

# Public Meeting to Discuss Regulatory Issue Summary on 10 CFR 50.46 Reporting Requirements

Office of Nuclear Reactor Regulation  
Division of Safety Systems

# Overview and purpose



- Provide additional information on the draft 10 CFR 50.46 reporting requirements Regulatory Issue Summary (RIS)
  - Background and motivation
  - Content, objectives, and scope
  - Interaction between RIS and §50.46c rulemaking effort
- Answer questions and solicit feedback from NRC's stakeholders

# 10 CFR 50.46(a)(3)

- Requires reporting of changes to/errors in emergency core cooling system (ECCS) evaluation models (EMs) or applications thereof that affect the peak cladding temperature (PCT) calculation
- Changes are to be reported at least annually, or within 30 days if the estimated impact on PCT is “significant” (defined as greater than 50°F).

# Motivation for the RIS

- Recent violations\* of §50.46(a)(3) reporting requirements by failing to report PCT changes resulting from EM changes reflecting physical changes at the plant made under §50.59.
- Inquiries from industry about reportability of possible future plant/EM changes
- Evident need for NRC to clarify requirements

\*dispositioned in a non-cited violation and a minor issue

# NRC Staff Position

- From draft RIS: “The NRC staff considers changes to, and errors in, an ECCS evaluation model, or an application thereof, to include not only changes to, and errors in, the physical models and model parameters that partially comprise the ‘computational framework’ (e.g., heat transfer correlations, etc.) but also changes to, and errors in, plant-specific inputs and design parameters (e.g., setpoints, initial conditions, etc.).”
- Any such changes or errors that result in an estimated impact on the PCT are reportable at least annually under §50.46(a)(3). Those estimated to result in significant PCT impacts must be reported within 30 days.

# Consistency of Position

- Proposed revision to Appendix K in 2000:
  - Comment response denied distinction between model parameters and design (input) parameters for §50.46(a)(3) reporting requirements.
  - Based on §50.46 definition of EM
- 1988 ECCS Rule SOC:
  - Comment response declined to revise rule in response to commenter that interpreted “or in the application of such a model” as requiring reporting of facility changes already reportable under §50.59.
- Mid-2000s proposed RIS

# Limitation on Scope

- Applies only to §50.46(a)(3) *reporting* requirements
  - Addresses issues where licensees failed to report as required
  - Issues caused by erroneous determination that changes to EM, or application thereof, were not reportable
- Addresses limited passages in NEI 07-05, “10 CFR 50.46 Reporting Guidelines”

# 10 CFR 50.46c

- Draft RIS addresses regulatory issues with present §50.46(a)(3)
- RIS team has coordinated with §50.46c working group, particularly with respect to §50.46c(m) reporting requirements and related public comments
- Any discrepancies between new and old reporting requirements *affecting the scope of the draft RIS*, could be addressed by:
  - Revising draft RIS prior to issuance
  - Rescinding or supplementing RIS upon promulgation of §50.46c

# Opportunity for Guidance



- Current draft RIS discusses issues with existing NEI 07-05 guidance
- NRC staff believe industry guidance could be helpful in ensuring compliance
- NRC review and endorsement, or approval for use, would ensure industry guidance is consistent with regulatory requirements and staff position.

## Comments/Questions

Reminder: Public comments in response to the draft RIS can be submitted through <http://www.regulations.gov> until September 22, 2015.

# 10 CFR 50.46(a)(3)(ii)



For each change to or error discovered in an acceptable evaluation model or in the application of such a model that affects the temperature calculation, the applicant or holder of a construction permit, operating license, combined license, or manufacturing license shall report the nature of the change or error and its estimated effect on the limiting ECCS analysis to the Commission at least annually as specified in § 50.4 or § 52.3 of this chapter, as applicable. If the change or error is significant, the applicant or licensee shall provide this report within 30 days and include with the report a proposed schedule for providing a reanalysis or taking other action as may be needed to show compliance with § 50.46 requirements....



# 10 CFR 50.46(a)(3)(i)



...For this purpose, a significant change or error is one which results in a calculated peak fuel cladding temperature different by more than 50 °F from the temperature calculated for the limiting transient using the last acceptable model, or is a cumulation of changes and errors such that the sum of the absolute magnitudes of the respective temperature changes is greater than 50 °F.



# 10 CFR 50.46(c)(2)



An evaluation model is the calculational framework for evaluating the behavior of the reactor system during a postulated loss-of-coolant accident (LOCA). It includes one or more computer programs and all other information necessary for application of the calculational framework to a specific LOCA, such as mathematical models used, assumptions included in the programs, procedure for treating the program input and output information, specification of those portions of analysis not included in computer programs, values of parameters, and all other information necessary to specify the calculational procedure.

