



US-APWR

3rd Pre-Application Review Meeting

November 28 & 29, 2006
Mitsubishi Heavy Industries, Ltd.



Introduction

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Meeting Objectives

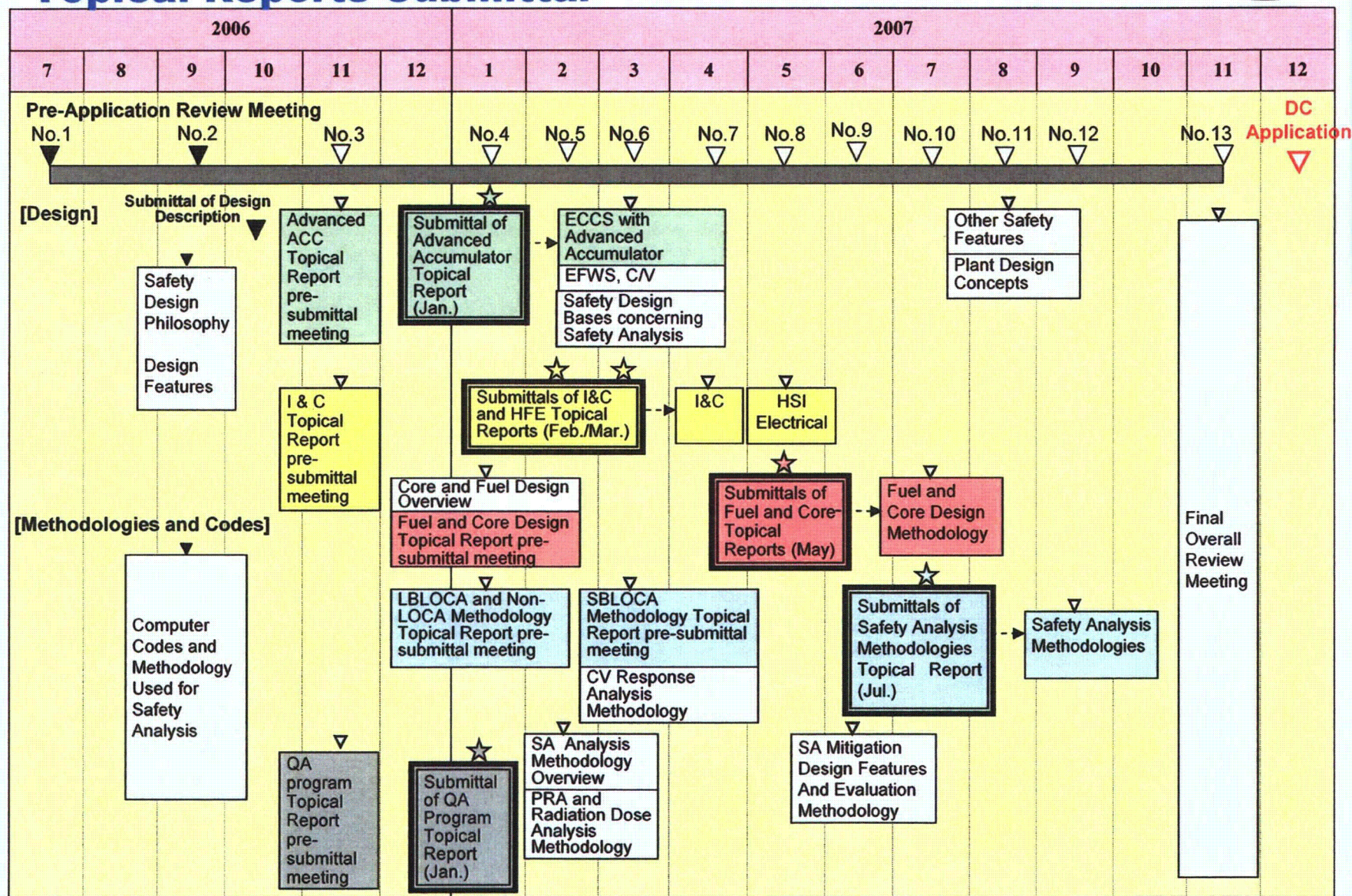


- To propose revised plan for pre-application review meeting and submittal of Topical Reports to reflect comments of NRC staff
- To provide the contents of Topical Reports and to obtain feedback from the NRC
 - ✓ November 28
 - AM: Digital I & C System, HFE Process and HSI System Design
 - PM: Quality Assurance Program Description for Design Certification of the US-APWR
 - ✓ November 29
 - Advanced Accumulator



Revised Plan of Pre-Application Review Meeting and Topical Reports Submittal

Revised Plan of Pre-Application Review Meeting and Topical Reports Submittal



MITSUBISHI HEAVY INDUSTRIES, LTD.



: Meeting Subjects



: Submittal of Topical Report

UAP-HF-06023-4

Revised Pre-Application Review Meeting Plan



Meeting Subject	Meeting Objectives	Date
<ul style="list-style-type: none"> - Mitsubishi Nuclear Activities - US-APWR Overview 	<ul style="list-style-type: none"> - Introduce MHI nuclear activities and US-APWR 	July 2006
<ul style="list-style-type: none"> - Revised Pre-Application Review Meeting Plan - Topical Report Submittals Plan - Safety Design Philosophy - US-APWR Design Features - Computer Codes and Methodology Used for Safety Analysis 	<ul style="list-style-type: none"> - Propose the review meeting and topical report schedule - Provide a more extensive technical discussion to demonstrate the design is similar to US current PWR plant 	September 2006
Topical Report Pre-submittal Meeting <ul style="list-style-type: none"> - Advanced Accumulator 	<ul style="list-style-type: none"> - Identify the form and contents of the topical report - Provide a more extensive technical discussion 	November 2006
Topical Report Pre-submittal Meeting <ul style="list-style-type: none"> - Digital Platform - Safety System Design Process and Description - Defense-in Depth and Diversity - HFE Process and HSI System Design 	<ul style="list-style-type: none"> - Identify the form and contents of the topical reports 	November 2006
Topical Report Pre-submittal Meeting <ul style="list-style-type: none"> - Quality Assurance Program Description for Design Certification of the US-APWR 	<ul style="list-style-type: none"> - Identify the form and contents of the topical report 	November 2006

