

BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

In the Matter of the Application)	
Of CP Crane LLC for a Certificate)	
Of Public Convenience and Necessity)	Case No. 9482
Authorizing the Modification of the)	
Charles P. Crane Generating Station)	
In Baltimore County, Maryland)	

DIRECT TESTIMONY OF WILLIAM V. PAUL

ON BEHALF OF THE
MARYLAND DEPARTMENT OF NATURAL RESOURCES
POWER PLANT RESEARCH PROGRAM

March 19, 2019

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DIRECT SUPPLEMENTAL TESTIMONY OF WILLIAM V. PAUL

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION, AND CURRENT POSITION.**

2 A. My name is William V. Paul, and I am the Chief of the Combustion and
3 Metallurgical Division of the Air and Radiation Administration, Maryland
4 Department of the Environment (MDE-ARA). My resume is appended to this
5 testimony as Appendix A.

6 **Q. PLEASE DESCRIBE YOUR SPECIFIC PROFESSIONAL EXPERIENCE WHICH**
7 **IS RELEVANT TO YOUR RESPONSIBILITIES ON THIS PROJECT.**

8 A. I have more than 40 years of experience in air pollution control, including 30 years
9 with MDE-ARA and over 10 years with an air pollution control equipment
10 manufacturing firm and an environmental consulting firm. As Chief of the
11 Combustion and Metallurgical Division of MDE-ARA, I have primary
12 responsibility for new source review of major stationary sources subject to federal
13 Prevention of Significant Deterioration (PSD) and Nonattainment New Source
14 Review (NA-NSR) requirements. I have participated in the NA-NSR and/or PSD
15 review of most of the major power plants that have been proposed for construction
16 or modification in Maryland in the last 30 years. These include Mirant Mid-
17 Atlantic's (now NRG Energy, Inc.) Morgantown Coal Barge Unloading project; all

1 the air pollution control projects proposed by Mirant and Constellation Power
2 Source Generation for coal-fired power plants in response to the Maryland
3 Healthy Air Act; the Chalk Point Expansion and the Dickerson Expansion projects;
4 Orion Power Holding's Kelson Ridge Facility in Charles County; Old Dominion
5 Electric Cooperative (ODEC)/Essential Power Rock Springs, LLC Rock Springs
6 power plant; Delmarva Power and Light Company's Dorchester plant; Applied
7 Energy Services' (AES) Warrior Run plant; Panda Energy Corporation's
8 Brandywine plant; Baltimore Gas and Electric Company's Perryman plant; the
9 Potomac Electric Power Company's Station H and Chalk Point plants; the
10 Southern Maryland Electric Cooperative turbine project; the Montgomery County
11 Resource Recovery Facility; the Catoctin Power Facility in Frederick County;
12 Calvert Cliffs Nuclear Power Plant Unit 3; Energy Answers International's
13 Generation Facility in Baltimore City; ODEC Wildcat Point facility in Cecil County;
14 Dominion Cove Point LNG facility in Calvert County; Keys Energy Center in
15 Prince George's County; the CPV Maryland, LLC St. Charles Energy Center heard
16 under Case Numbers 9129 and 9280; and the Mattawoman Energy Center in Prince
17 George's County.

18 **Q. WHAT WERE YOUR RESPONSIBILITIES WITH RESPECT TO THE STATE'S**
19 **ENVIRONMENTAL REVIEW OF THE CP CRANE, LLC COMBUSTION**
20 **TURBINE REPOWERING PROJECT THAT IS THE SUBJECT OF THIS**
21 **CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY?**

22 A. I was the technical expert focused on the evaluation of air quality regulatory and
23 permitting requirements, air emissions evaluations, and assessments for the
24 proposed repowering of CP Crane facility (Project). My review, and the MDE-ARA
25 team's review under my direction, included assessing existing ambient air
26 conditions in the vicinity of the proposed Project, determining potential air
27 emissions from the Project, and evaluating air quality impacts associated with the
28 Project. I also directed and participated in the writing of the results of these

evaluation which are summarized in the Power Plant Research Program's (PPRP's) Project Assessment Report (PAR) being filed in this case, which is entitled, *Project Assessment Report for the Modification of the CP Crane Generating Station* (PPRP Exhibit__(SS-3))

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to summarize my review of the Project, potential air emissions from the Project, and the likelihood that the proposed Project will comply with all applicable regulatory requirements. My review consists of analyses conducted directly by myself or others under my direct supervision (hereafter referred to as "we"). My testimony supports the air quality license conditions that are being recommended for the proposed Project.

