



# National Nuclear Security Administration Office of Defense Programs

## Update to the Energy Federal Contractors Group

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**August 2006**



# Agenda



- Organization Changes
- Complex 2030
- Reliable Replacement Warhead
- DOE Order 226.1
- DNFSB Issues
- Project Management
- Quality Assurance Roadmap
- Getting the Job Done!



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**National Nuclear Security Administration  
 Office of Defense Programs (NA-10)**



## Complex 2030



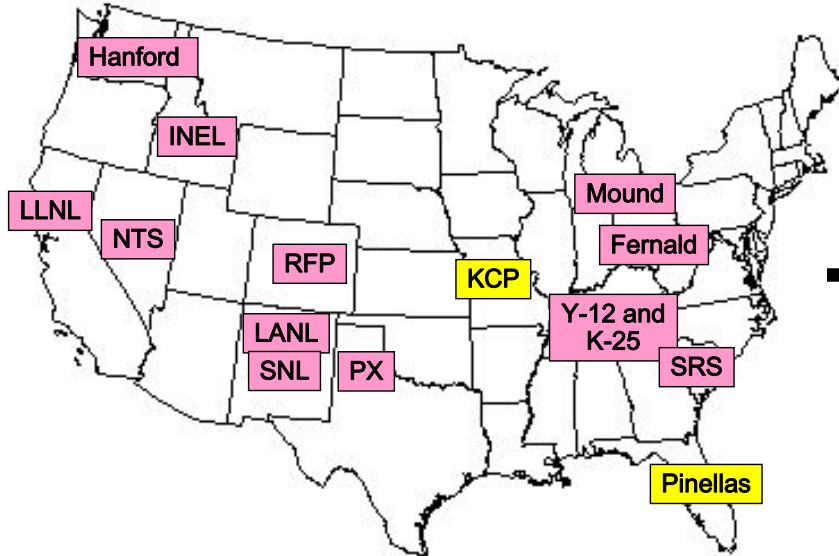
- Office of Transformation formed (June 2006)
  - Led by Dr. George Allen (NA-10.1)
  - Matrix support by many organizations
- NEPA support contractor selected (TetraTech)
- Notice of Intent to be issued by end of September 2006
- Public Hearings in October/November
- Good progress on Systems Integration efforts
  - Nuclear Weapons Complex Strategic Partnership Council
  - Nuclear Weapons Complex Integration Committee
  - Integration Technical Support Team



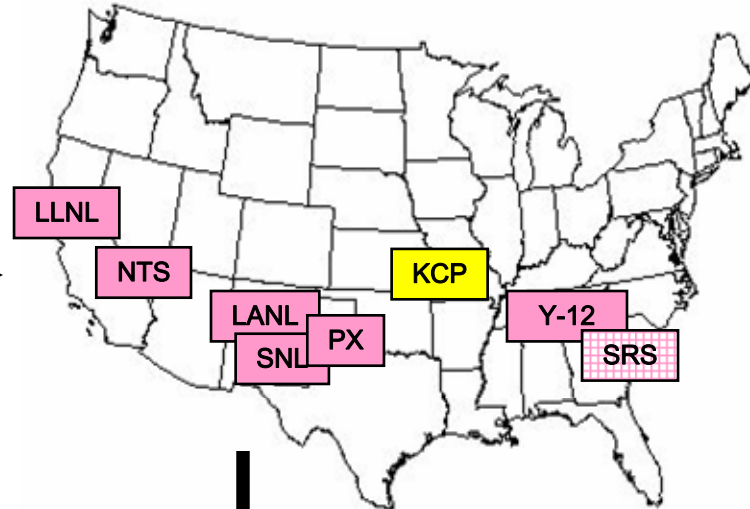
# Nuclear Weapons Complex Past, Present, and Future



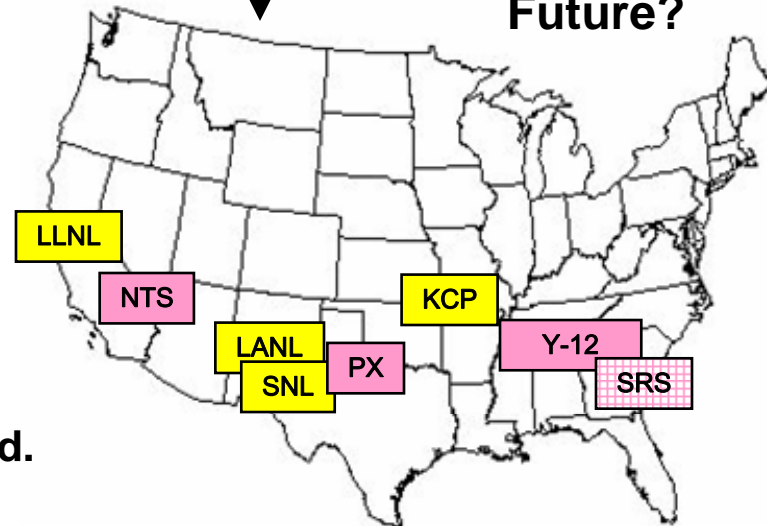
### Nuclear Weapons Complex in 1980



### Nuclear Weapons Complex of Today



### Future?



#### Legend:

Defense Programs Category I/II Material

Other Programs Category I/II Material

No Category I/II Material

Consolidated plutonium center location is TBD. Existing Category I/II sites to be considered.



