

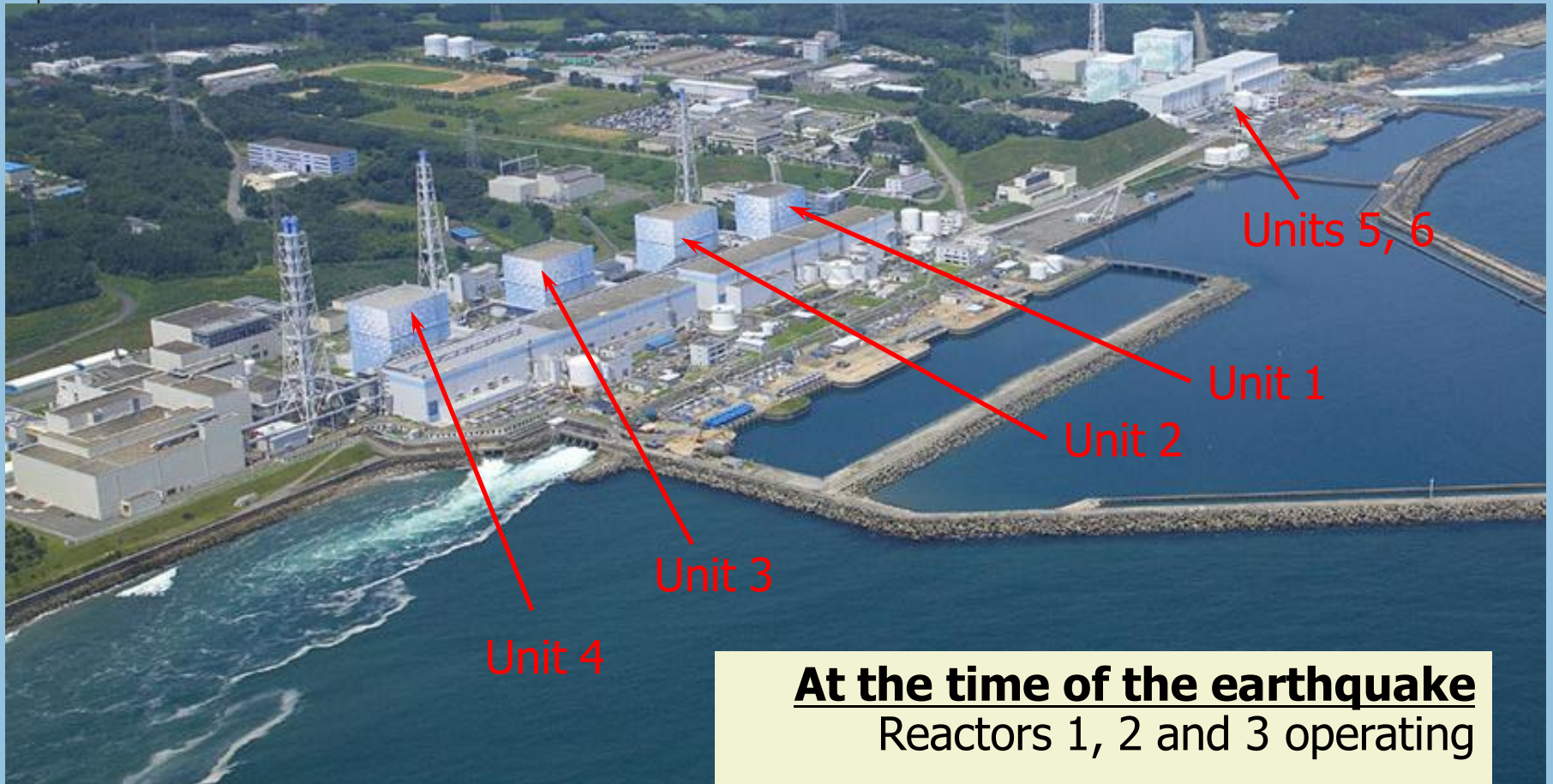
Fukushima Briefing

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- 54 operating nuclear reactors (49 gigawatts)
- Two nuclear plants under construction
- Tokyo Electric Power Co. produces 27% of Japan's electricity
- 12,000 MW of nuclear energy capacity shut down





