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RES Management Briefing

Indications in the Doel 3 (Belgium) Reactor Pressure Vessel

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RES/DE/CIB

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United States Nuclear Regulatory Commission

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Background

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- Doel 3 is a 1,006 MWe, 3-loop, Framatome-supplied PWR in the Port of Antwerp near the Dutch-Belgian border
  - Began operation in 1982
  - Designed to ASME Code, Section III, 1974 Addenda
  - Reactor pressure vessel (RPV) shell is made of forged rings
    - The raw material was supplied by Krupp
    - The forgings were manufactured by Rotterdamsche Droogdok Maatschappij (RDM) in 1974-1975
    - RPV was installed in 1978

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2012 Inspection Results

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2012 Inspection Results (cont'd)

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2012 Inspection Results (cont'd)

USNRC

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2012 Inspection Results (cont'd) USNRC

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2012 Inspection Results (cont'd)

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Belgian Request for NRC Support

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- On 8/28/2012, the Federal Agency for Nuclear Control (FANC) requested NRC support (ML1224A335)
- NRR requested RES support (ML1224A258)
- RES agreed to support NRR request (ML1224A108)
- NRC support to FANC
  - International Expert Review Team
    - Mark Kirk, RES/DE/CIB – meetings to occur later in 2012
  - NRC participation on three technical expert working groups
    - Working Group #1: NDE (Carol Nove, RES/DE/CIB)
    - Working Group #2: Metallurgy (Jeff Poehler, NRR/DE/EVIB)
    - Working Group #3: Fracture Mechanics (Gary Stevens, RES/DE/CIB)
    - NRC liaison to all 3 Working Groups: Bob Hardies, NRR/DE
  - Working Group meetings were held on

Working Group #1 Meeting

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- Overview of findings in the reactor shells of Doel 3 and Tihange 2
- Presentations by WG members on recent experience:

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Working Group #1 Meeting – Civa Simulation

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Working Group #2 Meeting

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- Jeff Poehler (NRR/DE/EVIB) attended

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Working Group #3 Meeting

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- Gary Stevens (RES/DE/CIB) attended
- Gary to provide....

Industry Actions

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- On 10/10/12, EPRI held a debrief call with NRC with regards to their activities associated with Doel 3
- EPRI coordinated a visit of 6 U.S. representatives to Belgium on 9/19/12
  - The meeting was requested by WANO and Electrabel
- EPRI summarized the meeting
  - It was apparent from their summary that NRC has more information than EPRI
- EPRI has no current plans to return to Belgium
  - They will continue correspondence on NDE issues, primarily to understand the ramifications for U.S. plants

Industry Actions (cont'd)

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- EPRI/industry has not identified any actions for U.S. plants yet
  - They will continue to monitor and review results and then make informed decisions when the timing is right

Results of NRR/RES Debrief

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- Later.....

Next Steps

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- Later.....