RIA Proposal Review

Westinghouse has reviewed the draft document "Technical and Regulatory Basis: Interim Acceptance Criteria and Guidance for the Reactivity-Initiated Accident (Appendix 4B of NUREG-0800 Standard Review Plan)." Overall we believe the document is a significant improvement over previous reactivity initiated accident proposals in that it maintains the current basis of having a separate cladding failure threshold and coolability criteria.

There are a few areas where more detail is needed to allow the use of the limits for fuel cycle analysis.

Applicability of new limits. Since new methods and material relationships need to be qualified with respect to the proposed rule, licensees should not be required to use the new rule within three years after publication to allow for complete qualification of all analysis inputs. After that time the new rule should only be applied on a forward fit basis to new plants or plants with significant upgrades. A change to an improved cladding material should not trigger a new RIA analysis.

PWR Fuel PCMI Failure: The translation of the cladding failure threshold into rod average burnup should have options to:

> Develop and qualify a statistical best fit between peak cladding oxide thickness and rod average burnup for typical ranges of operating fuel duty and RCS chemistry.
>
> Use a qualified corrosion code to calculate the best fit peak cladding oxide thickness and rod average burnup. This could include cases where there is a need to extrapolate corrosion for changes in operating fuel duty and RCS chemistry.

Incipient Fuel Melt as a coolability limit: This should be applicable only to the prompt part of accident events where the fast rise in power can result in the outer surface of the pellet melting. For events where centerline fuel melt occurs, existing methods are sufficient to account for the effect. Testing has demonstrated that for non prompt condition 4 events, that centerline fuel melt does not result in melted fuel mixing violently with the coolant resulting in a large pressure pulse.