At the time of the earthquake

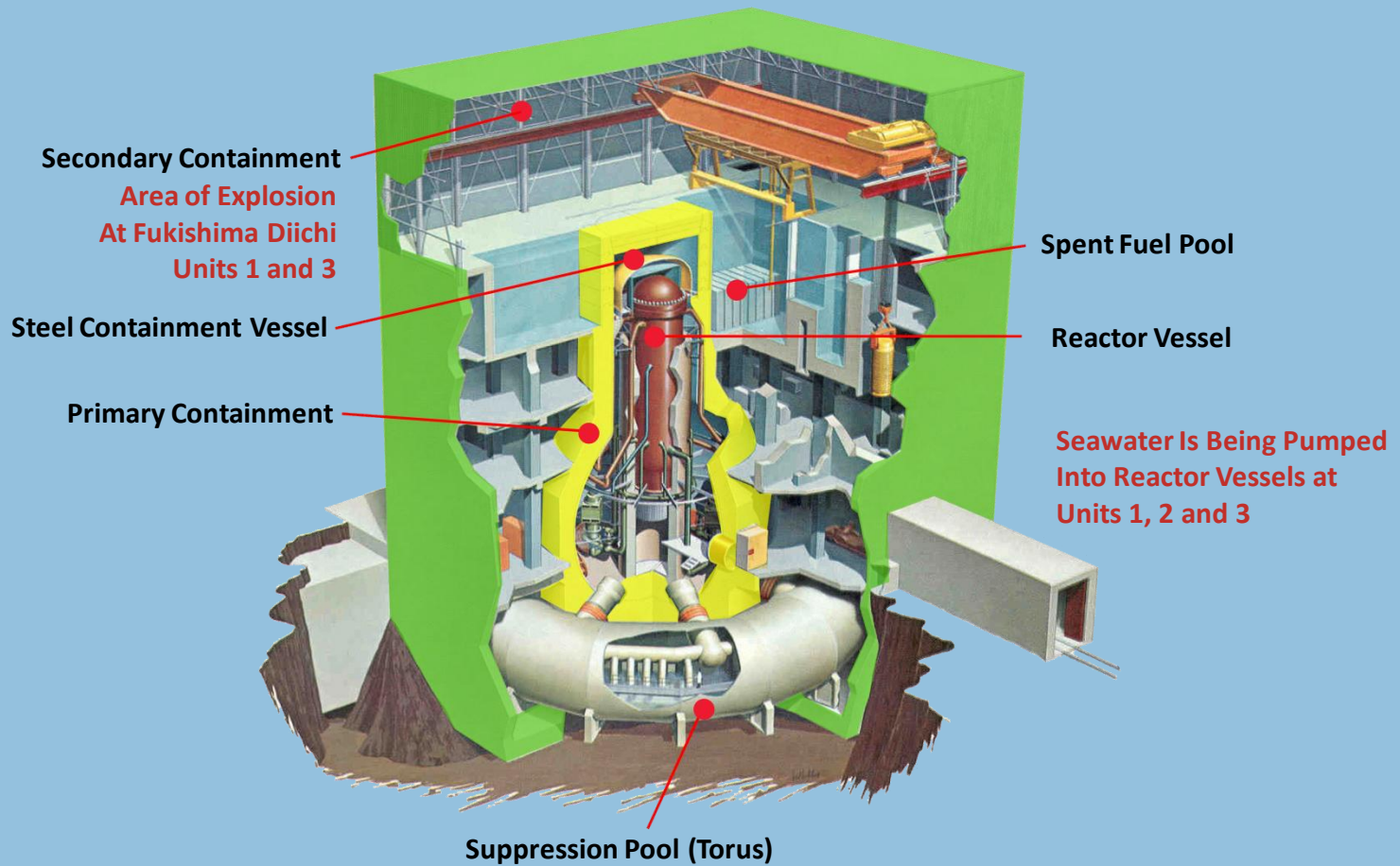
Reactors 1, 2 and 3 operating

Reactors 4, 5 and 6 shutdown for maintenance, inspection, refueling

- The Fukushima nuclear facilities were damaged following a magnitude 9.0 earthquake and resulting tsunami on March 11.
- Daiichi Station was designed to withstand a tsunami at a maximum height of 7 meters (~ 23ft). The tsunami that followed the earthquake was estimated at 10 meters (~ 33 ft).
- A tsunami of this level was beyond the design basis of the plant.



