



# ECCS Suction Strainers Assessment of Coatings Issue No. 5

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NRC / BWROG Resolution Plans  
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# Topics

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Issue Summary

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Key Relationships to Other Issues

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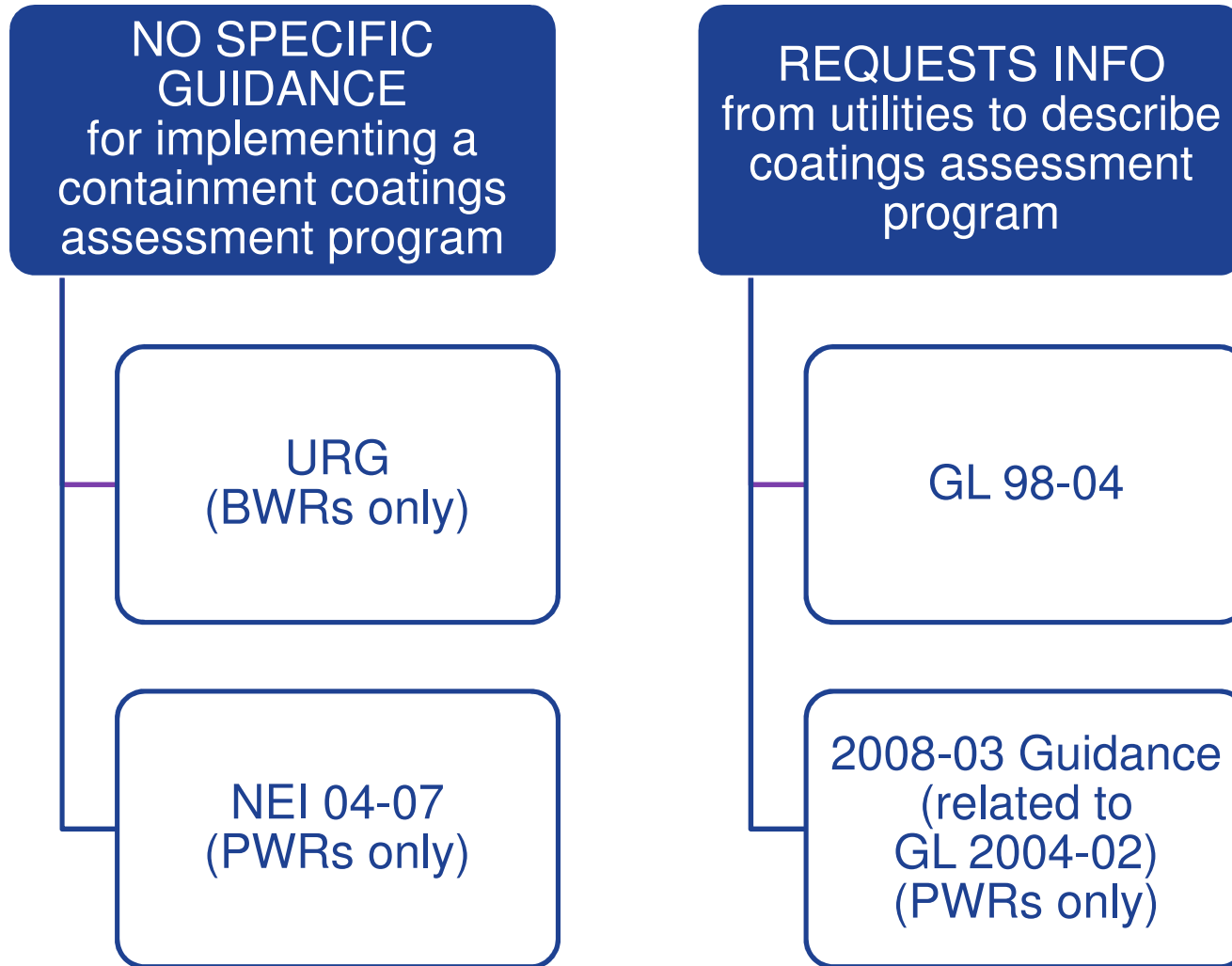
Conclusions

