

# Government to Government Meeting

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Samuel J. Collins  
Regional Administrator  
NRC Region I

December 16, 2004

# Welcome

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- Introductions
- NRC Strategic Plan – Openness Goal
  - Annual performance related meetings
  - Communication plans
  - Web site
- Government-to-Government Meeting
  - Responsive to local officials
  - Nuclear regulation is the public's business
- Objectives
  - Common understanding
  - Update local officials on NRC actions

# Meeting Structure and Agenda

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Brian E. Holian  
Deputy Director  
Division of Reactor Projects  
Region I

# Meeting Structure

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- Previous Public Meetings
- Agenda For This Meeting
- “Official Use Only” Information
- Logistics

# Agenda

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<b>9:00</b>	<b>Welcome and Introductions</b>	<b>Sam Collins</b>
<b>9:10</b>	<b>Meeting Structure and Agenda</b>	<b>Brian Holian</b>
<b>9:15</b>	<b>Plant Performance Overview</b>	<b>Brian McDermott</b>
<b>9:20</b>	<b>Q &amp; A</b>	
<b>9:35</b>	<b>Security &amp; Safeguards</b>	<b>Alan Madison</b>
<b>9:50</b>	<b>Q &amp; A</b>	
<b>10:05</b>	<b>Emergency Preparedness (EP)</b>	<b>Patricia Milligan</b>
<b>10:20</b>	<b>Q &amp; A</b>	
<b>10:35</b>	<b>BREAK</b>	
<b>10:50</b>	<b>Independent Spent Fuel Storage Installations</b>	<b>Larry Camper</b>
<b>11:05</b>	<b>Q &amp; A</b>	
<b>11:20</b>	<b>General Q &amp; A (including carryover topics)</b>	
<b>11:55</b>	<b>Closing Remarks</b>	<b>Sam Collins</b>
<b>12:00</b>	<b>Meeting Adjourns</b>	

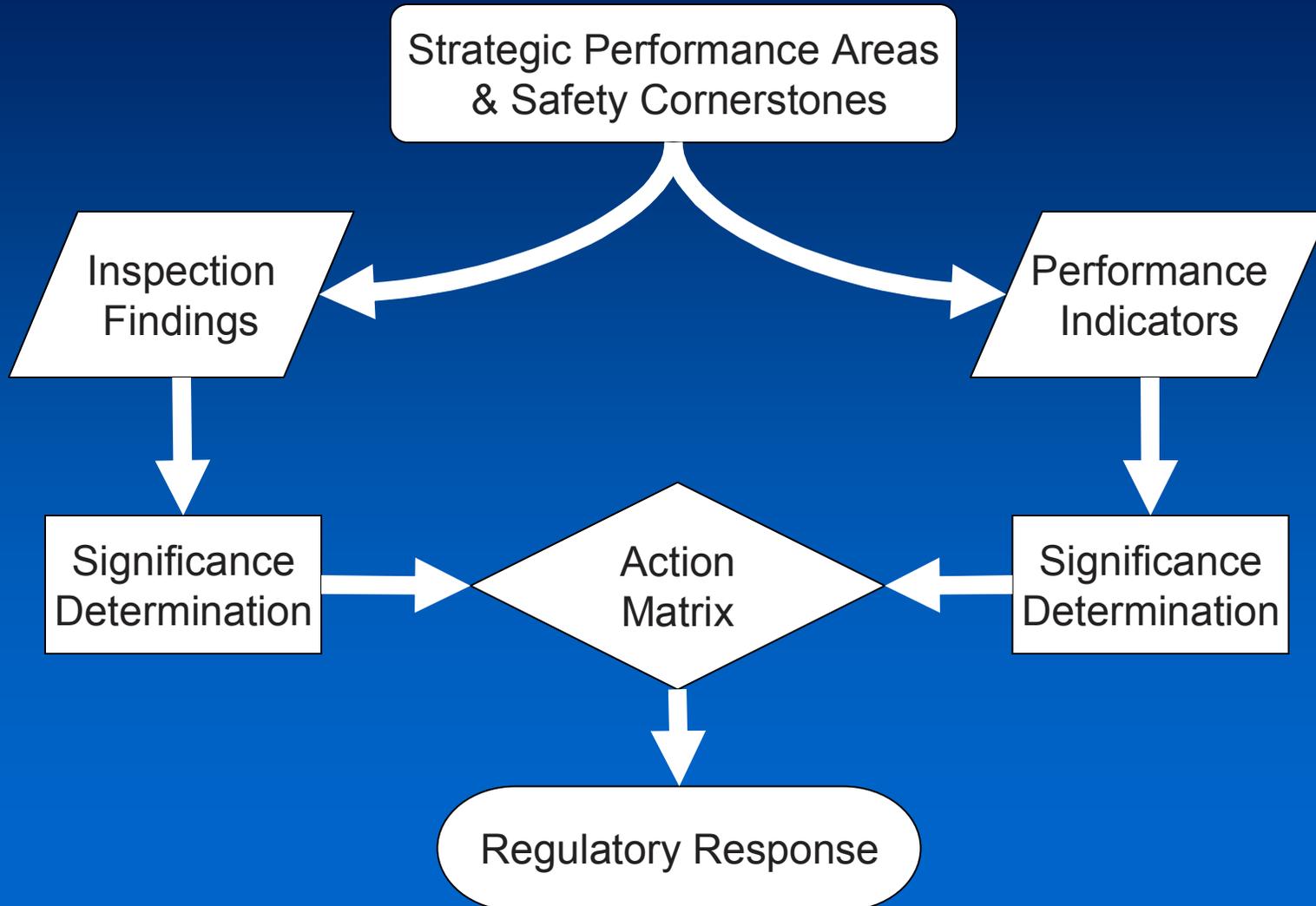
# Plant Performance Overview

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Brian J. McDermott, Chief  
Projects Branch2  
Division of Reactor Projects  
Region I

