

Davis-Besse Nuclear Power Plant Annual Assessment Meeting/Open House

Reactor Oversight Process – 2012

Nuclear Regulatory Commission - Region III

Lisle, Illinois

June 11, 2013



Purpose of Today's Meeting

- **A public forum for discussion of Davis-Besse Nuclear Power Plant's performance in 2012**
- **NRC personnel will be available to answer questions on NRC activities and identified licensee performance issues**



Our Mission



To license and regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment.

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NRC Performance Goals

- **Safety:** Ensure adequate protection of public health and safety and the environment.
- **Security:** Ensure adequate protection in the secure use and management of radioactive materials.

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Some Nuclear Facts



- 102 nuclear power plants supply about 20 percent of the electricity in the U.S.
- Nuclear materials are used in medicine for diagnosis and cancer treatment.
- Nuclear materials are widely used in industry, such as in density gauges, flow measurement devices, radiography devices, and irradiators.

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The NRC Regulates

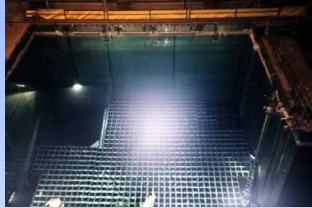
- Nuclear reactors - commercial power reactors, research and test reactors, new reactor designs
- Nuclear materials - nuclear reactor fuel, radioactive materials for medical, industrial, and academic use
- Nuclear waste – transportation, storage and disposal of nuclear material and waste, decommissioning of nuclear facilities
- Nuclear security – physical security of nuclear facilities and materials from sabotage or attacks

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What We Do – Nuclear Waste



The NRC regulates:

- Storage of spent reactor fuel in fuel pools or dry storage casks, and
- Any national spent fuel storage site.

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What We Do – Nuclear Security



NRC Requires:

- Well-armed and well-trained security forces,
- Surveillance and perimeter patrols,
- State-of-the-art site access equipment and controls,
- Physical barriers and detection zones, and
- Intrusion detection systems and alarm stations.

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What We Don't Do

- **Regulate nuclear weapons, military reactors, or space vehicle reactors**
- **Own or operate nuclear power plants**
- **Regulate some radioactive materials, such as X-rays and naturally occurring radon**

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How We Regulate

- **Establish rules and regulations**
- **Issue licenses**
- **Provide oversight through inspection, enforcement, and evaluation of operational experience**
- **Conduct research to provide support for regulatory decisions**
- **Respond to events and emergencies**

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Assurance of Plant Safety

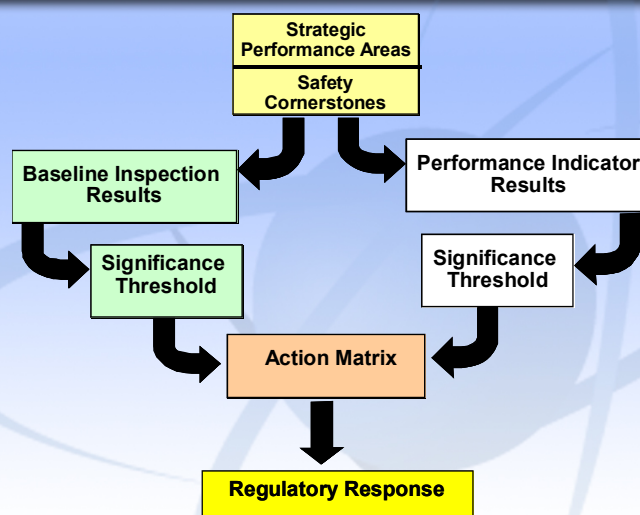
- Require “defense-in-depth”
- Require long-term maintenance of equipment
- Require continual training of operators
- Verify compliance with regulations

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Reactor Oversight Process



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Action Matrix Concept

Licensee Response	Regulatory Response	Degraded Cornerstone	Multiple/Rep. Degraded Cornerstone	Unacceptable Performance
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Increasing Safety Significance

Increasing NRC Inspection Efforts

Increasing NRC/Licensee Management Involvement

Increasing Regulatory Actions

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Examples of Baseline Inspections

- **Equipment Alignment** ~80 hrs/yr
- **Triennial Fire Protection** ~250 hrs every 3 yrs
- **Operator Response** ~125 hrs/yr
- **Emergency Preparedness** ~80 hrs/yr
- **Rad Release Controls** ~110 hrs every 2 yrs
- **Worker Radiation Protection** ~95 hrs/yr
- **Corrective Action Program** ~250 hrs every 2 yrs
- **Corrective Action Case Reviews** ~60 hrs/yr