# Issue Summary

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- Non-qualified coating inventories in BWRs may be greater than established at the time the BWR strainer debris source terms were defined
  - Existing programs may not adequately monitor degradation of qualified coatings
  - Existing programs may not adequately address changes to the unqualified coatings inventory (e.g. equipment changes, repairs)

# Regulatory Summary



# Regulatory Summary (cont.)

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## Generic Letter 98-04

- Requested coatings information to show compliance with 10CFR 50.46
- Alerted BWR and PWR licensees to problems associated with the material condition of Service Level 1 protective coatings, and...
- Requested information to evaluate the licensees' programs for ensuring that Service Level 1 protective coatings do not detach from their substrate during a DB LOCA
- BWR and PWR licensees have responded and committed to the responses provided to GL 98-04

# Regulatory Summary (cont.)

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## 2008-03 Staff Review Guidance for GL 2004-02 Responses

- Provides guidance to NRR staff on what information is needed (from PWR licensees) for a supplemental response to GL 2004-02 in the area of protective coatings
- Provides the staff's perspective on currently available test reports conducted to address coating technical uncertainties

# Regulatory Summary (cont.)

## Information Needed, per 2008-03 Staff Review Guidance

- Containment Coating Condition Assessment Program
  - Licensees should describe their programs for monitoring containment coatings, including:
    - *Frequency, extent and method of coating assessment*
    - *Qualification of personnel*
    - *How degraded coatings are reported, tracked, remediated and/or scheduled for future remediation*
  - EPRI Report No. 1014883 may be referenced as providing adequate evidence that the containment coatings monitoring approach (visual inspection) contained in ASTM D 5163 is valid
  - A description of other activities that support the licensees' coating programs may also be provided.

# Regulatory Summary (cont.)

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## Comparison of 2008-03 Staff Review Guidance and GL 98-04

- Both address coatings assessment programs by requesting information on those programs
- 2008-03 asked for more specific information to allow the NRC to better evaluate PWR coatings assessment programs



# Resolution Strategy

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1. Develop survey for BWRs based on queries from Staff Review Guidance of 2008-03
  - a) Establish whether there are programs in place to assuage qualified and unqualified coatings concerns
  - b) Validate unqualified coating source terms in strainer head loss analysis
2. NRC review survey
3. Conduct survey
4. Gather responses and deliver to NRC

# Relationships to Other Issues

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## Issues 1 & 2: Downstream Effects

- If unqualified coating loads increase, debris bypass and downstream effects may also increase
- However, no prior plant-specific assessment of BWR downstream effects has been conducted

## Issue 3: Head loss

- While this issue affects head loss, it does not affect head loss methodology
- Coatings source terms are typically small compared to sludge source terms

# Next Steps and Milestones

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Develop draft coatings assessment survey document	4Q 2010
NRC review of guideline survey document	4Q 2010
Issue survey document to BWROG utilities	1Q 2011
Disseminate information to NRC	2Q 2011

# Issue 5 - Assessment of Coatings

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## Backup Slides

## Issue 5 - Assessment of Coatings

### Issue Overview - Backup

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- Assumed BWR coating debris physical characteristics may not be conservative.

*To be addressed in Issue #10, Debris Characteristics*

- Assumed BWR qualified coating ZOI (and resultant debris loads) may not be conservative.

*To be addressed in Issue #8, ZOI of Protective Coatings*

# Regulatory Summary – RG 1.54

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Compliance with 10CFR 50.46 could include meeting RG 1.54

For Plants With a Commitment to Reg Guide 1.54:

- Protective coatings are required to be qualified and capable of surviving a design basis accident (DBA) without adversely affecting safety-related SSCs needed to mitigate the accident
- Among other codes that RG 1.54 references, 10CFR 50.65 (“the maintenance rule”) requires licensees:
  - To monitor the effectiveness of maintenance of protective coatings within its scope, or...
  - To demonstrate that the performance or condition of such coatings is effectively controlled through the performance of appropriate preventative maintenance

