What is a US-APWR?


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 Technologies

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

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

Containment & Layout
- PCCV with the Minimum Number of Tendon Anchorages
  - 2 Butresses and U Shape Vertical Tendon Layout
- Simplified Layout for Safety System
Harmonization with Environment
- Reduced Rad Waste (Spent Fuel, etc.)
- Reduced Occupational Radiation Exposure

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

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
- Leading Plant for Global Market Satisfying International Requirements
Global Network of Mitsubishi Nuclear

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