



Meeting Our Future

The demand for electricity continues to grow as the Karn/Weadock Generating Complex moves past 60 years of serving Michigan's families and businesses.

Today's high-tech world demands more and more electricity to power new industries, advanced computer networks and other technological wonders.

Consumers Energy is exploring a variety of options, including building new generating units, to meet its customers' growing demand for electricity.

Our goal is to provide the electricity you need not only today, but for years to come.



Consumers Energy

One Energy Plaza

Jackson, MI 49201

www.consumersenergy.com

Karn/Weadock public
information: (989) 891-3451



Karn/Weadock Generating Complex

Touching Your Life

The Karn/Weadock Generating Complex touches your life every time you flip on a light switch, use a computer, watch television or do anything that requires the use of electricity.

The electricity that you depend upon comes from the Karn/Weadock Generating Complex and the other Consumers Energy power plants across Michigan. These power plants and the men and women who run them provide the electricity you need throughout your normal day, plus nights, weekends and holidays.

Electricity can't be stored, so it has to be generated the instant that you and Consumer Energy's 1.8 million other customers need it for your homes, schools and businesses.

It's not easy to provide that much electricity around the clock, yet Karn/Weadock and its 370 employees meet that challenge every day. And they do it in a big way: The Karn/Weadock complex can generate up to 2,100 megawatts, enough to power a city of 1.3 million people.

Powering Your Life

The Karn/Weadock Generating Complex has three separate power plants: J.C. Weadock Unit 7 and Unit 8, D.E. Karn Unit 1 and Unit 2, and D.E. Karn Unit 3 and Unit 4. The Weadock units are fueled by coal and can generate up to 310 megawatts of electricity. Karn Units 1 and 2 also are fueled by coal and can generate up to 515 megawatts. Karn Units 3 and 4 are fueled by a mixture of fuel oil and natural gas and can generate up to 1,276 megawatts.

Each year, the complex uses about 3 million tons of coal, which is delivered by rail and Great Lakes freighters. Residual fuel oil is delivered by rail and tanker trucks, while natural gas arrives via underground pipeline.

To produce electricity, water is pumped through miles of steel tubes in a boiler. The burning coal or oil and gas inside the boiler turns the water to steam with a temperature of more than 1,000 degrees Fahrenheit and a pressure of more than 2,000 pounds per square inch.

That high-pressure steam is routed to a turbine, where it turns the turbine blades and the shaft attached to the unit's generator. The generator turns at a constant 3,600 revolutions per minute, creating the electricity that goes through the electric transmission and distribution system to serve you and other customers.

Preserving Our Environment

Environmental stewardship is a basic responsibility for the employees of the Karn/Weadock Generating Complex. Each day they do their part to preserve and enhance the environment. More than 300 types of trees, plants, animals and fish thrive on the Karn/Weadock site.

The Karn/Weadock complex has been certified by the Wildlife Habitat Council since 1991, and there are environmental enhancement programs or projects on 800 of the site's 1,000 acres. A key project is the site's Raptor Rehabilitation Flight Pen.

A local wildlife specialist uses that facility to help nurse injured birds back to health so they can be returned to the wild. Hundreds of birds of prey have been rehabilitated at Karn/Weadock.

Many of the trace amounts of chemicals found naturally in soil and plants also are found in coal and are released during combustion. These emissions are regulated by the U.S. Environmental Protection Agency and Michigan Department of Environmental Quality.

More than \$170 million has been spent to reduce emissions at Karn/Weadock, and overall Consumers Energy has invested more than \$1 billion at its four coal-fired power plant sites to meet the latest environmental standards.

Those investments have resulted in substantial reductions in the emissions of sulfur dioxide, nitrogen oxides, mercury and other compounds since 1990. Through participation in the state of Michigan's Pollution Prevention Partnership and Clean Corporate Citizen programs, the Karn/Weadock complex meets the latest standards for regulatory compliance and environmental stewardship.

Top Right: An injured eagle is nursed back to health at the Karn/Weadock complex.

Below Right: The turbine and generator floor, where your electricity is made.

Below: The plant generates power throughout the days, nights, weekends and holidays.

