Facts about Safety and Emergency Planning
LaSalle Generating Station
October 2011

This document provides facts about safety and security procedures, equipment and systems related to earthquakes, flooding and other disaster preparedness at the LaSalle Generating Station. This is not a comprehensive review of all facility safety and security procedures. It is meant to show Exelon Nuclear's commitment to the highest safety standards at all its facilities.

LaSalle Generating Station is protected against earthquakes

- Exelon's facilities are engineered to withstand earthquakes between 6.0 and 6.9 on the Richter scale *at the facility site,* which translates into larger earthquakes as measured at the epicenter. This is far above any historical earthquake risk data for the area.
- LaSalle's safety and security systems and components are protected in reinforced concrete structures, allowing them to remain functional in earthquakes, tornados, floods or an accident internal to the facility.
- Among protected systems are those that provide emergency cooling water to the reactor and spent fuel pool, emergency diesel generators, diesel fuel tanks and the emergency electrical switch gear.

LaSalle Generating Station is protected against floods

- LaSalle is designed to remain in a safe condition even in significant floods. Tsunamis are not a threat to LaSalle due to its location.
- LaSalle is situated 710 feet above sea level. The nearest body of water, the Illinois River, runs at about 484 feet above sea level. The largest recorded flood in that area rose to 504 feet above sea level.
- LaSalle's emergency equipment is protected from water incursion through water-tight doors that protect the safety-related core cooling and associated supporting systems, as well as engineered flood barriers.

LaSalle Generating Station is protected against power loss

- The electricity to power the facility comes from two independent, off-site switchyards (similar to substations) that are connected to the grid by four transmission lines.
- Should all off-site power sources fail, five locomotive-sized emergency diesel generators and eight independent battery banks ensure continued electricity for safe shutdown and safe cooling of the facility.
- The five emergency diesel generators are housed safely and securely in separate rooms within a reinforced concrete structure. They start automatically when offsite power is lost and can run 24-7, 365 as long as they are needed.
- The generators are fueled by five diesel fuel tanks, which are located below the diesel generators in flood protected rooms, with a total capacity of 124,400 gallons, a seven-day supply on site at all times. Pipes and pumps run underground to the diesel generators. The station has plans for replenishing diesel fuel supplies in a natural disaster.
- LaSalle has eight banks of large emergency batteries in eight locations within the facility. Each set of battery banks can provide emergency backup power for at least four hours should all diesel generators become unavailable.
- The emergency diesel generators are tested monthly. Batteries are inspected weekly.

LaSalle Generation Station is protected against hydrogen build up

- LaSalle Generating Station has developed systems and strategies that minimize hydrogen buildup inside the facility, believed to be the cause of explosions in the Japanese facilities.
- These systems and strategies include injecting nitrogen into the primary containment which prevents a volatile concentration of oxygen and hydrogen from being reached. In addition, a primary containment vent and purge system is available during severe conditions.
- Also available is a hydrogen recombiner system that converts hydrogen into water, thus avoiding gas buildup.

LaSalle Generating Station water resources

- LaSalle has 12 independent methods of safely putting water into each reactor if needed.
- LaSalle also has four independent methods of safely introducing water into the used fuel pools if needed.
- Water for the used fuel pool is maintained by a normal makeup process, coming from tanks with a total capacity of 700,000 gallons.
- The clean condensate storage tank has a minimum capacity of 80,000 gallons, and provides a backup source of water that can last several days without being replenished.
- A 2,000-acre cooling lake is also available to provide lake water to cool the fuel pools for an extended period of time.

LaSalle Generating Station has extensive emergency plans

- LaSalle has extensive procedures to respond to emergency conditions to protect the health, safety and security of the public and its employees during emergencies.
- Facility operators, maintenance personnel, engineers, and the emergency planning workforce verify their qualifications on a daily basis.
- LaSalle and all U.S.nuclear facilities have in place “Severe Accident Mitigation Guidelines” that prescribe actions and require pre-staged equipment (portable diesel generators and portable power packs) beyond normal emergency operating procedures to address severe challenges to the reactor core.
- Station operators are regularly trained in control-room simulators to respond to severe natural disasters that exceed the facility’s design basis.
- Station emergency drills are overseen by the Nuclear Regulatory Commission (NRC) and the Federal Emergency Management Agency (FEMA), with participation of state and local emergency agencies including the Illinois Emergency Management Agency.

LaSalle Generating Station used fuel facts

- LaSalle’s spent-fuel pools are engineered to withstand forces greater than the largest earthquake ever seen in the region. Pool walls are three to six feet thick steel-reinforced concrete with a stainless steel liner to maintain adequate water levels at all times.
- LaSalle’s two used-fuel pools are elevated 804 feet above sea level.

Quick facts about LaSalle Generating Station

- Unit 1 began producing power in 1982 and Unit 2 began producing power in 1984.
- LaSalle’s Unit 1 is licensed to operate until 2022. Unit 2 is licensed to operate until 2023.
- The main source of cooling water for LaSalle is the Illinois River, which also provides a source of water for the 2,000-acre cooling lake.
- The facility employs approximately 800 people with an annual payroll of approximately $56 million.