

### Reactor

Thermal output 2064 MW(th) Coolant flow rate 7.7 Mg/s Design temperature 12.9 MPa(g) Design pressure Operating temperature 11.75 MPa(abs) Operating pressure Design temperature 10.7 MPa(g) Design pressure Operating temperature 10.0 MPa(abs) Operating pressure

#### Fuel Channels Pressure tube inside diameter

(cold, unpressurized) 103.38 mm Core length (between calandria tubesheets) Number of pressure tubes 24 kg/s Coolant flow (nominal) Est. pressure drop - across 12 bundles

495.3 mm

13.1 mm

Zircaloy - 4

Natural UO<sub>2</sub>

0.4 mm

Length of bundle Outside dia. of bundle (over bearing pads) Weight of bundle (nominal) Weight of uranium per bundle (nominal)

Sheath outside dia. (cold) Sheath thickness (average) Sheath material Elements per bundle

Fuel material Fuel bundles in core Fuel bundles per channel

**Primary Heat Transport** 

Reactivity Control Units

Number of loops Primary coolant Reactor inlet temperature Reactor outlet temperature

Number of assemblies

85 vertical 19 horizontal Materials Zircaloy/stainless

# Steam Generators

Vertical U-tube, 4 Type, number Steam flow for 4 steam generators 1033.0 kg/s Steam pressure at full power 4.7 MPa(abs) Steam temperature at full power Maximum moisture Feedwater temperature

**Heat Transport Pumps** 

Number AC vertical, TEWAC induction Rated capacity Rated head 215.0 m

Containment

Prestressed cylindrical concrete Inside diameter 41.46 m Height above grade 46.02 m

65.500 m<sup>3</sup>

Total inside containment Turbine

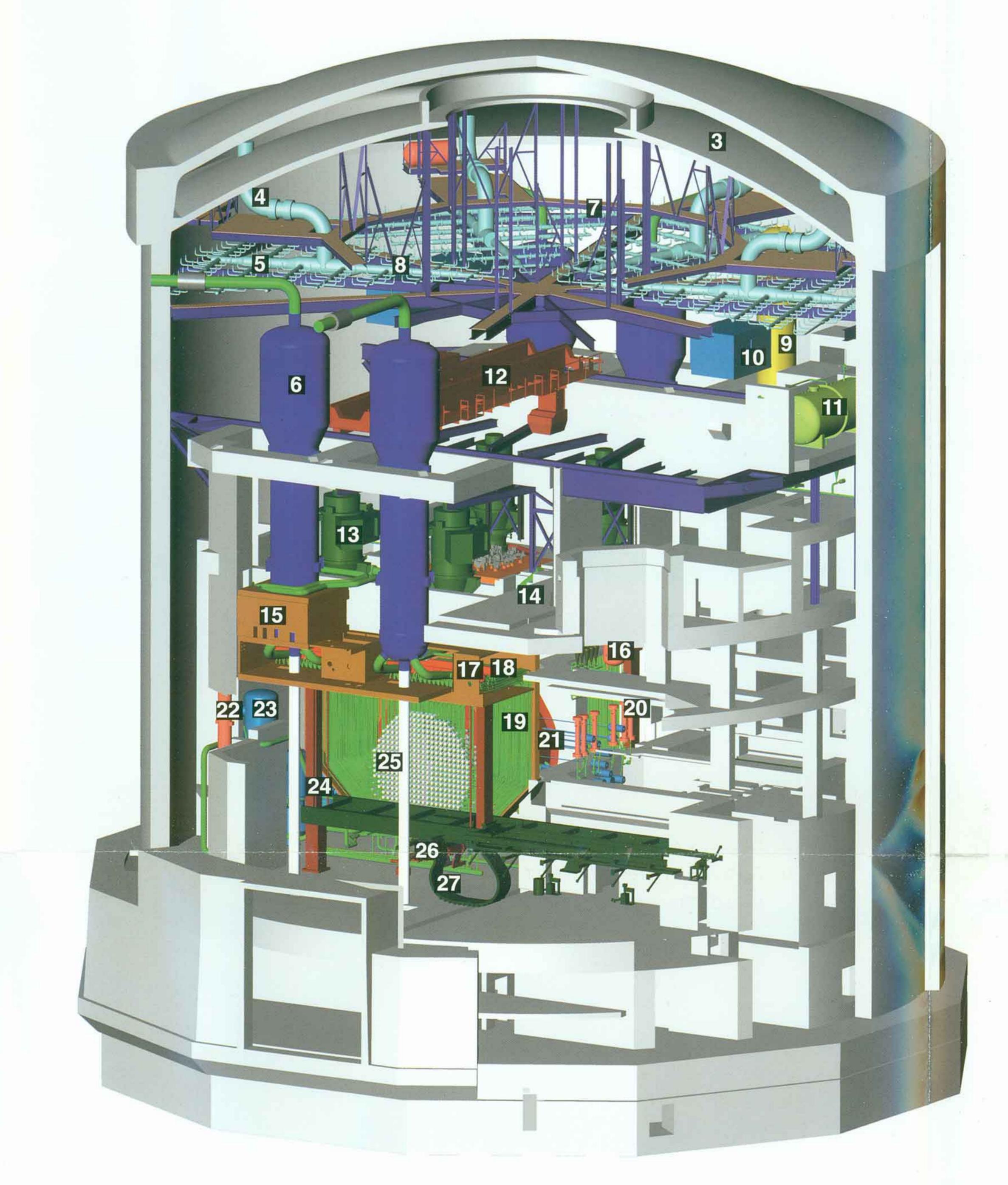
Single shaft tandem compound steam turbine directly coupled to 728 MWe generator. Steam turbine consists of one double flow HP cylinder, two external moisture separators/reheaters and two double flow LP cylinders.

