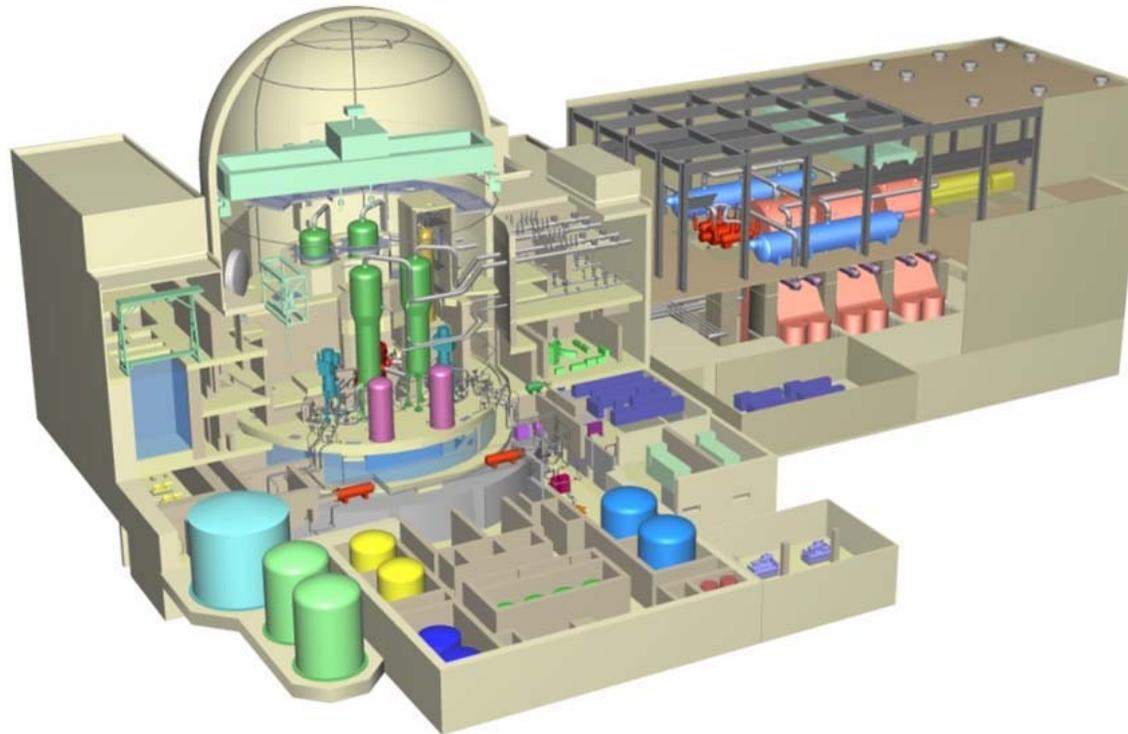


MITSUBISHI

US-APWR

Main Components



June 29, 2007

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2. US-APWR Main Components

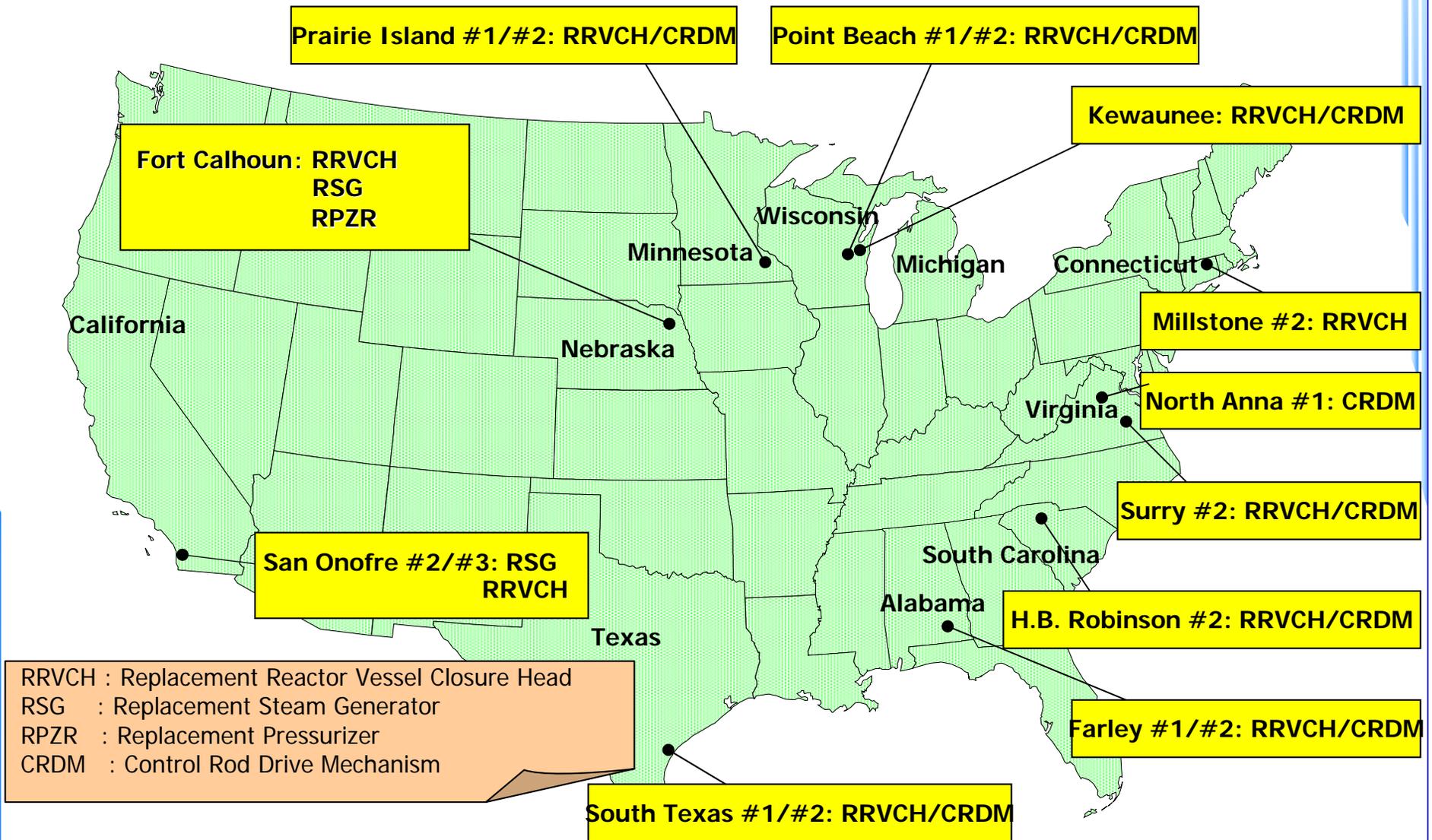
MHI Nuclear Experience Component Delivery Record



	Delivered	Backlog
Reactor Vessel	24 (2)	2 (1)
Reactor Vessel Heads (for replacement)	27 (14)	10 (4)
Steam Generator	98 (10)	18 (12)
Reactor Internals	21 (0)	2 (0)
Pressurizer	24 (1)	1 (0)