# Reactor Oversight Program



# NRC Action Matrix

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS		All Assessment Inputs (Performance Indicators (PIs) and Inspection Findings) Green; Cornerstone Objectives Fully Met	One or Two White Inputs (in different cornerstones) in a Strategic Performance Area; Cornerstone Objectives Fully Met	One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance	Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance	Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety
RESPONSE	Regulatory Performance Meeting	None	Branch Chief (BC) or Division Director (DD) Meet with Licensee	DD or Regional Administrator (RA) Meet with Licensee	RA (or EDO) Meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action	Licensee root cause evaluation and corrective action with NRC Oversight	Licensee cumulative root cause evaluation with NRC Oversight	Licensee Performance Improvement Plan with NRC Oversight	
	NRC Inspection	Risk-Informed Baseline Inspection Program	Baseline and supplemental inspection procedure 95001	Baseline and supplemental inspection procedure 95002	Baseline and supplemental inspection procedure 95003	
	Regulatory Actions <sup>1</sup>	None	Supplemental inspection only	Supplemental inspection only	-10 CFR 2.204 DFI -10 CFR 50.54(f) Letter - CAI/Order	Order to Modify, Suspend, or Revoke Licensed Activities
COMMUNICATION	Assessment Letters	BC or DD review/sign assessment report (w/ inspection plan)	DD review/sign assessment report (w/ inspection plan)	RA review/sign assessment report (w/ inspection plan)	RA review/sign assessment report (w/ inspection plan)	
	Annual Public Meeting	SRI or BC Meet with Licensee	BC or DD Meet with Licensee	RA (or designee) Discuss Performance with Licensee	RA or EDO Discuss Performance with Senior Licensee Management	
	Commission Involvement	None	None	None	Plant discussed at AARM	Commission Meeting with Senior Licensee Management
INCREASING SAFETY SIGNIFICANCE ----->						

# Licensee Response

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS		All Assessment Inputs (Performance Indicators (PIs) and Inspection Findings) Green; Cornerstone Objectives Fully Met	One or Two White Inputs (In different cornerstones) In a Strategic Performance Area; Cornerstone Objectives Fully Met	One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance	Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance	Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety
RESPONSE	Regulatory Performance Meeting	None	Branch Chief (BC) or Region Director (RD) Meet with Licensee	DD or Regional Administrator (RA) Meet with Licensee	RA (or EDO) Meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action	Licensee Corrective Action	Licensee Corrective Action	Licensee Performance Improvement Plan with NRC Oversight	
	NRC Inspection	Risk-Informed Inspection Program	Risk-Informed Inspection Program	Risk-Informed Inspection Program	Baseline and Supplemental Inspection Procedure 95003	
	Regulatory Actions <sup>1</sup>	None	None	None	2,204 DFI 50.54(f) Letter per	Order to Modify, Suspend, or Revoke Licensed Activities
COMMUNICATION	Assessment Letters	BC or DD assessment inspection	BC or DD assessment inspection	BC or DD assessment inspection	Licensee report (action plan)	
	Annual Public Meeting	SRI or BC Meet Licensee	SRI or BC Meet Licensee	SRI or BC Meet Licensee	EDO Discuss Performance with Senior Licensee Management	
	Commission Involvement	None	None	None	Item discussed at AARM	Commission Meeting with Senior Licensee Management
<b>INCREASING SAFETY</b>						

All Assessment Inputs (Performance Indicators [PIs] and Inspection Findings) Green; Cornerstone Objectives Fully Met

# Regulatory Response

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS		All Assessment Inputs (Performance Indicators (PIs) and Inspection Findings) Green; Cornerstone Objectives Fully Met	One or Two White Inputs (in different cornerstones) in a Strategic Performance Area; Cornerstone Objectives Fully Met	One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance	Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance	Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety
RESPONSE	Regulatory Performance Meeting	None	Branch Division Meet w	DD or Regional Administrator (RA) Meet	RA (or EDO) Meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action			Licensee Performance Improvement Plan with NRC Oversight	
	NRC Inspection	Risk-Informed B Inspection Program			Baseline and Supplemental Inspection Procedure 95003	
	Regulatory Actions <sup>1</sup>	None			2,204 DFI 50.54(f) Letter per	Order to Modify, Suspend, or Revoke Licensed Activities
COMMUNICATION	Assessment Letters	BC or DD assessment inspection			Assign report (action plan)	
	Annual Public Meeting	SRI or BC M Licensee			EDO Discuss performance with Senior Licensee Management	
	Commission Involvement	None			ant discussed at AARM	Commission Meeting with Senior Licensee Management
<b>INCREASING SAFETY</b>						

One or Two White Inputs (in different cornerstones) in a Strategic Performance Area; Cornerstone Objectives Fully Met

# Degraded Cornerstone

		Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS		All Assessment Inputs (Performance Indicators (PIs) and Inspection Findings) Green; Cornerstone Objectives Fully Met	One or Two White Inputs (In different cornerstones) In a Strategic Performance Area; Cornerstone Objectives Fully Met	One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance	Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance	Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety
RESPONSE	Regulatory Performance Meeting	None	Branch Chief (BC) or Division Director (DD) Meet with Licensee	RA (or EDO) Meet	RA (or EDO) Meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action		Root Cause Analysis	Licensee Performance Improvement Plan with NRC Oversight	
	NRC Inspection	Risk-Informed B Inspection Program		Baseline and Supplemental Inspection Procedure 95003		
	Regulatory Actions <sup>1</sup>	None		2,204 DFI 50.54(f) Letter per		Order to Modify, Suspend, or Revoke Licensed Activities
COMMUNICATION	Assessment Letters	BC or DD assessment inspection		Licensee report (action plan)		
	Annual Public Meeting	SRI or BC Meet Licensee		EDO Discuss performance with Senior Licensee Management		
	Commission Involvement	None		Item discussed at AARM		Commission Meeting with Senior Licensee Management
INCREASING SAFETY						

