

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF MARYLAND**

**IN THE MATTER OF THE APPLICATION OF  
C.P. CRANE LLC FOR A CERTIFICATE OF  
PUBLIC CONVENIENCE AND NECESSITY  
AUTHORIZING THE MODIFICATION OF THE  
CHARLES P. CRANE GENERATING STATION IN  
BALTIMORE COUNTY, MARYLAND**

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**Case No. 9482**

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**ERRATA TO DIRECT TESTIMONY OF DAVID R. DUNBAR**

C.P. Crane LLC provides the following Errata to the Direct Testimony of David R. Dunbar  
filed on May 31, 2018:

1. On page 4, line 3, “48 MW” should be replaced with “50 MW”
2. On page 4, line 4, “146 MW” should be replaced with “150 MW”
3. On page 4, line 6, “160 MW” should be replaced with “164 MW”
4. On page 4, line 8, “30 percent” should be replaced with “27 percent”
5. On page 8, lines 13-15, the sentence “A statement of my educational background and  
professional qualifications is attached to my direct testimony at Exhibit DRD-1.” should  
be moved to page 1, lines 21-23

**Case No. 9482**

**CLEAN Revised Direct**

**Testimony of David R.**

**Dunbar**

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**DIRECT TESTIMONY OF DAVID R. DUNBAR**

**ON BEHALF OF**

**C.P. CRANE LLC**

**May 31, 2018**

1 Direct Testimony of David R. Dunbar

2 INTRODUCTION AND PURPOSE OF TESTIMONY

3 **Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?**

4 A. My name is David R. Dunbar. My business address is 200 West Madison Street, Suite  
5 3810, Chicago, IL 60606.

6 **Q. WHAT IS YOUR CURRENT EMPLOYER AND POSITION?**

7 A. I am Vice President – Operations & Development for C.P. Crane LLC (“CP Crane”), a  
8 wholly owned subsidiary of Middle River Power, LLC.

9 **Q. WHAT ARE YOUR RESPONSIBILITIES ASSOCIATED WITH THE PROJECT?**

10 A. I am responsible for overall project development, including obtaining necessary permits  
11 and approvals.

12 **Q. PLEASE DESCRIBE YOUR EDUCATION AND PROFESSIONAL**  
13 **BACKGROUND AND EXPERIENCE.**

14 A. I graduated from Clarkson University, Potsdam, NY in 1974 with a BS in Mechanical  
15 Engineering. I graduated from Georgia State University with a Masters of Business  
16 Administration in 1999. I have been in the power generation industry for 44 years, first as  
17 an engineer, then a project developer and then as an executive. I have been involved in the  
18 development of coal, natural gas, waste-to-energy and biomass fired generating plants. I  
19 have worked for Babcock & Wilcox boiler company, Clark Kenith, a waste-to-energy  
20 construction company and Mirant Corporation, the former independent power subsidiary  
21 of Southern Company. I started with Middle River Power in December 2016. A statement  
22 of my educational background and professional qualifications is attached to my direct  
23 testimony at Exhibit DRD-1.

24 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?**

1 A. No.

2 **Q. PLEASE STATE THE PURPOSE OF YOUR TESTIMONY IN THIS**  
3 **PROCEEDING.**

4 A. The purpose of my testimony is to introduce the activities that are the subject of this  
5 Application for a Certificate of Public Convenience and Necessity (“CPCN”) to modify  
6 the Charles P. Crane Generating Station (“Crane Station”) by retiring its existing coal-fired  
7 units and adding combustion turbines (“CTs”) fired primarily with natural gas (the  
8 “Repowering Project” or the “Project”). I will provide an overview of the purpose of the  
9 Project and of its associated impacts.

10 My testimony will also introduce the Direct Testimony of Jeffrey L. Meling of  
11 Environmental Consulting & Technology, Inc. (“ECT”), who is sponsoring the  
12 Environmental Review Document attached to and incorporated into the Application, as  
13 well as the Direct Testimony of Thomas Pritcher of ECT who will discuss the Air Quality  
14 aspects of the Project.