(): Included number for Overseas Customers

MHI Nuclear Experience for the US

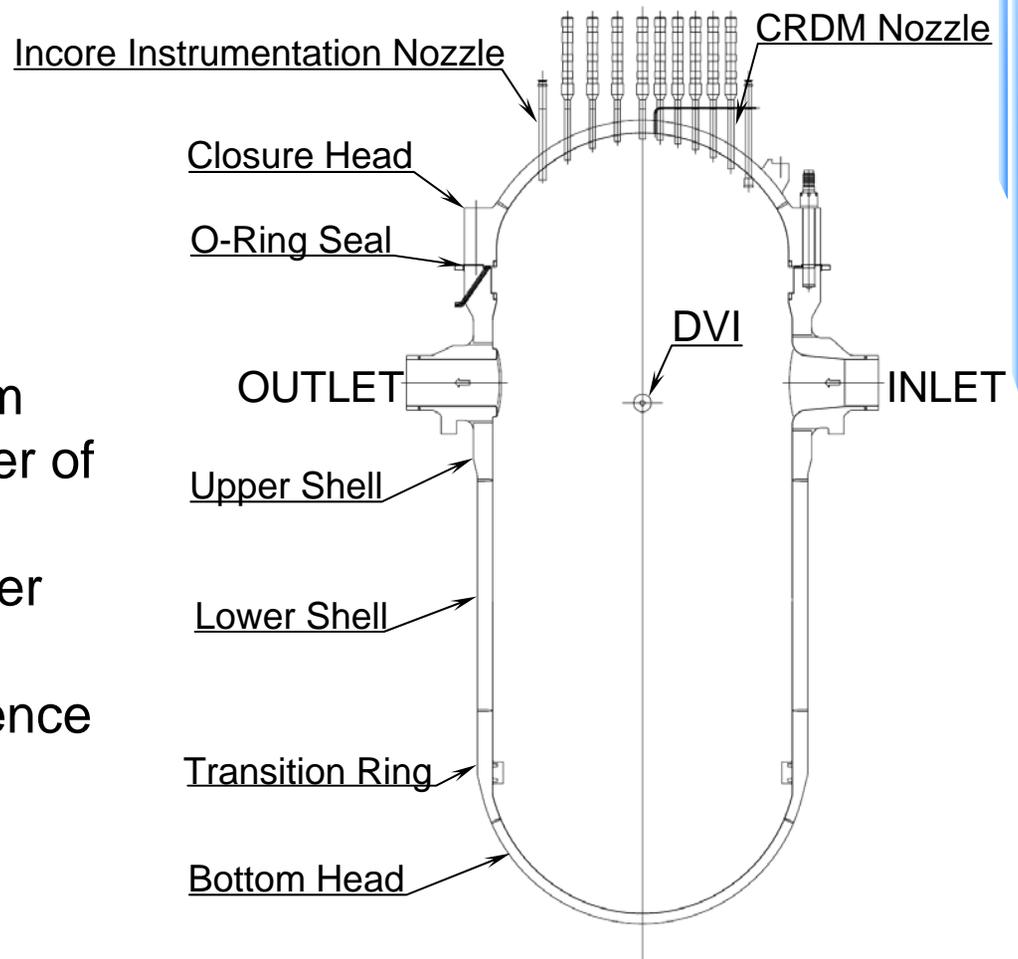


Reactor Vessel



RV Design Features

- **Higher PWSCC resistance of vessel head penetration**
 - ✓ Material ; Alloy 690
 - ✓ Temperature ; T-cold
- **Improved reliability and maintainability**
 - ✓ No penetrations at bottom head and reduced number of Incore instrumentation nozzles by adopting Upper Mounted ICIS
 - ✓ Reduction of neutron fluence by 1/3 using the neutron reflector
- **Reduction of weld lines by using integrated forging**



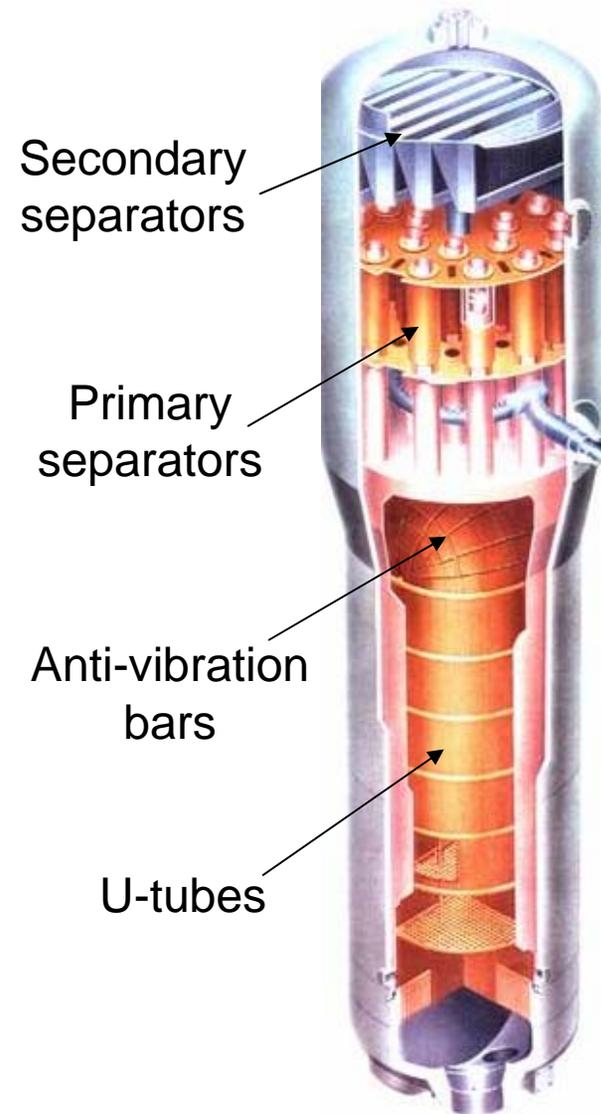
Steam Generator



Design Features

- Primary separator for high performance
- Anti-vibration bar design against tube wear

Tube material	Alloy 690
Tube OD	0.75 inch
Tube arrangement	triangular
Tube pitch	1 inch
Heating surface	91,500 ft ²