One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance

# Multiple/Repetitive Degraded Cornerstone

	Licensee Response Column	Regulatory Response Column	Degraded Cornerstone Column	Multiple/ Repetitive Degraded Cornerstone Column	Unacceptable Performance Column
RESULTS	All Assessment Inputs (Performance Indicators (PIs) and Inspection Findings) Green; Cornerstone Objectives Fully Met	One or Two White Inputs (In different cornerstones) In a Strategic Performance Area; Cornerstone Objectives Fully Met	One Degraded Cornerstone (2 White Inputs or 1 Yellow Input) or any 3 White Inputs in a Strategic Performance Area; Cornerstone Objectives Met with Moderate Degradation in Safety Performance	Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance	Overall Unacceptable Performance; Plants Not Permitted to Operate Within this Band, Unacceptable Margin to Safety
RESPONSE	Regulatory Performance Meeting	None	Branch Chief (BC) or Division Director (DD) Meet with Licensee	DD or Regional Administrator (RA) Meet with Senior Licensee Management	Commission meeting with Senior Licensee Management
	Licensee Action	Licensee Corrective Action		Licensee Performance Improvement Plan with NRC Oversight	
	NRC Inspection	Risk-Informed B Inspection Program		Baseline and Supplemental Inspection Procedure 95003	
	Regulatory Actions <sup>1</sup>	None		2,204 DFI 50.54(f) Letter per	Order to Modify, Suspend, or Revoke Licensed Activities
COMMUNICATION	Assessment Letters	BC or DD assessment inspection		Licensee Management Report (Licensee Management Report)	
	Annual Public Meeting	SRI or BC Meet with Licensee		DD or EDO Discuss Licensee Performance with Senior Licensee Management	
	Commission Involvement	None		Significant discussed at AARM	Commission Meeting with Senior Licensee Management
INCREASING SAFETY					

Repetitive Degraded Cornerstone, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or 1 Red Input; Cornerstone Objectives Met with Longstanding Issues or Significant Degradation in Safety Performance

# Indian Point Unit 3 Performance

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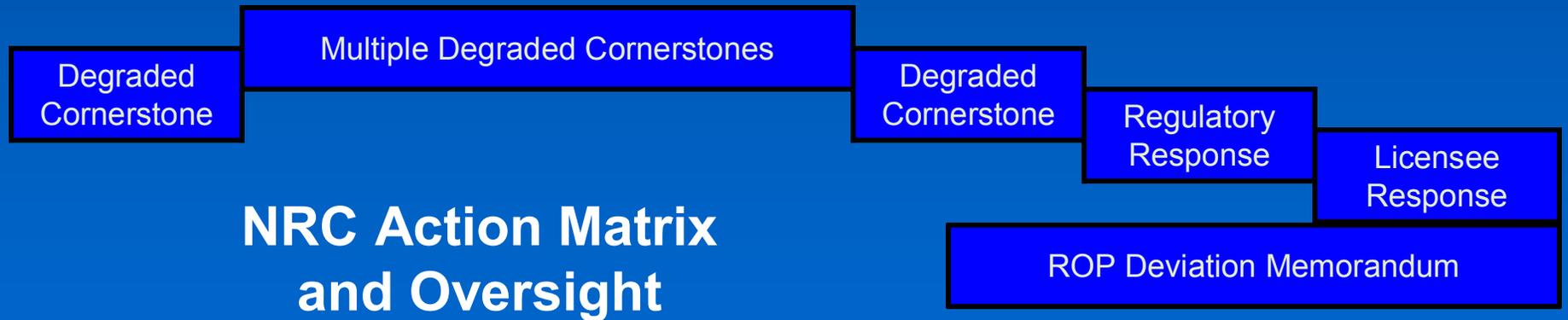
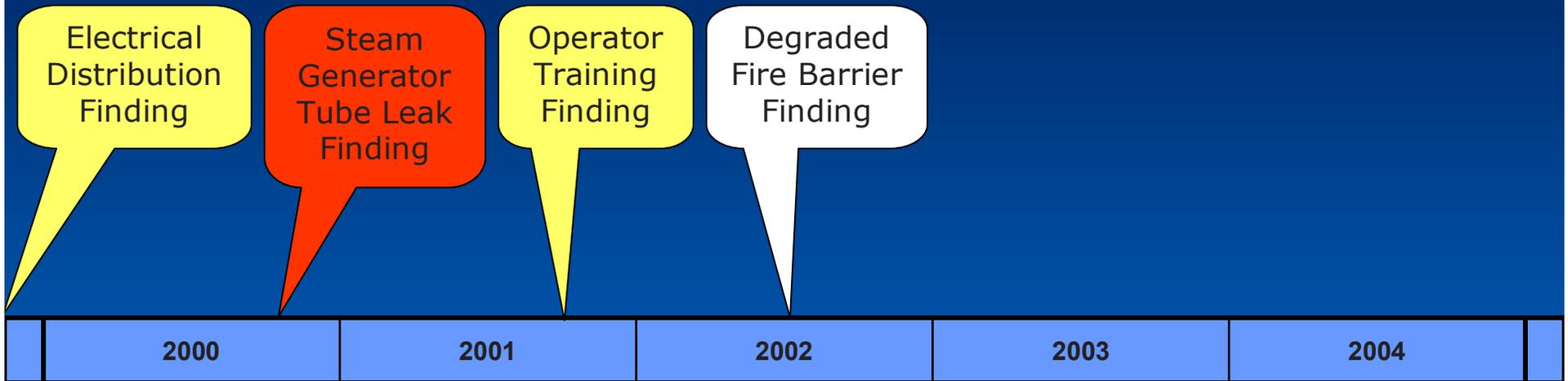
Unit 3  
Unplanned  
Scrams PI  
Turns White

	2000	2001	2002	2003	2004	
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**NRC Action Matrix  
and Oversight**

# Indian Point Unit 2 Performance



# NRC Performance Assessment

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- Both units operated safely
- Overall performance at the station has improved, albeit slowly
- Improvement in the area of human performance; Unit 2 substantive cross-cutting issue closed
- Mixed results in improving corrective action program effectiveness; Unit 2 substantive crosscutting issue remains open
- Noteworthy challenges continue to require significant management attention

# NRC Planned Actions

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- Continue focus on corrective action effectiveness
- Additional oversight of large projects challenging the site
  - Integration of Units 2 and 3
  - Backlog reductions
  - ISFSI
  - Design Basis Initiative
- Maintain heightened management involvement and oversight

# Performance Overview

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Questions ?

