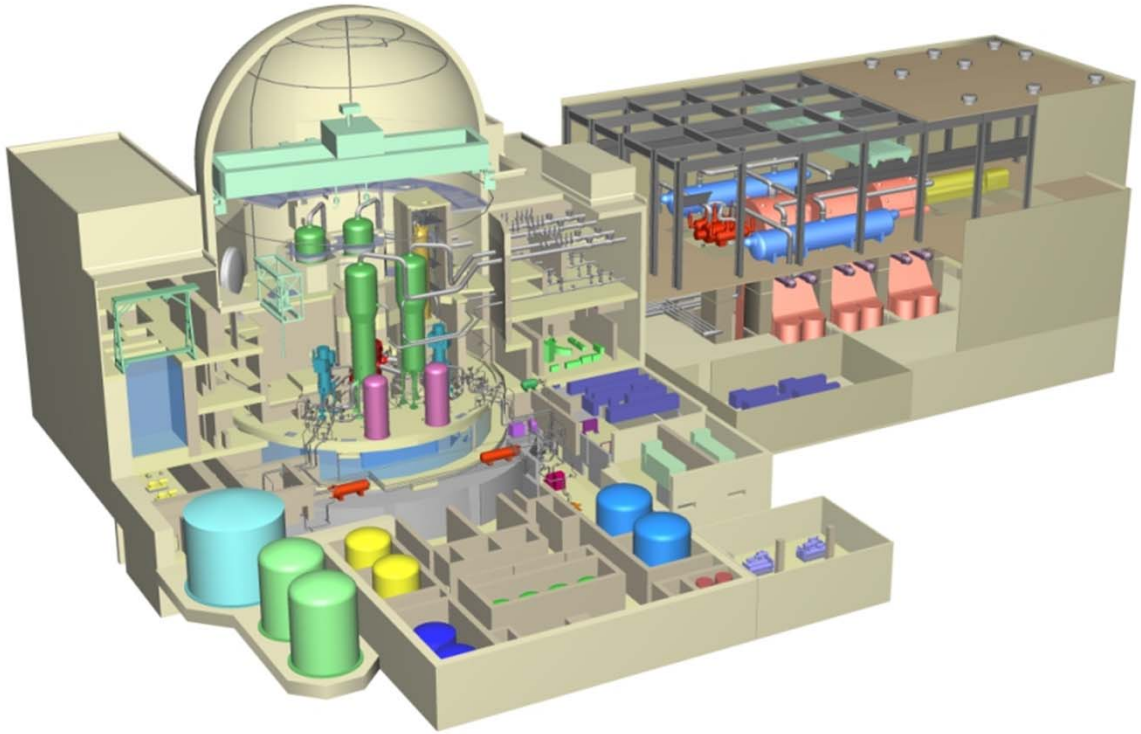
Mitsubishi US-APWR



November 8, 2011
Mitsubishi Heavy Industries, Ltd.

CONTENTS

1. US-APWR Overview

What is US-APWR

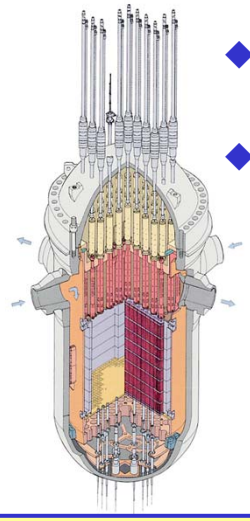
- **The basic design concept of the US-APWR is the same as that of the APWR (Tsuruga 3,4) whose design is complete and is under the safety review and licensing process in Japan.**
- **All new APWR technologies have been fully tested, and verified.**
- **The US-APWR, 1700MWe class, is based on the established APWR technology with**
  - ✓the latest technologies to improve plant efficiency
  - ✓minor modifications to meet U.S. utility requirements

Main Characteristics of US-APWR

	APWR	US-APWR
Electric Output	1,538 MWe	1,700 MWe Class
Core Thermal Output	4,451 MWt	4,451 MWt
Core	12 ft Fuel 257Assem.	14 ft Fuel 257 Assem.
SG Heat Transfer Area per SG	70,000 ft^2	91,500 ft^2
Thermal Design Flow rate per loop	113,000 GPM	112,000 GPM
Turbine	54 inch blades	70 inch class blades
Containment Vessel	PCCV	PCCV
Safety Systems	Electrical 2 trains Mechanical 4 trains	Electrical 4 trains Mechanical 4 trains
	HHSI × 4 Advanced Accumulator x 4 Elimination of LHSI	HHSI ×4 Advanced Accumulator x 4 Elimination of LHSI
I&C	Full Digital	Full Digital

