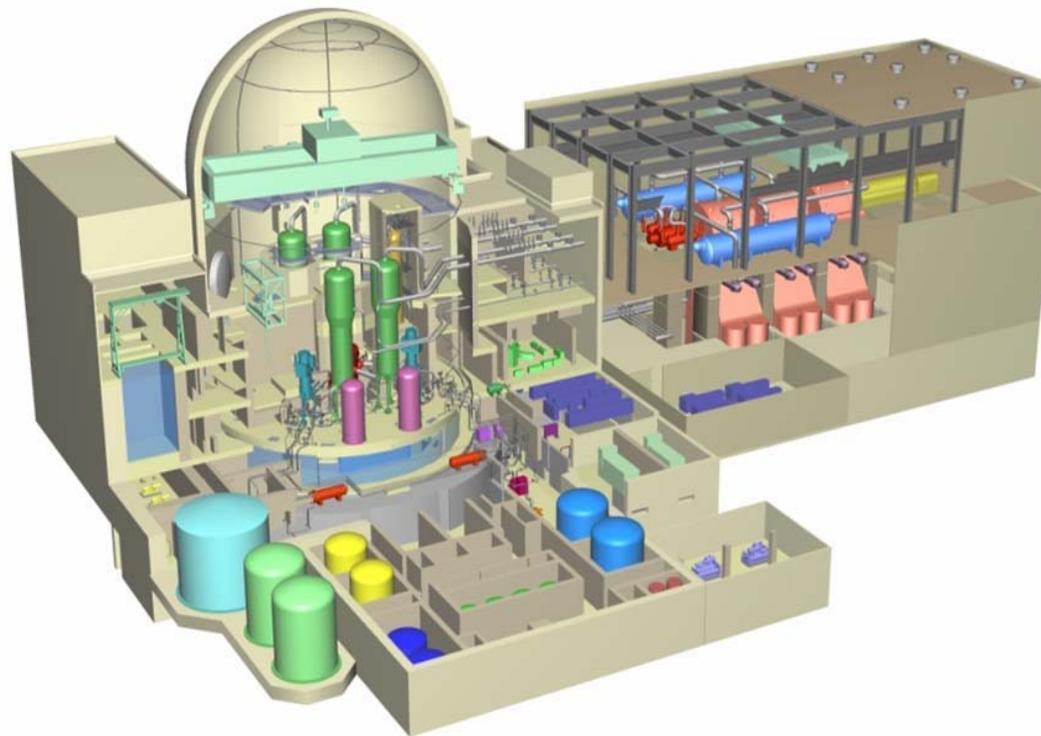


MITSUBISHI

US-APWR

General Arrangement of Nuclear Island



June 29, 2007

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1. Layout Feature of US-APWR

