PMFermiCOLPEm Resource

From: Govan, Tekia
Sent: Thursday, August 28, 2014 10:44 AM
To: FermiCOL Resource
Subject: FW: Draft Full ACRS Committee Presentation
Attachments: Draft Full ACRS Committee Presentation.pdf

From: Nicholas A Latzy [mailto:latzyn@dteenergy.com]
Sent: Thursday, August 28, 2014 10:35 AM
To: Govan, Tekia; Muniz, Adrian
Cc: Michael K Brandon
Subject: Draft Full ACRS Committee Presentation

Tekia/Adrian,

Attached to this email is the DTE Energy Draft Full ACRS Committee Presentation.

If you have any questions, please feel free to contact via email or telephone.

Thank you
(See attached file: Draft Full ACRS Committee Presentation.pdf)

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Fermi 3 COLA
Presentation to Full ACRS Committee

Presentation Overview

- Background
  - Overview of the Design and Departure
- Site Characteristics and Applicability
  - Review Flooding and Seismic Evaluations
- Fukushima Near Term Task Force Recommendations

  4.2 Mitigating Strategies for Beyond-Design-Basis External Event

  7.1 Reliable Spent Fuel Pool Instrumentation

  9.3 Emergency Preparedness

Background - Fermi 3 Implements Standard ESBWR Design

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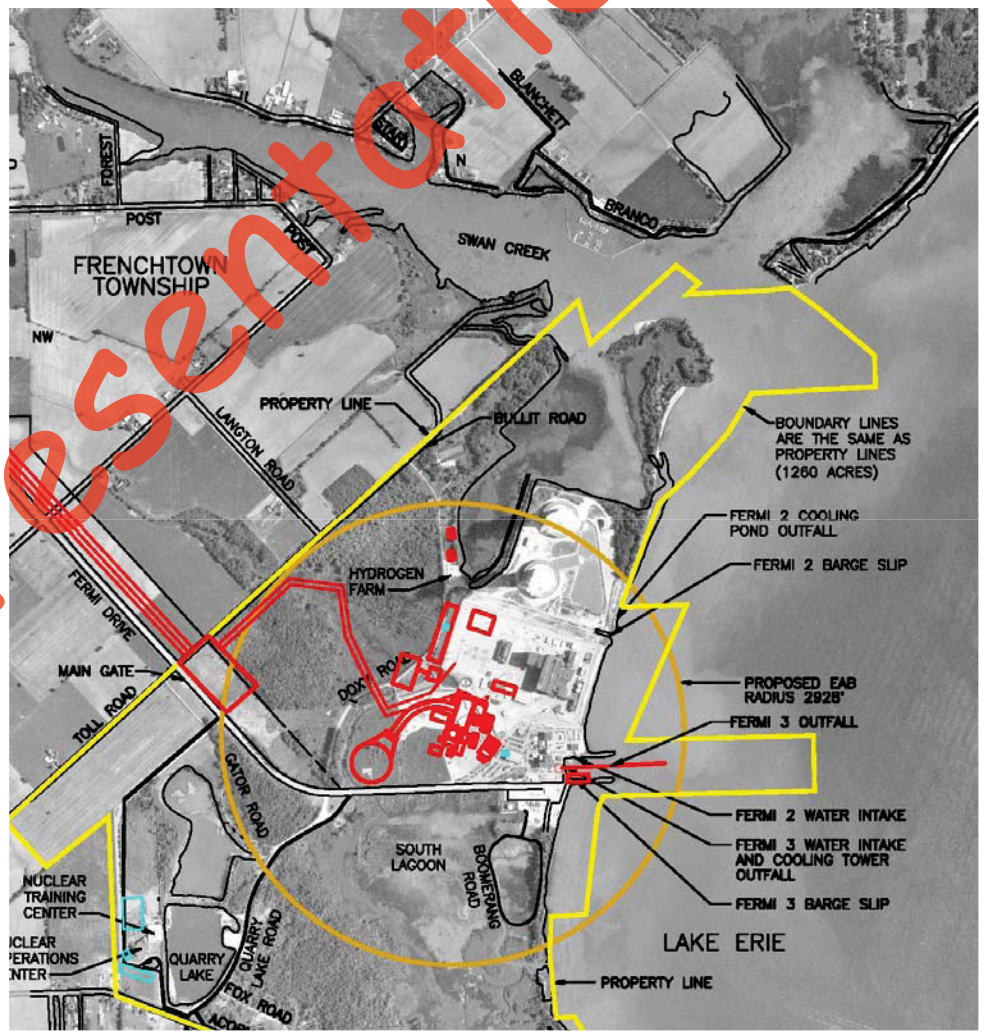
Fermi 3 Implements Standard ESBWR Design

