

**XCEL Energy  
French Island Plant  
200 Bainbridge Street South  
La Crosse, Wisconsin**

**Emergency Planning and Community  
Right-to-Know Act (EPCRA)**

**Off-site Plan**



**EPCRA OFF-SITE PLAN**  
XCEL Energy - French Island Plant  
200 Bainbridge Street South  
La Crosse, WI 54603-1564

**I. FACILITY NAME:**  
**XCEL Energy - French Island Generating Plant**  
**200 Bainbridge Street South**  
**La Crosse, WI 54603-1564**  
**608-789-3646**  
**After hours: 715-737-2618**  
**Facility ID # Assigned by WEM: 009898-0**

**II. FACILITY COORDINATOR:**  
Tina M. Ball  
Sr. Environmental Analyst  
Telephone Number: 715-737-1346 (w)  
715-577-0003 (cell phone)

**ALTERNATE COORDINATOR:**  
Mark Paitl  
Plant Manager  
Telephone Number: 608-789-3603 (w)  
715-737-2618 (24 hour dispatch)

**ALTERNATE COORDINATOR:**  
Dave Hendrickson  
Plant Superintendent  
Telephone Number: 608-789-3601

**III. CHEMICALS ON SITE: EXTREMELY HAZARDOUS SUBSTANCES**

<u>CAS #</u>	<u>Chemical Name/ Trade Name</u>	<u>Max. Amt.</u>	<u>Vul. Zone</u>	<u>Rural/ Urban</u>
7664-93-9	Sulfuric Acid	1513-lb.	<0.1 mi.	Urban

**OTHER HAZARDOUS CHEMICALS:**

Fuel oil (No. 2) 1,937,043 gallons (11,355,138 lbs) contained in a tank on the north end of the complex.  
(CAS # 068476-30-20)

Calcium Hydroxide, 104,500 lbs contained in a tank on the south side of the power plant.  
(CAS # 1305620)

Hydraulic Oil, 8,700 lbs contained in the oil storage room inside the plant.  
(CAS # 64742581)

Lead in lead-acid batteries, 11,306 lbs.  
(CAS # 7439921)

#### **IV. PRIMARY EMERGENCY RESPONDERS:**

West Central Regional Type I Hazardous Materials Response Team  
La Crosse Type II Hazardous Materials Response Team  
La Crosse Fire Department  
La Crosse Police Department  
La Crosse County Sheriff's Department  
Campbell Fire Department  
La Crosse County Emergency Management  
Tri-State Ambulance  
Wisconsin Department of Natural Resources

#### **V. SUPPORT AVAILABLE FROM FACILITY:**

Detailed Standard Operating Procedures have been developed by XCEL ENERGY outlining the actions to be taken by employees in the event of a sulfuric acid or fuel oil spill. Employees of the French Island facility hold current HAZWOPER (Hazardous Waste Operations and Emergency Response) certification. Spill containment and clean-up equipment is available for use by the employees of the French Island Facility including, but not limited to, neutralizing ash, end-loaders, diking equipment etc.

[Oil spill response is provided by Bay West \(www.Baywest.com\)](http://www.Baywest.com)

The following [Bay West](http://www.Baywest.com) equipment is stored in St. Paul, MN and is available for use at this XCEL Energy facility:

1-18' Lund Boat with 50 hp motor	1-Air Compressor
1-Spill Response Trailer	1-2" Diaphragm Pump
1,000' Containment Boom	1-1,500 gallon temporary storage tank
1-MantaRay Skimmer	

[Refer to the attached SPILL PREVENTION CONTROL AND COUNTERMEASURE \(SPCC\) PLAN document for additional details regarding the capabilities to manage diesel fuel spills at the French Island generating plant.](#)

#### **CHEMICAL EMERGENCY MONITORING EQUIPMENT:**

(None)

#### **PERSONAL PROTECTIVE EQUIPMENT:**

4-Life Jackets  
12-Polytyveks Suits (large)  
12-Polytyveks Suits (x-large)  
4-Rainsuits  
96-pairs Nitrile Gloves  
99-pairs Surgical Gloves  
4-Hard hats with shields  
2-Encon Safety Glasses

#### **OUTSIDE RESOURCES AVAILABLE**

The La Crosse Fire Department serves as La Crosse County's Type II Hazardous Materials Response Team. For Type I incidents, contact the West Central Regional Hazardous Materials Response Team through the Wisconsin Emergency Management Duty Office (1-800-943-0003).