Q. PLEASE SUMMARIZE THE SOURCES OF INFORMATION USED IN YOUR REVIEW.

A. I reviewed CP Crane's application for a Certificate of Public Convenience and Necessity (CPCN) for the Combustion Turbine Repowering Project dated May 31, 2018, including the company's supplemental filings on June 21, 2018 and August 31, 2018; and the Applicant's responses to PPRP Data Requests. I was responsible for preparing the air quality section of the PAR as well as the air quality section of the recommended CPCN license conditions with the assistance of technical staff at MDE-ARA. Finally, MDE-ARA staff, under my direction, evaluated air quality impacts related to the proposed Project and prepared the Air Quality Modeling Analysis of the PAR.

Q. ARE YOU AWARE OF THE CP CRANE DATA REQUEST (DR) (SET 1) SUBMITTED TO PPRP ON MARCH 7, 2019?

A. Yes

1 **Q. TO WHAT EXTENT WERE YOU INVOLVED IN PREPARING RESPONSES**
2 **TO THE DR?**

3 **A.** As the lead technical expert focused on the evaluation of air quality regulatory and
4 permitting requirements, I had primary responsibility for responding to the DR.

5 **Q. CAN YOU SUMMARIZE THE ISSUES RAISED IN THE DR?**

6 **A.** CP Crane provided several technical corrections and suggested edits to both the
7 recommended license conditions and the PAR. Several of the changes involve
8 updated data contained in a revised Environmental Review Document (ERD)
9 submitted by CP Crane in August 2018 that was not corrected in the recommended
10 license conditions or the PAR.

11 **Q. CAN YOU PLEASE SUMMARIZE YOUR RESPONSES TO THE DR?**

12 **A.** MDE-ARA reviewed the proposed edits and concurred fully. The proposed
13 technical corrections and edits were subsequently incorporated into the revised
14 recommended license conditions and PAR. Both a clean copy and a redlined copy
15 of the modified pages were included for the revised filing documents.

16 **Q. WERE ANY ISSUES RAISED THAT YOU DEEMED TO BE SIGNIFICANT?**

17 **A.** Yes. MDE-ARA reassessed the appropriate greenhouse gas limitation for
18 stationary combustion turbines subject to 40 CFR Part 60, Subpart TTTT. The
19 appropriate emission limitation is essentially contingent on system design
20 efficiency and fuel usage. Based on that review, the CO₂ limit was corrected from
21 1030 pounds per megawatt-hour to 120 pounds per million BTU heat input.

22 **Q. BASED ON YOUR UNDERSTANDING OF THE ISSUES RAISED, DID YOU**
23 **DEEM IT APPROPRIATE TO AMEND THE RECOMMENDED LICENSE**
24 **CONDITIONS AND THE PAR?**

1 **A.** Yes

2 **Q.** **DOES THAT CONCLUDE YOUR TESTIMONY AT THIS TIME?**

3 **A.** Yes, it does.

**APPENDIX A
STATEMENT OF QUALIFICATIONS
for William V. Paul**

Professional Background

As Chief of the Combustion and Metallurgical Division, Air Quality Permits Program of the Maryland Department of the Environment, Mr. Paul has acquired more than 40 years of experience in air pollution control and the permitting of major stationary sources. This includes 30 years with MDE and 10 years in the private sector designing and marketing air pollution control equipment and environmental consulting. As a Division Chief, he has primary responsibility for overseeing air quality application reviews of major stationary sources subject to Prevention of Significant Deterioration (PSD) and non-attainment New Source Review (NSR). In the past several years, Mr. Paul has been extensively involved in permitting the following electric generating stations and independent power producers in Maryland: Old Dominion Electric Cooperative's (ODEC's) Rock Springs, Orion Power's Kelson Ridge, PEPCO Station H, PEPCO Chalk Point, Southern Maryland Electric Cooperative (SMECO), BGE Perryman, AES Warrior Run, Panda Brandywine, Montgomery County Resource Recovery Facility, the Town of Berlin, Sempra Catoctin, Mirant Chalk Point, Mirant Dickerson, ODEC Wildcat Point, Dominion Cove Point LNG facility, Keys Energy Center, the CPV Maryland St. Charles Energy Center, and the Mattawoman Energy Center. These projects have involved detailed assessments of ambient air quality impacts, the application of best available air pollution control measures, and ensuring the inclusion of all applicable federal and state air quality control requirements.

Education

B.S. Chemical Engineering, 1975, Lehigh University, Bethlehem, PA.
Masters, Business Administration, 1982, Loyola College, Baltimore, MD.
Masters, Environmental Policy, University of Maryland, College Park, MD, pending.