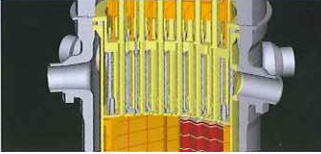
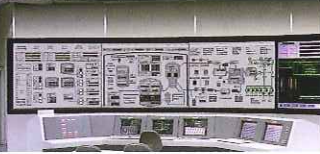
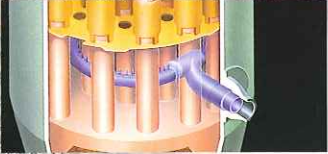


MITSUBISHI

US-APWR



A MITSUBISHI HEAVY INDUSTRIES, LTD. GROUP COMPANY



What is a US-APWR?

US-APWR can satisfy US customers requirements with the best performance for Safety, Economy, Operation, and Maintenance.

The US-APWR is the slightly modified design to comply with US requirements based on highly accomplished design of APWR.

The APWR was originally developed as a part of Japan's Ministry of Economy, Trade and Industry's "Third Phase Improvement Standardization Program for Light Water Reactors".

Tsuruga Unit 3 and 4, which are under the licencing process

as the first APWR have been polished up with new technologies after the program.

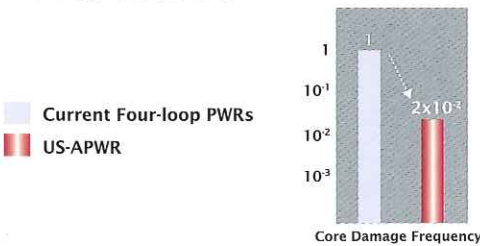
The APWR design has a wide range of improved technologies by employing past experiences in operation and maintenance in Japan and by prudent verification and qualification tests.

US-APWR thus can satisfy the various needs of power companies in the US.

Features of the US-APWR

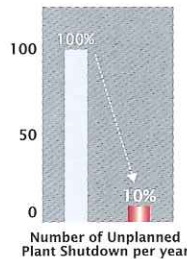
Enhanced Safety

- ▶ 4 Train Safety System
Enhanced Redundancy and Independency
- ▶ Advanced Accumulator
- ▶ In-containment Refueling Water Storage Pit (RWSP)



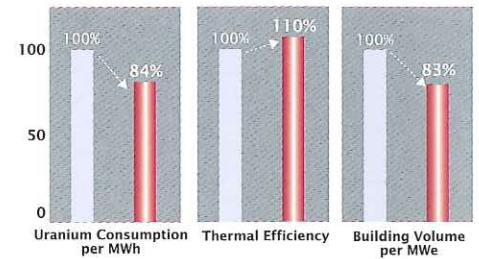
Enhanced Reliability

- ▶ Internals with Neutron Reflector
- ▶ Steam Generator with High Corrosion Resistance
- ▶ Reactor with Top-mounted ICIS



Attractive Economy

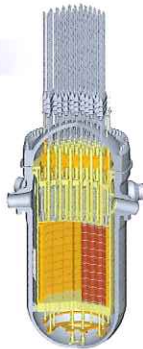
- ▶ Large Core with Improved Thermal Efficiency : 39%



Improved Plant Performance by Proven and Verified Advanced Techno

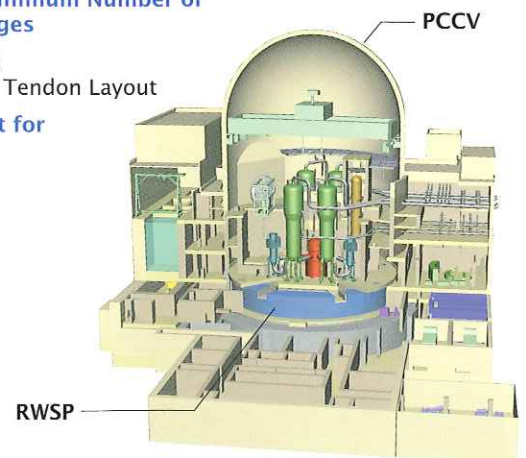
Reactor

- ▶ 1700 MWe Class Large Capacity
- ▶ Neutron Reflector
 - Improved Reliability of Internals
 - Economical Use of Uranium



