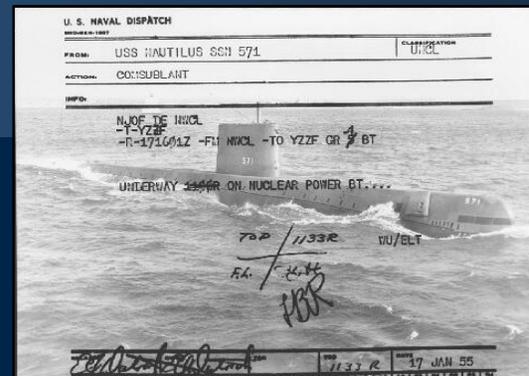




Naval Reactors

United States Naval Nuclear Propulsion Program





Naval Reactors Overview

The Naval Nuclear Propulsion Program is an integrated program carried out by two organizational units, one in the Department of Energy and the other in the Department of the Navy¹.

FOCUSED MISSION: Provide militarily effective and affordable nuclear propulsion plants and ensure their safe, reliable, and long-lived operation

CLEAR & TOTAL RESPONSIBILITY & ACCOUNTABILITY FOR ALL ASPECTS:

- Research, development, design, construction
- Maintenance, repair, overhaul, disposal
- Radiological controls, environment, safety, health matters
- Officer operator selection, operator training
- Administration (security, nuclear safeguards, transportation, public information, procurement and fiscal management)
- Centralized control of Program's Industrial Base/Vendors
- Spent fuel custody

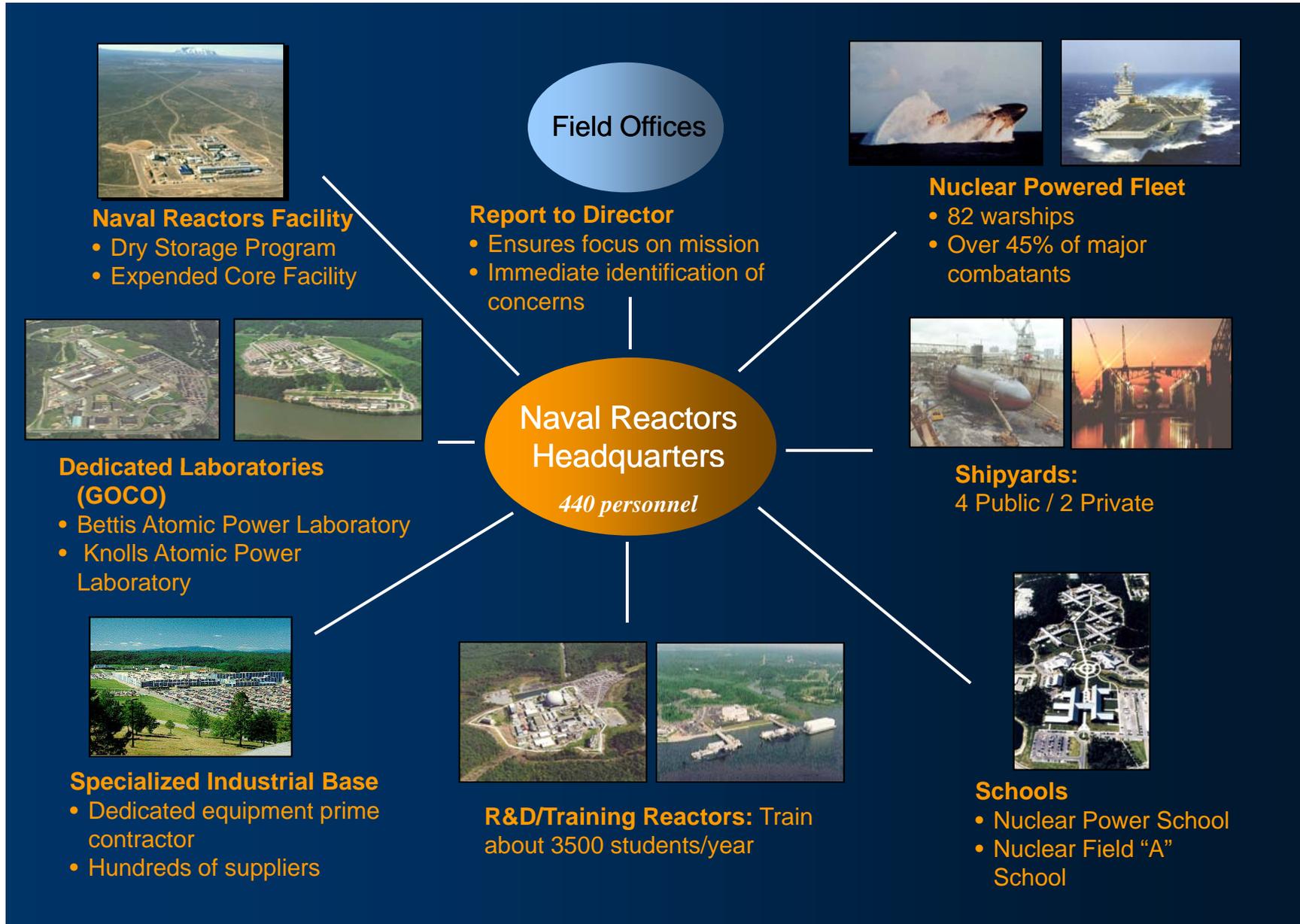
SIMPLE, ENDURING, & LEAN STRUCTURE:

- Director tenure 8 years, 4-Star Admiral/Deputy Administrator in NNSA
- Dual agency structure with direct access to Secretaries of Energy and Navy
- Small headquarters, field activities

¹Executive Order 12344 set forth in public law 98-525 and 106-65



Naval Reactors Organization





Naval Nuclear Propulsion Design Space

Need for continued safe and reliable operation in the wartime environment results in a very rugged nuclear fuel designs

DEFENSE IN DEPTH:

- Design: simple, rugged, redundant, fail-safe, conservative
- Rigorous quality control: on-site reps, detailed specs, separate logistics/supply, documentation (quality evidence)
- Comprehensive procedures and procedural compliance
- Oversight
- People: carefully selected, rigorous and continuous training





Naval Spent Nuclear Fuel Management

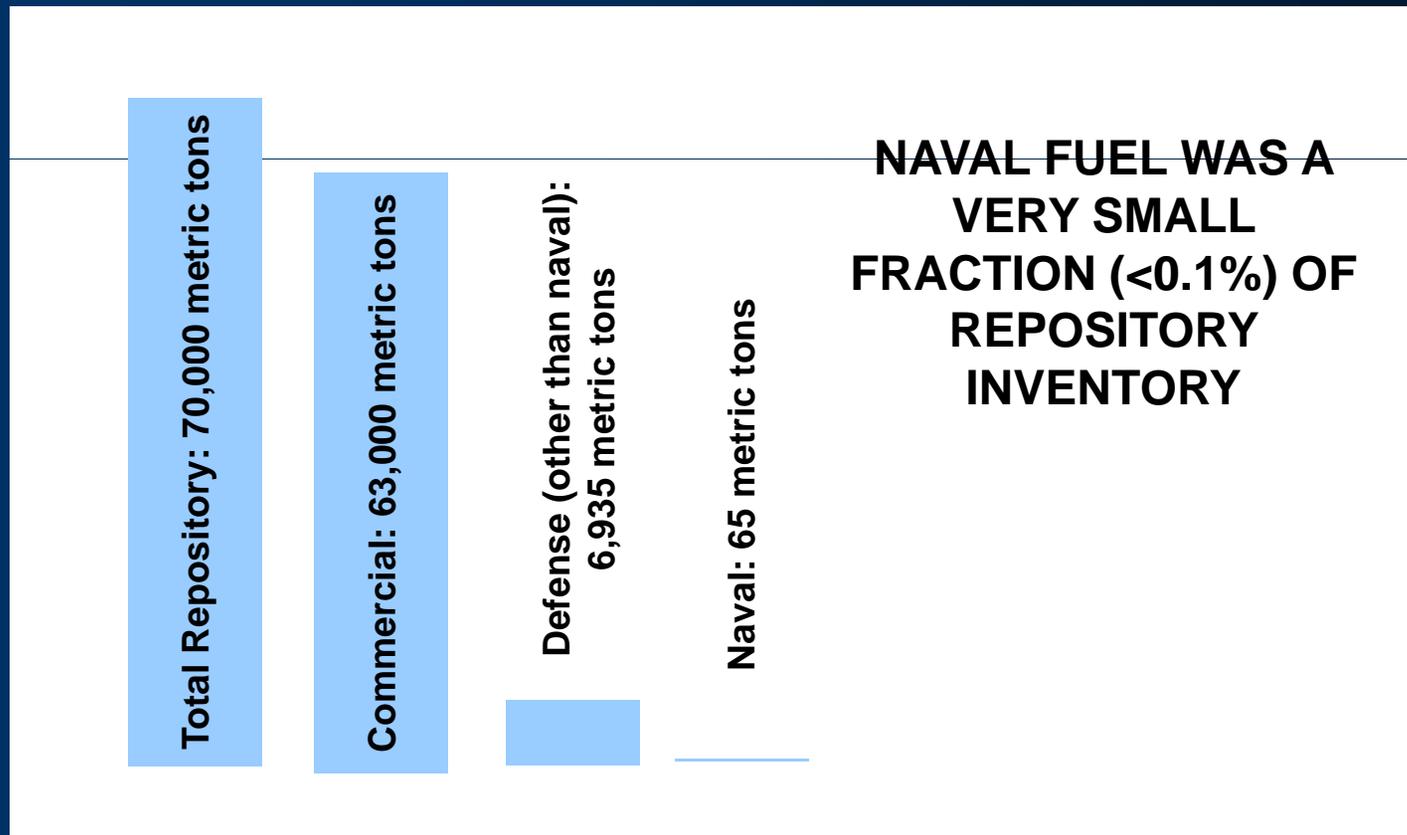
50 years of experience in the safe handling, transportation, inspection, and storage of spent nuclear fuel.