# Overview of NRC Security Activities

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Alan Madison, Chief  
Security Performance Evaluations Section  
Office of Nuclear Security and Incident Response

December 16, 2004

# Topics

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- Security Orders Issued in 2002 & 2003
- NRC Review and Approval of Security Plans
- Baseline Security Inspection Program
- Force-on-Force Exercises
- Vulnerability Assessments and Mitigative Strategies
- Information Security
- Security Response and Preparedness

# Security Orders Issued in 2002 & 2003

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- 2002 Security Orders
  - Additional Security Measures for Reactors
  - Additional Security Measures for Independent Spent Fuel Storage Installations (ISFSIs)
- 2003 Reactor Security Orders
  - Access Authorization
  - Training and Qualifications
  - Security Officer Work Hour Limits
  - Design Basis Threat

# NRC Review and Approval of Security Plans

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- NRC Review and Approval Process
  - 198 New Security, Contingency, and Training and Qualification Plans
  - Review Complete
- Indian Point Insights

# Baseline Security Inspection Program

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- Development of Revised Program in Concert with Regions and NRR
- Commensurate Inspection Resource Increase

# Force-on-Force Exercises

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- Initial post 9/11 enhanced Pilot Force-on-Force (FOF) exercise program complete
- Transitional FOF exercise program in progress (4 FOF exercises per NRC region)

# Force-on-Force Exercises

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- Fully enhanced FOF program began November 2004
- Areas of focus:
  - Use of laser-simulation weapons
  - Adversary realism
  - Controller training
  - Exercise format and content

# Vulnerability Assessments and Mitigative Strategies

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- Detailed Analyses addressing a broad range of threats
- Broad use of NRC and contractor expertise
- Continued development of mitigative strategies to minimize potential security vulnerabilities

# Information Security

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- Appropriate Balance in Disclosure
- Security Findings in Reactor Oversight Program No Longer Public
- Licensee Security Clearance Program
- Public Access to Adams

# Security Response and Preparedness

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- Coordination among the key on-site and off-site responders is essential
- Enhanced sharing of threat information
- Ongoing exercises of capabilities, roles, and responsibilities incorporating key assets

# Overview of NRC Security Activities

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Questions ?

# Emergency Preparedness

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Patricia A. Milligan, CHP  
Emergency Preparedness Directorate  
Office of Nuclear Security and Incident Response

# Emergency Preparedness

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The NRC recognizes that many things have changed since the terrorist attacks of September 11, 2001 and has been working with Federal, State, and local organizations to improve coordination of responses to protect the public from the impact of a terrorist attack on a nuclear power plant.

# Emergency Preparedness Post 9/11

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- NRC believes the Emergency Preparedness planning basis for nuclear power reactors remains valid.
- Challenges for Emergency Preparedness in post 9/11 world:
  - Revised design basis threat
  - Communication strategies
  - Coordination among federal agencies (including creation of the Department of Homeland Security and state DHS offices)
  - Revised national response plan

# Emergency Preparedness Post 9/11

(Cont'd)

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- Evaluation of nuclear power reactor emergency preparedness planning basis adequacy in the post 9/11 threat environment.
  - Generic communications to licensees addressing post 9/11 EP issues
  - Study of Protective Action Recommendations with Sandia national laboratory
  - Pilot drill program to look into licensee EP response with terrorist based scenarios

# Exercises

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- Force-on-Force security exercises with an Emergency Preparedness component
  - Significant, but less extensive challenges to EP interface
  - Detailed demonstration and rigorous analysis of security challenges

# Exercises (Cont'd)

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- Emergency Preparedness Exercises (public)
  - Detailed demonstration and rigorous analysis of EP-Operations challenges involving offsite response organization participation
  - Security interface limited; terrorism component not required
- Terrorist-Based Exercise Scenarios
  - Indian Point in 2004
  - Diablo Canyon in 2003
  - Palo Verde in 2000

# Force-on-Force Lessons Learned

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- Observation of transitional Force-on-Force exercises conducted with select licensees through October 2004
- Lessons-learned shared with industry
- NRC's Emergency Preparedness Directorate will continue to cover Force-on-Force exercises
- Inspection procedure drafted

# Enhanced Emergency Action Levels

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- Current implementation of Emergency Preparedness is based on radiological consequences
- Moving toward implementing Emergency Plans based on confirmed threats
  - Enhanced security-related Emergency Action Levels
  - Would raise the classification sooner

# Enhanced Emergency Action Levels

(cont'd)

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- The current Emergency Action Levels will not be changed
- Addition of enhanced security Emergency Action Levels enable licensees to inform states more quickly of a threat
  - If a licensee is aware of a threat, they will notify state instead of waiting for actual plant damage

# Evacuation Study Overview

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- Public evacuations have been successful in protecting public health & safety.
- Study validates NRC's use of evacuations as an important protective measure.

# Evacuation Study Supports Emergency Preparedness Planning Basis

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- Evacuations successfully protect the public health & safety over a broad range of initiating circumstances & challenges.
  - Public evacuations occur frequently (~once every 3 weeks).
  - Shadow evacuations do not affect the effective implementation of adequate protective actions.
  - Emergency workers report to duty when asked.
  - Public education is an important contributor to efficient & effective evacuations.
  - Route alerting is effective & a significant contributor to efficient & effective evacuations.

# Evacuation Study Investigative Approach

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- Perform extensive background search on evacuations in general, as well as on specific evacuation experiences.
- Identify “universe” of evacuation incidents meeting specified criteria.
  - U.S. Mainland public evacuation
  - Occurred after January 1, 1990
  - Evacuation >1,000 people
  - Evacuation from more than a single building or industrial facility
- Identify factors contributing to efficient and effective evacuations.

