



Westinghouse Electric Company
New Plants and Major Projects
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HSP_NRC_000009

June 23, 2015

Subject: Draft Public Presentation Package for the NRC Technical Review and Audit Meeting of the
Specialized Seismic Option for the AP1000 Plant

Dear Mr. Burkhart,

As a follow-up to Westinghouse letter HSP_NRC_000008 enclosed are the preliminary slides for the
open portion of the Specialized Seismic Option Technical Review and Audit meeting.

Slides for the closed portion will be transmitted separately.

Questions related to this letter should be directed to the undersigned.

Very truly yours,

A handwritten signature in blue ink that reads 'Jill S Monahan'.

Jill S. Monahan, Manager
Specialized Seismic Option Licensing
New Plants and Major Projects

/Enclosure

cc:	Bruce Baval	U.S. NRC
	Robert Sisk	Westinghouse
	Rita Bowser	Westinghouse
	Robin Rickman	Westinghouse
	Erik Zambelli	Westinghouse
	Toyoaki Miyazaki	Westinghouse

Specialized Seismic Option

U.S. Nuclear Regulatory Commission (NRC)
Technical Review and Audit Meeting – Public Portion

July 21, 2015

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Agenda

- Welcome
- Safety Moment
- Purpose of the Technical Review and Audit Meeting
- Technical Overview
- Discussion of Calculations Available for Audit
- Review Project Timeline
- Summary

Safety Brief

- Identify the route from the room to the assembly area
- Respond to all alarms
- Survey the room for hazards
- Location of nearest facilities

Welcome

- Introductions
 - Please state name and affiliation
- Purpose of meeting
 - To present the US NRC with the technical bases for the **AP1000®** Specialized Seismic Option Report in support of the anticipated acceptance review following the September 2015 submittal.