Bay West Inc.  
Chemtrec

1-800-279-0456  
1-800-424-9300

## VI. GENERAL INFORMATION/ASSUMPTIONS (DISCLAIMER)

The vulnerability zones set forth in this plan are based on Computer Aided Management of Emergency Operations/Aerial Locations of Hazardous Atmospheres (C.A.M.E.O./A.L.O.H.A.). The zones are based on a credible worst-case scenario and identify the potential area for impact should an air-borne release of a single EHS chemical occur.

The vulnerability zones are NOT intended to be used as a guide for population protection in fire-related incidents. Fire incidents were considered in the development of this plan and the plan provides basic information about the facility for first responders to employ. However, in an actual fire situation at this facility, the Incident Commander is strongly encouraged to reference the fire department's own individual agency pre-emergency plans and Emergency Operations Plan-Annex K: Fire and Rescue, as they may relate to this facility when making decision at an incident involving fire.

Further, fire departments that would respond to an incident at this facility are strongly encouraged to meet with facility representatives to determine ways to minimize an event at the facility and to determine what additional information and factors should be taken into consideration in the event of a fire should one occur.

The vulnerability zones determined in this plan are for general planning purposes.

### STATE REPORTING REQUIREMENTS:

#### Wisconsin Statute §292.11 WISCONSIN SPILL LAW

The spill law, Chapter 292.11, Wis. Stats., requires that a person who possesses or controls a hazardous substance or who causes the discharge of a hazardous substance shall notify the department **immediately** of any discharge not exempted by the statute. The Department has a 24-hour toll free number for reporting spills: **1-800-943-0003**.

#### Chapter NR 706 Wisconsin Administrative Code

Ch. NR 706, Wis. Adm. Code establishes exemptions for small quantity spills of agricultural and petroleum related compounds, as well as substances that have a federal reportable quantity established. These quantities are termed "de minimis" in that below these levels, under the following conditions, state notification of a discharge is not required. While reporting requirements may be exempted, **cleanup requirements remain**. If a discharge meets one of the following de-minimis exemptions **it must be reported to the Wisconsin DNR**:

1. Has not evaporated or been cleaned up in accordance with NR 700 – 726,
2. Adversely impacts or THREATENS to adversely impact the environment,
3. Causes or THREATENS to cause chronic and/or acute human health impacts, or
4. Presents or THREATENS to present a fire or explosion hazard or other safety hazard (including all evacuations)

## VII. HAZARD ANALYSIS SUMMARY

The facility is an electrical generating station consisting of two utility boilers fired by waste wood and refuse-derived fuel, which produce steam to drive two 15-megawatt turbo generators. Two other diesel powered generators provide peak-load generation capacity up to 120 megawatts.

The plant is located on the southern-most tip of French Island bordered by the Black River to the east, French Slough to the west and south, and the Canadian Pacific Railroad to the north. The Canadian Pacific Railroad is the border between the city limits of La Crosse and the Town of Campbell on French Island.

Lead-acid, industrial-size battery banks are located in four separate locations at the plant. One bank is located on the generating floor in an enclosed room, one bank is located in the basement near the fire pump room, and there is one bank each at Units 3 and 4 (the diesel powered generators). Each bank of batteries is located in areas without floor drains; therefore, a spill would be isolated to that immediate area. There are a total of 182 batteries on site.

A 5,000,000 gallon fuel oil tank is located on-site that has been modified to contain less than 3.5 million gallons, but usually contains less than 1.5 million gallons of #2 fuel oil. The actual tank level was 1,704,366 gallons during the site visit on April 21, 2010. Fuel oil is no longer delivered to this facility via barge. All fuel oil delivery is via truck. A separate EPA Spill Prevention, Control and Countermeasures Plan is attached as reference to this EPCRA off-site plan and contains detailed information regarding emergency response procedures to be used in the event of a fuel oil spill.

