

■ ATMEA1 Main Features

Item	Specifications
Thermal output	2860 – 3150 MWth
Electrical output	1000 – 1150 MWe (Net)
Operation cycle length	12 to 24 months
MOX loading	Available for 0 – 100% MOX loading
Load follow operation	100 – 30%, 5%/min, including automatic frequency control, instantaneous return to full power capability, and effluent reduction by variable temperature control
Outage duration	Less than 16 days for normal refueling outage
Availability factor	More than 92 % through plant life
Design plant life	60 years
Primary system	3 – loop configuration
Safety system	3 – train, reliable active system with advanced accumulators
Severe accident mitigation	Core catcher and hydrogen recombiners/igniters, keep long-term integrity of containment
Provisions for airplane crash	Safety related buildings protected against commercial airplane crash through reinforcement and physical separation
Seismic condition	Available for high seismic area
Public concerns	No long term emergency planning required
Regulation compliance	Compatible worldwide including US, Europe, Japan

AREVA and Mitsubishi together stand for:

More than 120 construction experiences of commercial nuclear power plants
 12 nuclear factories worldwide avoiding manufacturing bottlenecks
 5 nuclear power plants under contract or construction throughout the world
 while licensing and prelicensing process are underway in the US, UK, and Japan



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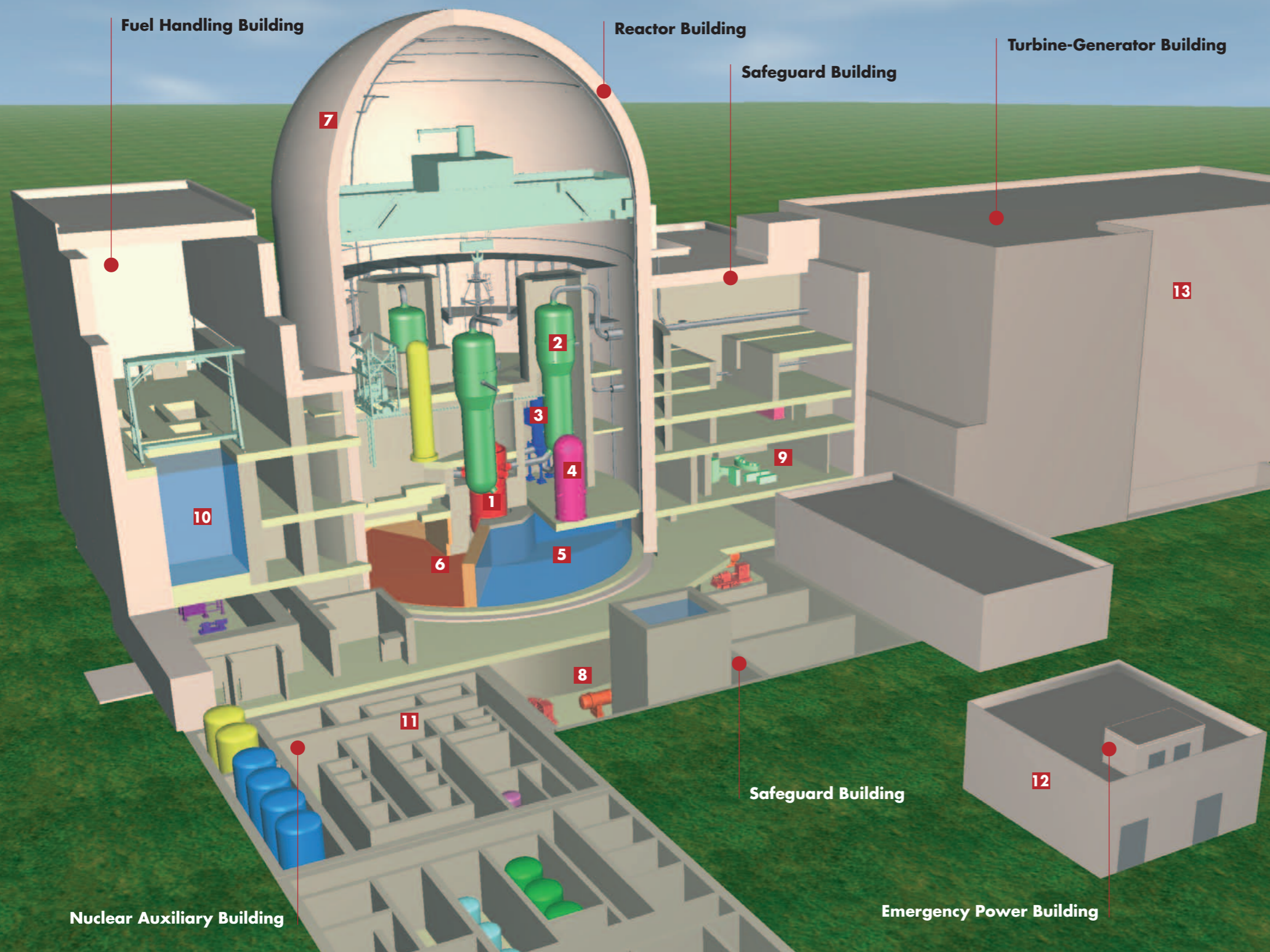


