

Davis-Besse Reactor Head Replacement



FirstEnergy[®]

OECD Nuclear Energy Agency
International Atomic Energy Agency

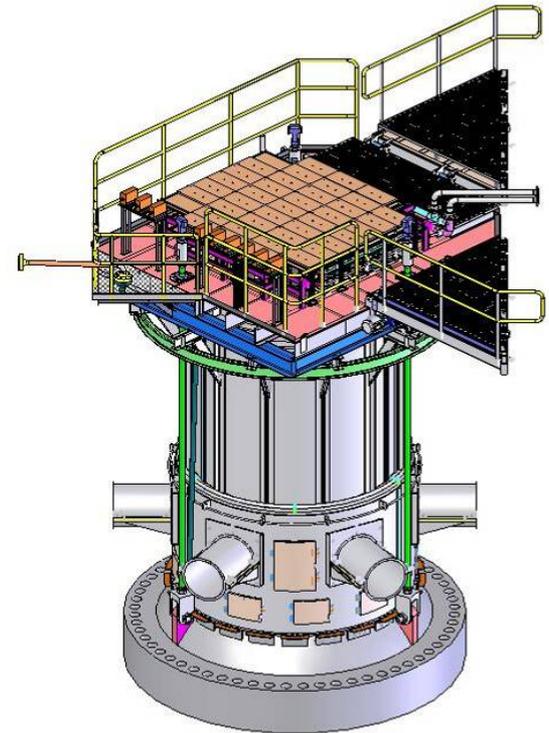


INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

Davis-Besse Update

Reactor Head Timeline

- n **13th Refueling Outage**
 - Reactor Head Replaced
- n **16th Refueling Outage**
 - Head Penetration Inspections
- n **New Head Required**
 - Built in France
 - Arrived October 2010
- n **17th Midcycle Outage**
 - October 2011



Davis-Besse Update

Radiological Performance

Duration: 66 days

Dose Estimate: 78 Rem (SRD)

Dose Actual: 77 Rem (SRD) / 71 Rem (TLD)

Personnel Contamination Events: 6 (Goal <12)

