

Introduction

The generation of electric power and the transmission of this power to homes and businesses have brought social and economic progress to many parts of the world. Power generation requires the harnessing of some natural resource — mineral ore, water, sunlight, or air, among others. In this harnessing, there are inevitable side effects to our environment. For instance, withdrawing and using large amounts of water for power plant cooling can affect aquatic life. Additionally, some types of power plants release pollutants that can affect air quality.

The Maryland Department of Natural Resources (DNR) Power Plant Research Program (PPRP) evaluates how the construction and daily operation of power plants impact Maryland's environmental, economical, and cultural resources. In this capacity, PPRP is authorized by the Maryland Power Plant Research Act (§3-304 of the Natural Resources Article of the Annotated Code of Maryland) to prepare a Cumulative Environmental Impact Report (CEIR) each biennium. The intent of the CEIR is to assemble and summarize information regarding the impacts of electric power generation and transmission on Maryland's natural resources, cultural foundation, and economic situation.

This report is the twelfth CEIR (CEIR-12) published by PPRP, and like previous reports, subdivides the report into chapters that provide analysis for resource impacts and current trends and topics. Chapter 2 reviews power generation, transmission, and use. Chapter 3 discusses the issues and effects of power generation and transmission on air, water, and land. Chapter 4 completes the CEIR with discussions of fuel supply, alternative power sources, and security issues.

Legislative Mandate

The Maryland legislature created the Power Plant Siting Program, precursor to the current program, in 1971 as a result of extensive public debate regarding the potential effects on the Chesapeake Bay from the Calvert Cliffs Nuclear Power Plant. Calvert Cliffs was a source of concern because the plant uses a once-through cooling system that withdraws 3.5 billion gallons of water per day from the Bay and discharges water back into the Bay with an increase in temperature of roughly 12°F. The controversy over potential environmental impacts during the licensing of Calvert Cliffs prompted the creation of PPRP to ensure a comprehensive, objective evaluation, based on sound science, to resolve environmental and economic issues before decisions were made regarding whether and where to build additional power generating facilities.

Today, PPRP continues this role by coordinating the comprehensive review of proposed power generation facilities and by developing technically based licensing recommendations for proposed power generating facilities. PPRP also conducts research on power plant

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impacts to Maryland’s natural resources, including the Chesapeake Bay. In addition to surface water concerns, PPRP evaluates impacts to Maryland’s ground water, air, land, and socioeconomics for all proposed power facilities, including new plants, expansions of existing plants, and transmission lines.