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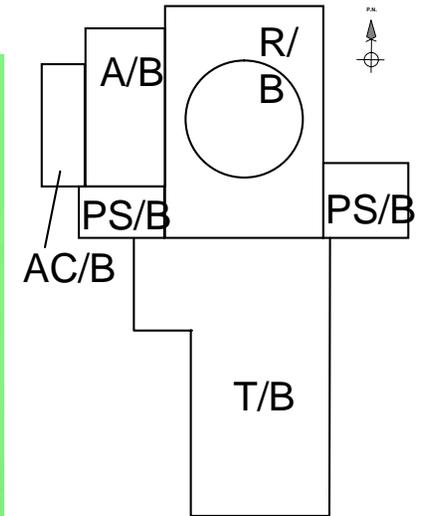
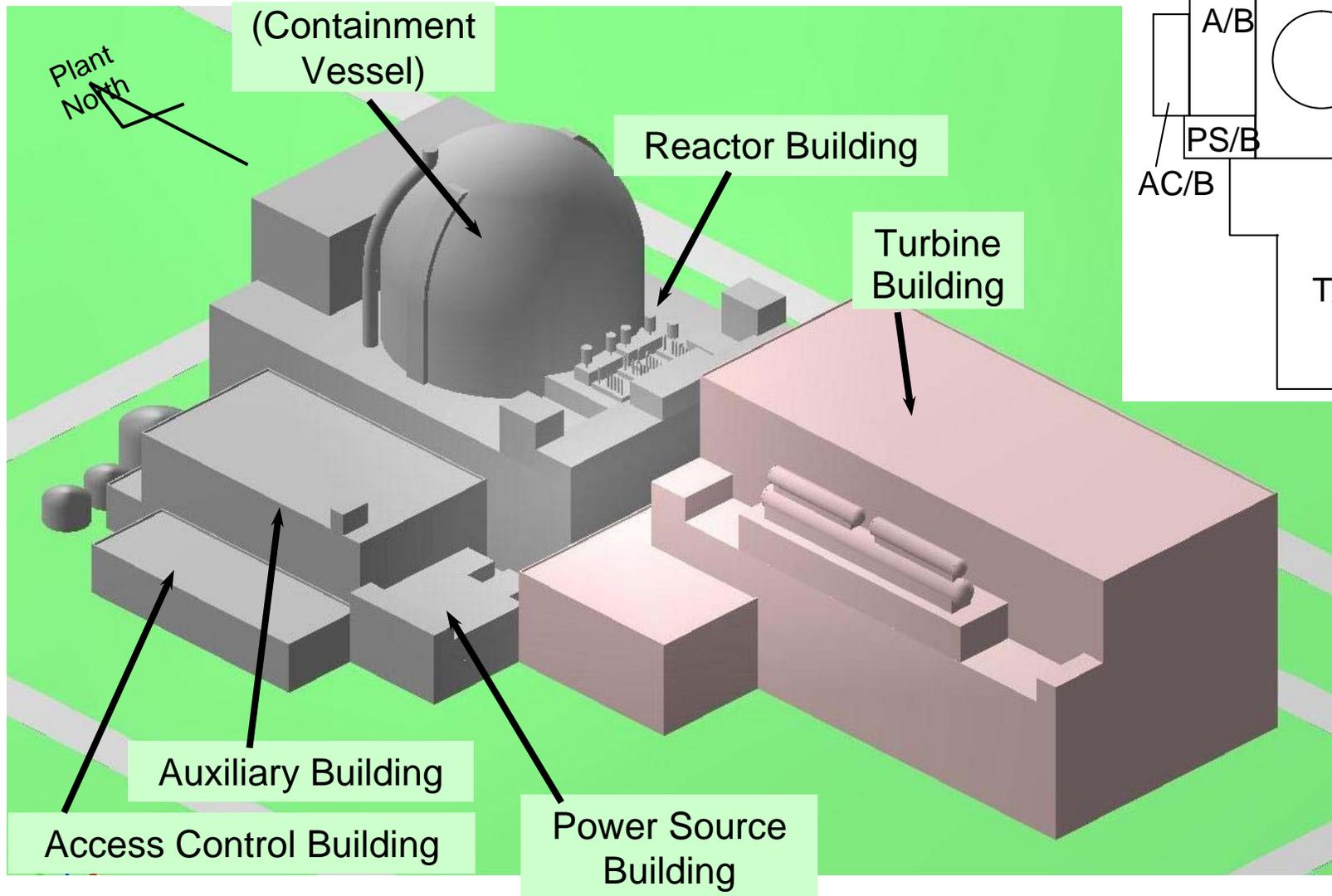


Type	Advanced PWR
Output	1,700MWe Class
Unit	Single Unit
Containment	PCCV (Pre-stressed Concrete Containment Vessel)
Safety Feature	Physically Separation for 4 Trains, & Physically Separation against Hazards



