



Energy

Alternative Energy

Client

FPL Energy

Location

Oregon and Washington
border, USA



Stateline Wind Power

Project Description

FPL Energy, the largest developer/operator of wind energy facilities in the U.S., hired CH2M HILL to assist with the permitting and site civil design of the Stateline Wind Project. The Stateline project currently consists of 454 turbines generating 300 megawatts (MW) of electricity. For each of several phases of the project, CH2M HILL provided development support services to FPLE, including:

Site/Civil Design—CH2M HILL provided siting and civil design for 20 miles of road over steep slopes, accommodating farmers' land use needs and sensitive environmental areas, while providing cost effective access to the project.

Geotechnical Analysis—CH2M HILL provided geotechnical analysis on steep and difficult terrain. Accurate geotechnical data was critical to safely siting the 20-story high turbine towers and ensuring the turbines' ability to withstand hurricane-speed winds.

Environmental Analysis—CH2M HILL augmented the geotechnical data with biological, botanical, visual, land use, and cultural resource analyses to determine ideal locations for turbines, substations and access roads. Individual turbine sites were chosen based on radar studies that track nighttime migration of birds and bats during the spring.



Stakeholder Relations—CH2M HILL negotiated with stakeholders, including the Confederated Tribes of the Umatilla Indian Reservation, environmental groups, government officials, landowners and citizens. To garner support from the Blue Mountain Audubon Society, CH2M HILL crafted an agreement that addressed concerns about potential impacts to migratory birds. Finally, CH2M HILL helped to develop a mitigation plan that, for the first time in Oregon, allowed construction of an energy facility within the habitat of an endangered animal.

Permitting—Permitting was complicated by the fact that Stateline spans two states, each with its own regulatory process. In Washington, CH2M HILL prepared a State Environmental Policy Act EIS. In Oregon, the firm completed the Energy Facility Site Certificate Application. In addition to the master environmental permits, CH2M HILL prepared U.S. Army Corps of Engineers wetlands and waterways permits, FAA obstruction review and lighting requirements, stormwater permits, building permits and multiple access permits with counties and other easement holders.

Today, Stateline is the largest operating land-based wind power plant in the world and is providing a boost to the rural economies of both Oregon and Washington State.

GIS Project Contributions

The GIS services were conducted to support the Washington SEPA EIS and the Oregon EFSC application. General support tasks included source data



research, acquisition and standardization, GIS database organization and development, analysis, and product development.

- Arc/Info GIS database of approximately 200 basemap, facility and other analysis and display data layers
- Line-of-sight viewshed analysis to identify turbines seen from scenic areas
- Acreage calculated for temporary and permanently disturbed properties resulting from facility construction
- About 60 EIS report map figures designed and produced