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NRC Inspection Activities Reactor Oversight Process

Davis-Besse Nuclear Power Plant

- **7165 total hours expended by NRC in 2012 on Reactor Oversight Process activities**
 - **2862 inspector hours of direct inspection activity**
 - **677 inspector hours reviewing and observing plant operating status**
 - **2052 inspector hours of preparation for and documentation of inspection activities**
 - **1574 hours for other Reactor Oversight Process elements (e.g., assessments and communications)**

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NRC Inspection Activities 2012

Davis-Besse Nuclear Power Plant

- **2 resident inspectors on site – resident inspectors produced four quarterly inspection reports and walked through the plant daily**
- **21 regional inspectors participated in various inspections**
- **3 major team inspections**
 - **Shield Building Cracking Root Cause Evaluation**
 - **Triennial Component Design Basis Inspection**
 - **Biennial Licensed Operator Requalification**

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NRC Annual Assessment Summary **Davis-Besse Nuclear Power Plant**

- **FENOC operated the plant safely and in a manner that preserved the public health and safety and protected the environment.**
- **Davis-Besse was in the Regulatory Response Column of the NRC's Action Matrix for the last quarter of 2012.**
- **No Substantive Cross-Cutting Issues were identified**

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National Summary of Plant Performance

Status as of 12/31/2012

Licensee Response	81
Regulatory Response	18
Degraded Cornerstone	3
Multiple/Repetitive Deg. Cornerstone	1
Unacceptable	0
IMC 0350 Oversight	1
Total	104

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Significance Threshold

Performance Indicators

Green: Only Baseline Inspection

White: Increases NRC oversight

Yellow: Increases NRC oversight

Red: Increases NRC oversight

Inspection Findings

Green: Very low safety issue

White: Low to moderate safety issue

Yellow: Substantial safety issue

Red: High safety issue

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Davis-Besse Pls and Findings

January 1 through December 31, 2012

- **All Green Performance Indicators**
- **7 Green Inspection Findings**
- **1 Greater-than-Green Finding in Security**

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National Summary

- Performance Indicator Results for 2012*

– Green	6926
– White	23
– Yellow	0
– Red	0

*PIs are counted per plant per quarter

- Total Inspection Findings in 2012#

– Green	914
– White	16
– Yellow	1
– Red	1

Finding data current as of 3/04/2013

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NRC Inspection Findings

Some Examples of Actual Findings

Davis-Besse Nuclear Power Plant

- Human performance error caused momentary loss of a channel of Radiation Monitoring on Station Ventilation Exhaust
- Seismic monitoring equipment removed from service without the knowledge of On-Shift Operations Crew
- Plant design did not maintain required separation between redundant safety-related Direct Current Systems

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NRC Inspection Plans for 2013

- **NRC Plans Baseline Inspections at Davis-Besse Nuclear Power Plant for 2013. This includes the following team inspections:**
 - **Triennial Fire Protection (completed In March)**
 - **Graded Emergency Plan Exercise (conducted in May)**
 - **Biennial Problem Identification and Resolution**
 - **Initial review of Steam Generator Replacement Activities**

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NRC Security Inspection Plans 2013

- **On August 10, 2012, NRC identified one or more “greater-than-green”/blue Security Cornerstone inputs**
- **NRC will follow Reactor Oversight Process Action Matrix for plants in Regulatory Response Column**
- **Security Inspection Plans were discussed with licensee at a non-public meeting**

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Open to the Public

- **The NRC places a high priority on keeping the public and stakeholders informed of its activities.**
- **At www.nrc.gov, you can:**
 - Find public meeting dates and transcripts;
 - Read NRC testimony, speeches, press releases, and policy decisions; and
 - Access the agency’s Electronic Reading Room to find NRC publications and documents.

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Contacting the NRC

- **Report an emergency**
 - (301) 816-5100 (call collect)
- **Report a safety concern**
 - (800) 695-7403
 - Allegation@nrc.gov
- **General information or questions**
 - www.nrc.gov
 - Select “What We Do” for Public Affairs

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Actions in Response to the Japan Nuclear Accident

- Actions in response to Japan Nuclear Accident
Website: <http://www.nrc.gov/japan/japan-info.html>
- Mailbox for comments on staff actions:
JLD_Public.Resource@nrc.gov
- Office of Public Affairs Point of Contact:
OPA.resource@nrc.gov or 301-415-8200

