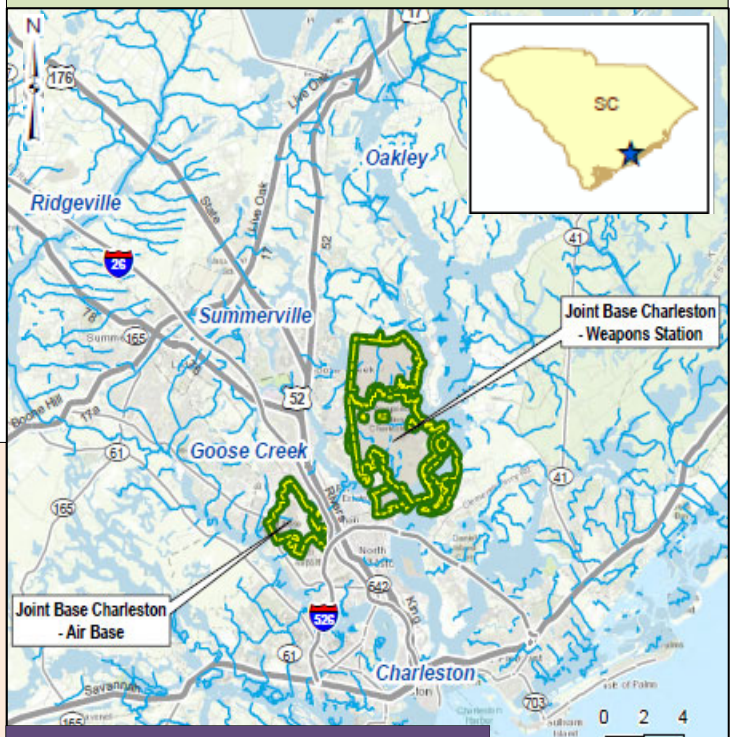
Joint Base Charleston – Weapons Station (JBC – Weapons), part of the Air Mobility Command, occupies four tracts of land encompassing 16,950 acres of land in southeast South Carolina approximately 15 miles north of Charleston. Land use surrounding JBC – Weapons is largely urbanized.

ORAP Findings: April 2024 ORA Report

- Munitions constituents (MC) may be transported via stormwater flow and shallow groundwater discharge to surface water.
- No actual or substantial threat of an off-range MC release identified for areas assessed.
- No unacceptable risks to off-range human or ecological receptors identified for areas assessed at JBC – Weapons.

Next Steps

JBC – Weapons is scheduled to be assessed in accordance with USAF and DoD policy specifying periodic assessment at least every 5 years or sooner if significant changes occur that may impact assessment decisions.



Location of Installation

Installation Overview (Continued)

During implementation of the USAF ORAP at JBC – Weapons, three operational areas were verified to be used for military training involving munitions and/or energetics, including the Federal Law Enforcement Training Center (FLETC) Complex, Scenario Based Training Area (SBTA), and Northside Open Burn/Open Detonation (OB/OD) Unit.

Two ORAP-ineligible areas exist at JBC – Weapons: the Munitions Storage Area and the former M-79 Grenade Range (Solid Waste Management Unit [SWMU] 82).

FLETC Complex Assessment Overview

The FLETC Complex including associated surface danger zone (SDZ) encompasses approximately 661.7 acres in the northern portion of the installation. There are five ranges within the complex, including small arms ranges (Ranges 1, 3, 4, and 5) and a shotgun range (Range 6). The ranges, without SDZ, encompass 3.83 acres.

The FLETC Complex was initially assessed under the USAF ORAP in 2017. This is the second Phase 1 ORA for the FLETC Complex.

MC (metals) are present in on-range soils. Viable MC transport mechanisms via stormwater runoff and shallow groundwater discharge to surface water/sediment media were identified for the FLETC Complex.

Human users of a downgradient surface water intake and ecological receptors (wetland habitat and potential presence of the American alligator) were identified for the surface water/sediment exposure pathway.

Based on this Phase 1 ORA, there is a potential for MC to migrate through the on-range environment via stormwater runoff and shallow groundwater discharge. Because off-range receptors are present, there is a potentially complete surface water/sediment exposure pathway. Therefore, an initial Phase 2 ORA is recommended to further evaluate viable MC transport mechanisms.

SBTA Assessment Overview

The SBTA encompasses approximately 1.3 acres and is located in the northern portion of the installation.

This is the initial Phase 1 ORA at the training area.

The SBTA has been inactive since 2015; however, prior to 2015 the area was used for cover and concealment training. Historical use consisted of only 9-millimeter (mm) Simunition® rounds. Given limited historical use, no significant source of MC (metals) was identified at the SBTA. Due to a lack of a significant MC source, there is no expected MC migration and no adverse impact to off-range receptors.

Based on the conclusions for this Phase 1 ORA for the SBTA, there is no expected significant source of MC. The required periodic Phase 1 should be accomplished to verify no change in use.

OB/OD Unit Abbreviated Assessment Overview

The Northside OB/OD Unit at JBC – Weapons is deemed eligible for assessment under the ORAP due to co-use of the area for proficiency training. However, due to existing scientifically valid monitoring data collected in accordance with issued Resource Conservation and Recovery Act (RCRA) Part B Subpart X Permit, the area was not fully assessed under the ORAP.

During this ORA effort, existing soil, surface water, sediment, and groundwater sample data were evaluated. Given reported information and available monitoring program data, there are no permit compliance concerns associated with the unit.

Based on an abbreviated evaluation, the co-use of the area for proficiency training does not appear to be contributing significant quantities of MC. The review of existing data seems to indicate there is no release of contaminants of concern beyond the unit boundary that may pose a risk to receptors.

For more information on this assessment or the United States Air Force Operational Range Assessment Program, contact the Range's Subject Matter Expert, Technical Branch, Environmental Quality Directorate, Air Force Civil Engineer Center. For more information on the DoD Operational Range Assessment Program, visit https://denix.osd.mil/orap/home/.