# Evacuation Study

## Major Issues Considered

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- Evacuation decision-making
- Notification of response personnel/officials
- Citizen notification and warning
- Citizen action
- Emergency communications
- Traffic movement & control
- Congregate care centers
- Law enforcement Issues
- Re-entry Issues
- Shadow evacuations
- Special facilities evacuations
- Training & drills
- Type of emergency plan
- Community preparedness & history of emergencies
- Number of deaths/injuries
- Unusual, or special, circumstances

# Protective Action Recommendation Study

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- Review of NRC Protective Action Recommendation guidance documents
- Review sheltering
- Examine innovative strategies
- Involve state/local response organizations in evaluation
- 2 year project to examine technical issues
- If beneficial, changes will be recommended

# Sheltering

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- Staff reviewed potential generic aspects of reactor licensees' implementation of protective action recommendations
- NRC guidance to licensees issued in 2004 clarifying that licensees must consider sheltering in the range of Protective Action Recommendations

# Potassium Iodide - 20 Miles

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- Public health security and bio-terrorism preparedness and response act of 2002, P.L.107-188, section 127
  - Signed into law on June 12, 2002
  - Act is intended to improve the ability of the USA to prevent, prepare for, and respond to bio-terrorism and other public health emergencies

# Potassium Iodide - 20 Miles (Cont'd)

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- Section 127 requirements:
  - The U.S. Department of Health and Human Services will make KI available to state and local governments for stockpiling and for distribution in quantities sufficient to protect the public within 20 miles of a nuclear power plant.
  - State/locals must submit a plan for stockpiling, distribution, and utilization of KI.
  - State must approve local plan(s) and ensure consistency with state plans.

# Potassium Iodide - 20 Miles (Cont'd)

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- The KI subcommittee of the Federal Radiological Preparedness Coordinating Committee developed the guidelines
- “One stop shopping” for KI,
  - Requests will go to one agency
- 10-mile Emergency Planning Zone will not change,
  - No new requirements for licensee
- Licensees will not be expected to change their emergency plans/procedures
- Guidelines will be issued to states/stakeholders for input, followed by issuance in the federal register

# Emergency Preparedness

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Questions ?

# Dry Cask Storage at Indian Point

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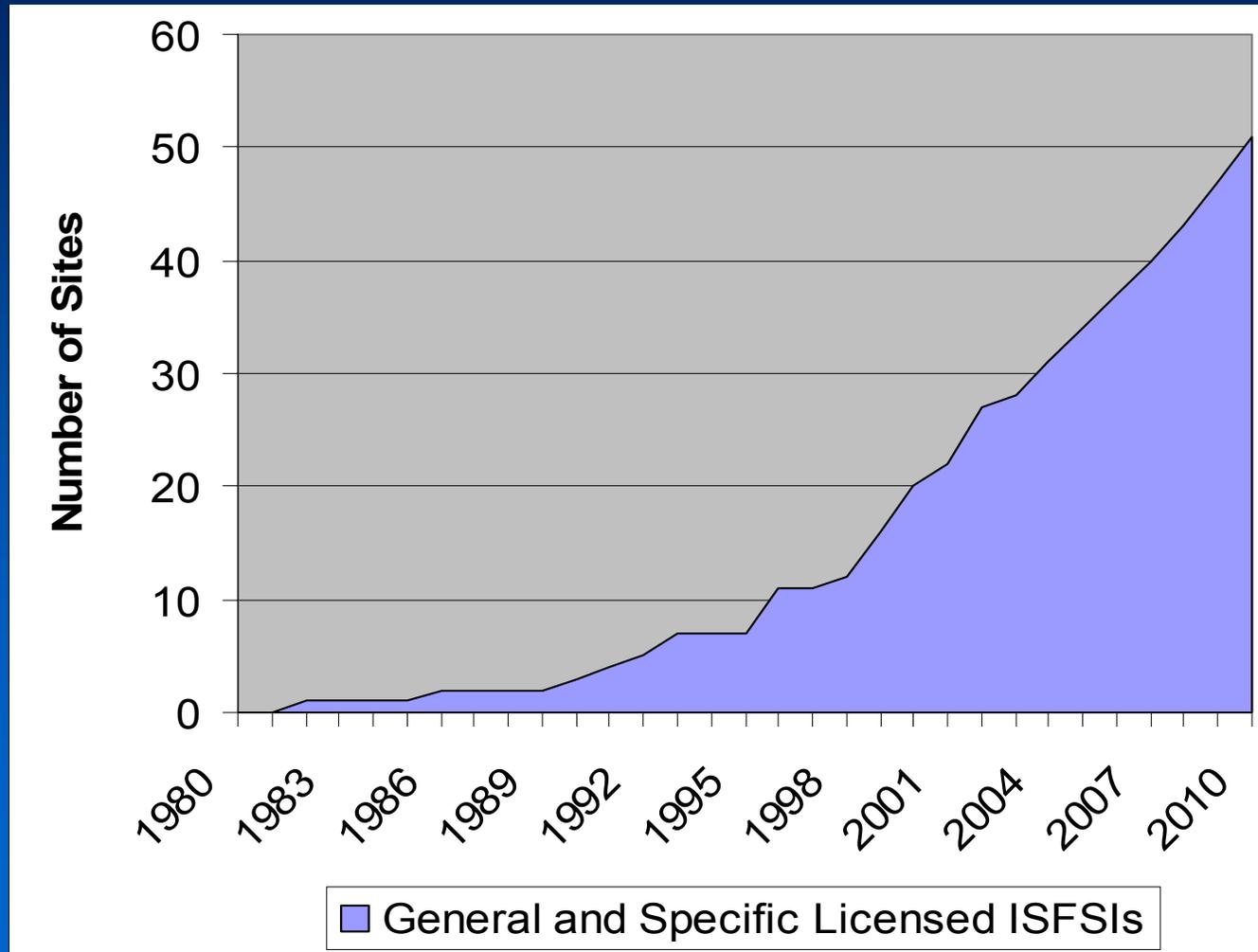
Larry Camper, Deputy Director  
Spent Fuel Project Office  
Office of Nuclear Material Safety and Safeguards