Information from the facility's web site:

**Plant Description:** French Island is a facility that reuses wood and municipal solid waste to generate electricity. The plant's two generating units burn wood waste, railroad ties and processed municipal solid waste. The municipal solid waste is processed into refuse-derived fuel (RDF) – a fluffy, burnable fuel produced on-site at a facility built specifically for that purpose.

**Power Production Capability** (in-service dates): Total 28 Mw: Unit 1 - 14 Mw (1940); Unit 2 - 14 Mw (1948). The French Island site also includes two combustion turbines that burn low-sulfur #2 fuel oil from a 5 million gallon storage tank located on site. Each unit has the capability of 72 MW (summer) and 100 MW (winter).

**Fuel Sources:** Waste wood, railroad ties and RDF. Although French Island uses alternate fuels, it produces electricity the same as conventional plants – a source of heat turns water to steam, which drives a turbine-generator.

**Plant History:** French Island proves that a combination of ingenuity and technical advances can offer innovative solutions for today's waste disposal problem. Built in the 1940s as a coal-fired generating facility, French Island's two units were converted in 1972 to burn oil, a cleaner fuel. However, within two years after the conversion, the oil embargo caused oil prices to soar, and the units were fired less frequently because they had become very expensive to operate.

By the early 1980s, the company identified a new low-cost fuel in waste wood, and converted Unit 2 to a fluidized bed boiler to burn it. In addition to reducing operating costs, burning wood helped solve a waste disposal problem by using sawdust and wood chips that otherwise would have been buried in a landfill. For similar reasons, the company in 1987 built a facility adjacent to the generating plant to process municipal solid waste into RDF. The necessary fuel handling modifications were made to the plant and Unit 1 also was converted to a fluidized bed boiler, making both units capable of burning a blend of waste wood and RDF. The conversion helped extend the life of the plant and maintain reasonable electric rates for customers, while resolving a solid waste disposal problem for La Crosse County.

**Interesting Features:** The fluidized bed boiler installed at French Island was the first in the United States to be used for commercial power production. The special boiler gets its name because it contains a bed of sand that behaves like a boiling pot when air is injected into it. As the RDF or waste wood fuel is fed into the boiler, it mixes with the sand and remains suspended in the air – being constantly scraped to reveal fresh combustion surfaces. Unlike conventional boilers, the fuel used in a fluidized bed boiler does not have to be uniform in size and moisture content to burn thoroughly.

Waste wood is hauled to the plant in trucks and dumped into a receiving hopper. It then is conveyed through equipment that crushes and grinds wood in to small pieces. The fuel is placed in a storage bin until needed in the boiler.

French Island's resource recovery facility has the capacity to process more than 100,000 tons of municipal solid waste each year. Garbage trucks dump solid waste on the tipping floor. Front-end loader operators then inspect trash and push it on the floor to a feed conveyor. The RDF processing facility

removes recyclable materials and non-combustible items from the waste, then chops and shreds it into a uniformly sized fluffy product that is burned with waste wood.

Since 1987, French Island has utilized more than 600,000 tons of RDF and over 1 million tons of waste wood and railroad ties.

**Environmental Highlights:** Waste wood, railroad ties and RDF contain low levels of sulfur, so sulfur dioxide emissions are minimal. A duct scrubbing system installed in 2002 uses dry lime injection to help further decrease emissions of sulfur dioxide and hydrogen chloride. Over-fire air changes made in 2001 and 2002 improved the combustion process inside the fluidized boiler and help control emissions. Pulse jet baghouses efficiently collect particulate matter, including mercury and dioxin and metals such as lead and cadmium, in order to minimize their release into the air. In 2002, a urea-injection system was installed on both boilers to help reduce emissions of nitrogen oxides.

**Community Involvement:** French Island employs 30 people full time.

Potentially dangerous materials are used and stored at this facility. These materials, when used under normal conditions, pose no threat. However, the hazard to persons and property can increase dramatically if the materials are somehow released from their controlled environment.

It was determined that the greatest risk of a hazmat incident would occur during the servicing of batteries. Each battery contains 13.3 lb. of electrolyte. Sulfuric Acid makes up 34% of the electrolyte, or 4.6 lbs. per battery.