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NRC Representatives

- | | |
|------------------|---------------------------|
| – V. Mitlyng | Public Affairs Officer |
| – (630) 829-9662 | |
| – P. Chandrathil | Public Affairs Officer |
| – (630) 829-9663 | |
| – D. Kimble | Senior Resident Inspector |
| – (419) 244-4494 | |
| – T. Briley | Resident Inspector |
| – (419) 244-4494 | |
| – J. Cameron | Branch Chief, Region III |
| – (630) 829-9833 | |

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NRC Social Media Channels



- **Blog:** <http://public-blog.nrc-gateway.gov/>
- **Flickr:** <http://www.flickr.com/photos/nrcgov/>
- **Twitter:** <https://twitter.com/#!/nrcgov>
- **YouTube:** <http://www.youtube.com/user/NRCgov>
- **RSS:** <http://www.nrc.gov/public-involve/listserver.html#rss>

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Reference Sources

- **Reactor Oversight Process**
 - <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>
- **Public Electronic Reading Room**
 - <http://www.nrc.gov/reading-rm.html>
- **Public Document Room**
 - 1-800-397-4209 (Toll Free)

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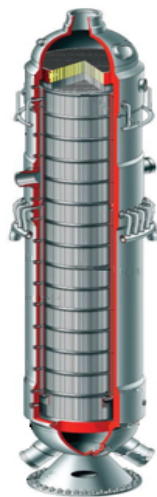
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Davis-Besse Once Through Steam Generator Replacement Outage/ Refueling Outage 18

**Nuclear Regulatory Commission - Region III
Lisle, Illinois
June 11, 2013**



FENOC/Davis-Besse Steam Generator Replacement



- Scheduled for First Quarter of 2014
- Opening will be made in Shield Building and Containment
- NRC will inspect various pre-outage and outage activities
- Inspectors from NRC regional office will supplement the assigned two resident inspectors



Steam Generator Replacement NRC Inspection Plans

- **Inspection Objectives:**

Verify that:

- engineering evaluations and design changes are in conformance with facility license, codes, regulations
- removal and replacement activities maintain adequate nuclear and radiological safety
- post-installation test program is adequate and satisfactorily implemented

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Steam Generator Replacement NRC Inspection Plans

- **Major Inspection Activities:**

Design and Planning

- Engineering evaluations, design changes, modifications
- Steam Generator lifting and rigging
- Radiation Protection program controls, planning, preparations
- Security considerations – affected barriers

Steam Generator Removal / Replacement

- Cutting, welding / non-destructive examinations
- Lifting / rigging activities
- Containment opening
- Radiation protection controls implementation

Post-installation Testing

- Testing program and implementation

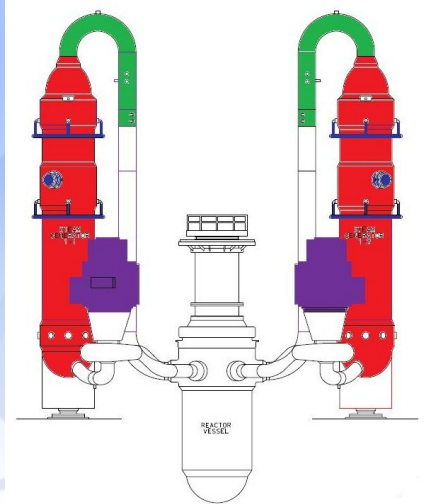
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Davis-Besse Major Components to be Replaced

- Steam Generators
- Hot Legs
- Reactor Coolant Pump Motors



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Shield Building and Containment Opening



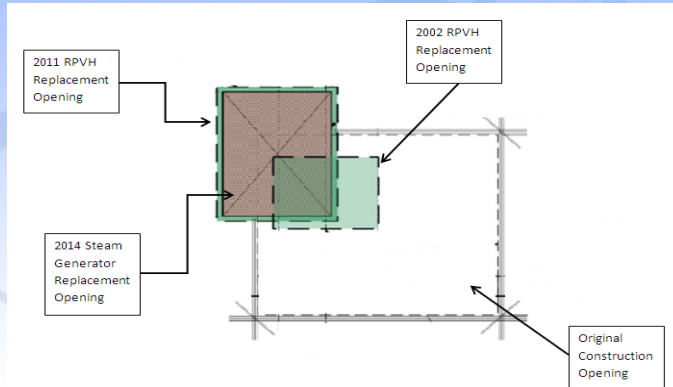
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Shield Building Opening

Note:
The 2014 Steam Generator replacement opening is completely encompassed by the 2011 Reactor Pressure Vessel Head replacement opening.



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