U.S. Nuclear Regulatory Commission's (NRC) Report on Review of the DOE Regulatory Processes for the Hanford Waste Treatment Plant

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Enclosure 3

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Outline

- Organization of the report
- Introduction
- Regulatory framework
- Programs and practices
- Conclusions and recommendations
- Summary

Organization of Report

- Five chapters
  - Introduction
  - Regulatory framework
  - Programs and practices
  - Conclusions and recommendations
  - References
- Two appendices
  - Status of significant NRC issues identified in NRC's 2001 closeout report
  - Specific safety and regulatory issues

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Introduction

- Congressional request
- Scope of NRC review
- Interactions
- Background on Hanford tank waste and the Waste Treatment Plant

Regulatory Framework

- Comparison to NRC regulatory framework
  - Statutory and other mandates for safety
  - Regulatory process
    - Policies, regulations, guidance, and consensus standards
    - Licensing/Authorization process, including licensing/authorization basis, controlling changes, and adjudication
    - Oversight, including the process for addressing external oversight items
- Overall similar framework, but DOE has additional responsibilities

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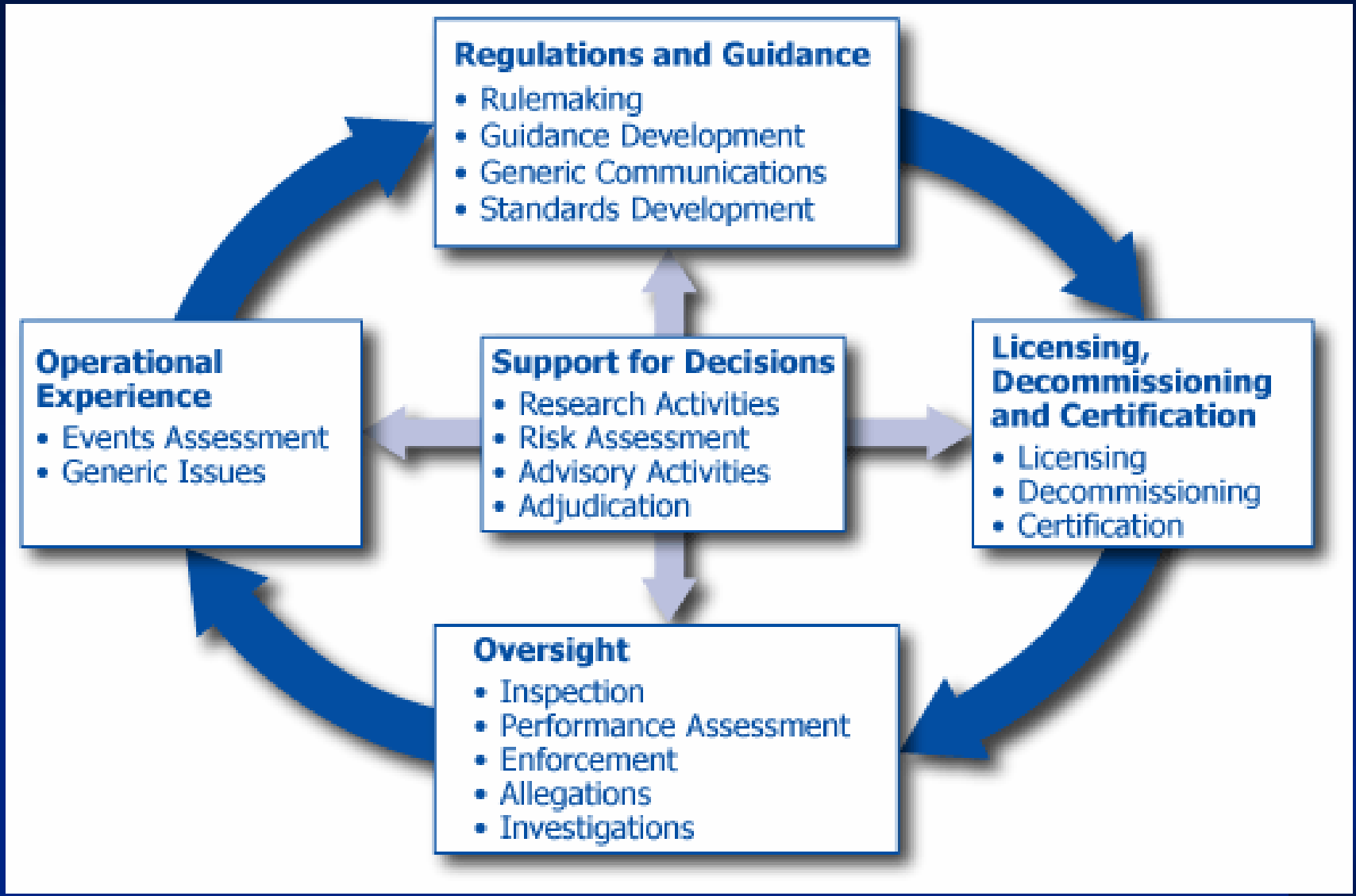
How NRC regulates