15 **OVERVIEW OF THE PROJECT**

16 **Q. WHAT PROJECT IS THE SUBJECT OF THE APPLICATION?**

17 A. CP Crane is proposing to modify, or repower, Crane Station. The main electrical  
18 generating units at Crane Station are two coal-fired units: Unit 1, nominally rated at 190  
19 MW and began operating in 1961; and Unit 2, nominally rated at 209 MW and began  
20 operating in 1963. There is also an existing 14 MW General Electric (“GE”) Frame 5 CT,  
21 which is a No. 2 distillate-fired generating unit. The Repowering Project involves retiring  
22 the two coal-fired units and adding three GE LM6000 CTs. The GE LM6000 CTs will be  
23 configured for simple-cycle operation and fired primarily with natural gas, which will be

backed up by ultra-low-sulfur diesel (“ULSD”). Once the Repowering Project is complete, the GE Frame 5 CT will also return to operation.

**Q. WHAT IS THE PURPOSE OF THE REPOWERING PROJECT?**

A. The purpose of the Repowering Project is to provide clean, quick start, dependable and efficient generating capacity, and energy and ancillary services at the Crane Station location. The Repowering Project will re-purpose existing electrical and natural gas interconnections and other infrastructure at the site to provide electricity and related services energy during short times of peak load or system outages. To provide dependable energy in the event that natural gas is not available, which typically occurs during periods of extremely cold weather, and in support of PJM’s Capacity Performance requirements, the Repowering Project will also have the ability to produce electricity using ULSD and will store enough ULSD on site to operate the Repowering Project at full load continuously for up to 72 hours.

**Q. PLEASE PROVIDE AN OVERVIEW OF THE PROJECT.**

A. The planned Repowering Project will involve the design, construction, and operation of:

- Three natural gas- and ULSD-fired aero-derivative CTs;
- Liquid ULSD fuel handling, piping, and storage;
- A natural gas compression station with associated treatment, piping, and regulation equipment;
- Water treatment and wastewater handling facilities;
- Electrical interconnection facilities;
- Ancillary equipment.

The electric generation units and associated equipment will be constructed on a portion of the existing Crane Station site. The Project will result in the continued retirement of the

1 two existing coal-fired generating units and the installation of three aero-derivative type  
2 GE LM6000 CTs and associated ancillary equipment. Each of the CTs will have a nominal  
3 generating capacity of 50 MW and the Project's total nominal generating capacity will be  
4 approximately 150 MW. Thus, upon completion of the Project, Crane Station's total  
5 nominal generating capacity at International Organization for Standardization ("ISO")  
6 conditions will be 164 MW including the existing GE Frame 5 CT, relative to the  
7 approximately 400-MW capacity of the existing coal-fired units. The CTs are expected to  
8 serve as peaking units and operate at an annual capacity factor of up to 27 percent. The  
9 design of the LM6000 CTs will allow them to start up and reach full load in 10 minutes or  
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17 proposed LM6000 CTs and the existing Frame 5 CT will be transmitted to the power grid  
18 via a new 115-kilovolt (kV) substation. The new substation will connect to the two existing  
19 BG&E 115 kV electrical transmission circuits present at Crane Station substation and will  
20 allow for the use of either transmission circuit for improved reliability.

21 **Q. PLEASE PROVIDE AN OVERVIEW OF THE PROJECT SITE.**

22 A. The Crane Station site is in eastern Baltimore County. Crane Station occupies  
23 approximately 157 acres on the end of a small peninsula into the Gunpowder River and

Chesapeake Bay. Saltpeter Creek lies to the north, while Seneca Creek is to the south. Carroll Island, most of which is associated with Aberdeen Proving Ground, lies directly to the east and connects to the peninsula by Carroll Island Road and a bridge. Seneca Park Beach and Bowleys Quarters are the nearest neighborhoods or communities to the site. Seneca Park Beach, immediately west of the plant, has waterfront homes and a boat yard. The Bowleys Quarters neighborhood is located approximately 1 mile west.