Naval Spent Nuclear Fuel Inventory

Compact reactors, long life fuel results in a small inventory compared to other sources of spent fuel and high level waste





Naval Spent Nuclear Fuel Inventory

Compact reactors, long life fuel results in a small inventory compared to other sources of spent fuel and high level waste

~11,000 canisters total

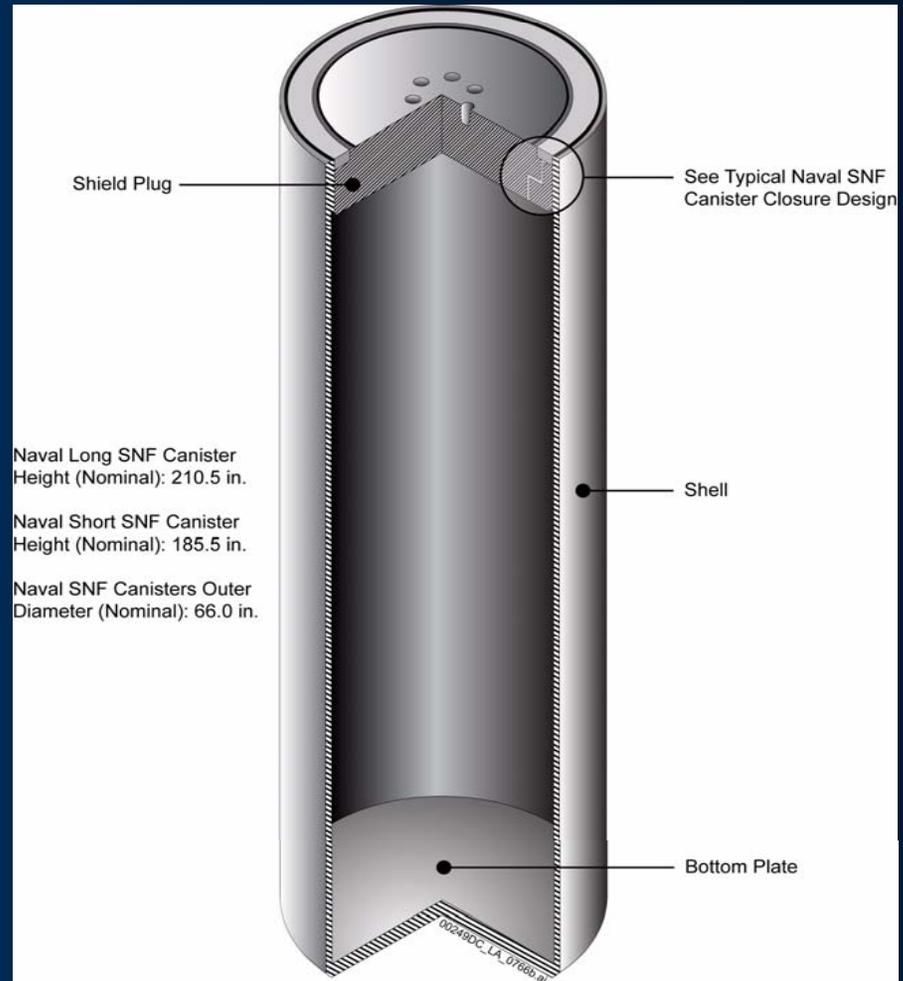
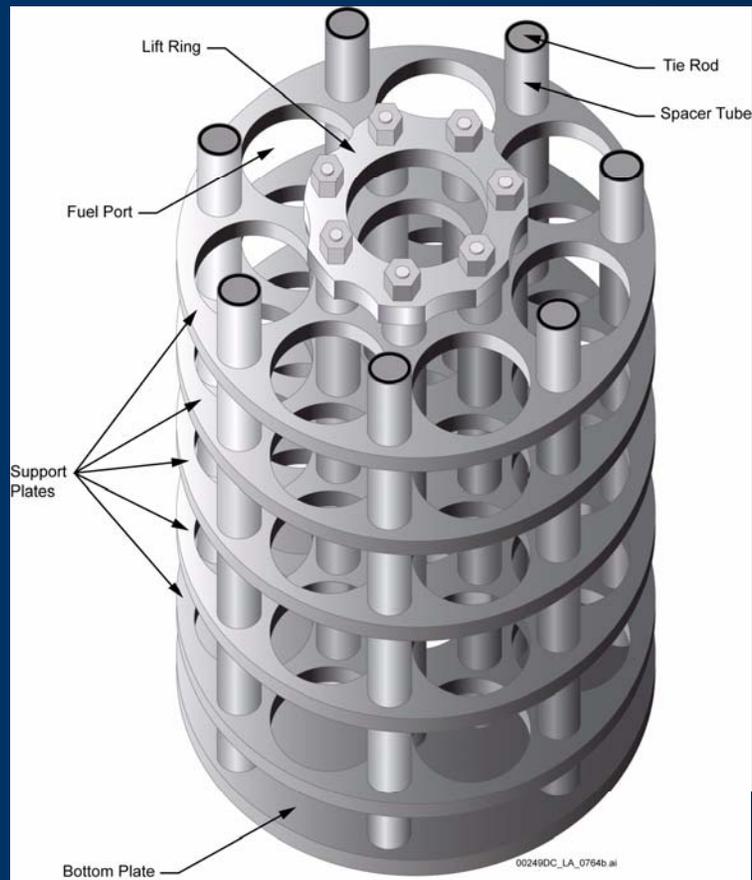
~400 naval
canisters