## Generator

Rated 815 MVA at 0.9 power factor and 414 kPa(g) hydrogen pressure.

## Main Condenser

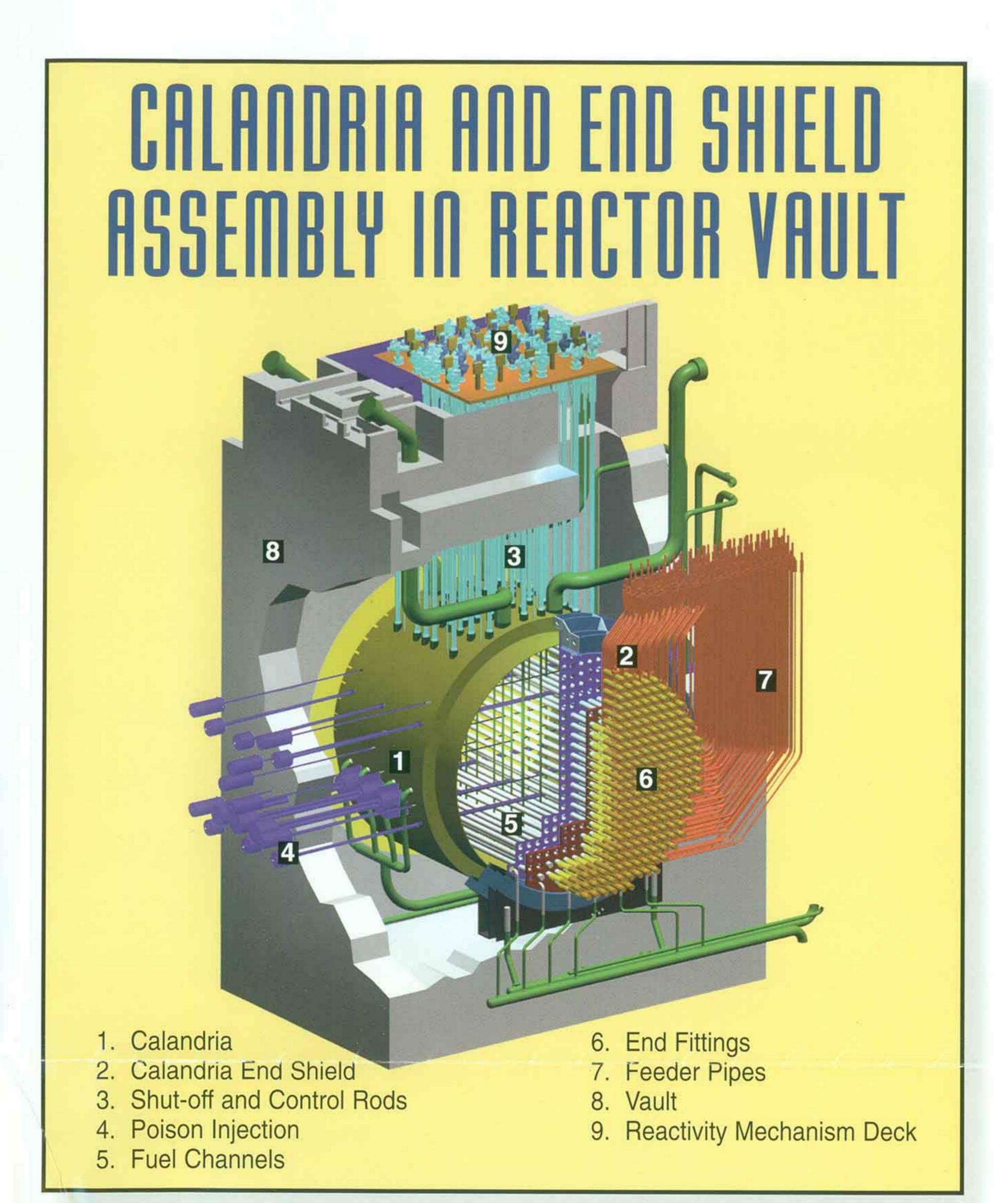
Designed with two separate tubesheet shells. Each shell is connected to one of the two LP turbine exhausts.



