Navy Operational Range Clearance (ORC) Plans Improve Sustainability—A Case Study

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Session D — Range Sustainability, 9:30 AM
Wednesday, May 23, 2007
Overview

• Purpose and technical basis of the Navy’s Operational Range Clearance (ORC) Policy.
• Scope and technical challenges of Shaw’s ORC Plan Development Project for the Navy at the Pinecastle Range Complex in Florida.
• Need for Deviation from Navy ORC Policy at Pinecastle Range Complex, due to site-specific conditions.
Operational Range Clearance (ORC) Policy for Navy Ranges--
established by Chief of Naval Operations
(CNO Ltr 3000 Ser: N34/4U741226),
2 April 2004.
Purpose of Navy ORC Policy

• Establishes Navy Policy and requirements for performing Operational Range Clearance in Navy Ranges in accordance with:
  – DoD Directive 4715.11 — Environmental and Explosives Safety Management on DoD Active and Inactive Ranges within the U.S.
  – DoD Directive 4715.12—Environmental and Explosives Safety Management on DoD Active and Inactive Ranges outside the U.S.

• Navy operates ranges in an environmentally responsible manner that is protective of the public, while sustaining the highest levels of readiness to meet mission requirements.
Focus of Navy ORC Policy

• The ORC Policy focuses on the following elements:
  – **Sustaining Readiness** by establishing procedures to clear unexploded ordnance (UXO) and recycling range scrap and debris (“clean as you go” process)
  – **Environmental Responsibility** through planning, interagency coordination, and environmental stewardship
  – **Public Safety** by protecting personnel from the hazards and effects associated with range operations.
Navy ORC Policy Clearance Elements

- **Annual ORC Program**: clear operational target areas of all surface and partially buried UXO and range debris/scrap to a distance of 1,000 feet from target center.

- **Expanded ORC Program**: by every fifth year, clear all surface and partially buried UXO and range debris/scrap to a minimum distance of 3,000 feet around each target area, or to distance around the target where the density of whole UXO items is less than or equal to five per acre.

- **Clearance of strafing targets, run-in lines, laser targets**: on the frequencies established by ORC Policy, remove UXO and scrap from targets and other range areas. remove specular hazards from laser target areas.
Navy ORC Policy Elements

- **Establishment of Secured Range Holding Areas**: to hold inspected, certified, and demilitarized scrap debris until items can be recycled and/or disposed.
- **Comply with Applicable DoD and Navy policies, and federal, state local and tribal regulations and laws**: related to range operations, explosive safety, sustainable range management, land management, and pollution abatement.
- **Provide Quality Assurance Personnel**: to evaluate and document range personnel/contractor performance.
- **Develop ORC Plans**
ORC Plan Elements

- Establishes range clearance schedules for annual/expanded range clearance programs.
- Assesses hazards of ORC activities.
- Describes range clearance operations and quality assurance activities.
- Documents the processes to maintain public safety.
Benefits of Navy ORC Policy

• Facilitates range planning and detailed resource management for environmental actions required to maintain access to range space and capability.
• Provides for range sustainment through sound land management practices in coordination with environmental interests.
• Bottom Line Value of ORC Policy Implementation
  – Keeps ranges clear of debris and UXO to avoid potential long-term range environmental problems (e.g., explosive residue constituents leaching into ground water) that could bring on range closures.
  – Reduces potential specular hazards from laser sighting and training range activities.
Pinecastle Range Complex, Florida
Ocala National Forest and Pinecastle Range Complex, Florida

Mapped Locations are Approximate
Pinecastle Range Complex, Florida

• The Pinecastle Range Complex actually includes three physically-separated range facilities in north central Florida:
  – **Pinecastle Bombing and Gunnery Range**
  – **Rodman Bomb Target**
  – Lake George (water target—excluded from Navy ORC Policy, not included in ORC Plan).
Project Scope—Develop ORC Plan for Pinecastle Range Complex, Florida

- Pinecastle Range Complex ORC Plan included:
  - Range clearance schedules and team approaches for annual/expanded clearance programs
  - Hazard assessments
  - Identified procedures for range clearance operations
  - Described quality assurance program and record maintenance for range clearance documentation
Pinecastle Range Complex, Florida