Unique Design of Steam Generator

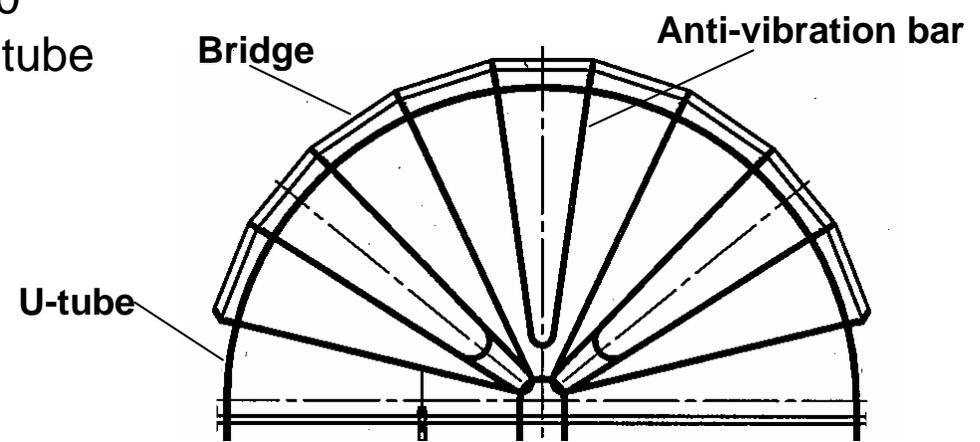
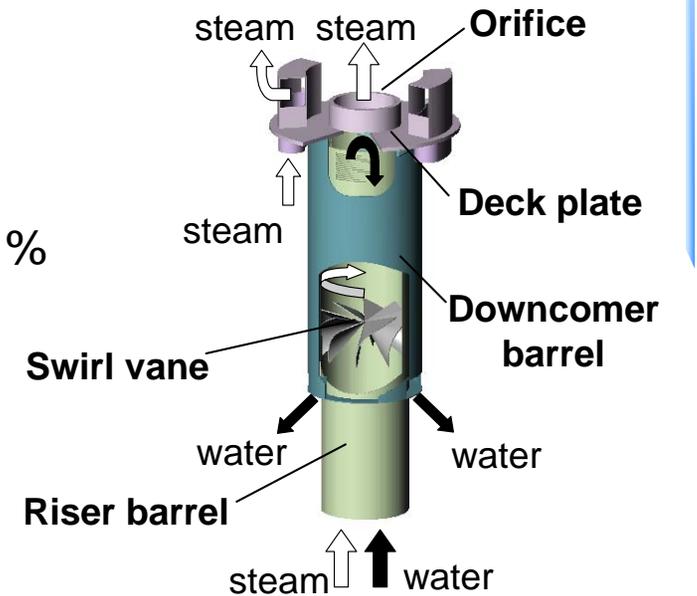


➤ Primary separator

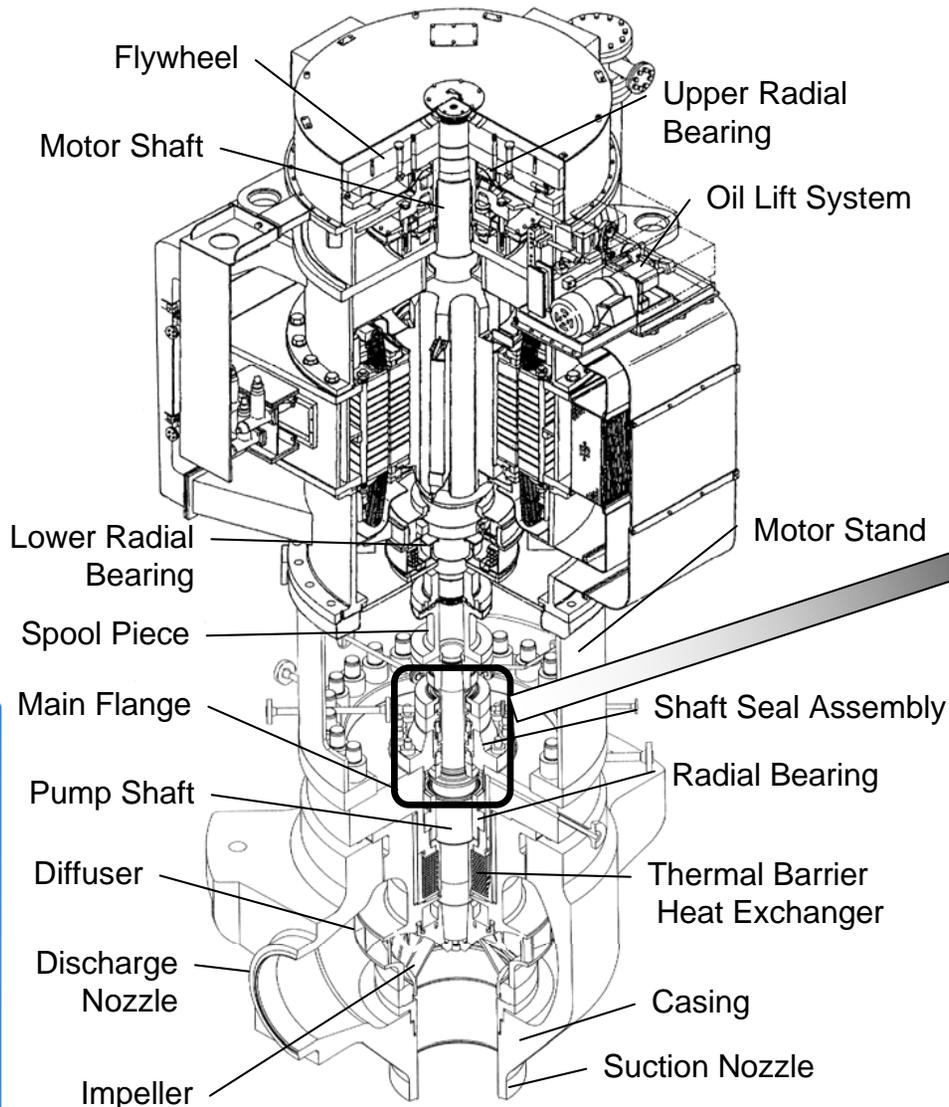
- High performance of moisture separation
Moisture carry over at SG outlet: less than 0.1%

