U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Update on NRC Activities Associated with Carbon Macrosegregation

Remarks by

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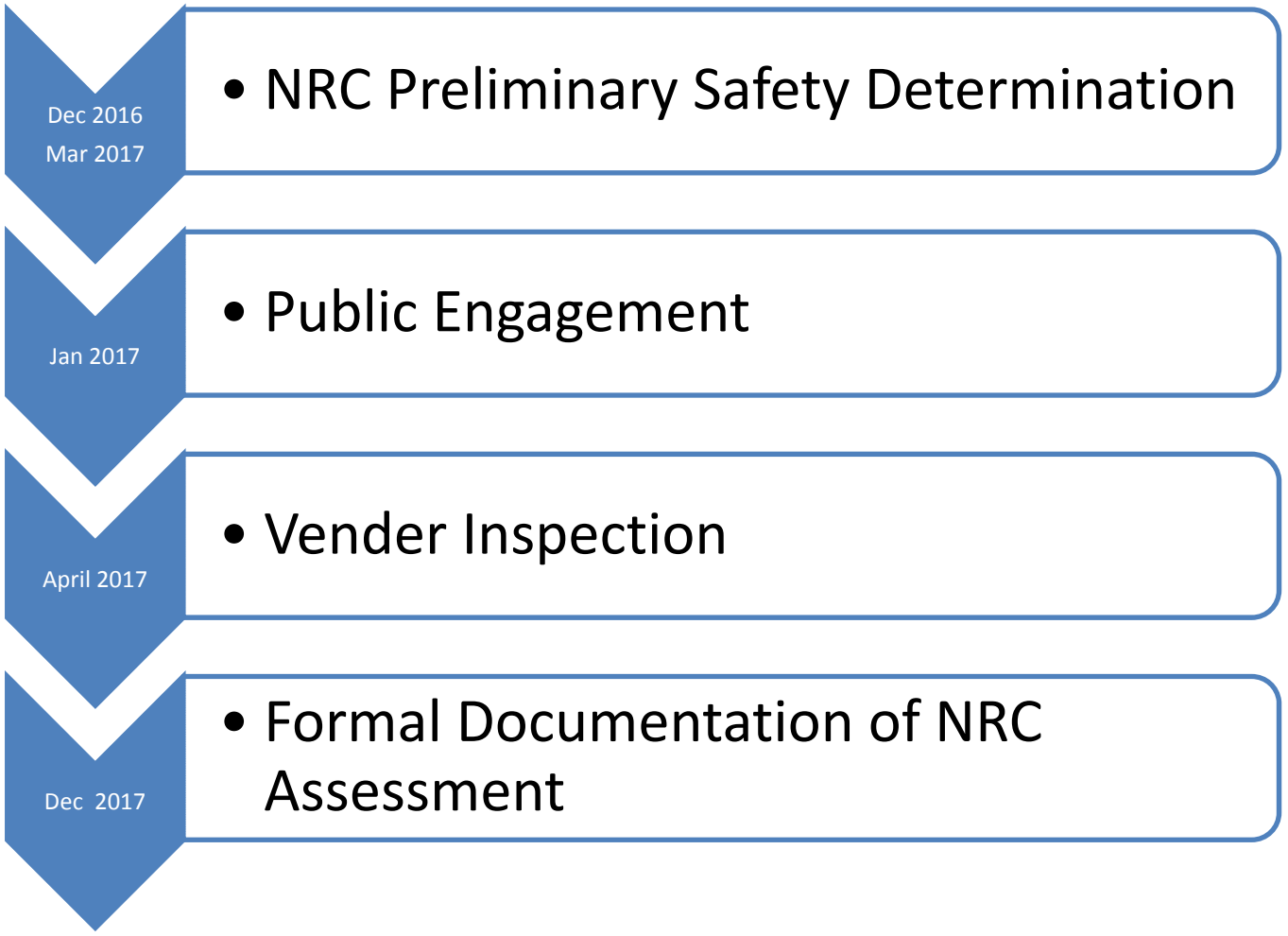
Industry / NRC Materials Programs Technical Information Exchange
May 23-25, 2017

Overview

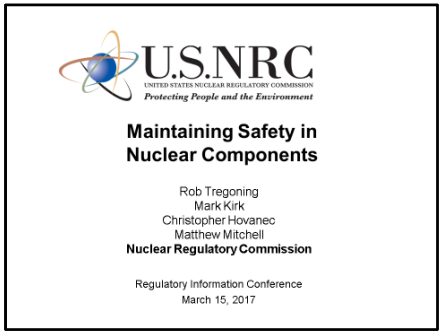


Safety Determination

The safety significance of carbon segregation to the U.S. fleet appears to be negligible

Basis: Potentially impacted components are bound by conditions & attributes of the RPV shell

- Operating & upset stresses
- Size/distribution of flaws
- Material toughness (ΔRT_{NDT})



[1]

[1] Maintaining Safety in Nuclear Components, Regulatory Information Conference, March 15, 2017, https://ric.nrc-gateway.gov/docs/abstracts/sessionabstract-35.htm