# Long-term Implementation Strategies



1. In partnership with DoD, transform the nuclear stockpile
  - Transform to an all RRW-stockpile by ~2030
2. Transform to a modernized, cost-effective nuclear weapons complex
  - Start NNSA scoping of a National Environmental Policy Act (NEPA) process on future complex alternatives in 2006
  - Go to a consolidated plutonium center by 2022 with distributed modernization in place for remaining capabilities
  - Consolidate CAT I/II special nuclear (SNM) materials – no CAT I/II SNM at national labs in the long-term, fewer locations within production plants
  - Create a consolidated plutonium center for CAT I/II quantities of materials
  - Modernize remaining production capabilities in place (e.g., uranium at Y-12)



# Long-term Implementation Strategies



3. Create a fully integrated and interdependent complex
  - Manage risk
  - Fewer, standard contracts
  - Streamline processes and uniform business practices
  
4. Drive the science and technology base essential for national security
  - Define essential long-term capabilities
  - Integrate with DOE Office of Science and enhance work-for-others
  - Eliminate duplicative facilities and programs



# Reliable Replacement Warhead (RRW) Program



- **Continually repairing the old car ... or buying a replacement one that has the same performance, but built more efficiently and has enhanced safety and security like anti-lock brakes, air bags, and modern anti-theft features? What makes sense?**





# Reliable Replacement Warhead (RRW)



- Created in FY 2005 when Congress moved \$9M in DOE's request from Advanced Concepts Initiative.
  - From FY 2006 request: “The objective of the RRW program is to demonstrate the feasibility of developing reliable replacement components that are producible and certifiable for the existing stockpile. The initial focus will be to provide cost and schedule efficient replacement pits that can be certified without Underground Tests”.
- RRW will be the “enabler” for stockpile and infrastructure transformation.
- NNSA has joined with DoD to conduct concept and feasibility studies on replacement warheads or components that provide the same or comparable military capabilities as existing warheads.
- With DoD and Congressional support, we should be able to develop and produce a small build of warheads by 2012-2015, in order to demonstrate that an RRW system can be manufactured and certified without nuclear testing.
- RRW conference at STRATCOM late November.



# NNSA HQ Line Oversight DOE O 226.1



DOE O226.1 required to be fully implemented by September 15, 2006

- Includes line oversight requirements for both the field and headquarters Contractor Assurance System (CAS) requirements for contractors.
- In general, NNSA site offices working to close site office compliance gaps, NNSA contractors tweaking their CAS to meet DOE O 226.1 requirements.
- NNSA HQ (NA-10, NA-2.1, NA-3.6) developing a headquarters line management oversight plan consistent with NNSA strong Site Manager model and dependent upon CAS; NNSA HQ oversight built upon:
  - NNSA strong Site Manager model and CAS;
  - Existing operational awareness activities (periodic meetings, reviews, etc.);
  - Review of CAS and Site Office oversight data; and
  - Annual assessment plan for limited amounts of HQ assessments (CDNS biennial reviews, targeted and reactive assessments).



# Rec 2004-1 Implementation Plan Revision



DNFSB 2004-1 Implementation Plan (IP) reviewed against the following criteria:

- Appear to weaken line-management responsibility and accountability;
- Contribute to micromanagement;
- Could lead to unacceptably risk averse behavior; and
- Violate the principle that it is the job of the Federal Government to identify the “what” and of the contractor community to focus on the “how”.

Based on this review, the following major changes were made:

- DOE O 226.1 initially to cover only ES&H, phase in other functional areas;
- Proposed Oversight Manual (M 226.1) changed to Oversight Guide (G 226.1); and
- Commitments eliminated that provided for special assessments to verify implementation/effectiveness of actions taken for:
  - ISM;
  - work planning and control; and
  - feedback and improvement.

(normal oversight processes will verify effectiveness for these areas)

Revised IP being routed for S-1 approval by September 15, 2006.



## Other Issues



- Quality Assurance Roadmap
  - A comprehensive program of continuous improvement
- Electrical Safety Concerns
  - VTC with AMB Brooks on September 26
- Project Management
  - Highly Enriched Uranium Materials Facility (Y-12);
  - Uranium Processing Facility (Y-12); and
  - Chemistry and Metallurgy Research Replacement (LANL).
- Activity-Based Costing



# Defense Programs

## Getting the Job Done!



- Continuing to deliver our products as we have been doing for the Department of Defense.
  - Limited life components, reliability assessments, etc.
- Eliminating the backlog of surveillance units by September 2007 consistent with an enhanced evaluation strategy (except the W84 and W88).
- Accelerating the dismantlement of retired weapons.
  - 49% increase from FY 2006 to FY 2007.
- Delivering the B61-7 First Production Unit (FPU) by June 2006 and the B61-11 FPU by January 2007.
- Delivering the W76 FPU by September 2007.
- Certifying the W88 with a new pit and manufacturing 10 W88 pits in 2007.
- Extracting Tritium for use in the stockpile by September 2007.
- Supporting the science basis for warhead design, assessment and certification by completing and applying MESA (2008), DARHT (2008), NIF (2010), the ASC Purple machine (2006) and pit lifetime estimates (2006).
- Transforming from a Life Extension Program to a Reliable Replacement Warhead stockpile strategy (RRW to the Nuclear Weapons Council by November 2006).
- Transforming the nuclear weapons infrastructure to take Responsive Infrastructure from concept to reality (Implement actions identified in Complex 2030 Preferred Infrastructure Planning Scenario and the Responsive Infrastructure Implementation Plan).

- **Other areas of the program are important--without the rest of the program we would not be able to do the items above.**
- **Safety and security are integral to everything we do.**