Historical Context

+ The DOE of the 80's (and before) was in denial of its defense environmental responsibilities, liabilities and risks
  - This culminated in the FBI raid on Rocky Flats in 1989
+ The DOE of the 90's acknowledged the responsibilities and liabilities but didn’t understand the risks and couldn’t develop systems and processes for addressing them
+ The DNFSB was chartered in 1988 and became an effective agent for helping DOE understand risk priorities and safety systems for addressing them
This is Not Your Father's DOE

The President and Secretary Want, and Have Achieved, Game Changing Strategies

+ Stemming from the leadership of the Board with Recommendation 94-1, and continuing to the present, DOE has:
  - Achieved spectacular progress toward public and worker risk reduction
  - Plus achieving record safety results
    While engaged in some of the world's most hazardous work
+ This Administration has taken the issue of risk reduction and safety very seriously
  - Personal initiative of Secretary Abraham
  - Fully supported in President Bush's budget

Game Changing Strategies (Cont.)

+ This Administration has made the tough decisions to open up waste receiving sites
  - Yucca Mountain was selected and DOE is marching toward a December 2004 License application, two years earlier than estimated just two years ago
  - Savannah River has become a processing center and MOX has been fully funded
  - WIPP continues to achieve record throughput
  - All LLW repositories have remained open and on site disposal has been on schedule
+ This has safety and risk reduction benefits that far transcend DOE's in-house clean up mission
Examples of Progress

+ On track to reduce the cleanup date from 2070 to 2035, perhaps even as early as 2025
+ The result is a dramatic improvement in time weighted risk reduction for the public and workers
+ On track to reduce the budget by well over $50 Billion from a baseline that was impossible to achieve on the old strategy
+ The result is more than $1 Billion per year of funding for other risk reduction efforts from 2025 to 2070

EM Risk Reduction Examples

+ Will complete stabilization and packaging of all Pu metal, oxides and residues by mid 2005
  - Have de-inventoried metal and oxides from Rocky Flats and Mound
+ Will complete spent fuel removal from 8 of 10 basins by end of 2004
+ High level waste treatment is fully funded and on track and liquid waste volumes in Hanford have been reduced from millions of gallons to less than 40,000
+ Significant work scope has been slashed from the high level waste program for the same end product
EM Risk Reduction Examples (Cont.)

- Major closure sites remain on track for a 2006 completion
- Record amount of low level and transuranic waste have been safety removed from sites and disposed of in each of the last two years
- For the first time, for two consecutive years the life cycle baseline of the EM program has not increased and the schedule has not expanded

Game Changing Strategies Are Being Implemented Elsewhere In DOE
These will all have the effect of improving the Environment or Safety

- RW is committed to waste receipt in 2010
  - Goal to shave 20% from cost and more than a decade from the completion of initial consolidation
- FE – FutureGEN – state of the art power and hydrogen from coal without CO2.
  - FE is also on the front lines to resolve the natural gas shortage and fill the SPR
- EERE – A solid program to achieve a H2 vehicle commercialization decision in 2015
- NE – A new Gen IV Reactor in Idaho (and possibly a new Gen III+ start) appear within reach
Game Changing Performance and Initiatives (Cont.)

- OETD – New electricity technology and policy capability for blackout analysis and mitigation
- SC – Emerging renaissance in the physical sciences
  - Computational simulations, ITER, nanotechnology, genomics/proteomics and the new 20 Year Plan
  - Expected to result in breakthroughs in disease diagnosis and treatment and environmental protection
- WT / Legacy management – new mission, new strategy
  - Public lands management cost effective excellence

DOE-Wide OSHA Statistics Show Dramatic Improvements

A 50% reduction in injury rates over the last 5 years

All DOE Total Recordable Case and Lost Workday Case Rates

![Graph showing reduction in injury rates over the last 5 years]

- TRC Rate
- LWC Rate

Accelerated C cleanup
EM OSHA Statistics Show A 35% Reduction Since the Beginning of Accelerated Cleanup

EM Average TRC and LWC Rates FY99 through FY03

DOE-Wide Type A and B Incident Rate Declining
EM Has Held Total Radiation Exposure Nearly Stable While Dramatically Accelerating Work

Radiologic Doses in Excess of Administrative Control Limits are Declining
How Did DOE Achieve This Breakthrough and What are It's Plans to Continue It?

+ Foundations
  - President’s Management Agenda
  - EM Top-to-Bottom review
  - Reyes Safety Systems Review
+ Bring ISM to DOE Headquarters
  - Leveraging DOE’s outsourcing business model
+ Site / program vision for excellence and corresponding performance measures
+ Roles and responsibilities – Fed / contractor
+ Requirements prioritization and simplification

DOE's Actions and Plans (Cont.)

+ Work planning and budgeting
+ Management oversight and corrective actions
+ Corporate roles and responsibilities (OA, Under, etc.)
+ Corporate mission alignment
Bringing ISM to DOE Headquarters – Practicing What We Preach

+ Integrated Safety Management
+ 7 Guiding Principles
+ 5 Core Functions

ISM at Headquarters (Cont.)