➤ Anti-vibration Bar

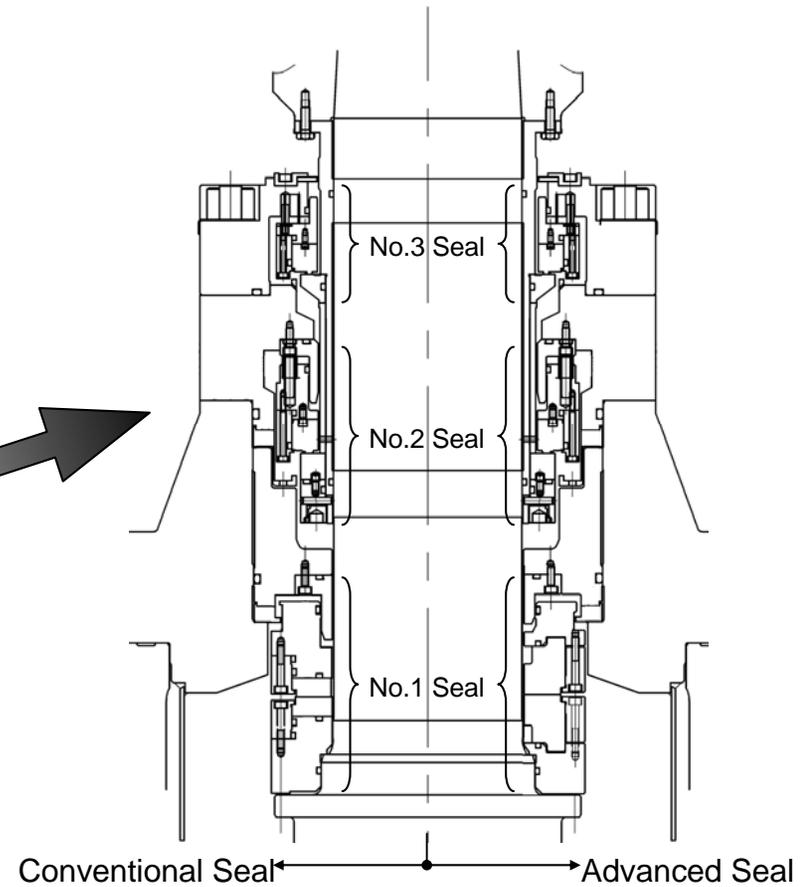
- Sets of 5 V-shaped AVBs with 10 support points of the outer most tube



Reactor Coolant Pump (2/2)



Model 100A RCP



Conventional Seal vs Advanced Seal

Reactor Coolant Pump (1/2)



➤ Improved Hydraulic Performance

- ◆ Achievement of large capacity and high efficiency by remarkable improvement of the impeller and diffuser
 - Pump Efficiency : Over 85%
 - Flow Rate : 112,000 gpm/loop (25,500 m³/h/loop)
 - Head : Approx. 96 m

➤ Advanced Seal

- ◆ Stabilization of No.1 Seal leak-off characteristics
- ◆ Extension of seal life
- ◆ Countermeasure in the event case of under station-blackout by applied the advanced O-rings

Conclusion



- ◆ MHI has sufficient experience in design and fabrication of main components
- ◆ US-APWR components are based on conventional and established technologies
- ◆ Improvements from past experience have been incorporated