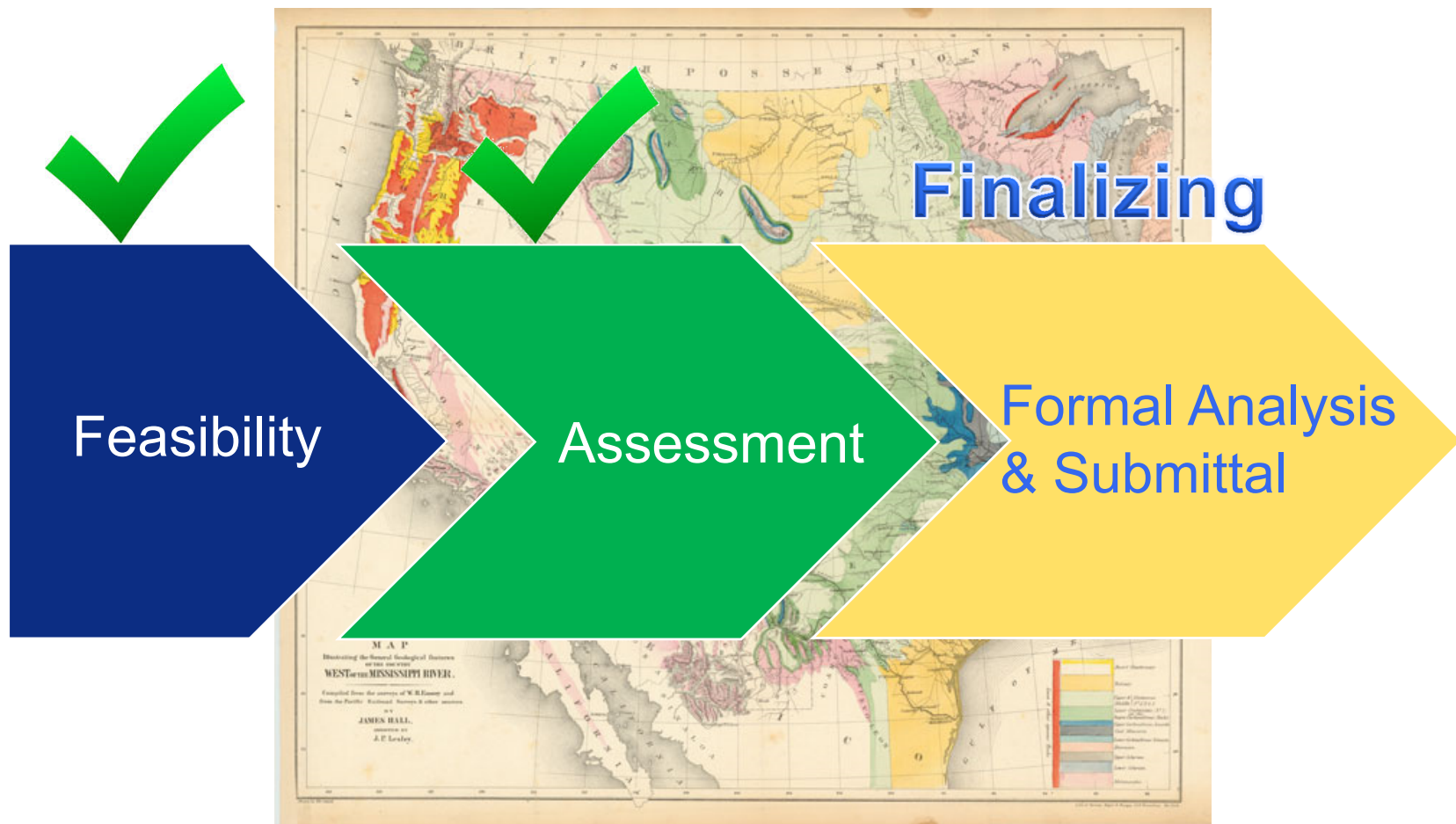
Project Background

Specialized Seismic Option - Purpose

- A Specialized Seismic Option of the **AP1000** nuclear power plant is being developed for use in locations with seismic levels typically seen in portions of the western United States and certain other countries
- Specialized by design through analysis and a limited set of customizations
- Represents an opportunity to bring unsurpassed safety, environmental and economic benefits of advanced passive Westinghouse technology to customers with sites with different seismic environments

Based on the NRC-certified AP1000 plant design, but accommodates a different seismic spectrum

The Specialized Seismic Option



Status of Technical Work

- Feasibility Stage (completed)
 - Worked on project for two years modeling different earthquakes
- Engineering Assessment Stage (completed)
 - Five-month engineering assessment evaluating the impact of potential seismic loads on structures and components
 - Purpose was to confirm viability of the Specialized Seismic Option
- Formal Analysis & Submittal (finalizing)
 - Finalize calculations and design
 - Make key calculations available for NRC Audit

The Specialized Seismic Option

- Provides the advances of the approved **AP1000** reactor technology, including:
 - Advanced passive safety features
 - Modular design
 - Simplified systems and operation
- Same system functionality
- Same general arrangement
- Allows Combined License (COL) applicants with appropriate site conditions to reference the Specialized Seismic Option Report