2. Building Concept & Location

1. Building Concept & Location



1. Building Concept & Location

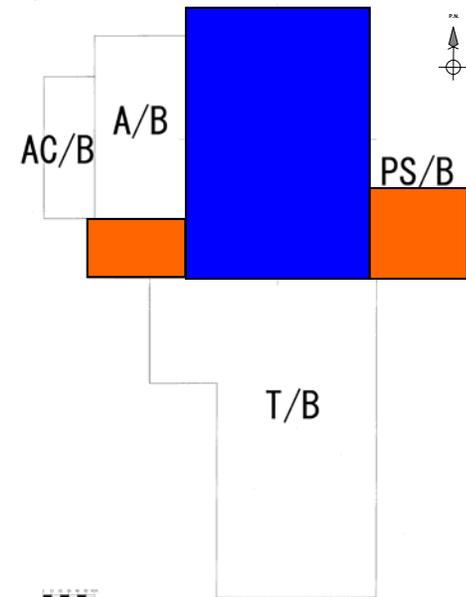


➤ Reactor Building (R/B)

- ✓ Contains following safety-related facilities;
 - Containment facility including inner (SC) structures and in-containment RWSP.
 - Safety-related pumps and Hx.
 - Safety-related electrical, I&C and H&V.
 - Main control room
 - Fuel handling and storage facilities.
- ✓ Seismic Category : I

➤ Power Source Building (PS/B)

- ✓ Contains safety-related, non safety power generators and safety chillers
- ✓ Seismic Category : I





2. Building Concept & Location

2. Building Concept & Location



➤ Auxiliary Building (A/B)

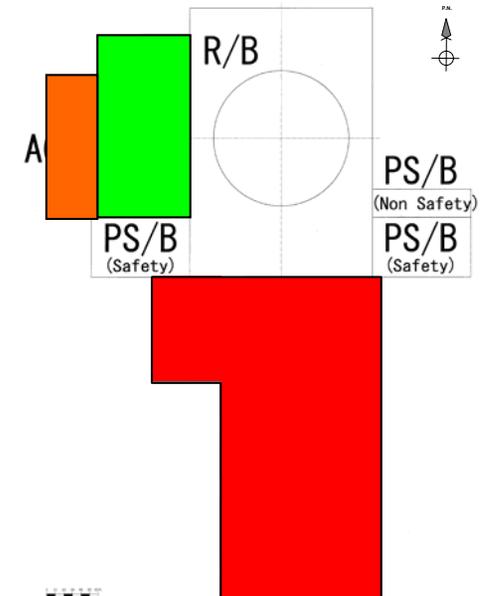
- ✓ Contains non safety-related equipment, piping(CVCS, WDS), electrical and H&V.
- ✓ Seismic Category : II

➤ Access Control Building (AC/B)

- ✓ Contains access control area, chemical sampling and laboratory.
- ✓ Seismic Category : Non

➤ Turbine Building (T/B)

- ✓ Contains the turbine generator, equipment and electrical equipment related to turbine generator.
- ✓ Seismic Category : II



