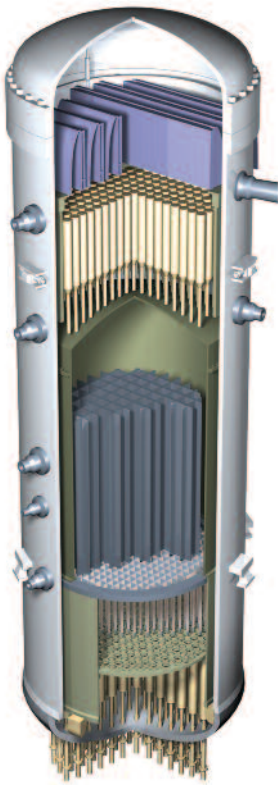


## ESBWR

### Elegantly Simple, Standardized, Flexible, and Economical

GE Hitachi Nuclear Energy's (GEH) next evolution of advanced Boiling Water Reactor (BWR) technology is the ESBWR. This simplified design provides improved safety; excellent economics; better plant security; a broad seismic design envelope; and operational flexibility that increases plant availability.



ESBWR is the latest in a long line of proven GEH BWR reactors. ESBWR employs passive safety design features. It is a simplified reactor design, allowing faster construction and lower costs.

A GEH-designed Gen III+ reactor, ESBWR is currently in the U.S. Design Certification process. The Design Control Document was docketed by the NRC in 2005, which along with Construction and Operating License (COL) submissions in 2007 will support the commercial operation of new ESBWRs by 2015.

GEH is ready to support utilities looking to build an ESBWR nuclear power plant, with a well-established global supply chain.

### Benefits and Features of the ESBWR

- Simplified design
  - Residual heat transferred to the atmosphere
  - 11 systems eliminated from previous designs
  - 25 percent pumps, valves, and motors eliminated from previous designs
- Passive design features reduce the number of active systems, increasing safety
- Incorporation of features used in other operationally-proven BWRs, including passive containment cooling, isolation condensers, natural circulation, and debris-resistant fuel
- Expedited construction schedule due to pre-licensed design and standardized modules
- GEH offers an experienced team that is supply chain qualified, with a referenced construction schedule (first concrete to first load) of 36 months

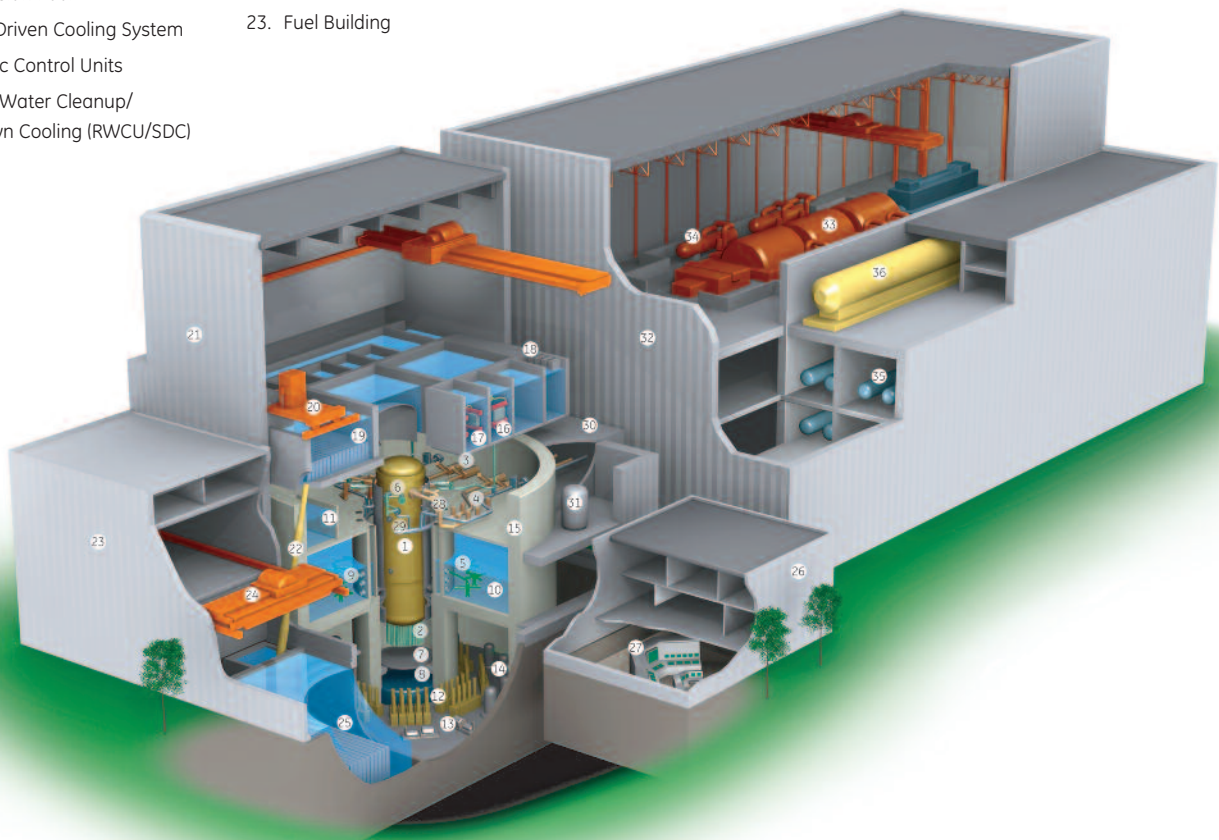
#### ESBWR Quick Facts

- COD – 2015
- Referenced construction schedule of 36 months
- One ESBWR, replacing the same amount of electricity generated in the U.S. through traditional sources, would reduce greenhouse gas emissions by an amount equivalent to taking 1.5 million cars off the road



## ESBWR

- |   |  |   |  |
|---|--|---|--|
| 1. Reactor Pressure Vessel                                  | 14. RWCU/SDC Heat Exchangers           | 24. Fuel Transfer Machine                     | 32. Turbine Building                         |
| 2. Fine Motion Control Rod Drives                           | 15. Containment Vessel                 | 25. Spent Fuel Storage Pool                   | 33. Turbine-Generator                        |
| 3. Main Steam Isolation Valves                              | 16. Isolation Condensers               | 26. Control Building                          | 34. Moisture Separator Reheater              |
| 4. Safety/Relief Valves (SRV)                               | 17. Passive Containment Cooling System | 27. Main Control Room                         | 35. Feedwater Heaters                        |
| 5. SRV Quenchers  | 18. Moisture Separators                | 28. Main Steam Lines                          | 36. Direct Contact Feedwater Heater and Tank |
| 6. Depressurization Valves                                  | 19. Buffer Fuel Storage Pool           | 29. Feedwater Lines                           |  |
| 7. Lower Drywell Equipment Platform                         | 20. Refueling Machine                  | 30. Steam Tunnel                              |  |
| 8. BiMAC Core Catcher                                       | 21. Reactor Building                   | 31. Standby Liquid Control System Accumulator |  |
| 9. Horizontal Vents   | 22. Inclined Fuel Transfer Machine     |   |  |
| 10. Suppression Pool  | 23. Fuel Building                      |   |  |
| 11. Gravity Driven Cooling System                           |  |   |  |
| 12. Hydraulic Control Units                                 |  |   |  |
| 13. Reactor Water Cleanup/Shutdown Cooling (RWCU/SDC) Pumps |  |   |  |



**HITACHI**

For more information, contact your GE Hitachi Nuclear Energy sales representative or visit us at [www.ge-energy.com/nuclear](http://www.ge-energy.com/nuclear)

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