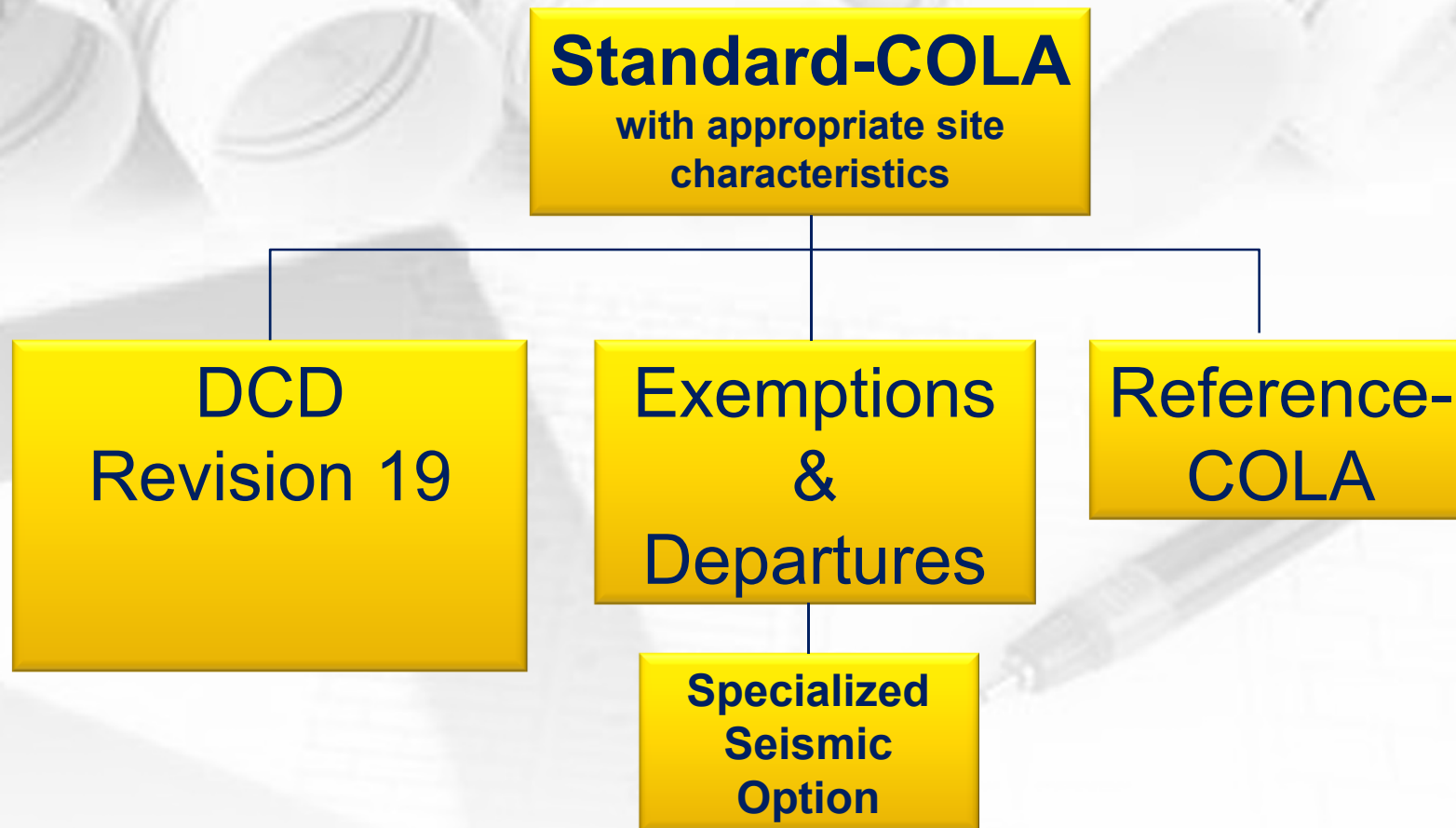
Licensing Background



Specialized Seismic Option Licensing Overview – Westinghouse Perspective

- This is an Option Report, not a new Design Control Document (DCD)
- Lowers risk for future COL applicants using this Option
- Based on **AP1000** plant DCD Revision 19 certified design
 - Limited scope submittal – addresses areas impacted by a change in seismic input
- It does not impact finality of existing certified **AP1000** plant design, or applicants or licensees currently referencing the design

Licensing High-Level View for Site Needing Specialized Seismic Option



Specialized Seismic Option Technical Background

Planned Technical Review and Audit

- Purpose for the Technical Review and Audit Meeting
 - Provide a forum for the NRC to review the technical calculations supporting the Specialized Seismic Option Report
 - Provide responses to questions from the NRC on the methodologies, assumptions, inputs, outputs and conclusions from the Specialized Seismic Option calculations

Provide the NRC with the technical basis for the Specialized Seismic Option Submittal

Status of Specialized Seismic Option Technical Work

- Formal analysis and submittal phase
 - Finalizing the formal documentation of the technical analyses and evaluations
 - Providing the technical input to write and document the Specialized Seismic Option
- All planned technical work on track to meet the September 2015 submittal date

Discussion of Calculations Available for Audit

- Specialized Seismic Option technical calculations are available in the Westinghouse Rockville Office for audit by the NRC staff
- Calculations were made available prior to the Technical Review and Audit Meeting and will continue to be available following this meeting
- The list of calculations identifies the specific analyses and evaluations that will be available for the proposed audit
- The calculations provided will be “alpha” revisions

Discussion of Calculations Available for Audit (Continued)

- To aid the NRC reviewers, the calculation list is categorized based on the sections of the Design Control Document (DCD) Tier 2 information the calculation supports
- Flow diagrams are provided to aid the reviewers on how the calculations provide input to each other
- The subject matter experts are available during and following the Technical Review and Audit Meeting

Provide the NRC with confidence the technical basis for Specialized Seismic Option Report submittal is sound.

Specialized Seismic Option Evaluation Flow Diagram

Level 1
Criteria

Design Plan

Level 2
Seismic
& SMA

3.7 Seismic Design

- ESS Spectra & Time History
- Building Seismic
- Sub-System Seismic

3.8 Structural
Analyses

19 Seismic Margin
Assessment

Level 3
Supporting
Calculations

3.9
Component Stress
Analyses Supporting
SMA

Planned Technical Review and Audit

- Closed portion of the meeting includes:
 - A brief discussion of which technical calculations are available for audit
 - Discussion / Questions from the NRC staff based on the audit of the specific technical calculations

Summary

Timeline Status

- Preliminary assessments Completed
- Pre-submittal meeting Completed
- Detailed evaluations Finalizing
- Technical review meeting Completed
- Pre-submittal audit meeting Underway
- **Specialized Seismic Option submitted 09/2015**
- NRC Safety Evaluation Report ~ 10/2017
(target date)

Specialized Seismic Option Summary

The Specialized Seismic Option

- Is being developed and submitted to the NRC for review and approval to extend the range of applicability of the **AP1000** plant as evidenced by a Safety Evaluation Report
- Has been determined to be technically viable based on nearly two years of feasibility study and engineering assessment by Westinghouse and Toshiba
- Does not impact **AP1000** plant licensees or applicants
- Continues to protect the health and safety of the public