The topography of the plant property is flat, with elevations several feet above sea level. As indicated previously, the main generating units at the plant are the two coal-fired units that are planned to be retired. There is also a small (14 MW) No. 2 distillate-fired CT generating unit (which will continue operations upon completion of the Project) and two small auxiliary boilers (which will no longer be used upon completion of the Project). Other prominent features of the plant include railcar facilities, a coal storage pile, and coal handling equipment.

**Q. PLEASE EXPLAIN THE ADVANTAGES OF THE PLANNED PROJECT SITE.**

A. CP Crane's development plans for the Project have been designed to take full advantage, both environmentally and economically, of the Project site's location, existing infrastructure, and proximity to key support facilities.

First, the CTs will be located inside the boundaries of an existing power plant, one that has been in active use since 1961. The specific area within the existing power plant property has been previously impacted and is currently the location of parking area and infrastructure, which will be removed, repurposed, or relocated onsite.

Second, given the proposed LM6000 CTs will be located at a currently active power plant, the Project will be able to utilize some of the existing fuel- and water supply-related

1 facilities, as well as in-plant auxiliaries. Natural gas will be the CTs' primary fuel. A  
2 natural gas pipeline already delivers gas to the site and has sufficient capacity to supply the  
3 proposed LM6000 CTs operating at full load. The facility will utilize the existing onsite  
4 city water supplies. A new water treatment facility will be installed to meet the Project's  
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10 Third, the proposed LM6000 CTs will take full advantage of the existing units'  
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13 interconnection to the existing electrical transmission system. The interconnection's  
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15 no new offsite transmission lines or structures.

16 **Q. PLEASE DESCRIBE THE CONSTRUCTION SCHEDULE AND PLAN.**

17 A. Construction of the Project will commence immediately after the necessary licenses and  
18 permits are obtained and engineering is advanced to a sufficient level. We hope to have  
19 all necessary licenses and permits by December of 2018. Construction of the Project will  
20 require approximately 10 to 12 months. Under this schedule, the Project would reach  
21 commercial operation in December 2019. Project construction activities will include:

- 22 • Site mobilization.

- Demolition/relocation of existing buildings in the area of the proposed CTs and supportive systems.
- Site preparation and excavation.
- Forming, installation of rebar, and pouring of concrete foundations.
- Installation of underground utilities and routings.
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- Mechanical and electrical equipment installation.
- Steel erection.
- Piping, electrical wiring, and controls installation.
- Final site grading and cleanup.
- Equipment commissioning, startup, and testing.

**Q. PLEASE DESCRIBE THE EXPECTED CONSTRUCTION TRAFFIC.**

A. It is conservatively assumed that nearly all construction workers will travel to work using their personal vehicles with an average loading of 1.2 persons per vehicle. During peak times, up to 75 workers will arrive, resulting in approximately 63 vehicles arriving at the site each morning and departing at the end of the day. Shift hours by skillset may be staggered if needed to reduce peak congestion. Over the last several years, CP Crane has had a workforce of 50-60 employees, so the average number of workers traveling to the site for Project construction should result in traffic flow similar to that which exists currently at the site.

Construction employees will remain onsite during the day and will most likely bring their own lunches. As such, break activities during the day by onsite employees

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4 Construction traffic will be directed to adhere to a specific route designed for minimal area  
5 congestion, safety, and efficiency.

## 6 **OVERVIEW OF IMPACTS ASSOCIATED WITH THE PROJECT**

### 7 **Q. WHAT IMPACTS WILL THE PROJECT HAVE ON ELECTRIC SYSTEM** 8 **STABILITY AND RELIABILITY?**

9 A. The Repowering Project will provide replacement electric generating capacity and voltage  
10 control at the same injection point that the CP Crane coal plant served for many  
11 years. Although the total capacity of the Repowering Project will be less than the original  
12 coal plant, the Repowering Project generating units will provide PJM with additional  
13 generating flexibility including faster startups and faster load changing capacity.