# Overview

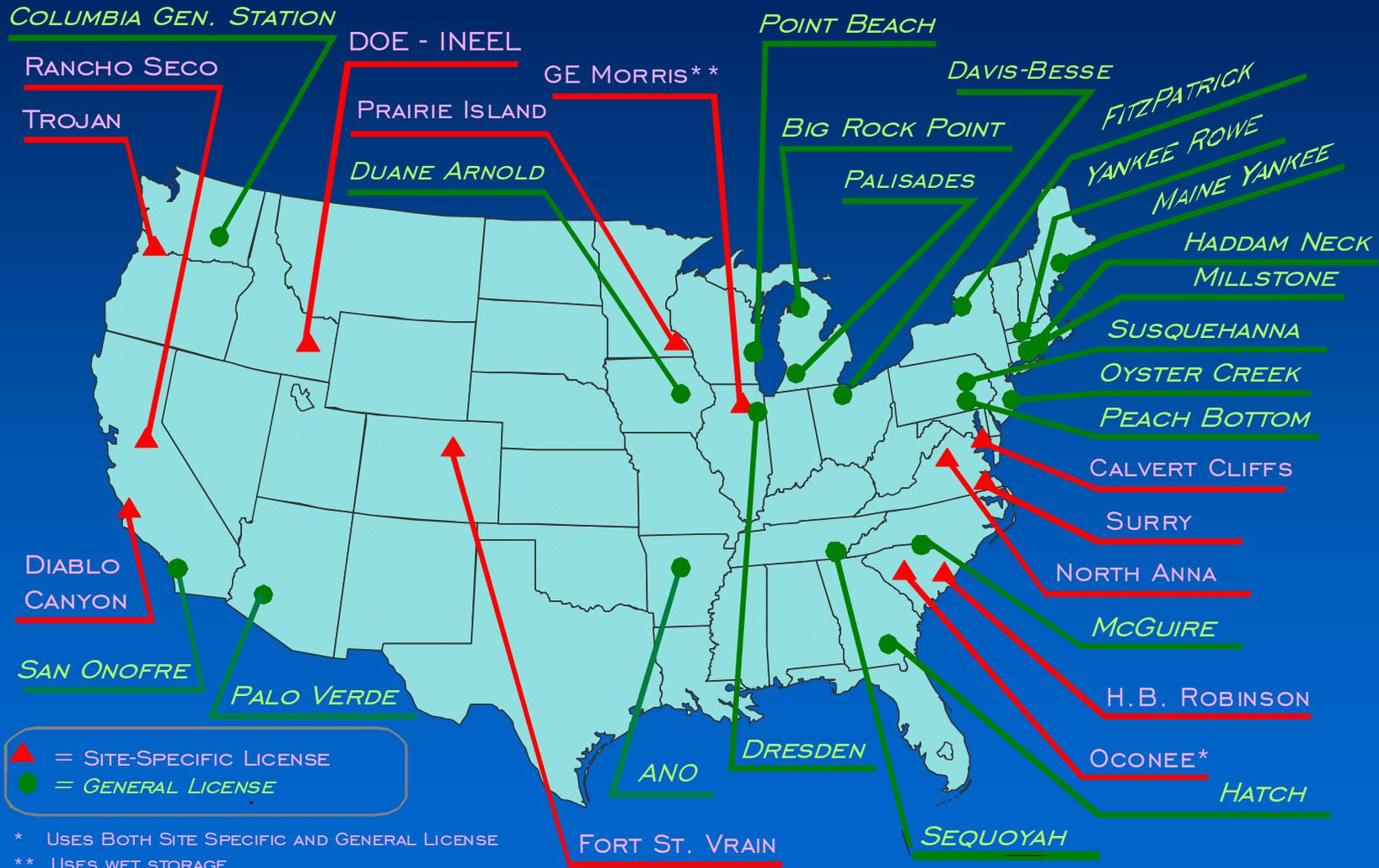
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- Regulatory Framework
- ISFSI Licensing Pathways
- Security Considerations

# General and Specific Licensed ISFSIs



# Operating Spent Fuel Storage (ISFSI) Locations



INFORMATION AS OF OCTOBER 8, 2004

# Dry Cask Storage System for Indian Point

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## Hi - Storm 100 (Certificate of Compliance 1014)

- OPERATIONAL EXPERIENCE
  - ARKANSAS NUCLEAR (2003)
  - COLUMBIA GENERATING STATION (2002)
  - DRESDEN (2003)
  - EDWIN I. HATCH (2003)
  - FITZPATRICK (2002)
  - RIVER BEND (2004)
  - SEQUOYAH (2004)
  - TROJAN (2003)
- PLANNED
  - BROWNS FERRY (2005)
  - HOPE CREEK/SALEM (2006)
  - QUAD CITIES (2005)
  - DIABLO CANYON (2006)
  - PRIVATE FUEL STORAGE FACILITY (2005)

# HI-STORM 100 Cask



# Dresden ISFSI



# Regulatory Framework

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- Atomic Energy Act of 1954
- Nuclear Waste Policy Act of 1982
- 10 CFR Part 72
- Waste Confidence Decision
- Spent Fuel Project Office (SFPO)

# ISFSI Licensing Pathways

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- General License – Indian Point
  - With Certificate of Compliance
- Specific License

# General Licensing Process

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- Certificate of Compliance
- Power Plant Selects, Evaluates, and Constructs the Dry Cask Storage System
- NRC Inspections

# General Licensing Process

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- Power Plant License Holder Actions
  - Evaluate and modify existing programs to support the ISFSI
    - Quality Assurance
    - Physical Security
    - Emergency Planning
    - Training
    - Health Physics
    - Procurement

# General Licensing Process

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- Power Plant License Holders
  - Inform NRC 90 days prior to first planned loading
  - Register each cask with the NRC within 30 days
  - Maintain individual cask records
  - Maintain casks in accordance with Certificate of Compliance

# Review and Approval Process for Certificates of Compliance

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- Application submitted to NRC
- Application made available for public inspection
- NRC Safety Review
- Draft Safety Evaluation Report and draft Certificate of Compliance
- Notice of Rulemaking is published in Federal Register
- NRC Review of public comments
- Final Safety Evaluation Report and Issuance of Certificate of Compliance

# Areas of Evaluation

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- Principal Design Criteria
- Structural
- Thermal
- Shielding
- Criticality
- Confinement
- Operating Procedures
- Acceptance Tests and Maintenance Program
- Radiation Protection
- Accident Analyses
- Conditions for Use
- Quality Assurance
- Decommissioning

# Hazards Considered

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- Normal Operations
- Off-Normal Operations
- Design Basis Accidents
- Design Basis Natural Phenomena (e.g., Tornados, earthquakes, floods, lightning, tsunami, hurricanes)

# Publicly Available Information

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- NRC's Web-site ([www.nrc.gov](http://www.nrc.gov))
  - Electronic Reading Room (ADAMS web-based access)
- Indian Point Proposed ISFSI
  - Docket No. 07200051
- Holtec HI-STORM 100 Certificate of Compliance
  - Docket No. 07201014

# NRC Inspection Program

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- Component Fabrication
- ISFSI Construction
- Preoperational Testing
- Operations
- Security

# Security Considerations

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- Compliance with 10 CFR Part 73
- Issuance of Security Advisories
- Issuance of Security Orders
- Vulnerability Assessments
- NAS Study on Spent Fuel Storage

# Dry Cask Storage at Indian Point

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Questions ?