- ESBWR DCD Revision 10 Incorporated by reference
- The ESBWR is well suited for the Fermi 3 Site
- Supplements added where DCD requires additional information to address site-specific considerations
- One Departure from DCD to increase solid waste storage capacity in RadWaste Building

Site Characteristics - Flooding

Overview of Hydrology in Site Vicinity

- Located on western shore of Lake Erie
- Swan Creek runs along the north edge of the site. Swan Creek watershed is approximately 106 square miles
- The western basin of Lake Erie is relatively shallow
- Maximum probable flood level is well below plant grade for Fermi 3 safety-related and RTNSS structures



Site Characteristics – Flooding
Fermi 3 is Bounded by ESBWR Design

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Flood Analysis Results Summary

Flood Scenario	Maximum Water Level Below Plant Grade
Local Intense Precipitation	4.1 feet
Probable Maximum Flood from Swan Creek	3.4 feet
Wind Driven Surge from Lake Erie	3.4 feet

Maximum probable flood levels are well below plant grade for Fermi 3 safety-related and RTNSS structures

Site Characteristics - Seismic

- Fermi 3 Ground Motion Response Spectra (GMRS) was developed using current regulatory guidance
  - Used Central and Eastern United States Seismic Source Characterization (CEUS SSC) model (NUREG-2115)
  - Used EPRI 2004/2006 Ground Motion Models
  - Followed NUREG-2117 guidance to incorporate new information into seismic hazard model
- Fermi 3 GMRS, Foundation Input Response Spectra (FIRS), and resulting site-specific in-structure responses are well enveloped by the ESBWR standard plant design

Site Characteristics – Seismic
Fermi 3 is Bounded by ESBWR Design

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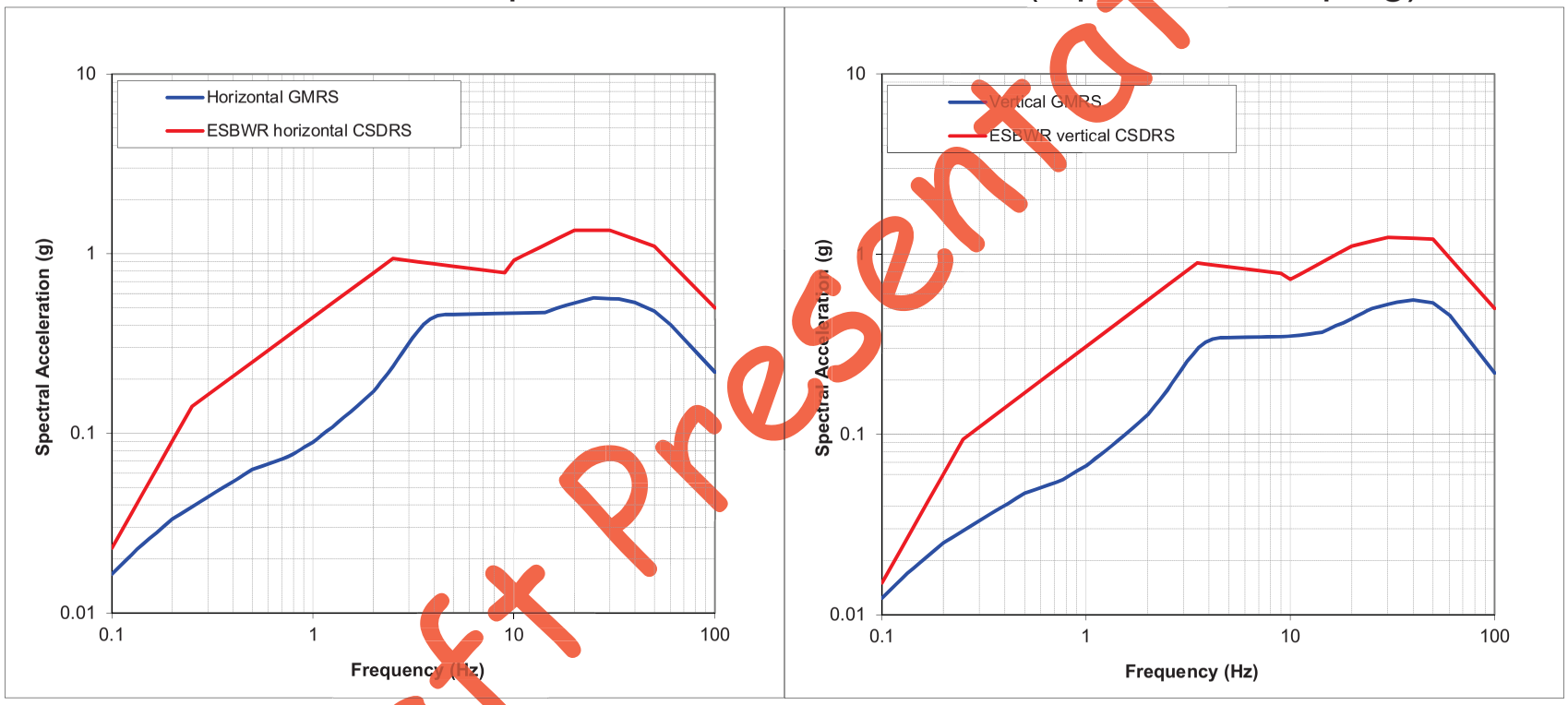
Fermi 3 GMRS compared to ESBWR CSDRS (5 percent damping)