Programs and Practices

- Topical reviews
  - Safety analysis
  - Radiation safety
  - Nuclear criticality safety
  - Chemical process safety
  - Fire safety
  - Environmental protection
  - Management measures
  - Inspection (construction and operations)
  - Enforcement
  - Allegations
  - Probabilistic safety assessment and safety goals
  - Staffing levels

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Programs and Practices (continued)

- Safety analysis
  - Comparable hazard analysis process, but differences in controlling changes
- Radiation safety
  - Similar regulations and guidance; a significant difference is DOE's use of co-located worker
- Nuclear criticality safety
  - Similar regulations and guidance
  - Staff do not appear to be systematically involved in the review of new or changed designs

Programs and Practices (continued)

- Chemical process safety
  - Some similarities, but noticeable differences (e.g. co-located worker and different chemical- consequence levels)
- Fire safety
  - Very similar to NRC, but differences associated with design-build process, DOE's focus on level of protection with financial loss, and level of staffing
- Environmental protection
  - Major differences due to DOE's owner/operator responsibilities

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Programs and Practices (continued)

- Management measures
  - Configuration management; maintenance; training and qualifications; procedures; audits and assessments; incident investigations; records management; quality assurance elements
  - Regulations and guidance are comparable but areas where implementation may not have been effective over extended periods of time

Programs and Practices (continued)

- Inspection during construction
  - Well-structured and documented inspections and larger scope than NRC's inspection responsibilities
- Inspection during operations
  - Well-documented and structured oversight and operational monitoring program, likely to be comparable to NRC
- Enforcement
  - While structurally similar in terms of documentation, the results of DOE's implementation may be much different from the NRC enforcement process

Programs and Practices (continued)

- Allegations
  - Broad similarities but differences in the focus and applicability of DOE's program
- Probabilistic safety assessment and safety goals
  - Goals are the same but different uses of probabilistic safety assessment
- Staffing levels
  - Dual responsibilities
  - The effective staff review time that DOE applies to ensuring nuclear safety is less (but not easily quantifiable) than NRC would apply for regulating a similar facility

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Appendices

- Appendix A – Status of Significant NRC Issues Identified in NRC's 2001 Closeout Report
  - NRC did not assess whether DOE has been responsive to issues raised in 2001
- Appendix B – Specific Safety and Regulatory Issues
  - Issues outside the scope and intent of the review
  - Observations may assist DOE in continued oversight of the project

Conclusions and Recommendations

- Broad similarities between DOE's and NRC's regulatory processes for nuclear safety; but they differ in a few important ways.
- NRC did not attempt to assess the significance of the differences on safety of the WTP
- Significant issues for further consideration in seven areas

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Significant Issues for Further Consideration

Review Topic	Area Not Comparable to NRC
Radiation Protection	- Use of co-located worker
Nuclear Criticality Safety	- Formal procedures for review of new or change design
Chemical Process Safety	- Use of co-located worker - Deterministic chemical consequence criteria
Fire Protection	- Protection based on financial loss - Staffing levels
Management Measures	- Audit and assessment program - Quality assurance
Enforcement	- Incentives versus fines - Use of enforcement tools
Allegations	- Focused on improving policies and practices - Available only to DOE and its contractors

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Recommendations

- Despite the issues identified in the report, the NRC believes that the DOE program, if properly implemented, is adequate to ensure protection of public health and safety.

- Therefore, the NRC makes no specific recommendations within the scope of this review.

Recommendations (continued)

- NRC's suggestions for DOE's consideration
  - Evaluate how their requirements are being implemented
  - Evaluate how the transparency of its decisions and actions regarding the WTP could be improved
  - Consider the list of significant issues identified in Table 4.1 and the specific safety and regulatory issues in Table B.1 of this report
  - Explore ways to gain and maintain more independence between regulatory oversight and project management functions.

Summary

- Presented the organization of the report
- Summarized areas addressed in each chapter
- Reviewed conclusions and suggestions
- Ready for your questions