

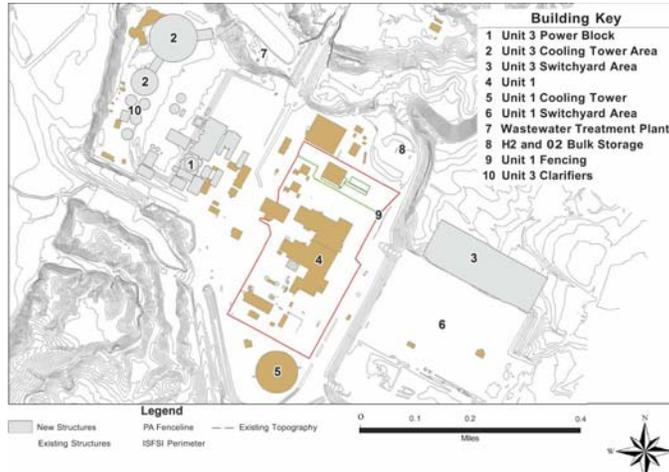
GGNS ESBWR COLA

Department of Homeland Security
Presentation

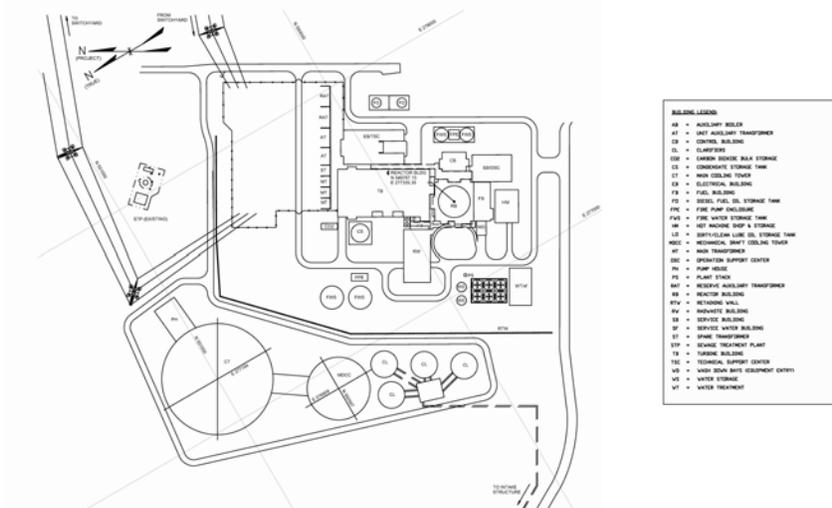
Site Characteristics

- Location
- Nearby waterways
- Highways
- Existing Unit

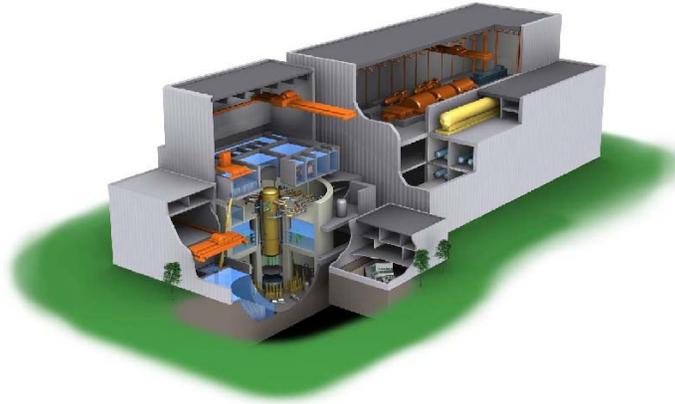
Site Plan 2



Site Plan 3



ESBWR



Safety Systems

- Passive Containment Cooling System
- Passive core cooling (isolation condensers) system
- Gravity Drain Cooling System
- Automatic Depressurization System
- Reactor Protection System
- DC and AC power distribution

Operator Actions

- At 72 hours
 - supply makeup to passive cooling pools
 - Fuel and Auxiliary Pools Cooling System
 - Backup sources DDFP,
 - provide power to battery chargers from
 - Non-safety related diesel generators
 - Ancillary diesel generators
 - Supply water to spent fuel pool

Vital Areas

- Reactor Building and Fuel Building are one vital area
- Control Building and Service Building contain several vital areas:
 - Main control room
 - Security alarm stations and power supplies

Support Infrastructure

- Water supply is from MS river via intake structure
- Fire protection water tanks 2 seismic, 2 non-seismic
- Offsite electrical power- three 500kv lines to station switchyard (Baxter Wilson, Ray Braswell, and Franklin lines)

Refueling Outage

- Containment is opened, rendering GDCS and passive containment cooling non-functional
- Reactor vessel head is removed rendering isolation condensers non-functional
- Non-Safety Diesel generators are required to be available
- Plant Service Water system must be running
- Shutdown cooling system and fuel pool cooling systems running
- Time to boil and containment closure times

Summary

- Location
- Access to the site
- ESBWR design
- Safety systems and vital areas
- Refueling outage conditions