

CASE STUDY / **POWER PLANT AIR PERMITTING**

SMOOTH AIR PERMITTING PROCESS GETS POWER PLANT ONLINE TO MEET DEMAND

With growing demand for reliable energy and projected increases in energy consumption, an electric utility needed to get a combined-cycle natural gas power plant up and running. Before construction could begin, an air permit needed to be obtained.



NAVIGATING AIR PERMIT NUANCES FOR FLEXIBILITY

An air permit for the Wildcat Point Generation Facility needed to identify expected operations with great precision to provide long-term flexibility for the facility's operations in a nonattainment area for ozone.

PROJECT STATS

CLIENT

Old Dominion Electric Cooperative

LOCATION

Cecil County, Maryland

COMPLETION DATE

January 2018

1K

MEGAWATTS OF
GENERATING CAPACITY

CHALLENGE

In 2013, Old Dominion Electric Cooperative (ODEC) was seeing an increase in energy consumption and identified a need for new sources of power to help close the gap.

In order to meet these projections, ODEC set out to build Wildcat Point, a combined-cycle natural gas power plant in Cecil County, Maryland.

ODEC was operating on a tight project timeline to get this major generation facility online to support the growing need in its territory. Before ODEC could get construction underway, it needed an air permit and a siting certificate. This required

frequent collaboration with the Maryland Department of the Environment's Power Plant Research Group.

SOLUTION

To streamline the early stages of this project, ODEC tapped our team to assist with siting, development, permitting and preliminary engineering services for Wildcat Point. This afforded our air permitting and engineering teams the opportunity to work together to make decisions on the design that would improve the air permitting process. This early collaboration led to strategic solutions that considered both the regulatory point of view of





air permitting and the engineering point of view for operational flexibility while keeping the costs down.

Wildcat Point is in a moderate nonattainment area for ozone, a region that does not meet the National Ambient Air Quality Standards. The project team considered the significant nitrogen oxides (NO_x) and volatile organic compounds (VOC), which required the obtainment of emission offsets. To decrease the number of expensive emission offsets required for this project, our team identified the expected operations with great precision. Based on the expected operations, conservative emissions estimates were calculated that still gave ODEC operational flexibility for the facility.

Our team adjusted the layout and other parameters to reduce the modeled impacts to below the thresholds for National Ambient Air Quality

Standards and Prevention of Significant Deterioration Class II Increment.

When the time came for the air permit to be submitted, ODEC was still in final negotiations with combined-cycle combustion turbine vendors. To keep the project moving and provide a competitive advantage to the pricing for the turbines, our team submitted the major source air permit application with both the Siemens H and the Mitsubishi G combustion turbines as permitting options.

In the state of Maryland, all environmental documents — environmental studies, reports, clearances and applications — needed to be submitted to the Power Plant Research Group as part of the Certificate of Public Convenience and Necessity (CPCN). This meant the permitting process involved many stakeholders and reviewers. In Maryland, several of the reviewers were unfamiliar with

the turbines' operations. Throughout the entire process, our team worked closely with the Maryland Department of the Environment to share learnings about working with combined-cycle combustion turbines. We also facilitated public meetings to share information about the overall impacts Wildcat Point air emissions would have on the surrounding community.

RESULTS

Our team helped obtain all environmental permits, including the air permit, in time to begin construction on schedule. Wildcat Point is now ODEC's largest owned asset and adds to the cooperative's diversified mix of generation, which provides affordable, reliable power to its member-owners.

With our nuanced approach to air permitting in a nonattainment area, Wildcat Point now has long-term flexibility in its operations and savings on emissions offsets.



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