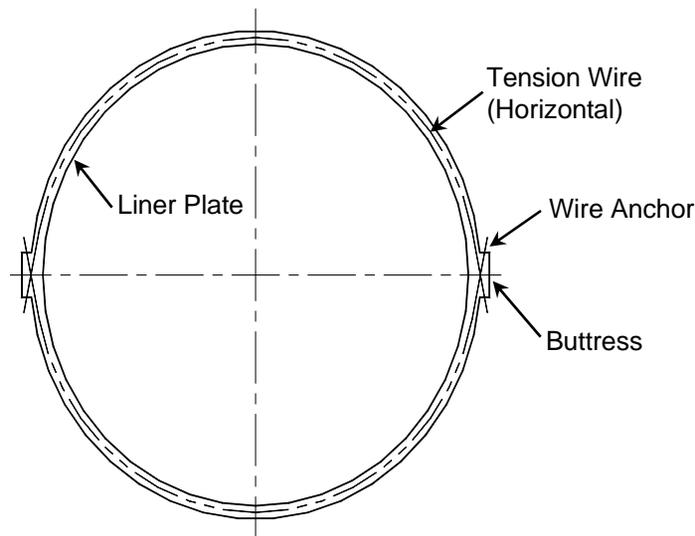
2. Building Concept & Location



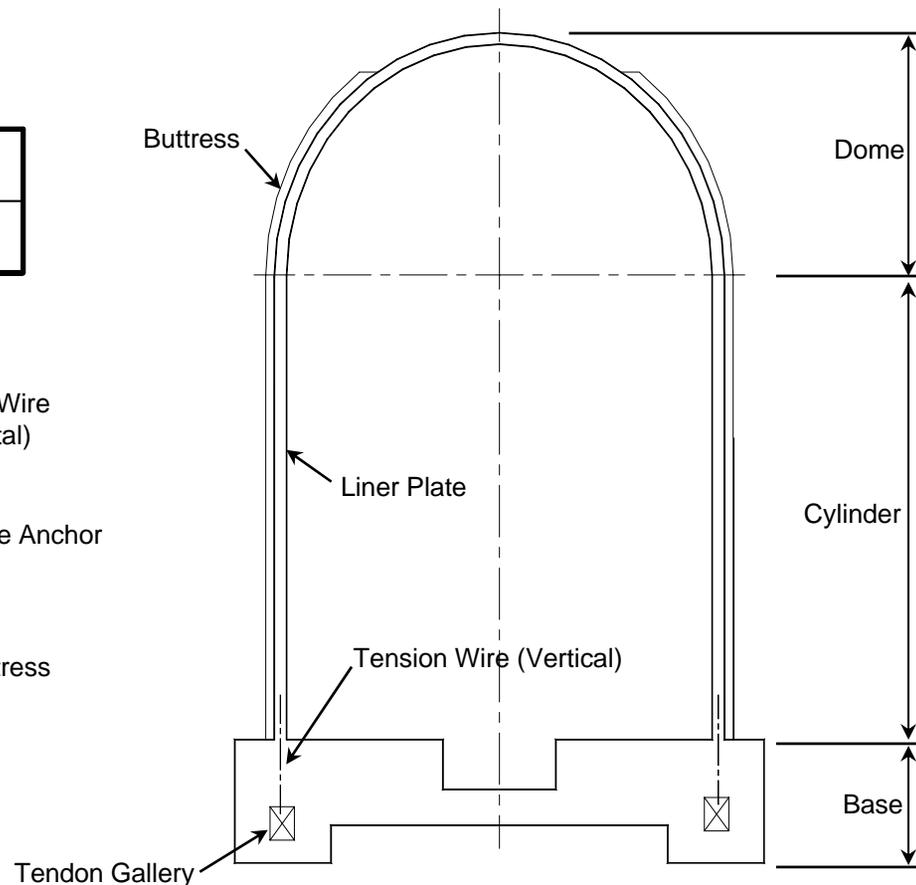
➤ Containment System

- Type : PCCV (Pre-stressed Concrete Containment Vessel)
- Number of Buttress : 2
- Equipment Hatch : 1
- Personnel Hatch : 2

Dimension	ID of cylinder	149'-2''
	Total height	226'-5''



