Operational Range Assessment
McEntire Joint National Guard Base

Air Force Operational Range Assessment Program May 2024

Background

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

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

Installation Overview

The McEntire Joint National Guard Base (JNGB) is located on 2,295.17 acres of land approximately 12 miles southeast of Columbia in Richland County, South Carolina. McEntire JNGB accommodates operations for both the South Carolina Air National Guard (SCANG) and the South Carolina Army National Guard (ARNG). The installation is owned by the USAF.

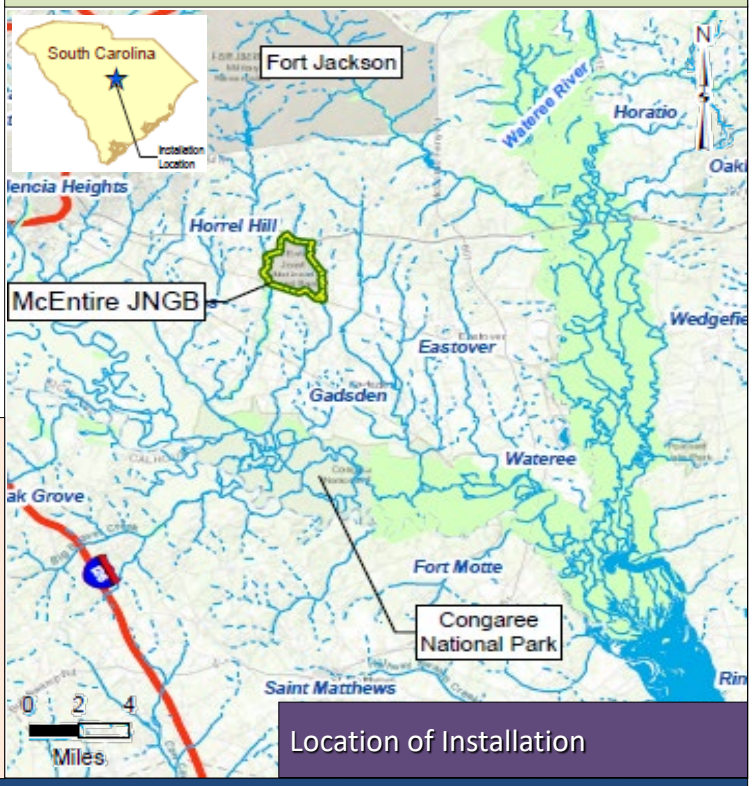
ORAP Findings: May 2024 ORA Report

McEntire JNGB has one operational range.

- MC (metals) may potentially infiltrate shallow groundwater which likely discharges to surface water
- No actual or substantial threat of an off-range release of MC was identified
- No unacceptable risks to human health or the environment were identified

Next Steps

McEntire JNGB is scheduled to be assessed in accordance with policy specifying periodic assessment at least every five years or sooner if significant changes occur that may impact assessment decisions.



Location of Installation

Installation Overview Continued

McEntire JNGB has one operational range used for military training involving munitions – a Small Arms Range (SAR).

The installation also contains a Bivouac Area, Drop Zone Training Area, Rod and Gun Club Skeet Range, and Munitions Storage Area. No munitions use occurs at the Bivouac Area and Drop Zone Training Area, and no range activities occur at the Storage Area. As no MC source was identified, these areas are not further evaluated under the ORAP. The Rod and Gun Club Skeet Range is used for recreational purposes, as no military training occurs the range is programmatically excluded from the ORAP.

SAR Overview

The SAR, encompassing 20 acres, is in the southeastern portion of McEntire JNGB. The entire perimeter of the SAR, including the Surface Danger Zone, is fenced with warning signs. The SAR has forested lands to the north and east, a civil engineer soil staging area to the south, and space associated with the flight line to the west.

The SAR, constructed in 1991 for proficiency training, is partially contained with a covered 24-point firing line, gravel floor, overhead baffles, earthen side berms, and impact berm. The SAR is used one to two times per month by the South Carolina ANG. Since 2002, only frangible and plastic rounds have been used; however, lead ball ammunition was fired from 1991 to 2002. Test rod checks are conducted on an annual basis to assess whether lead removal is warranted. To date, no lead removal has been performed.

SAR Assessment Overview

In 2009 a report was issued documenting findings of the initial assessment of the SAR under the ORAP at McEntire JNGB. The Phase 1 ORA indicated MC from activities could potentially infiltrate groundwater. Due to surrounding wells, the SAR was recommended for a Phase 2 assessment during the next schedule implementation of the ORAP at McEntire JNGB.

SAR Assessment Overview Continued

In 2011 a report was issued documenting findings of the Phase 2 ORA under the ORAP at McEntire JNGB. The ORA confirmed range layout and use, verified MC (metals) transport mechanisms, and updated the conceptual site model (CSM). To further evaluate potential infiltration of MC to groundwater, monitoring wells were installed. Soil boring and groundwater samples were collected. Although trace amounts of metals were detected, the ORA concluded there was no release that poses an unacceptable risk. No further evaluation was recommended beyond monitoring during the next scheduled ORAP at McEntire JNGB.

In 2014 a report was issued documenting findings of the periodic Phase 2 ORA at McEntire JNGB. The ORA confirmed range layout and use; however, based on site characteristics, it was determined to advance three soil borings to further evaluate the soil-to-groundwater transport mechanism instead of collecting samples existing monitoring wells as shallow groundwater was deemed more likely to discharge to surface water. Based on soil boring data, no MC were determined to be infiltrating shallow groundwater and all potential exposure pathways were deemed incomplete. No further evaluation beyond continued periodic monitor was recommended.

In 2024 findings of the periodic Phase 2 ORA at McEntire JNGB were issued. The ORA confirmed range layout and use, collected groundwater samples, and updated the CSM. Based on available data there is no potential for direct interaction with potentially MC-affected groundwater as wells downgradient of the SAR are screened in a separate, confined aquifer. Shallow groundwater is likely to discharge to surface water bodies. No surface water intakes are located downstream of the SAR; however, there are species of concern in the surrounding area. Although MC (copper and lead) elevated, detections were within naturally occurring levels. As metal concentrations were within naturally occurring levels all exposure pathways were deemed incomplete. No further evaluation beyond continued periodic monitor was recommended.

For more information on this assessment or the Air Force Operational Range Assessment Program contact the Ranges 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/