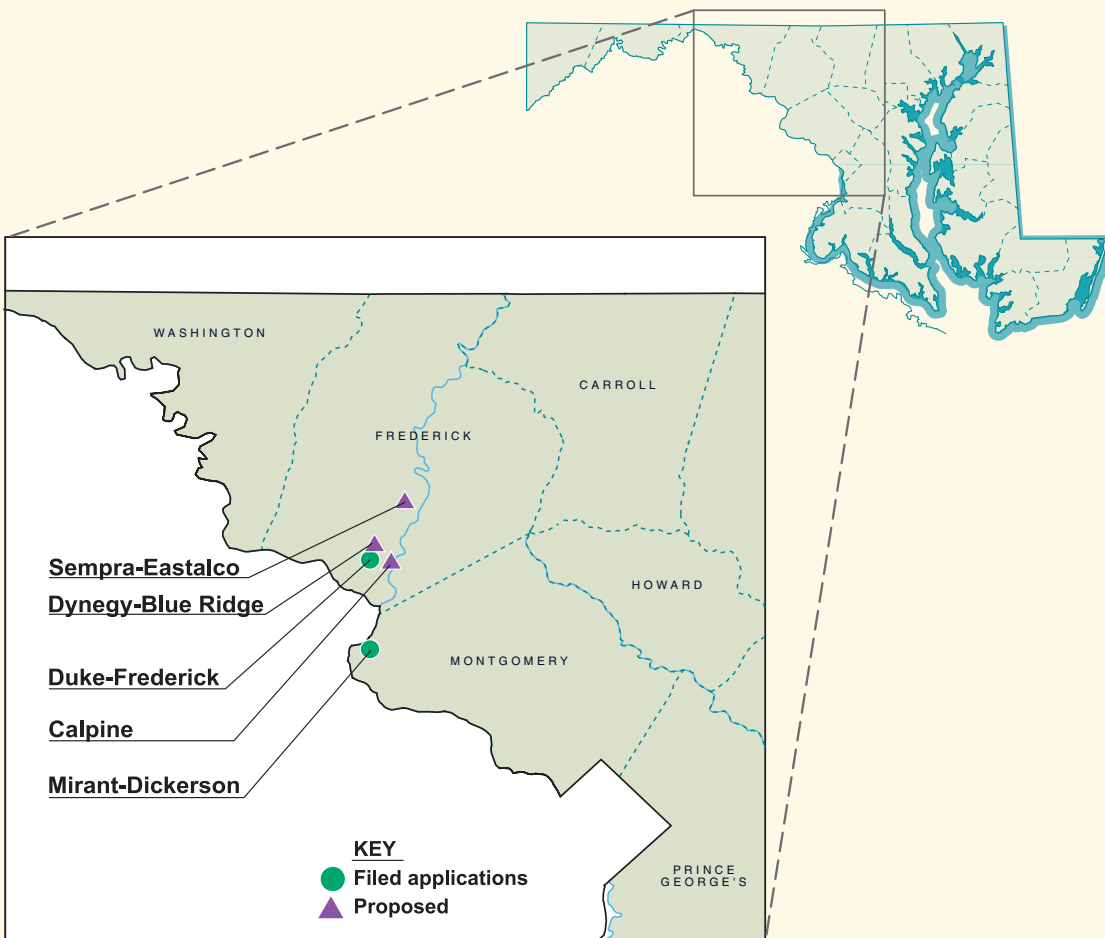
Multiple Plant Evaluations

In the spring of 2002, there was significant interest on the behalf of power plant developers to construct new power plants in the state. Duke Energy, Mirant, Dynegy, Semptra Energy, and Calpine were specifically interested in the southwestern portion of Frederick County and northwestern Montgomery County. The sites under consideration were all located within about 25 miles of each other. Of these projects, only the Mirant Dickerson expansion is still an active proposal.

Given the uncertainty regarding the cumulative environmental impacts these generating facilities would cause within a relatively small area of the state, the Secretaries of the State agencies involved in the licensing review process requested and received from the PSC the opportunity to develop guidelines for assessing impacts from “clusters” of proposed facilities.

The Agency Secretaries convened a Task Force in June 2002, which developed a set of guidelines for evaluating such power plant clusters. The Task Force guidelines, submitted to the PSC in December 2002 (see Appendix A of this report), address power plant site suitability in situations where multiple power plants are proposed in close proximity to one another.

Multiple Plants Proposed in Central Maryland



Power Plant Licensing

The Maryland Public Service Commission (PSC) regulates power plants and transmission lines above 69 kilovolts (kV). The PSC is an independent Commission created by the legislature with commissioners appointed by the Governor for set terms.

Any person who wishes to construct a generating facility or a transmission line greater than 69 kV must receive a Certificate of Public Convenience and Necessity (CPCN) from the PSC before beginning construction. Applications for a CPCN are reviewed before a Hearing Examiner in a formal adjudicatory process that includes written and oral testimony, cross examination, and the opportunity for full public participation. The CPCN constitutes permission to construct the facility and incorporates several required permits, including air quality and water appropriation. The broad authority of the PSC allows the comprehensive review of any pertinent issues and was designed in 1971 to be a "one stop shop" for power plant licensing.

Under State law, DNR-PPRP is responsible for coordinating the licensing review and bringing to the PSC a consolidated set of recommended conditions. PPRP participates in the CPCN process on the behalf of the Departments of Natural Resources, Environment, Agriculture, Business and Economic Development, Planning, and Transportation, and the Maryland Energy Administration. This consolidated review provides a mechanism for the State to establish a comprehensive review of all electric power issues, with the goal of balancing the tradeoffs required to provide needed electrical power at reasonable cost on reasonable schedules, while protecting the State's valuable natural resources.

The comprehensive review assesses a full range of atmospheric, terrestrial, aquatic, visual, transportation, socioeconomic, planning, and cost issues. From this review, conditions are recommended for incorporation within the CPCN. PPRP documents the technical rationale necessary to support the recommended conditions and coordinates its work with all interested agencies. The technical analysis, recommended conditions, and supporting testimony are all submitted as part of the State's formal involvement.

The Hearing Examiner takes into consideration the recommended license conditions, testimony, and briefs filed by the State, the applicant, and any other parties, and issues a decision in the form of a proposed order on whether the CPCN should be granted and under what conditions. After a period during which an appeal can be made to the full Commission, a final order is released.