Boiling Water Reactor Design At Fukushima Daiichi



Effects of the Tsunami

- The tsunami that followed the earthquake caused a complete loss of all electrical power to the site.
- With no power available the operators were unable to cool the operating reactors and spent fuel pools, which resulted in significant fuel damage.
- Throughout the accident the containment structures were challenged by hydrogen explosions and fires. Units 1, 3 and 4 secondary containment have been breached and release of radioactivity has occurred.
- Latest indications show that Primary Containments for Units 1, 2 and 3 are still intact.

Hydrogen Detonation at Unit 1



Refuel Floor

Japan Emergency Response

- The accident at Fukushima was equivalent of a declared General Emergency.
- The public was evacuated within 20 km (13 miles) of the plant; approximately 200,000 people.
- The Nuclear Regulatory Commission (NRC) recommended that U.S. citizens within 50 miles of the plant should evacuate.
- Authorities distributed Potassium-iodide (KI) tablets to protect the public from potential health effects of radioactive iodine. KI is quickly absorbed by the body and its presence prevents the uptake of iodine-131 should people be exposed to it.



STP Design Differences



STP Nuclear Reactors Are Designed To Withstand A Fukushima Type Accident.

- The STP nuclear reactors are designed to withstand a substantial earthquake even though the plants are not in a significant earthquake zone.
- Tsunamis are not a threat to STP. STP is situated ~ 10 miles from the Gulf of Mexico. Tsunami events are not typical in the Gulf.



STP Nuclear Reactors Are Designed To Withstand A Fukushima Type Accident.

- In addition, STP is elevated 29 feet above mean sea level and can withstand a storm surge up to 41 feet.
- Emergency core cooling systems are protected from tsunami-type flooding by being housed in concrete, watertight structures.



STP Nuclear Reactors Are Designed To Withstand A Fukushima Type Accident.

- Critical safety-related equipment is protected from flooding behind watertight doors.



STP Nuclear Reactors Are Designed To Withstand A Fukushima Type Accident.

- Three independent safety trains, each with an emergency diesel in a seismically hardened, watertight concrete structure. STP is the only plant in the nation with three trains; all other plants have two.



STP Nuclear Reactors Are Designed To Withstand A Fukushima Type Accident.

- The STP Spent fuel pools are located in separate, seismically hardened buildings built to withstand flooding.



Short-Term Industry Actions to Ensure Safety

- INPO Event Report (IER 11-1) - short term response required to verify
 - Capability to mitigate conditions that result from beyond design basis events
 - Capability to mitigate station blackout (SBO) conditions
 - Capability to mitigate internal and external flooding events
 - Walk downs and inspections of important equipment needed to mitigate fire and flood events

Impacts from previous major industry events

- Three Mile Island
 - Major plant safety modifications were mandated by the NRC
 - Significant change in Operator training methodology
 - SAMG (Severe Accident Mitigation Guidelines)
 - Expanded NRC oversight (resident inspectors)
 - Formation of the Institute of Nuclear Power Operations (INPO)
- Chernobyl
 - Focus on testing and infrequent evolutions (oversight, control)
- 9/11
 - Significant increase in station security focus
 - Physical modifications to site based on revised threat basis

Reaction in United States

- NRC will conduct comprehensive review of all U.S. nuclear power plants to ensure safety
- Measured response from political community....so far
- Likely increased response from the NRC as more information is gathered
- Probably result in increased attention to U.S. used fuel management policy

Immediate Challenges

- Conduct a safe and effective refueling outage on Unit 1
- Operate Unit 2 safely and reliably
- Provide a robust response to the Fukushima event and prepare for increased work load throughout 2011
- Manage the scope reduction associated with the 3 and 4 project internally and externally

Conclusion

- Our thoughts and prayers are with the people of Japan during this devastating tragedy.
- The safe and reliable operation of our units is our highest priority at STP.
- The safety of our friends and neighbors in the local communities is our primary responsibility.
- Our commitment and focus are always on putting safety first in every action we take.
- There will be lessons learned from this accident that the entire U.S. Nuclear industry will need to address.

