



# U.S. Nuclear Waste Technical Review Board

An Independent Perspective on the Elements of an Effective Oversight Process

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22<sup>nd</sup> Annual Regulatory Information Conference  
Bethesda, Maryland  
March 9 - 11, 2010

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## Outline

- Different oversight roles of NRC and NWTRB
- Requirements for risk-informed oversight
- Outsider's view of NRC risk-informed reactor oversight
- NWTRB oversight experience and impact
- Challenges to both agencies
- Lessons learned

Effective Oversight

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## Differences in Roles of NRC Reactor Oversight and NWTRB Nuclear Waste Oversight

- Different mandates
- Different scopes
- Different definitions of terms
- Different questions to be answered

Effective Oversight

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## Requirements for Being Risk-Informed

- Risk-based input
- Consistency of risk assessment methods
- Representative risk assessment results
- Consistency of application across different performance areas (initiating events, mitigating events, integrity of barriers, etc.)

Effective Oversight

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## Pinchpoints for "Adequate Protection" of Reactor Operation

- Reactor core
- Containment
- Evacuation

Effective Oversight

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## Elements of Effective Reactor Oversight

Specificity with respect to:

- Plant type
- Plant location
- Past plant performance

Effective Oversight

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### Some Impacts of NWTRB Oversight on the Yucca Mountain Project

- Enhanced transparency and public participation
- Technical improvements of tunneling and subsurface investigations
- Improved modeling of engineered barrier system over very long time periods
- More realistic performance assessment analysis and total waste management system integration

Effective Oversight

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### Challenges Common to NRC's Reactor Oversight and NWTRB's Nuclear Waste Oversight

- Maintaining independence and transparency
- Accessing information and level of review
- Response to oversight findings and their effects

Effective Oversight

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### Lessons Learned

It is essential to have:

- Current "on point" information and timely reviews
- Site and facility-specific risk assessments
- Interaction between participants conducive to good practices in scientific investigations
- Self assessment of performance and independence of oversight organization

Effective Oversight

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