The mid-sized Generation III+ PWR you can rely on

ATMEA is developing and will supply the most advanced 1100 MWe PWR plant with the combination of the unique set of competence and experience of its parent companies, AREVA NP and Mitsubishi Heavy Industries



The mid-sized Generation III+ PWR you can rely on



Superior operation performance by reliable and proven technologies

Thermal efficiency : 37% (net)

- Save 10% of generation cost and fuel consumption from Generation-II PWRs
- Realized by efficient steam generator design with economizer, state-of-the-art turbine technologies, etc.

Plant availability : more than 92%

- Redundant safety trains for on-line maintenance capability
- Less than 16 days for normal refueling outage
- Reliable and proven technologies integrating AREVA and Mitsubishi experiences

Operation flexibility

- Flexible 12 to 24-month operation cycle length with less fuel cost
- Extended load-follow and frequency control capabilities
- MOX loading capability up to 100%

Construction and operation all over the world

Top-level safety as a Generation III+ plant

- Regulatory compliance : compatible worldwide including US, Europe, Japan
- Probabilities of core damage and of large radiological release a factor of 10 lower than conventional PWRs
- Clear separation between safety and operational systems
- Protected against large commercial airplane crash
- Long term containment integrity against severe accidents kept by core catcher, hydrogen control capability

Flexibility for site and grid conditions

- 1,000 – 1,150 MW (net) fit into almost every grid
- Design available for high seismic area
- Design available for 50/60Hz and various heat sink conditions

Relief of people around site area

- No emergency planning (evacuation, etc.) required for design basis accidents
- Protection against severe accidents and air plane crash
- Less waste, less impact for environment

Reactor Building		
1	Reactor	Low power density core, available for 24-month operation cycle with less spent fuel
2	Steam Generators	High steam pressure with axial economizer
3	Reactor Coolant Pumps	Proven high efficiency pumps
4	Advanced Accumulators	Passive and efficient injection against loss of coolant accident
5	In-containment Water Storage	Eliminates switch-over operation for loss of coolant accident
6	Core Catcher	Keeps and cools molten core for long term
7	Containment	Pre-stressed concrete containment vessel with steel liner protected against large commercial airplane crash

Safeguard Building		
8	Safeguard systems	Well proven active systems - 100% x 3-train configuration - Structural protection and division separation against airplane crash - Provisions for effective on-line maintenance
9	Main Control Room	Full digital I&C system and advanced human-machine interface Protected against airplane crash

Fuel Handling Building		
10	Spent Fuel Pit	Protected against airplane crash
Nuclear Auxiliary Building		
11	Reactor auxiliary and waste disposal systems	Proven operational systems

Emergency Power Building		
12	Emergency Generators	Redundant trains enable on-line maintenance Division separation against airplane crash

Turbine-Generator Building		
13	Turbine-Generator	Latest design with highest efficiency