

Westinghouse Non-Proprietary Class 3

LTR-NRC-06-58 NP-Attachment

**Slide Presentation for
the NRC/Entergy/Westinghouse
Pre-Submittal Meeting (Non-Proprietary)**

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Implementation of Improved Fuel Design for CE 16x NSSS

Presentation to NRC
October 19, 2006
White Flint, Rockville, MD

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Agenda

- Meeting Objectives
- Background
- Fuel Design
- Topical Reports Supporting Design Implementation
- Implementation Plan
- Topical Report Status
- Summary

Meeting Objectives

- Explain why Next Generation Fuel will be deployed for CE 16 NSSS
- Present overall licensing plan
- Provide an opportunity for NRC feedback

Background

- Westinghouse fully supports INPO initiative to drive to zero fuel leakers by 2010
 - Zero Leaking Fuel a strategic objective since 2004
- Grid-to-rod fretting is the primary PWR leaker mechanism
 - Fretting leakers typically occur in thrice burned fuel
 - [] a,c
- [] a,c
 - Improvements being discussed or implemented on designs for all fuel currently supplied

Fuel Performance Overview by Product

a, c



Background

- CE 16 Next Generation Fuel is key to promoting zero leakers in CE NSSS
 - Significant increase in grid-to-rod fretting margin
 - CE NGF features same type of spacer grid as 14x TURBO fuel that has demonstrated improved grid-to-rod fretting performance based on Lead Test Assembly examinations
 - Increases other design and operating margins
- CE 16 NGF LTAs in 1st cycle at Waterford
 - Scheduled for exam in December
- Region deployment planned for Spring 2008 in ANO-2 and Waterford

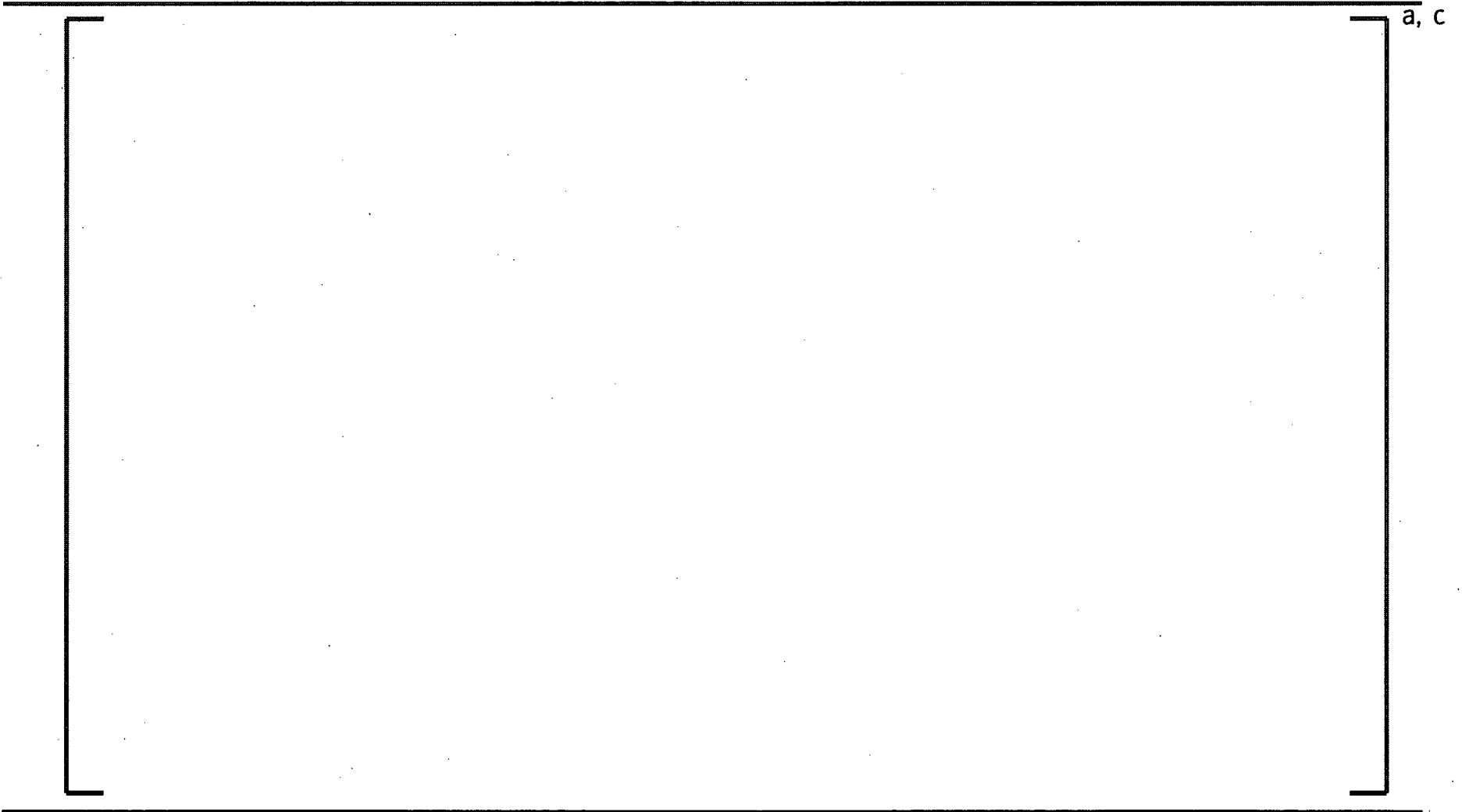
Implementation of Improved Designs for CE NSSS

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CE 16 NGF Fuel Design

CE 16x NGF Fuel Design



General Program Status



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Topical Reports Supporting CE 16 NGF Implementation