# Regulatory Summary – RG 1.54 (cont.)

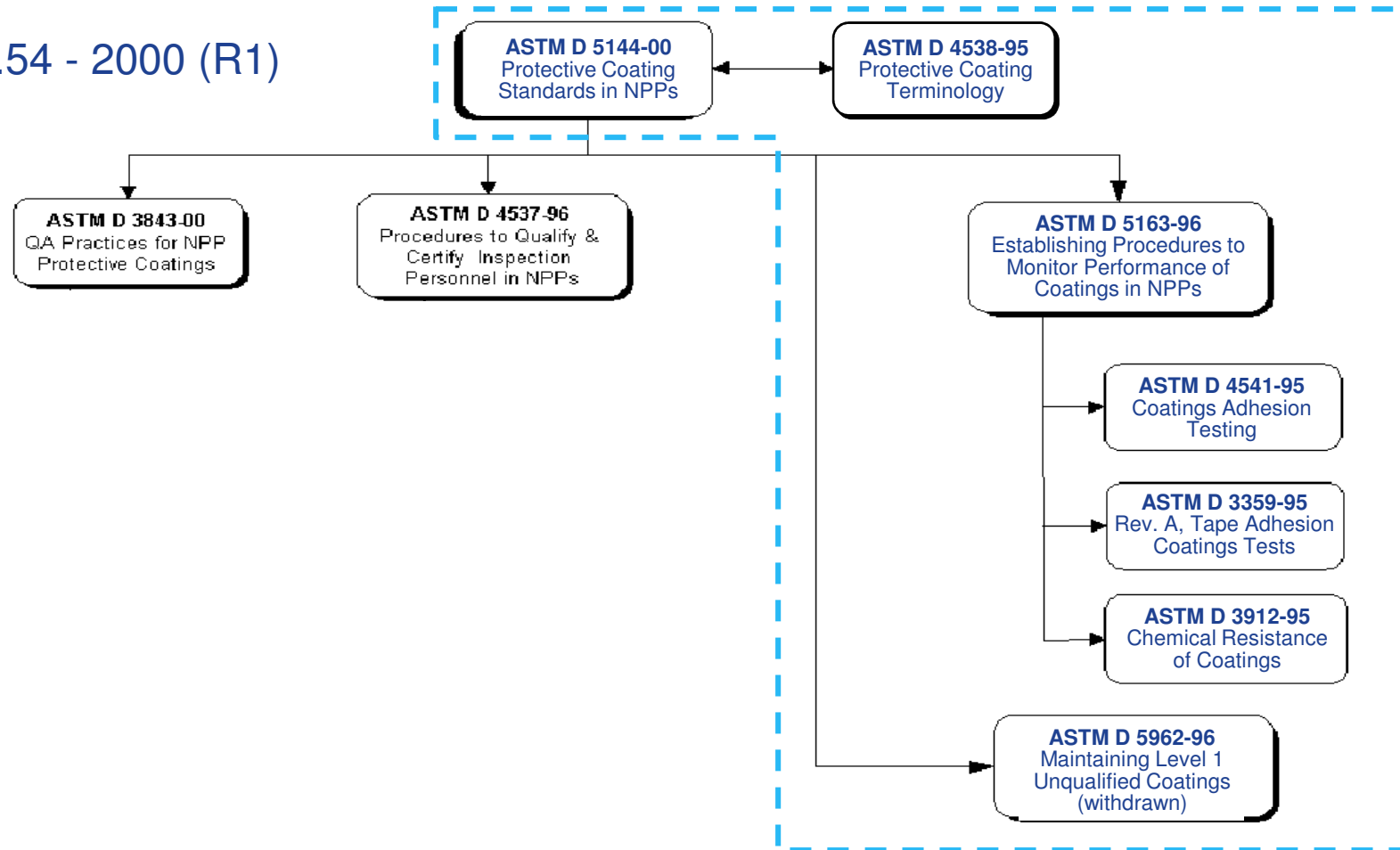
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## For Plants With a Commitment to Reg Guide 1.54 (cont'd)

- RG 1.54 endorses ASTM D 5144 as providing acceptable guidance for the selection, application, qualification, inspection and maintenance of protective coatings.
  - ASTM D 5144 references many other ASTM standards for guidance on monitoring and management of Service Level 1 coatings.