- Operated by the U.S. Navy
- Trains aircrews in proper maneuvering tactics
- Provides realistic weapons targeting practice and allows pilots to develop flight techniques required to deliver weapons on targets in potentially hostile environments
- Aircrews scored on delivery of multiple types of air-to-ground weapons systems:
  - training/practice: bombs, rockets, aircraft gun ammo
  - live (high-explosive) bombs
  - laser sighting and laser-guided targeting operations.
Authorized Practice Bombs
MK-76 and BDU-33

- Weight: 25 pounds
- Length: ~2 feet long
- Diameter ~ 4 inches
- Contains a signal smoke cartridge
- Simulates larger bombs without high-explosive payload
Pinecastle Bombing & Gunnery Range

- Consists of Nine Primary Target Training Areas
- Authorized ordnance: training/practice bombs, training practice rockets, and live HE bombs
- Located in the Ocala National Forest (~5,760 acres)
- Property is managed and operated through a 20-year lease with USDA-Forest Service.
Rodman Bomb Target

• One Primary Bomb Target
• Restricted to training and practice bombs (MK-76)
• Located on Navy property
• Bordered on west, north, and east by Caravelle Ranch Wildlife Management Area
• Bordered on south by the Ocklawaha River and the Ocala National Forest
Rodman Bomb Target Location
Technical Challenges Encountered During ORC Plan Development for Pinecastle Range Complex
Technical Challenges—Pinecastle Bombing and Gunnery Range

• Pinecastle Range leased from Forest Service
• Operated in accordance with an operating plan:
  – Pine Scrub Habitat at Pinecastle Range hosts multiple plant and animal species designated as:
    • Sensitive
    • Threatened
    • Endangered
    • Species of Special Concern
  – Forest Service limits prescribed burns or physical vegetation removal to preserve pine scrub habitat
• Formerly part of Lake Bryant Bombing and Gunnery Range (World War II), potentially received UXO on targets and outlying range locations.
Range Vegetation Conditions

**Photograph to Left:**
Dense undergrowth in vegetated area near SAM Site Target (Pinecastle Range).

**Photograph to Right:**
Typical vegetated area on bordering a managed portion of the range. Note heavy Saw Palmetto understory vegetation in background.
Sand Pine Scrub Habitat

Note areas of open sand surrounded by dense and thick undergrowth
Ocala National Forest, Florida

Pine Scrub Habitat in Florida exists as isolated “islands”
Need and Justification for Deviation from Navy ORC Policy at the Pinecastle Range
Technical Deviation from ORC Policy for Pinecastle Range Targets

• Pinecastle Range property leased from USFS. The Special Use Permit and Facility Operating Plan are primary instruments for range management.

• Legacy ordnance on range resulting from prior use (e.g., Lake Bryant Range-WWII).

• Proposed ORC for vegetation free and sparsely vegetated (cleared/maintained) range areas:
  – Main target areas
  – Range roads/access trails
  – Target run-in-lines
  – Maintained range firebreaks
  – Other areas that experience fires or prescribed burning.
Pinecastle Range Complex ORC Plan

- Final ORC Plan completed April 2007.
- Request for Deviation included in Pinecastle Complex ORC Plan as Appendix C.
- Pinecastle ORC Plan submitted for approval by Navy Range Office and CNO at Pentagon.

- Florida scrub-jay
- MK-80 Series Practice Bomb
- Laser-Guided Bomb Training
Conclusion

• The Pinecastle Range Complex ORC Plan provided the Navy an important resource document for range managers to meet the ORC Policy requirements:
  – Described the coordination between the Navy activities and multiple state and Federal agencies
  – Described specific range/target areas to be cleared
  – Established a general schedule for target clearance
  – Presented manpower estimates for clearance activities
  – Described general procedures for scrap management
  – Assessed potential hazards of range operations
  – Described the range quality assurance program
  – Summarized community outreach and public education programs.
Acknowledgements

• NAVFAC Southeast Staff
• Fleet Forces Command Staff
• Jacksonville Naval Air Station (NAS) Staff
• Pinecastle Complex Range Management Staff
• Pinecastle/Rodman Range Contractor Staff