United States Naval Nuclear Propulsion Program
FOCUSED MISSION

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

CLEAR, TOTAL RESPONSIBILITY AND ACCOUNTABILITY FOR ALL ASPECTS

- Research, development, design, construction
- Maintenance, repair, overhaul, disposal
- Radiological controls, environment, safety, and 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

EXECUTIVE ORDER 12344 SET FORTH IN PUBLIC LAW 98-525 AND 106-65
NAVAL NUCLEAR PROPULSION PROGRAM

Field Offices

REPORT TO DIRECTOR
- Ensures focus on mission
- Immediate identification of concerns

NAVAL REACTORS
380 people

NUCLEAR POWERED FLEET
- 82 ships
- Over 40% of major combatants

DEDICATED LABORATORIES
- Bettis Atomic Power Laboratory
- Knolls Atomic Power Laboratory
- GOCOs

DEDICATED LABORATORIES

R&D/TRAINING REACTORS
- Train 2500 students/year

SPECIALIZED INDUSTRIAL BASE
- 1 dedicated equipment prime contractor
- Hundreds of suppliers

SHIPYARDS
4 Public / 2 Private

SCHOOLS
- Nuclear Power School
- Nuclear Field “A” School

LEARN, CENTRALLY CONTROLLED, DEDICATED, SUCCESSFUL

103 reactors operating worldwide
Defense in Depth

- Design: simple, rugged, redundant, fail-safe, conservative
- Rigorous quality control: on-site reps, detailed specs, HQ approval for deviations, separate logistics/supply, documentation (quality evidence)
- Comprehensive procedures and procedural compliance
- Oversight: NPEB, squadron, type commander, field office
- People: carefully selected; rigorous and continuous training
OVER FIFTY YEARS OF UNPARALLELED SUCCESS

.Open Record of Accomplishments

- Annual reports since 1965
- Cooperation at Federal, state, and local levels
- Ship/Facility orientation visits for public officials

.Record Reflects Wisdom of the Law

- Over 128 million miles safely steamed
- Over 5,400 reactor-years of safe operations
- Leader in environmental performance
- 103 reactors operating worldwide

.Recent External Interactions

2000: - PA Governor’s Award for Environmental Excellence
- Congressional support in DOE realignment
2001: - GAO report – “strong internal controls,” “culture that enhances accountability”
2002: - NRC/ACRS review of VIRGINIA
- Secretary of Labor – “nuclear-powered ships [are] now even more critical in defending our country...[the NR] program maintains readiness while controlling risks and enhancing a culture of responsibility and performance”
- EPA review of Windsor radiological survey report – “standard for the future”
- OMB 2003 budget report – “effective,” “key contributions to national security”

CONTINUED SUCCESS DEPENDENT ON MAINTAINING TECHNICAL EXCELLENCE
PROGRAM PHILOSOPHY

- Centralized technical control of all aspects
- Personal responsibility for technical, safety, radcon, environmental
- In-depth technical understanding of all aspects of work at all levels
- HQ involvement in all aspects (design, procedures, operations)
- Organization with internal checks to ensure thorough review
- Prompt reporting, evaluation, and correction of problems
- Rigorous theoretical and practical training; continuing training at all levels
- Conservative designs with ample safety margins; prevention first
- Rigorous quality assurance of all aspects
- Thorough testing of equipment prior to fleet application
- Formality, discipline, and precision
- Emphasis on close, frequent technical oversight
- Skepticism, frankness, self-criticism, integrity, & attention to detail.

PREVENT BIG PROBLEMS BY WORKING HARD ON THE SMALL ONES
CENTRALIZED TECHNICAL CONTROL

- Director responsible for all aspects of work
  - Frequent oral & written reports from all Program activities
- HQ
  - Outstanding personnel; management technically trained
  - Directly oversees adequacy of all technical requirements
  - Exercises technical approval over contractors, SYs, & vendors
  - Multiple reporting chains ensure problems promptly brought to attention of cognizant personnel
  - Oversees all personnel actions related to the Program
  - Directs and oversees all logistic support functions
  - Controls special nuclear material, including shipment
  - Responsible from R&D throughout life to final disposal
  - Periodic audits by cognizant technical personnel

KNOWLEDGEABLE AND DEMANDING CUSTOMER
CLOSE, FREQUENT TECHNICAL OVERSIGHT

- On-site field offices do surveillance, auditing
- Activity self-assessment capability reviewed
- Periodic HQ reviews (DOE labs) and audits (shipyards) by cognizant technical leads
- Regular letters to Admiral & top HQ staff on issues
- Reporting deviations from normal operation
- HQ technical approval for almost every design detail and procedure