GMRS for Fermi 3 site is well enveloped by the ESBWR horizontal and vertical Certified Seismic Design Response Spectra (CSDRS)

Site Characteristics – Seismic
Fermi 3 is Bounded by ESBWR Design

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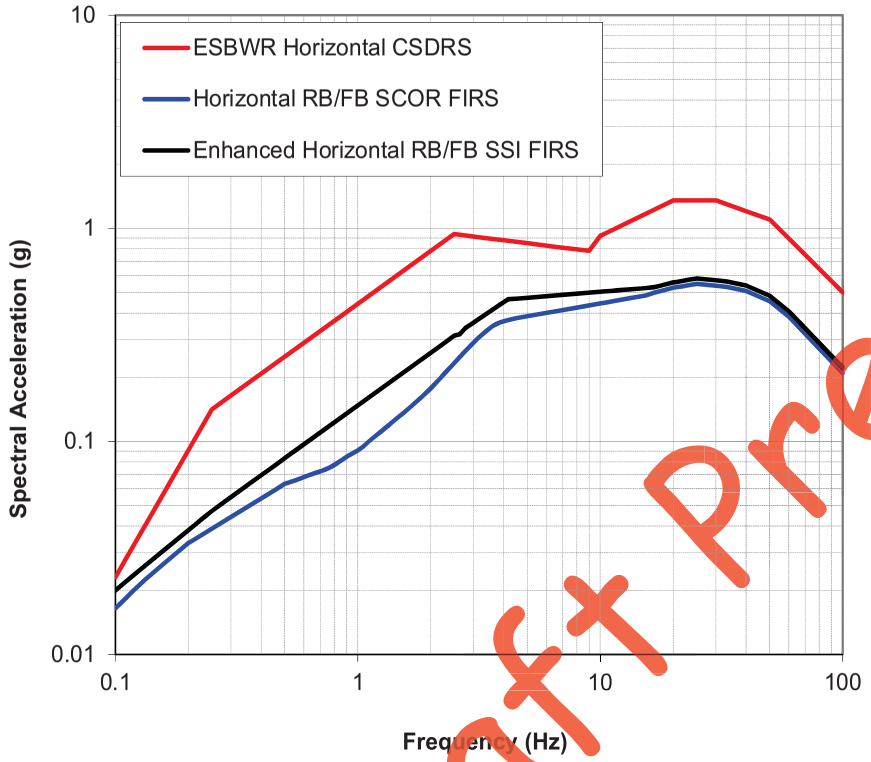
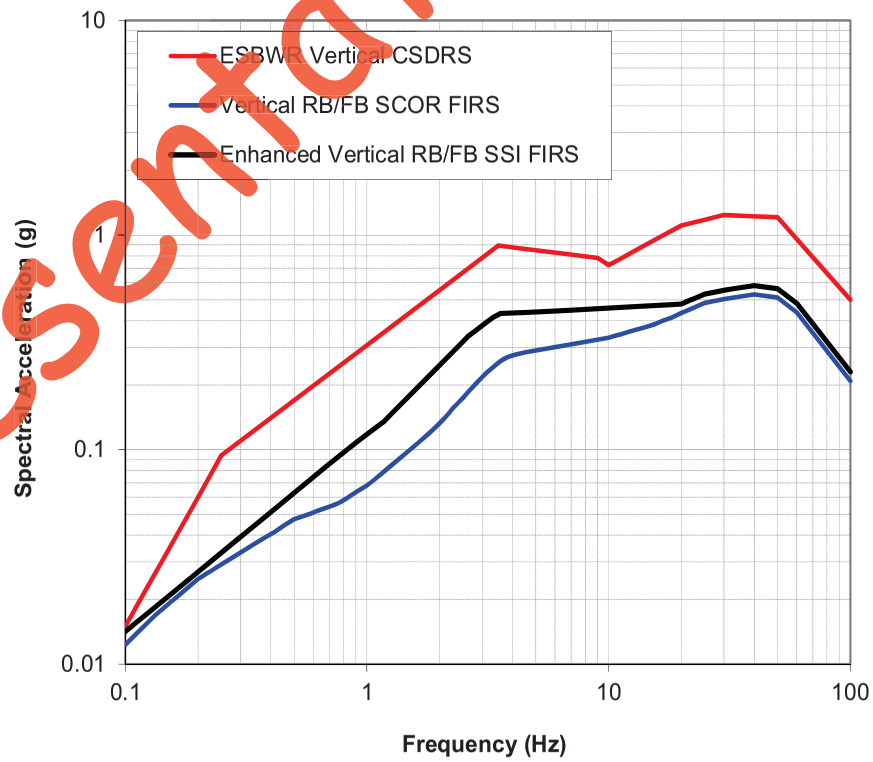
Fermi 3 RB/FB FIRS compared to ESBWR CSDRS (5 percent damping)