# Regulatory Summary – ASTM current

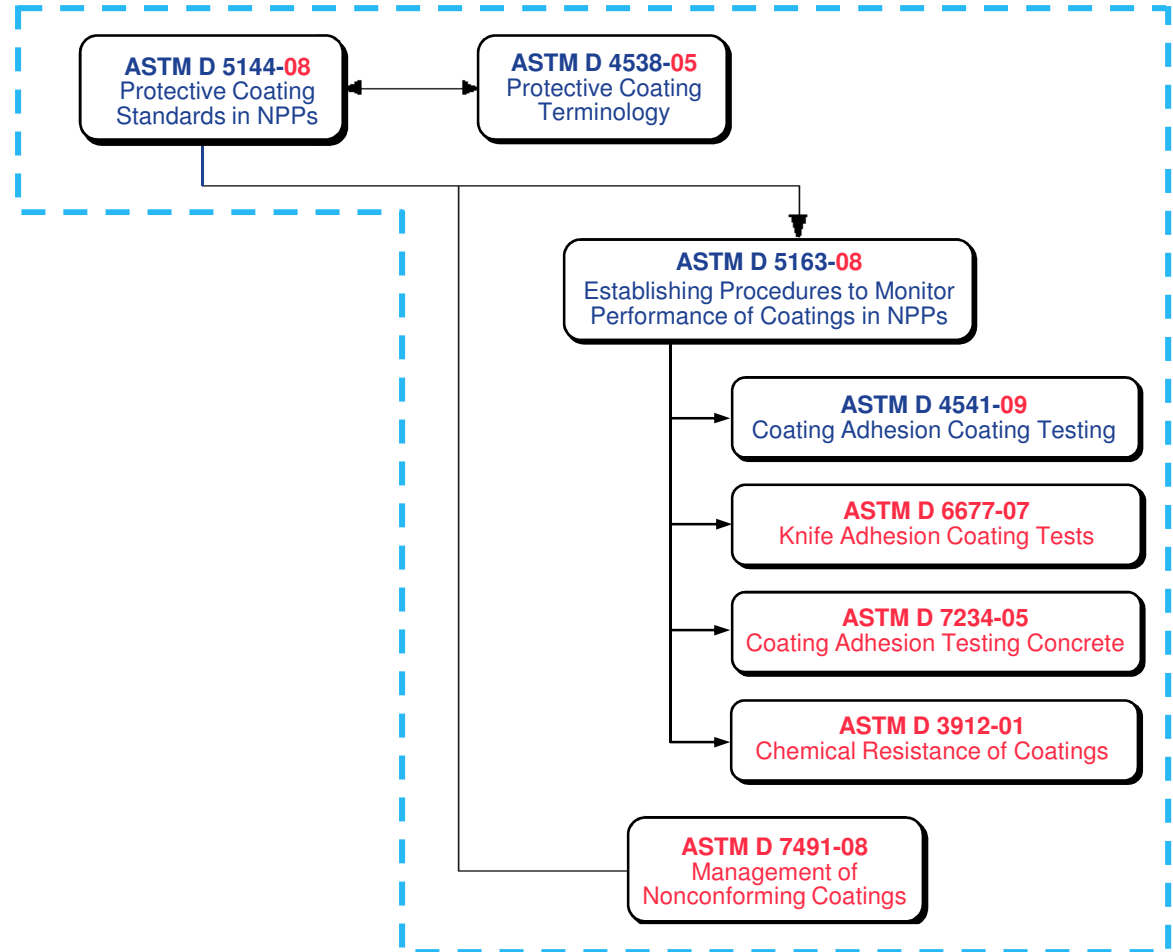
RG 1.54 - 2000 (R1)





# Regulatory Summary – ASTM proposed

RG 1.54 - 2010 (R2 draft)  
(aka DG-1242)



# Regulatory Summary (cont.)

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## All Plants

- Plant requirements for assessment of protective coatings are also dependent on plant-specific QA programs and licensing commitments.