# Closing Remarks

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Samuel J. Collins  
Regional Administrator  
NRC Region I

December 16, 2004

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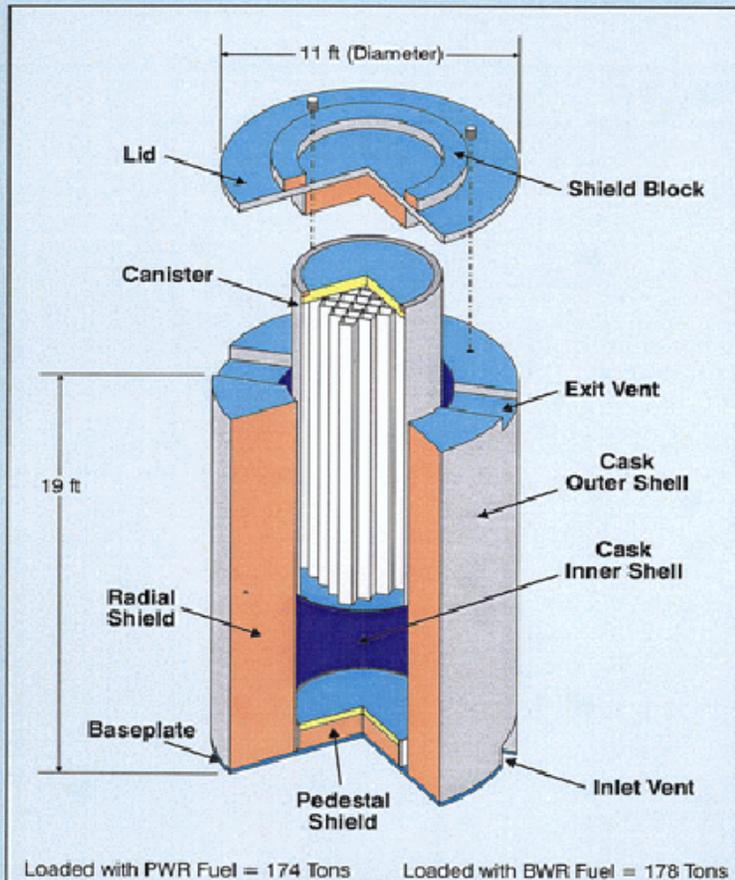
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# BACKUP SLIDES

## Holtec Hi-Storm® Storage Cask



### Containers for Spent Nuclear Fuel

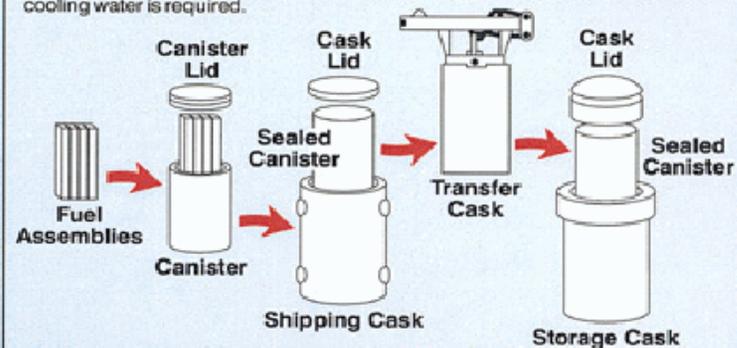
Several types of containers for nuclear fuel are discussed in this DEIS. These include:

**Canisters** are thick-walled, steel cylinders used to package and contain SNF assemblies. Canisters are hermetically sealed by welding them shut. This DEIS discusses "dual-purpose canisters" that can be used for shipping and storing of SNF. That is, once the SNF is sealed into the dual-purpose canister, it would never need to be removed from the canister during interim storage.