Revised Pre-Application Review Meeting Plan



Meeting Subject	Meeting Objectives	Date
<ul style="list-style-type: none"> - Core and Fuel Design Overview <p>Topical Report Pre-submittal Meeting</p> <ul style="list-style-type: none"> - Fuel System Design Criteria and Methodology - Thermal Design Methodology 	<ul style="list-style-type: none"> - Clarify necessary actions before the DC application - Identify the form and contents of the topical reports 	January 2007
<p>Topical Report Pre-submittal Meeting</p> <ul style="list-style-type: none"> - Large Break LOCA Analysis Methodology - Non-LOCA Analysis Methodology 	<ul style="list-style-type: none"> - Identify the form and contents of the topical reports - Explain codes used in analysis for Large Break LOCA and Non-LOCA 	January 2007
<ul style="list-style-type: none"> - Severe Accident Analysis Methodology Overview - Probabilistic Risk Assessment Methodology - Radiation Dose Analysis Methodology 	<ul style="list-style-type: none"> - Explain codes used in analysis for Severe Accident - Explain codes, database and key assumption of the PRA - Explain codes and key assumption of the Radiation dose analysis methodology 	February 2007

Revised Pre-Application Review Meeting Plan



Meeting Subject	Meeting Objectives	Date
<ul style="list-style-type: none"> - Safety Related Features (ECCS, EFWS, Containment Vessel) - Including safety Design Bases concerning Safety Analysis - Advanced Accumulator Topical Report 	<ul style="list-style-type: none"> - Provide a more specific discussion on safety related features - Discuss the NRC comments after the NRC staff has read the advanced accumulator topical report 	<p>March 2007</p>
<ul style="list-style-type: none"> - Small Break LOCA Analysis Methodology Topical Report Pre-submittal Meeting - CV Response Analysis Methodology 	<ul style="list-style-type: none"> - Explain codes used in analysis for Small Break LOCA - Identify the form and contents of the topical report - Explain codes and key assumption of the Containment Response Analysis methodology 	<p>March 2007</p>

Revised Pre-Application Review Meeting Plan



Meeting Subject	Meeting Objectives	Date
<ul style="list-style-type: none"> - Electrical and I & C System Design Criteria - Overall I & C and Safety System - Digital Platform Topical Report - Safety I&C System Design Process and Description Topical Report 	<ul style="list-style-type: none"> - Provide plant-wide architecture and system level design and function of safety related I & C - Discuss the NRC comments after the NRC staff has read the Digital Platform and Safety I & C System topical reports 	April 2007
<ul style="list-style-type: none"> - Human System Interface - Other Important I & C Systems - Safety Grade 1E Electrical Power System - Defense-in-Depth and Diversity (D3) Topical Report - HFE Process and HSI System Design Topical Report 	<ul style="list-style-type: none"> - Provide HSI concept and system level design of other important I & C and safety electrical system - Discuss the NRC comments after the NRC staff has read the HFE and D3 topical reports 	May 2007
<ul style="list-style-type: none"> - Severe accident mitigation design features and evaluation methodology 	<ul style="list-style-type: none"> - Explain schematic system description and their effectiveness evaluation method 	June 2007

Revised Pre-Application Review Meeting Plan



Meeting Subject	Meeting Objectives	Date
<ul style="list-style-type: none">- Fuel System Design Criteria and Methodology Topical Report- Thermal Design Methodology Topical Report	<ul style="list-style-type: none">- Discuss the NRC comments after the NRC staff has read the topical reports	July 2007
<ul style="list-style-type: none">- Other Safety Features (Safety shutdown system, SBO mitigation system etc.)- Plant Design Concepts (Plant Layout, Separation Criteria, Steel & Concrete Structure)	<ul style="list-style-type: none">- Provide a more specific discussion on other safety features and plant design concepts	August 2007
<ul style="list-style-type: none">- Safety Analysis Methodologies Topical Report	<ul style="list-style-type: none">- Discuss the NRC comments after the NRC staff has read the topical report	September 2007
<ul style="list-style-type: none">- Final Overall Review Meeting	<ul style="list-style-type: none">- Summarize the NRC comments and discussion	November 2007

Revised Topical Reports Submittal Plan



Topical Report	Date
Quality Assurance Program Description for Design Certification of the US-APWR	January 2007
Advanced Accumulator	January 2007
Digital Platform	February 2007
Safety I&C System Design Process and Description	February 2007
Defense-in-Depth and Diversity	March 2007
HFE Process and HSI System Design	March 2007
Fuel System Design Criteria and Methodology	May 2007
Thermal Design Methodology	May 2007
Safety Analysis Methodology (LBLOCA, SBLOCA)	July 2007
Safety Analysis Methodology (Non-LOCA)	July 2007

Next Steps



- **Submittal of Topical Reports in January 2007**
 - ✓ **Quality Assurance Program Description for Design Certification of the US-APWR**
 - ✓ **Advanced Accumulator**

- **Meetings in January 2007**
 - ✓ **Core and Fuel Design Overview**
 - ✓ **Topical Report Pre-submittal Meeting**
 - **Fuel System Design Criteria and Methodology**
 - **Thermal Design Methodology**
 - **Large Break LOCA Analysis Methodology**
 - **Non-LOCA Analysis Methodology**