The hazard analysis for this facility was based on an accidental release of sulfuric acid contained in one battery.

**EHS Chemical: Sulfuric Acid**

Form: Liquid  
Container Size: 13.3. lbs, electrolyte per battery

**Parameters used in the hazard analysis:**

Level of Concern: 1/10 IDLH  
Duration of Release: 1 minute

**WORST CASE SCENARIO:**

Rural  
Wind Speed: 3.4 mph  
Atmospheric Stability Class: F  
Vulnerability Zone: <0.1 miles

**RE-EVALUATION SCENARIO:**

Rural or Urban: Urban  
Wind Speed: 11.9 mph  
Atmospheric Stability Class: D  
Vulnerability Zone: <0.1 miles

Only the employees in the immediate vicinity of the spill would be affected by an accidental release. There are a total of 29 employees at the facility.

**VIII: SPECIAL FACILITIES AFFECTED:**

No Special Facilities are located within the 0.1 mile vulnerability zone.

**XI: POPULATION PROTECTION**

The determination to shelter in place or to evacuate will be made by the on-scene commander as appropriate. The lead time for a hazardous materials incident may be very short. As a result, there may not be time enough for safe evacuation, especially when extremely toxic chemical fumes are involved.

An evacuation under these considerations may expose the population to dangerous toxic chemicals and the decision may be made to shelter in place. Preferred areas for protective sheltering would be interior hallways, rooms without windows or exterior doors, enclosed stairways and rooms with a side of the building away from the hazard leaks should be sealed up to prevent toxic fumes from entering.

Experience indicates that shelter space would need to be provided for only 30% of the population within the initial isolation and evacuation zones and the remaining 70% would seek shelter with family and friends outside of the risk zone.

As a result, this short time may not allow for a safe evacuation, especially when extremely toxic chemical fumes are involved. An evacuation under these considerations may expose the population to dangerous toxic chemicals and the decision may be made to shelter in place. Preferred areas for protective sheltering would be interior hallway rooms without windows, or exterior doors, enclosed stairways and rooms on the side of the building away from where the hazard is approaching.

Doors, windows and other potential air leads should be sealed to prevent toxic fumes from entering. Air exchange equipment to the outside should be shut off.

Should evacuation of the public be necessary, the American Red Cross, Scenic Bluffs Chapter would be notified to designate shelters as appropriate. Roles and responsibilities relative to evacuation and sheltering as well as a list of shelters are listed in the La Crosse County Emergency Operations Plan, Annex E.

## **IX. SPECIAL CONSIDERATIONS**

- A. Limited access to facility: See attached map.
- B. The vulnerable zone for this facility does not involve major motor vehicle traffic routes, as it is the last facility on a dead-end street. However, it should be noted that responding vehicles and personnel from the City of La Crosse would travel through the Town of Campbell to reach the facility's main gate. Campbell Police, Campbell Fire Department, and Campbell Emergency Government should be notified.
- C. This facility is located at the southern confluence of the Black River with the Mississippi River and is approximately ½ mile upstream from the confluence with the La Crosse River. Incidents that result with the introduction of EHS substances or fuel oil into the nearby waterways could be very problematic and should be immediately reported to Wisconsin Department of Natural Resources, the U.S. Fish & Wildlife facility in La Crosse, and the U.S. Coast Guard – Upper Mississippi River Group.
- D. The Canadian Pacific Rail Road tracks cross the Black River adjacent to this facility. The Rail Road should be notified of any hazardous materials incidents at the French Island Plant, and the Rail Road should notify the French Island Plant of any incidents on the rail road in the vicinity of the facility. AMTRAK passenger service occurs on this line. See attached photographs.
- E. The local 24-hour National Weather Service, County Public Safety Communications (9-1-1 Dispatch Center), and local radio and TV stations could issue warnings to the population.

NOTE: There are no local ordinances in La Crosse County which mandate specific routes for vehicles carrying Extremely Hazardous Substances (EHSs). Thus, EHSs may be transported over any local, state, or federal highway for which weight limits are met.

**DISTRIBUTION LIST:**

La Crosse Fire Department  
La Crosse County Local Emergency Planning Committee  
Wisconsin Emergency Management