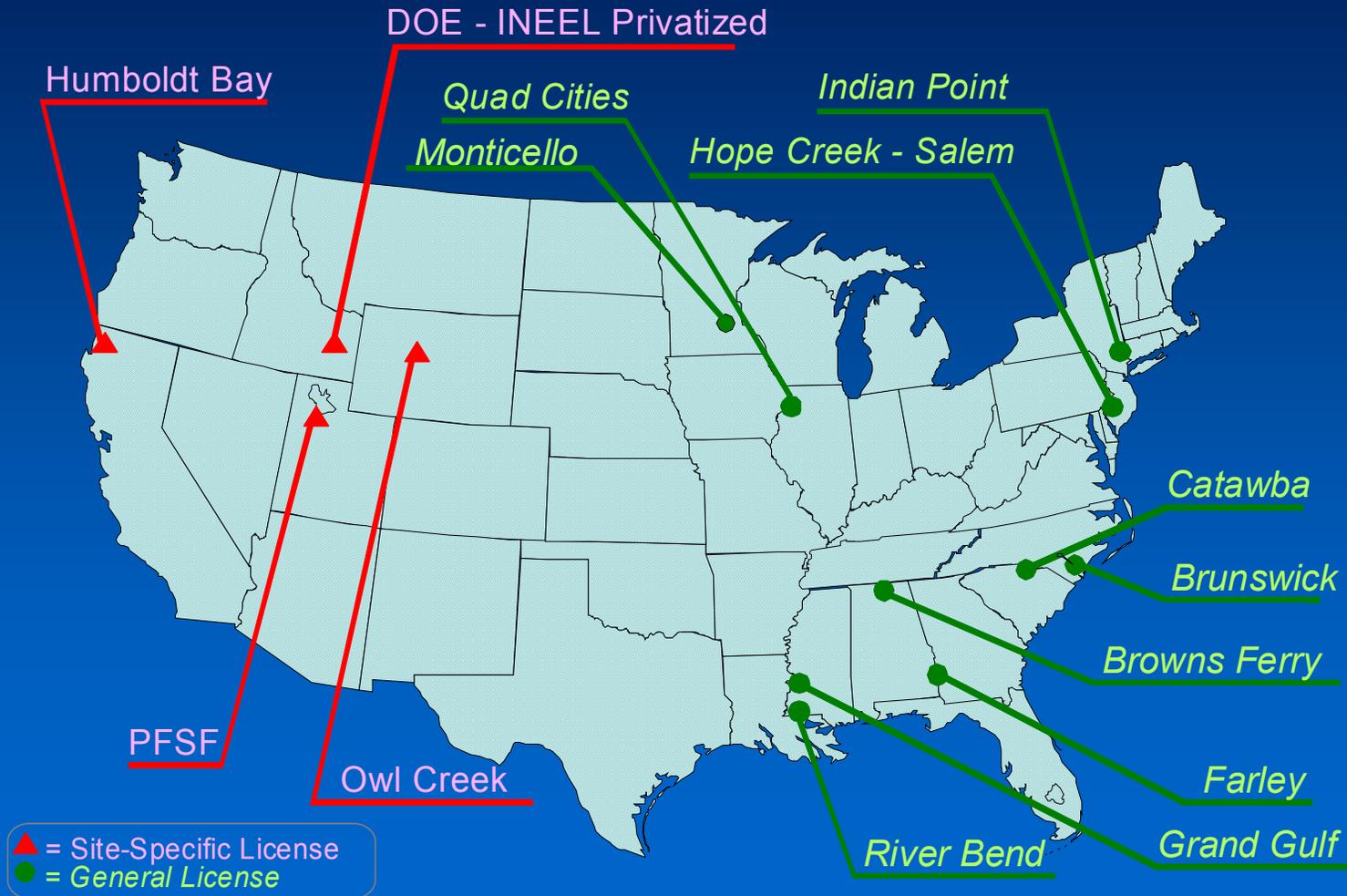
**Shipping Casks** are thick-walled, steel cylindrical packages certified by the NRC to transport nuclear fuel.

**Transfer Casks** are radiation-shielded, open-bottomed cylinders used to transfer SNF assemblies from shipping cask into storage casks. All transfer operations would be conducted inside a special room, or "transfer cell," within a closed building. SNF assemblies would be lifted out of the shipping cask into the transfer cask, moved while inside the transfer cask to a position over the storage cask, and then lowered from the transfer cask into the storage cask.

**Storage Casks** are thick-walled, steel or steel and concrete containers certified by the NRC for storing SNF. The types of storage casks discussed in this DEIS are vertical, cylindrical structures that provide radiological shielding. They are equipped with vents and channels that provide cooling by passive, natural convection processes; hence, they require very little maintenance other than periodic inspections. They are sometimes called "dry casks" because no cooling water is required.



# Potential Near-Term ISFSIs



# General Licensing Process

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- Certificate of Compliance Usage
  - 10 CFR Part 72, Subpart K
  - Limited to Part 50 Reactor Licensees
  - Requires Use of NRC-Certified Cask Designs

# Technical Review Guidelines

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- Standard Review Plan for Dry Cask Storage Systems (NUREG-1536)
- Standard Review Plan for Spent Fuel Dry Storage Facilities (NUREG-1567)
- Interim Staff Guidance Documents

# Conditions for Use

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- Operating Procedures
- Acceptance Tests and Maintenance Program
- Quality Assurance
- Heavy Loads
- Design Features
- Pre-Operational Testing and Training

# Approved Contents

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- Fuel Loading Patterns
- Fuel Type (PWR, BWR)
- Cladding Type
- Enrichment
- Burnup
- Minimum Cooling Time
- Decay Heat

# Component Fabrication

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- IP 60851, “Design Control of ISFSI Components”
  - Conditions of Certificate of Compliance are met
  - Prior NRC approvals obtained
  - No significant increase in occupational radiation exposure
  - No significant unreviewed environmental impact

# ISFSI Construction

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- IP 60852, “ISFSI Fabrication by Outside Fabricators”
  - Construction of Systems, Structures, and Components in accordance with:
    - Safety Analysis Report
    - 10 CFR 72
    - Certificate of Compliance
  - Containers Maintain Function
    - Confinement
    - Criticality
    - Shielding
    - Heat Removal
  - Prevent damage to SNF containers during handling
  - Health and safety of public is maintained

# ISFSI Construction

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- IP 60853, “Onsite Fabrication of Components and Construction of an ISFSI”
  - Concrete storage containers built in accordance with:
    - Safety Analysis Report
    - Safety Evaluation Report
    - Certificate of Compliance
    - 10 CFR 72
    - Quality Assurance program
  - Pad constructed to specifications
    - Sub-soil compaction
    - Rebar
    - Concrete compressive strength
    - Qualification construction workers

# Preoperational Testing Reviews

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- IP 60854, “Preoperational Testing of an ISFSI”
  - NRC observes and independently evaluates licensee’s capability
  - Test program and test procedures
  - Final determination of readiness to load spent fuel into an ISFSI

# Licensing Document Reviews

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- IP 60856, “10CFR72.212(B) Evaluations”
  - Emergency Plan
  - QA Program
  - Radiation Protection Program
  - Training Program
- IP 60857, “10CFR72.48 Evaluations”
  - Facility changes under certain conditions w/o prior NRC approval

# Operations

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- IP 60855, “Operation of an ISFSI”
  - Loading Campaigns
    - Frequency
  - Long-term Operations and Surveillance
    - Qualifications of Personnel
    - Security/Safeguards
    - Fire Protection
    - Environmental Monitoring
    - Maintenance

# Security

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- IP 81001, “Security and Safeguards at an ISFSI”
  - Security Plan
  - Patrols
  - Barriers
  - Detection Aids
  - Access Control
  - Local Law Enforcement Interface
  - Compensatory Measures
  - Contingencies
  - Guard Training and Qualifications
  - Audits and Assessments

# Transferring Cask to Pad



# Transferring Cask to Pad



# Cask on Pad



# Cask Transfer Facility

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# Surry ISFSI

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# Surry ISFSI



# Surry ISFSI