Plan View



Section View

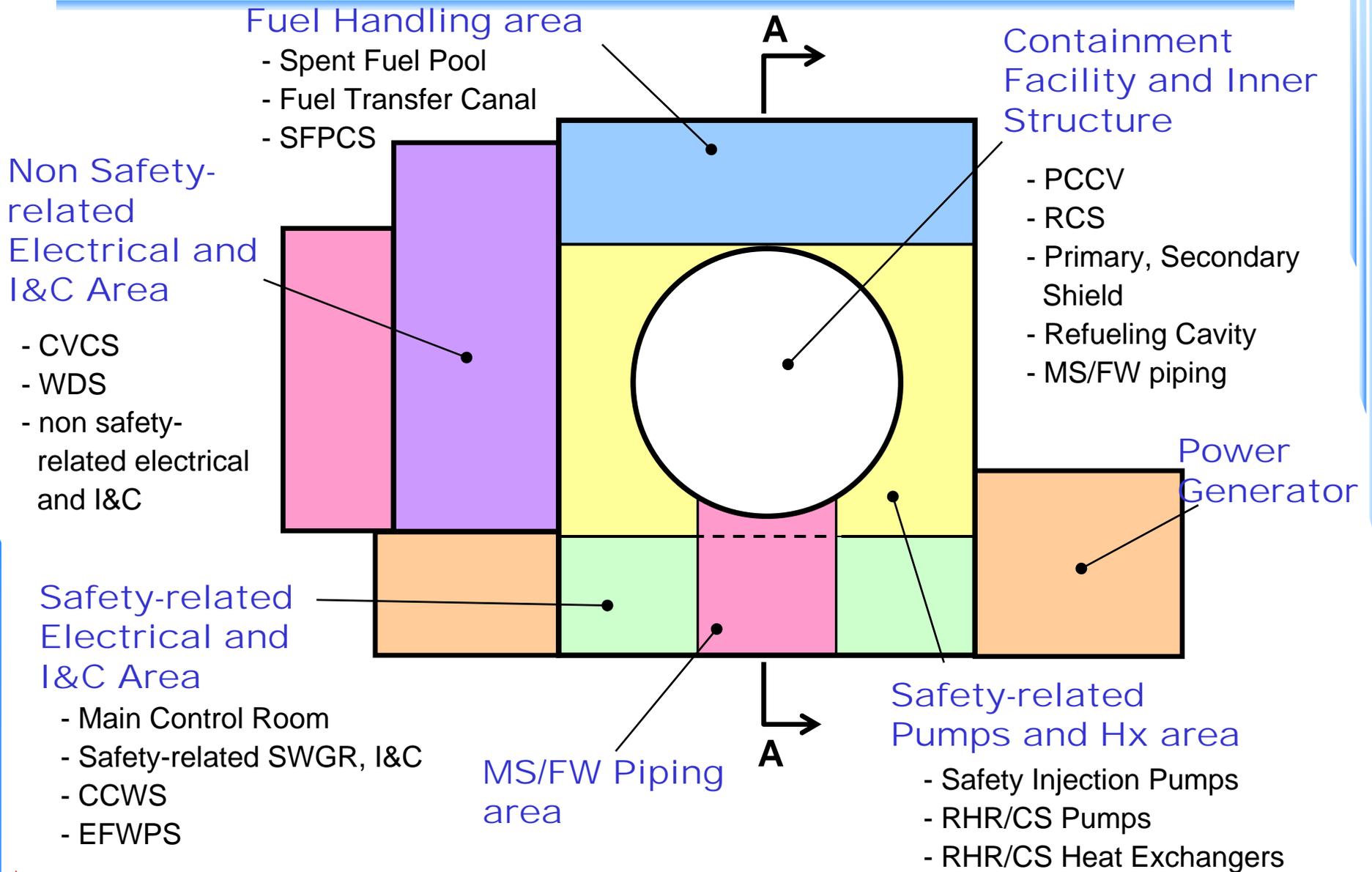


3. Layout Considerations

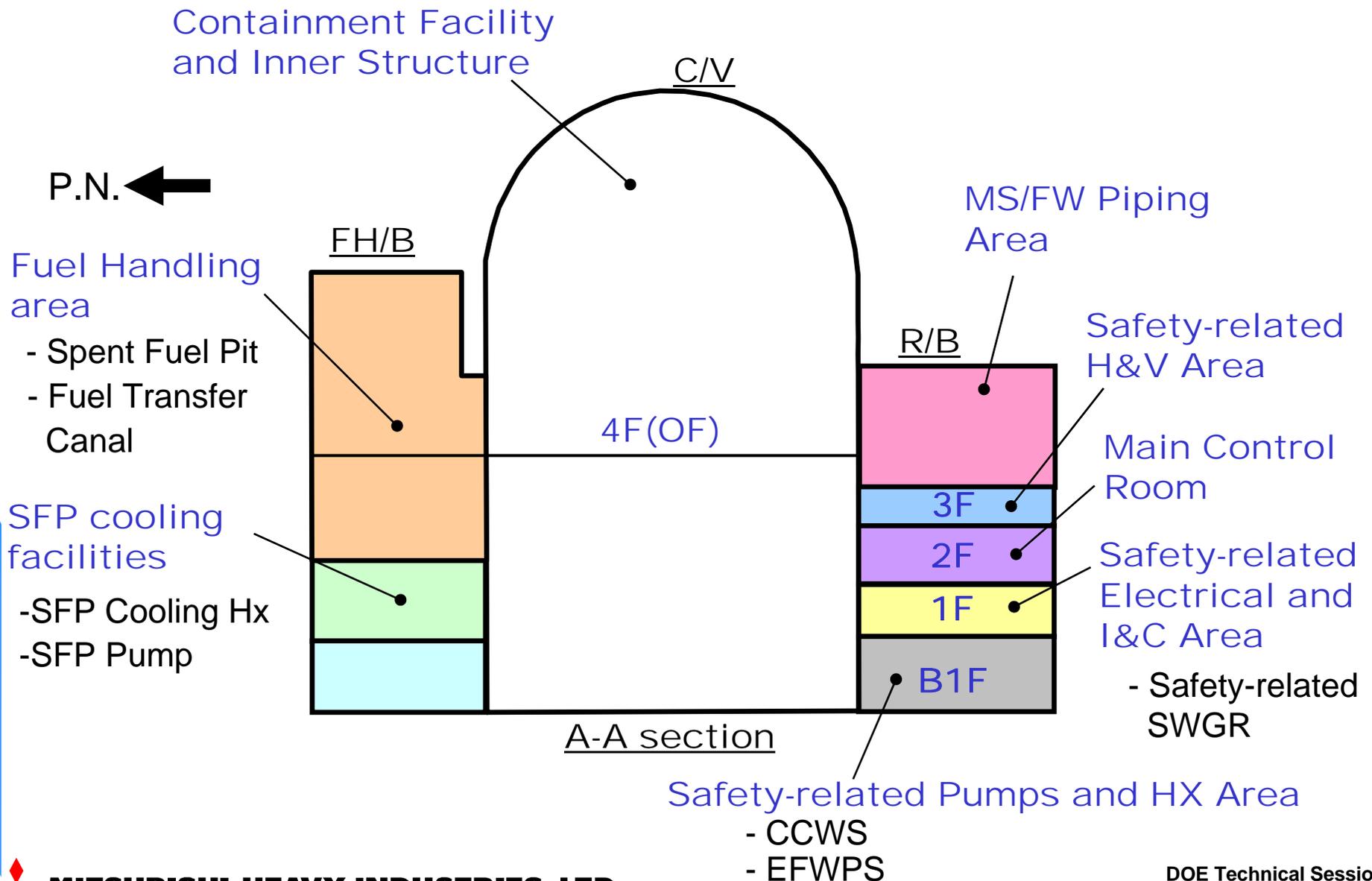


4. Floor Plan/Section of Nuclear Island

4. Floor Plan/Section of Nuclear Island



4. Floor Plan/Section of Nuclear Island





5. Physical Separation from Hazards



5. Physical Separation from Hazards

Typical Countermeasures against hazards

hazards facilities	Fire (Combustible material)	Pipe break (high temperature and pressure)	Missile (turbine/ tornado)	Internal Flood (External flood is site specific)
Equipment Including electric, I&C	Isolate by fire barrier Separated by distance (contain-ment)	Isolate by barrier, or distance (Restraint, jet barrier, if required)	Protected by outer wall/roof	<ul style="list-style-type: none"> ▪ Arranged above the flood level ▪ Mitigation of flood source ▪ Installation of weir, seal door
Piping	(Negligible)			Isolate by distance
Cable	Isolate by fire barrier Separated by distance (contain-ment)	Isolate by fire barrier, or distance		Beyond flood level
Main Control Room	Protected by fire barrier, or distance	Protected by barrier	- Protected by outer wall/roof	Beyond flood level

5. Physical Separation from Hazards



- Physical Separation Concept of 4 Redundant Trains