**NAVAL FUEL WAS
A SMALL
FRACTION (<4%)
OF OVERALL
REPOSITORY
INVENTORY**



Naval Spent Nuclear Fuel Management

Packaging design for dry storage and transportation without further repackaging.





Naval Spent Nuclear Fuel Management

On track to meet commitments for moving spent fuel into dry storage.





Transportation

Naval Nuclear Propulsion Program is proceeding with design and procurement of hardware to support transportation of naval spent fuel from Idaho to a repository or interim storage site.





Naval Spent Nuclear Fuel Management





1995 Idaho Agreement and Consent Order

The 1995 Agreement and Consent Order governs management of all spent nuclear fuel and transuranic waste at the Idaho National Laboratory.

BACKGROUND:

- The agreement resolved litigation related to concern of Idaho officials that the INL was becoming a de facto permanent repository for spent fuel and transuranic waste.
- Litigation also led to preparation of a Programmatic EIS for management of spent nuclear fuel across the DOE.

ONGOING NAVY OBLIGATIONS:

- Limit the number of shipments of naval spent nuclear fuel to Idaho to a running average of 20 containers per year.
- Provide to Idaho annual reports on actual shipments made in the prior calendar year and expected shipments during the next calendar year.
- Include naval spent nuclear fuel among the early shipments to a permanent geologic repository or interim storage site.
- Place all spent nuclear fuel in dry storage by 1 January 2023.
- Remove all spent nuclear fuel from Idaho by 1 January 2035.

2008 ADDENDUM TO AGREEMENT:

- Continued use of water pool at the Naval Reactors Facility beyond 2023.
- Continued management of a limited in-process inventory of naval spent nuclear fuel at the Naval Reactors Facility in Idaho beyond 2035.
- Continued archival storage of some naval spent nuclear fuel to support designs under development or in service.