Core Reference Report (WCAP-16500-P)

- Submitted February 28, 2006



Critical Heat Flux Correlation Report (WCAP-16523-P)

- Submitted March 20, 2006
- New DNB correlation form similar to ABB-NV & ABB-TV correlations approved in Topical CENPD-387-P-A



LOCA Model Grid Heat Transfer (CENPD-132-P-A, Sup. 4-P, Add. 1-P)

- Submitted
 - As Appendix to Core Reference Report February 28, 2006
 - Re-submitted separately at NRC's request May 11, 2006



Optimized ZIRLO™ Report (CENPD-404-P-A Add. 1-A)

- Provides the basis for use of Optimized ZIRLO™ cladding in fuel for CE and W NSSS
- Approved June 10, 2005

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**NGF Implementation Plan for
ANO-2
and
Waterford**

Implementation Plan Summary

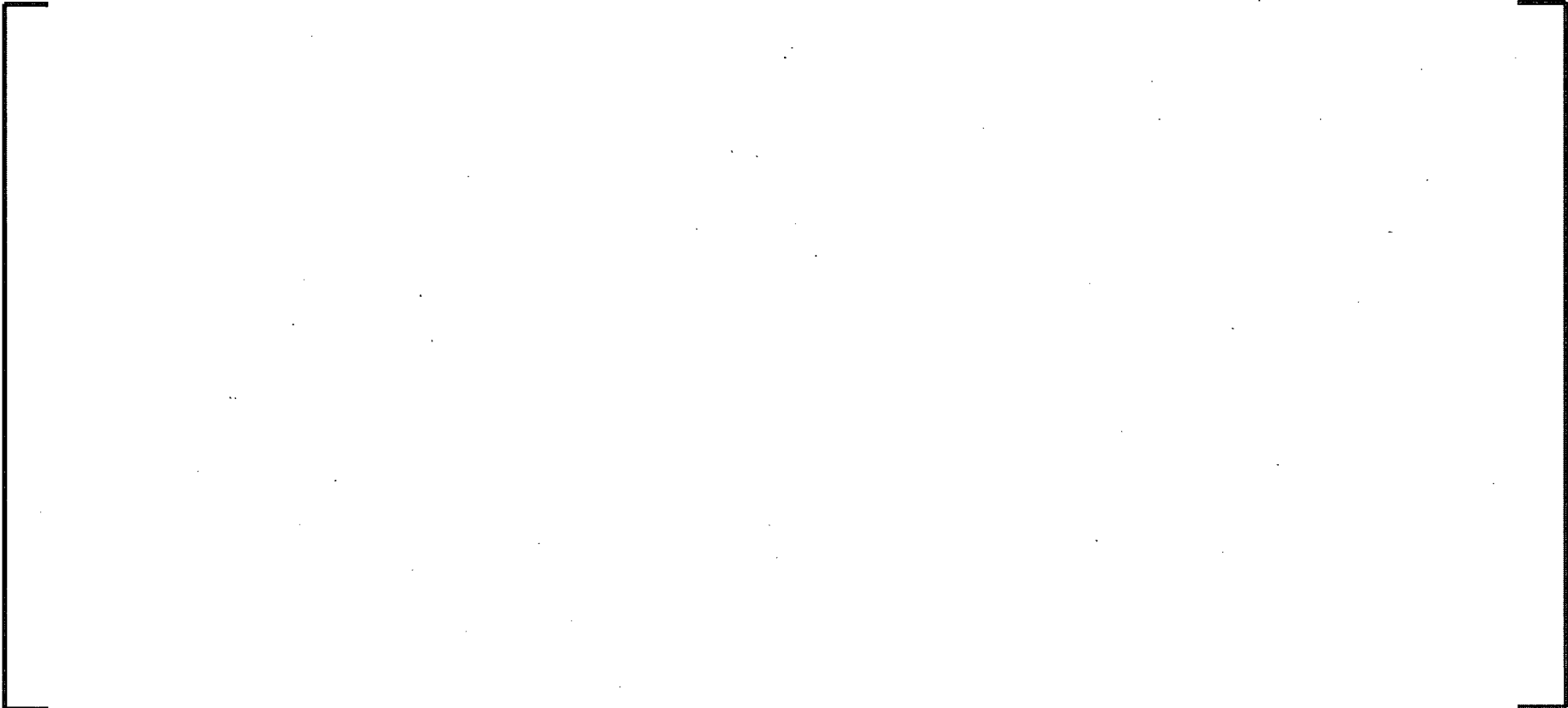
- Entergy is striving to be leak free by 2010
- Current status
 - ANO-2 and WF3 have identified fretting as the cause of leaks that have existed every cycle since 2000
 - At WF3, use of Inconel top grids has reduced the leaks, but has not reduced mid-grid fretting
- NGF design provides the solution to grid fretting as mutually agreed to by Westinghouse and Entergy

Implementation Plan Summary (continued)

- Entergy plans to use NGF at ANO-2 and WF3 in Spring 2008
- Prior to implementing NGF, the following have to be approved
 - Topical Reports
 - Exemption Request from 10 CFR 50.46 and Part 50 Appendix K to allow use of Optimized ZIRLO™ as cladding material
 - License Amendment Requests (LARs) for both units
 - Exemption request and LARs need to be submitted in March / April 2007
(dependent on Topical Report approval date)

Topical Report Status and Summary

Licensing Status



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Summary

- Deployment of CE 16 NGF design is key to reducing fuel leakers
- Topical reports supporting the design are under review and receiving attention
 - Draft SERs targeted for February 2007
- Plant specific submittals referencing topicals and SER conditions and limitations are planned for early 2007 to support fuel load in Spring 2008