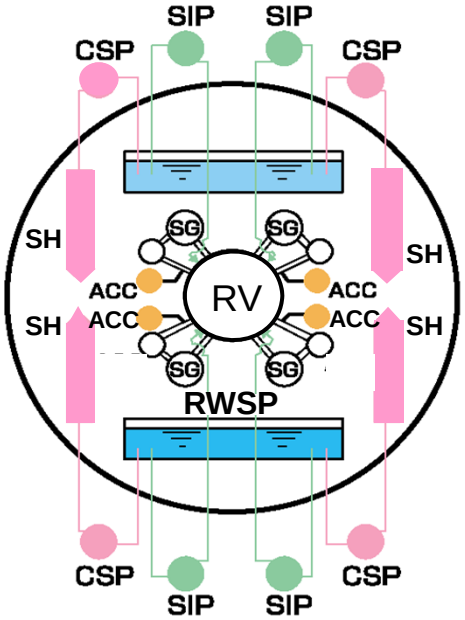
Advanced Technologies

Reactor



- 1,700 MWe class large capacity
- Neutron reflector

Engineering Safety Features



- Simplified configuration with four mechanical sub-systems
- In-containment RWSP
- Advanced accumulator

Steam Generator

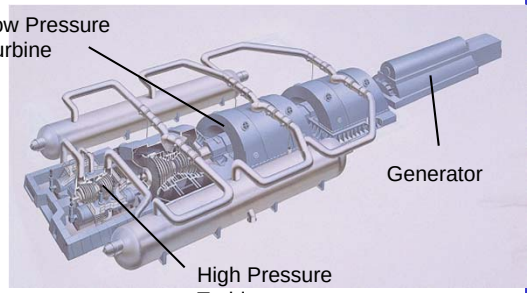
- High performance separator
- Increased capacity with compact sizing

I & C

- Digital control & protection systems
- Compact console

Turbine

- 70 inch-length blades in LP turbine
- Fully integrated LP turbine rotor



2. Project Licensing and Construction Schedule

Design Certification Review

DC Review Schedule

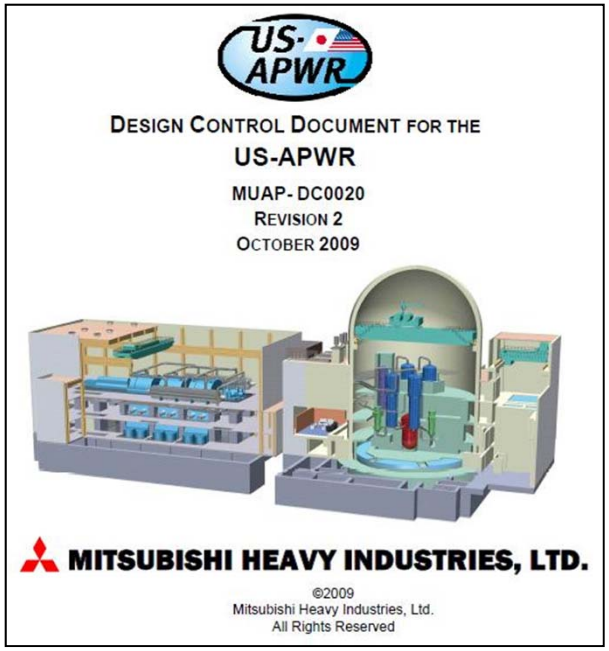
- ✓ ***Dec. 31, 2007, DC Application Submittal***
- ✓ ***Feb. 29, 2008, DCA Docketed***

Safety review

- ✓ ***June, 2009, Phase 1***
- ✓ ***Jan., 2012, Phase 2***
- ✓ ***May, 2012, Phase 3***
- ✓ ***Oct., 2012, Phase 4***
- ✓ ***Jan., 2013, Phase 5***
- ✓ ***May, 2013, Phase 6 (final SER issue)***

Rulemaking

- ✓ ***Oct., 2013, Issue final rule***


DESIGN CONTROL DOCUMENT FOR THE
US-APWR
MUAP- DC0020
REVISION 2
OCTOBER 2009

MITSUBISHI HEAVY INDUSTRIES, LTD.


NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION
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Web Site: http://www.nrc.gov

No. 08-041 February 29, 2008

NRC ACCEPTS US-APWR DESIGN APPLICATION FOR REVIEW

The Nuclear Regulatory Commission has accepted for review an application from Mitsubishi Heavy Industries to certify the U.S. Advanced Pressurized Water Reactor (US-APWR) design. The docket number assigned to this application is 52-021.

"We're expecting an application later this year from a company that wants permission to build and operate a US-APWR in Texas," said Bill Borchardt, Director of the NRC's Office of New Reactors. "The staff expects this design certification review will continue at least into 2011."

NRC HP http://www.nrc.gov/

COLA Review Schedule

Comanche Peak Unit 3 and 4

- ✓ *Sep. 19, 2008 COLA submittal*
- ✓ *Dec. 2, 2008, COLA Docketed*

Safety review

- ✓ *Oct., 2009, Phase 1*
- ✓ *Mar., 2012, Phase 2*
- ✓ *July, 2012, Phase 3*
- ✓ *Dec., 2012, Phase 4*
- ✓ *Mar., 2013, Phase 5*
- ✓ *June, 2013, Phase 6 (final SER issue)*

Rulemaking

- ✓ *Nov., 2013, Issuance of COL*

North Anna Unit 3

- ✓ *Jun. 28, 2010, Technology design change to US-APWR*

Safety review

- ✓ *Mar., 2012, Phase A*
- ✓ *Dec., 2012, Phase B*
- ✓ *May, 2013, Phase C*
- ✓ *July, 2013, Phase D (final SER issue)*

Rulemaking

- ✓ *Nov., 2013, Issuance of COL*


Thank You