+ “Safety” is applied to Safety, Safeguards, Environment and Shipping QA – Integrated Safety Management Principles are the Same
  - Now moving to just “Integrated Management” bringing in all other management aspects
+ Risk reduction and mission accomplishment are integral to safety performance
+ The safest work is that which is eliminated while still achieving the same mission objective
+ New emphasis – safety management of contract R&D and products – Hydrogen fuel and vehicle program
Leveraging DOE's Outsourcing Business Model

+ The Department was not capturing the benefits of its business model
+ DOE had successfully federalized its outsourced workforce by removing contractor accountability for workforce management and direction
+ We are on a path to reconstruct and enforce this accountability to create a safer and more productive (risk reduction) work environment
+ We are increasing contractor turnover where performance standards are not being met

Establishing a Vision for Each Site and Program

+ Underway at all sites / programs
  - EM, RW, H2 and SPR most mature
  - As much work to be done as yet accomplished
+ Provides a master framework for project scoping, work planning, management strategy, acquisition strategy and requirements alignment
+ Provides a platform for identification and deletion of unnecessary work scope (scope with no risk)
Roles and Responsibilities

- DOE and the contractors had overlapping, and therefore confusing roles and responsibilities
  - Example who is the "project manager"?
- DOE role as the project developer and investor, with the Contractor role as the implementer
- DOE manages the "contract" not the "contractor"
  - More systemic, less reactionary
  - Interventions by DOE signify a weakness in the contract or contractor that should be systemically corrected
- Building respect for the line management chain of command within DOE

Requirements Prioritization and Simplification

- DOE’s system tended to treat all requirements and information equally, masking that which is truly first order
- DOE’s requirements infrastructure creates redundant or irrelevant, and sometimes conflicting requirements that also distract from the priority tasks
- We have been and and continue to engage in programs for requirements streamlining and simplification to bring clarity and focus to our requirements set
**Work Planning and Budgeting**

- DOE’s goals and funding requirements were ill defined leading to many discontinuities in work flow, which are generally adverse to safety and risk reduction
- The department has implemented a five-year budgeting cycle that combined with the site / program vision has lead to substantial improvement in work predictability
  - Coupled with detailed program plans for most sites
- Long term planning has enabled identification of hazards associated with future work (e.g., RW, H2)
- Implemented change control for scope adjustments
- Incorporating D&D planning in facility design

**Management Oversight and Corrective Actions**

- Executive safety and performance (risk reduction) oversight has been substantially improved
  - Every site has been personally visited (Ames Lab remaining)
  - Quarterly safety reviews with Under/Asst Secretaries of every site
  - Quarterly reviews of oversight findings and trends
  - Quarterly “Top 10” reviews of the most important / difficult projects
  - Real time reporting and reviews of key events
- Information from reviews is evaluated for generic implications and root causes
**Management Oversight and Corrective Actions (cont.)**

+ Corrective actions are focused at the policy level
  - Work scope or planning concerns (e.g., 9/11 safety/security strategy)
  - DOE management or system weakness
  - Contract defects
    » Contractor incentives, penalties and requirements
    » Improved field enforcement for emerging issues
  - Contractor understanding and management capability
  - Lessons learned communication (e.g. LANL employee concerns)
  - Affect of proposed corrective actions on other system elements (unintended consequences)

**Corporate Roles and Responsibilities**

+ Implement new independent oversight model
  - Conversion of EH from independent oversight to safety and environment center of excellence and facilitator
+ Implement line management through the under secretary and line accountability of the programs through the program owning assistant secretary’s
+ Clarify and simplify program-to-field chain of command
+ Increase planning and performance integration between key functions such as EM, NNSA, NE, RW and SC
+ Clarify the current and future scope of EM and other programs
Corporate Mission Alignment
In 2001, National Security Was Made DOE's Unifying Mission
– It Remains So Today

+ Primary Mission Elements
  – Economic security – clean, reliable, economic energy supply
  – National security
    » Defense and Homeland Security
    » Counter Terrorism and Critical Infrastructure Protection

+ Enabling Mission Elements
  – Environmental management of the primary mission elements
    » Remediation
    » Waste management
    » Emissions management – water, air (carbon), soil, etc.

Future Challenges
While Much Has Been Accomplished, More Remains

+ We know from commercial and DOE benchmarks that continued improvements in safety and productivity are achievable
+ Improvement in all the areas described above
+ Improvement in contractor management capability and capacity
+ Ensuring that Columbia-type issues don’t arrive undetected through the “back door”
Future Challenges (Cont.)

- Safety concerns continue
  - Keeping pace with work acceleration
  - Overconfidence (previously good sites have stumbled)
  - Near misses (esp., electrical, hoisting/rigging, lockout-tagout)
  - Indicators of systemic deficiencies (financial, security, property, etc.) – discovering hidden erosion of the safety infrastructure
  - Shipping QA
  - Worker transition management
  - QA systems development and implementation
  - Improved QA for new construction
  - Improved indicators for leading indicators of safety
  - Employee concerns program

The Next Plateau

- DOE looks forward to building on its safety partnership with the DNFSB to help it achieve the next plateau in safety and risk reduction.
  - Further expedite public and worker risk reduction while achieving new safety benchmarks
  - Decrease risk by discovering and eliminating unnecessary scope from the work
  - Clarify and streamline requirements to make the most important of them more prominent and visible
  - Identify issues and controls at the highest and most systematic levels for maximum leverage in corrective actions
Summary

- DOE is recovering from many safety and environmental challenges of its past
- DOE and contractor had and have bright and capable workers
  - The systems we created were the problem, not the workers
- Safety and performance is improving
- We are not satisfied and many opportunities for improvement remain