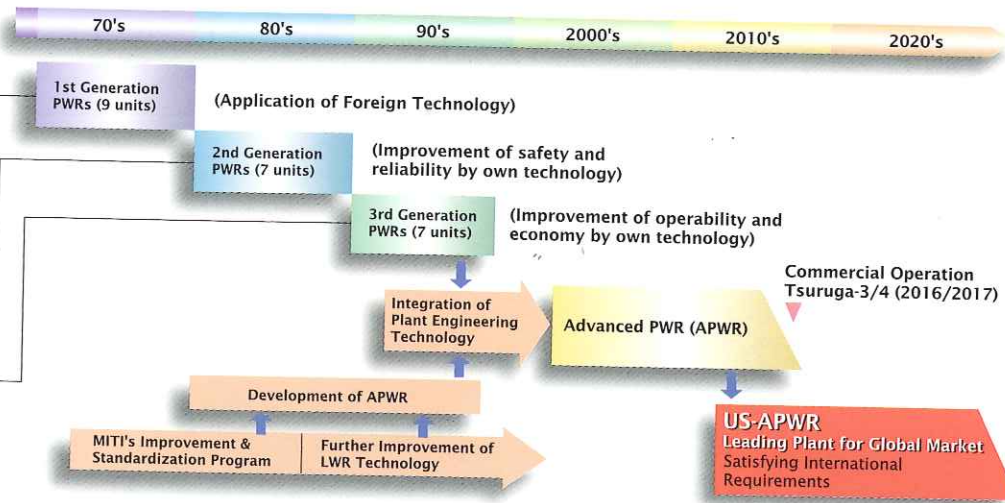
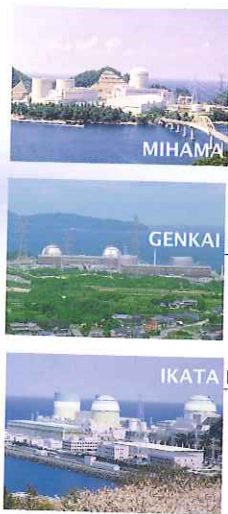
Containment & Layout

- ▶ PCCV with the Minimum Number of Tendon Anchorages
 - 2 Buttresses and U Shape Vertical Tendon Layout
- ▶ Simplified Layout for Safety System



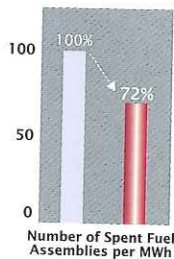
Steam Generator

- ▶ High Performance Separator
- ▶ Increased Capacity with Compact Sizing
- ▶ High Corrosion Resistance Tubes



Harmonization with Environment

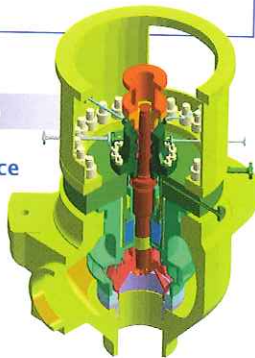
- ▶ Reduced Rad Waste (Spent Fuel, etc.)
- ▶ Reduced Occupational Radiation Exposure



ologies ▶▶▶▶

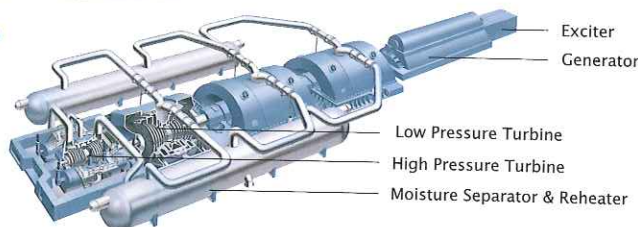
Reactor Coolant Pump

- ▶ Improved Hydraulic Performance
- ▶ Advanced Seal
 - Improved Seal Characteristic and Durability



Turbine Generator

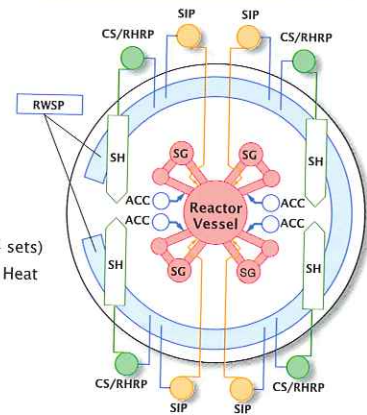
- ▶ 70 Inch-class Blades in LP Turbine
- ▶ 3-D Design Turbine Blade
- ▶ Fully Integral LP Turbine Rotor