Public Engagement

Regulatory Information Conference

- Perspectives from EPRI, Industry, NRC, ASN, and NRA

Media coverage and congressional attention

- National and international coverage
- Congressional briefings

Petition for Emergency Enforcement Action (10 CFR 2.206)

- Request to shutdown 17 units based on carbon macrosegregation and potential documentation anomalies[2]
- May 2017, NRC to make decision on acceptance of petition for review
- Reactors continue to operate during petition review

[2] Petition for Emergency Enforcement Action, OEDO-17-00070, January 24, 2017, ADAMS Accession Number ML17025A180

Vendor Inspection

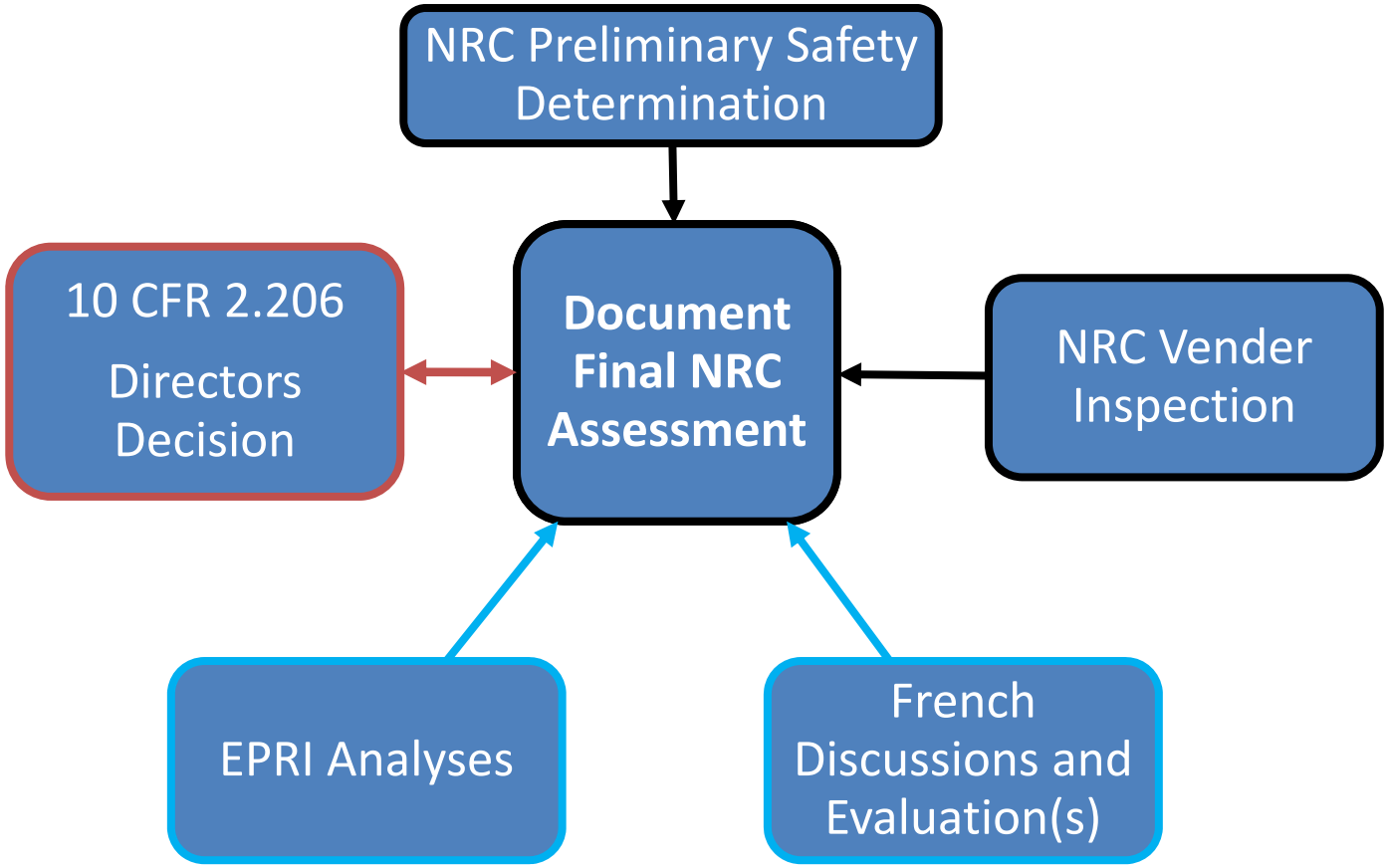
Focused inspection of AREVA Inc.[3] (Lynchburg, VA)

Observations:

- Based on the material reviewed, a population of components confirmed to have a low probability of being impacted by carbon macrosegregation
- Carbon levels & mechanical properties for components reviewed conformed to ASME requirements
- Information reviewed did not challenge the NRC preliminary safety determination

[3] NRC Inspection of ARENA Inc.
Report No. 99901359/2017-201, May 10 2017,
ADAMS Accession Number ML17124A575

Documentation of NRC Assessment



Anticipated completion: December 2017

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Thank You

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