Unplanned Intakes: 0

HRA Events: 0

Davis-Besse Reactor Head Replacement

Dose Reduction Initiatives

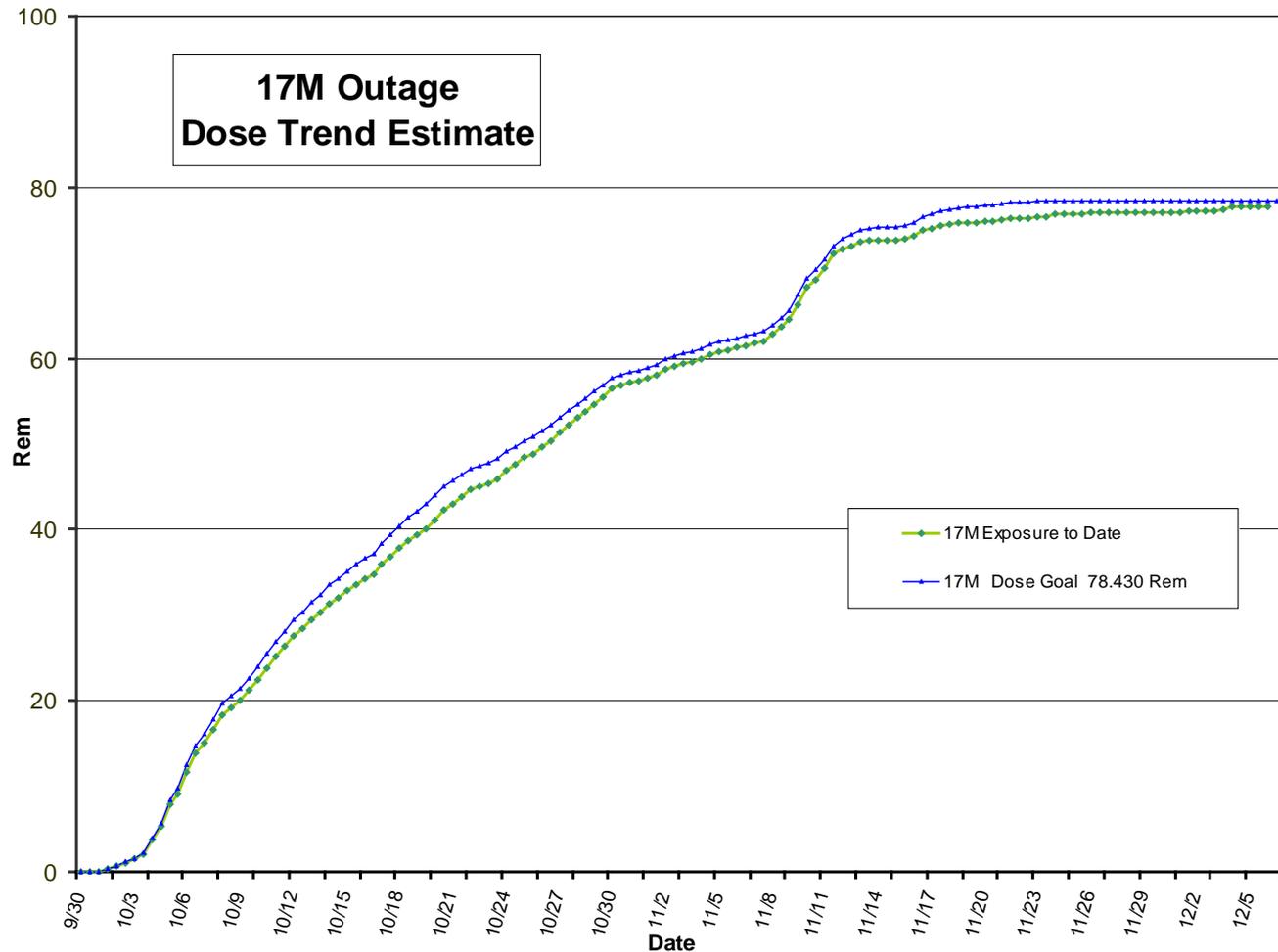
n **Chemistry Controls**

- PRC-01 Resin
- Oxidation Clean Up
- Co-58 Removal
- Elevated pH

n **Temporary Shielding**

- 77,000 pounds

Davis-Besse Reactor Head Replacement Reduction Initiatives



Davis-Besse Reactor Head Replacement

Personnel Contamination Events – Keys to Success

n **PCE**

- Goal: 12 Actual: 6

Downdraft Doffing Stations

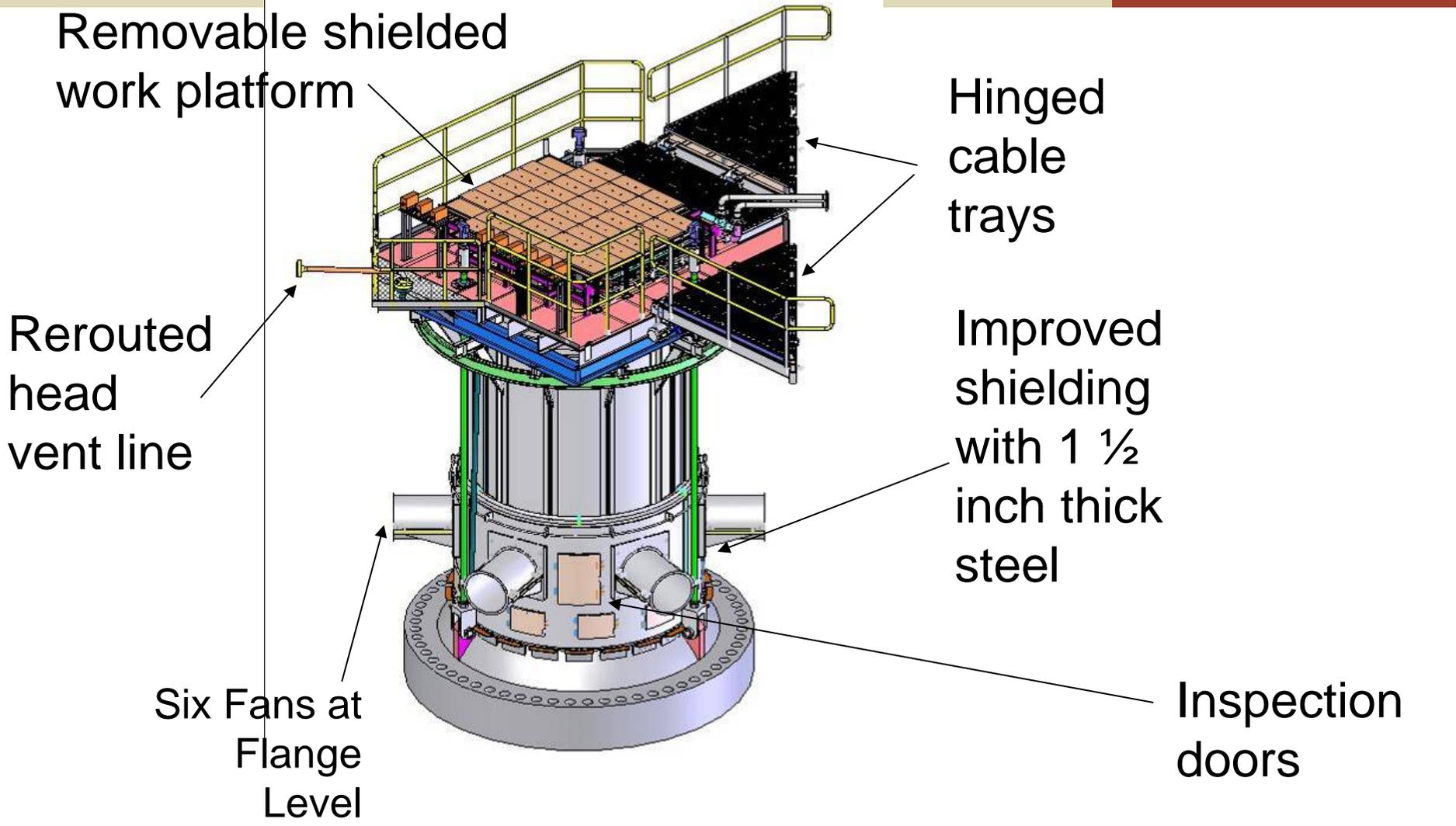
- Three at primary step off pad from Containment
- Sufficient staffing at SOP

n **Low contamination levels**

- Increased Mopping
- Oxidation Clean Up
- Low System Leakage

n **Good fuel performance**

- No Fuel Leaks



Davis-Besse Reactor Head Replacement

Integrated Reactor Head – Comparison

Estimated to save 5 rem per outage

16R Reactor Disassembly/Reassembly: 15.112 Rem

16R Reactor Head Removal/Installation: 1.970 Rem

16R Total – 17.802 Rem

17R Reactor Disassembly/Reassembly: 9.121 Rem

17R Reactor Head Removal/Installation: 1.060 Rem

17R Total – 10.181 Rem

Dose Savings of 6.901 Rem!

Davis-Besse Reactor Head Replacement

Radiography

n **Challenge Processes**

Meetings

Source Selection

Mock Ups

Increased Oversight

Plant Announcements

Davis-Besse Reactor Head Replacement

Radiography

n **Challenge – Minimize impact outside Protected Area and Work Area**

- Equipment hatch
 - Not large enough
- Opening Created
 - Pressure Vessel
 - Concrete Shield Building



Davis-Besse 17th Mid-Cycle Commemorative DVD



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Questions?



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