# CANDU 6: CUTAWAY KEY

- Reactor Building
- Turbine Building
- Dousing Tank
- 4. Dousing System Supply Pipe
- 5. Main Steam Line
- 6. Steam Generator
- . Walkway
- 8. Dousing Header & Nozzles
- 9. Pressurizer
- Local Air Cooler
- 11. D<sub>2</sub>O Storage Tank
- 12. Crane
- 13. Heat Transport Pump
- 14. Reactivity Mechanism Deck
- Boiler Enclosure
- Helium Supply Tank
- 17. Feeder Pipe Insulation Cabinet
- 18. Headers
- 19. Feeder Pipes
- 20. Gadolinium Pressure Vessel Liquid Injection System

- 21. Calandria
- 22. Shield Cooling Circuit Delay Tank
- 23. Main Moderator Heat Exchanger
- 24. Fuelling Machine Carriage & Bridge
- 25. End Shield
- 26. Fuelling Machine
- 27. Fuelling Machine Catenary 28. Deaerator
- 29. Deaerator Storage Tank 30. Reserve Feedwater Tank
- 31. H.P. Turbine
- 32. L.P. Turbines
- 33. Moisture Separator/Reheater
- 34. Turbine Building Crane
- 35. Generator
- 36. Silencers 37. Standby Generator
- 38. Airlock
- 39. Spent Fuel Storage
- 40. Main Condenser



CANDU® SYSTEM SCHEMATIC

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1. Main Steam Pipes

3. Steam Generators

8. Moderator Pump

10. Fuelling Machines

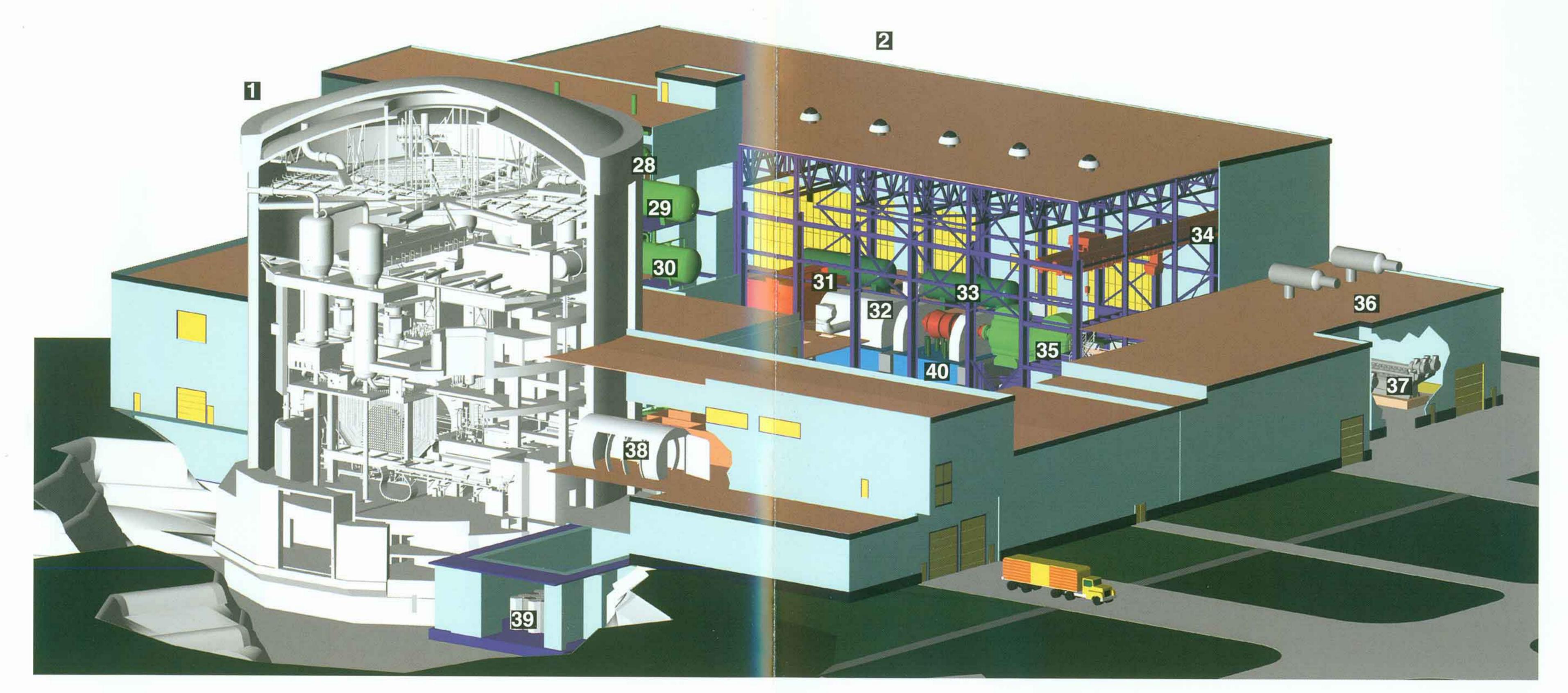
4. Heat Transport Pumps

Moderator Heat Exchanger

Pressurizer

J. Headers

6. Calandria









Light Water Steam

Heavy Water Coolant

Light Water Condensate

Heavy Water Moderator