



# Fuel Fragmentation, Relocation, and Dispersal During Design Basis Accidents

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Public meeting on Fuel Fragmentation, Relocation and Dispersal  
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# Introduction

- The objective of this 1<sup>st</sup> public workshop on fuel pellet fragmentation, relocation, and dispersal during design basis accidents is to:
  - Exchange information on the experimental results and observations
  - Discuss controlling phenomena
  - Solicit input from interested parties on various technical issues associated with this subject

# Background on 10 CFR 50.46c

## Proposed Rule: Objectives

- Revise emergency core cooling system (ECCS) acceptance criteria to reflect recent research findings
- Replace prescriptive analytical requirements with performance-based requirements
- Expand applicability to all fuel designs and cladding materials
- Address concerns raised in two petitions for rulemaking (PRMs): PRM-50-71 and PRM-50-84
- Allow an alternative risk-informed approach to evaluate the effects of debris on long-term cooling
  - This objective was added by SRM-SECY-12-0034, “Proposed Rulemaking – 10 CFR 50.46c: Emergency Core Cooling System Performance During Loss of Coolant Accidents (RIN 3150-AH42)” dated January 7, 2013 (Agencywide Document Access and Management System (ADAMS) Accession No. ML13007A478)



# Background on 10 CFR 50.46c

## Proposed Rule: History

- Advance Notice of Proposed Rulemaking Published
  - August 13, 2009 (74 FR 40765)
  - Requested specific comment on 12 issues/questions
- Proposed rule presented to the Advisory Committee on Reactor Safeguards on January 19, 2012
  - Transcript available in ADAMS under Accession No. ML12032A048

# Background on 10 CFR 50.46c

## Proposed Rule: Next Steps

- Next Steps:
  - Proposed Rule publication
  - 75-day public comment period closes
  - Address public comments
  - Develop final rule
    - Due to the Commission in February 2016 (per SRM-COMSECY-13-0006)
  - In parallel:
    - Continue to explore fuel fragmentation, relocation, and dispersal:
      - SRM-SECY-12-0034: “The staff should complete its research on fuel fragmentation, relocation, and dispersal, and incorporate any necessary changes before requesting Commission approval of the draft final rule. In this case, the staff should provide the Commission an information paper containing additional details of the anticipated research into fuel fragmentation, the staff’s best judgment of the impact the results of that research could have on the proposed rule, and the staff’s best estimate of when final conclusions may be drawn from this work. In addition, this paper should clearly and specifically indicate which elements of the proposed rule, if any, should be deferred pending completion of fragmentation research and which elements, if any, could proceed to implementation without concern that they will be revised based on the anticipated research.”
    - Develop GSI-191-related guidance

Questions?