FIRS for Fermi 3 RB/FB, CB, and FWSC are well enveloped by the ESBWR horizontal and vertical CSDRS

Site Characteristics – Seismic
Fermi 3 is Bounded by ESBWR Design

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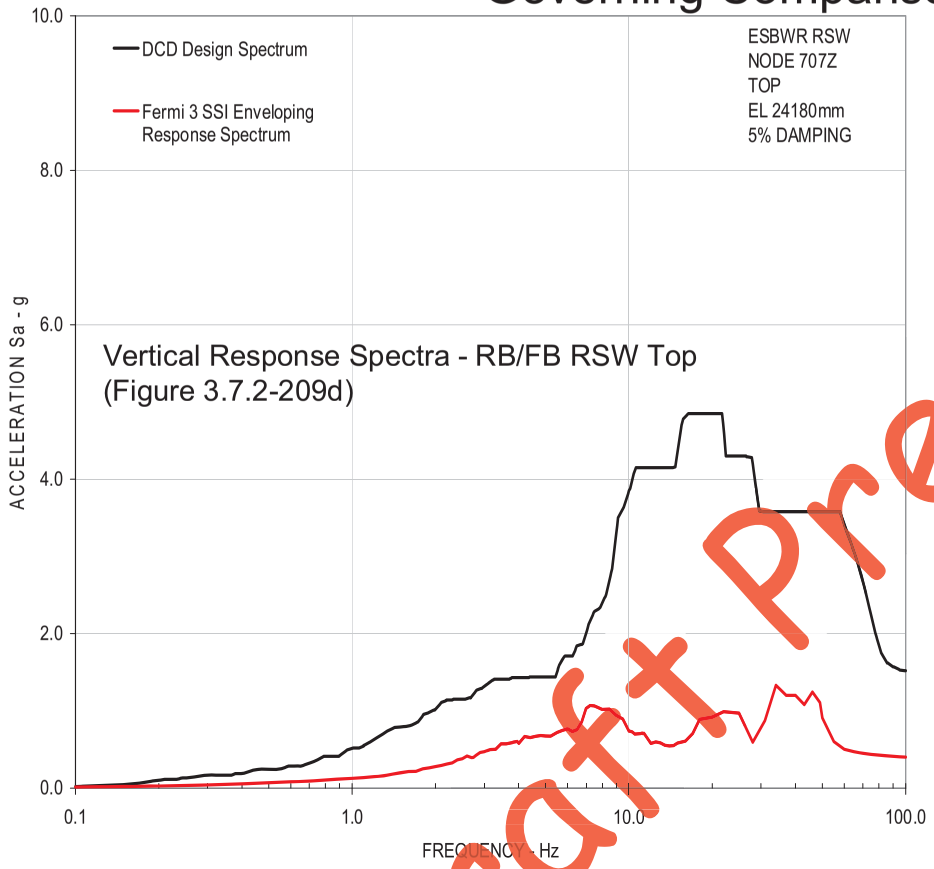
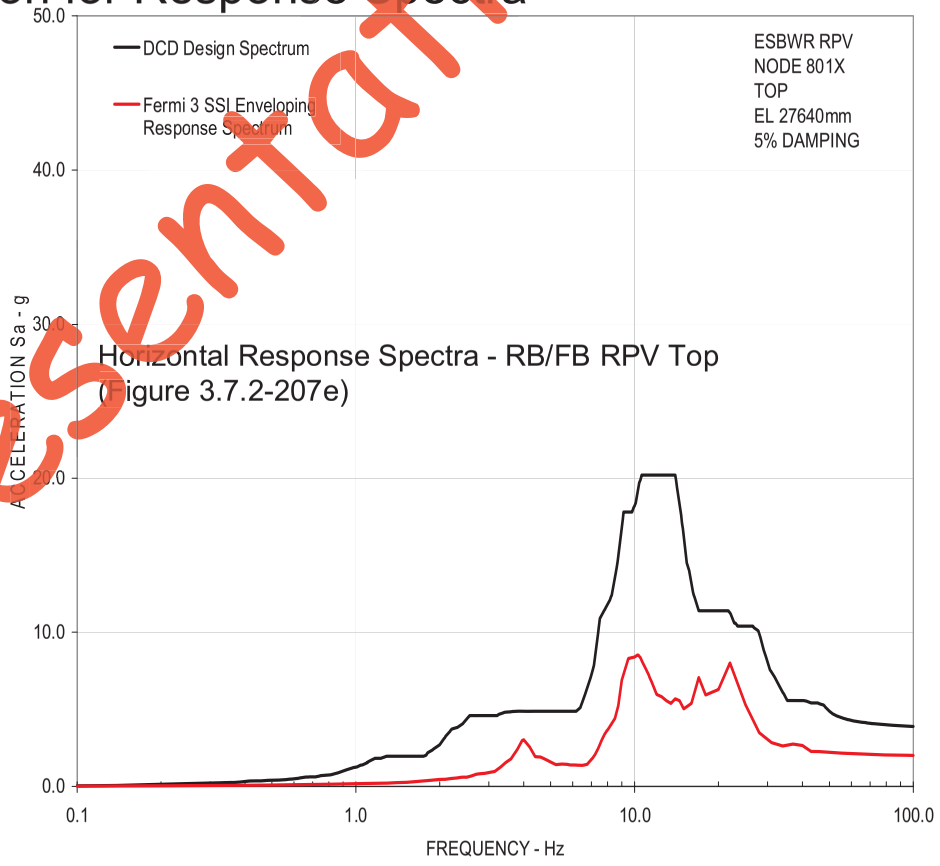
Governing Comparison for Response Spectra





The Fermi 3 RB/FB is well enveloped by the ESBWR RB/FB standard plant design

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Fermi 3 COLA
Presentation to Full ACRS Committee

Presentation Overview

Fukushima Near Term Task Force Recommendations

- 4.2 Mitigating Strategies for Beyond-Design-Basis External Event
- 7.1 Reliable Spent Fuel Pool Instrumentation
- 9.3 Emergency Preparedness

Recommendation 4.2 - Mitigating Strategies for Beyond Design Bases External Events

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Fermi 3 satisfies the requirements applicable to the passive ESBWR design

- NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events"
- JLD-ISG-2012-01, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events"
- NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide"

Recommendation 4.2 - Mitigating Strategies for Beyond Design Bases External Events

- ESBWR passive design provides for coping during the initial 72 hours
- Time periods beyond 72 hours are addressed by supplementing installed plant equipment with on-site and off-site resources

Recommendation 7.1- Reliable Spent Fuel Pool Level Instrumentation

Fermi 3 satisfies the requirements applicable to the ESBWR design

- NRC Order EA-12-051, “Reliable Spent Fuel Pool Instrumentation”
- JLD-ISG-2012-03, “Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation”
- NEI 12-02, “Industry Guidance for Compliance with NRC Order EA-12-051, To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation”

Recommendation 9.3 - Emergency Preparedness

- Staffing and Communications Assessments will be performed in accordance NEI 12-01, “Guidance for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities”
  - Assessments completed at least two years prior to scheduled initial fuel load
  - Corrective Actions implemented one hundred eighty days prior to scheduled initial fuel load