MITSUBISHI US-APWR

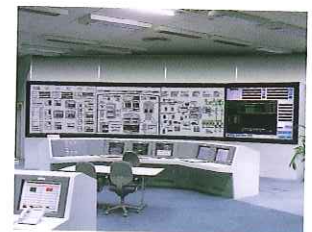
Engineered Safety Features

- ACC: Accumulator (4 sets)
- SIP: High Head Safety Injection Pump (4 sets)
- CS/RHRP: Containment Spray/Residual Heat Removal Pump (4 sets)
- RWSP: Refueling Water Storage Pit
- SH: Containment Spray Header



Instrumentation & Control

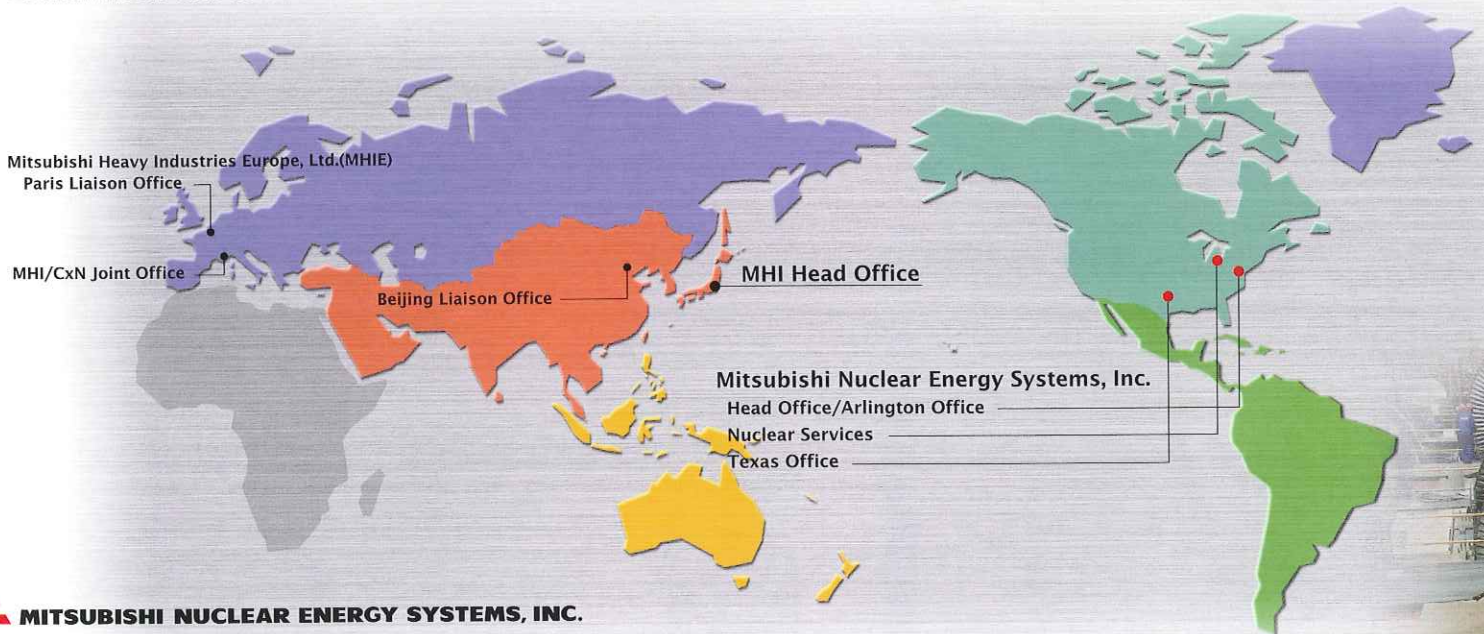
- ▶ Digital Control & Protection Systems
 - High Reliability and Maintainability
- ▶ Compact Console
 - Easy Operation



Main Specifications of US-APWR

Electric Power (gross)		(MWe)	1,700 class	
Core Thermal Power		(MWt)	4,451	
Reactor	Number of Fuel Assemblies		257	
	Fuel		Advanced 17×17	
	Active Core Length (ft)		14	
Reactor Coolant System	Number of Loops		4	
	Coolant Flow (gpm/loop)		112,000	
	Coolant Pressure (psia)		2,250	
	Steam Generator	Heat Transfer Area (ft ²)		91,500
		Number		4
	Reactor Coolant Pump	Number		4
Motor Output (kW)		6,000		

Global Network of Mitsubishi Nuclear



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