### 16 **Q. HOW WOULD YOU CHARACTERIZE THE ENVIRONMENTAL IMPACTS** 17 **ASSOCIATED WITH THE PROJECT?**

18 A. As noted previously, the proposed Repowering Project involves permanently shutting  
19 down the two existing coal-fired units and replacing them with CTs fueled primarily with  
20 natural gas. This modification to Crane Station will significantly reduce emissions of air  
21 pollutants from the power plant. In addition, while construction and operation of the  
22 proposed generating units will have some other associated environmental impacts, these  
23 impacts can be characterized as minimal and do not trigger any federal permit

1 requirements. Therefore, given: (a) the Repowering Project's location at and within an  
2 existing power plant site, (b) the reductions in emissions of air pollutants that will result  
3 from implementing the modifications, and (c) the minimal potential to negatively impact  
4 most environmental resource areas initially as a result of the nature of the Project and its  
5 layout and design, the Project will have an overall positive environmental impact.  
6 Environmental impacts are evaluated and discussed in the Environmental Review  
7 Document and in the Direct Testimony of Jeffrey L. Meling, while specific Air Quality  
8 impacts are discussed further in the Direct Testimony of Thomas Pritcher.

9 **Q. WHAT WILL BE THE SOCIOECONOMIC IMPACTS OF THE PROJECT?**

10 A. Project construction is anticipated to require approximately 10 to 12 months to complete.  
11 Based on this schedule and typical contractor construction sequencing for this type of  
12 facility, the average annual construction labor force is expected to be approximately 60  
13 employees, with an estimated 75 employees at the peak of construction. Most of the  
14 construction labor is expected to be drawn from within the Baltimore metropolitan area.  
15 An estimated total of more than \$6.5 million will be spent on construction labor.

16 The Project is also expected to have a positive impact on local businesses and the  
17 local economy during construction. Local businesses will benefit by servicing the needs  
18 of CP Crane and its contractors during construction. Purchases of services and supplies  
19 such as fuel oil, concrete, aggregate, lumber, conduit, cable, building supplies, office  
20 supplies, and tools are likely to be made locally, whenever available. After construction,  
21 Project operation is expected to purchase approximately \$400,000 to \$500,000 in annual  
22 goods and services, many of which could be sourced from local suppliers. Local eating  
23 and drinking establishments and retail businesses will also benefit.

1   **Q.    WILL THERE BE ANY BENEFICIAL TAX REVENUES TO MARYLAND**  
2       **AND/OR BALTIMORE COUNTY?**

3   A.    Project construction will generate significant tax revenues for the state from various  
4       sources, including income taxes, retail sales tax on materials, supplies and selected  
5       construction services, retail sales tax on expenditures by workers, and corporate income  
6       taxes paid by local contractors working on the Project.

7               Local government tax revenues during construction will primarily accrue from  
8       personal income taxes, property taxes, and permitting and impact fees. Although there is  
9       no local sales tax, state sales tax collections for general revenue are returned to the local  
10      level through intergovernmental transfers, grants, etc.

11   **Q.    DOES THIS CONCLUDE YOUR TESTIMONY?**

12   A.    Yes.

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**REDLINE Revised Direct**

**Testimony of David R.**

**Dunbar**

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10 A. Project construction is anticipated to require approximately 10 to 12 months to complete.  
11 Based on this schedule and typical contractor construction sequencing for this type of  
12 facility, the average annual construction labor force is expected to be approximately 60  
13 employees, with an estimated 75 employees at the peak of construction. Most of the  
14 construction labor is expected to be drawn from within the Baltimore metropolitan area.  
15 An estimated total of more than \$6.5 million will be spent on construction labor.

16 The Project is also expected to have a positive impact on local businesses and the  
17 local economy during construction. Local businesses will benefit by servicing the needs  
18 of CP Crane and its contractors during construction. Purchases of services and supplies  
19 such as fuel oil, concrete, aggregate, lumber, conduit, cable, building supplies, office  
20 supplies, and tools are likely to be made locally, whenever available. After construction,  
21 Project operation is expected to purchase approximately \$400,000 to \$500,000 in annual  
22 goods and services, many of which could be sourced from local suppliers. Local eating  
23 and drinking establishments and retail businesses will also benefit.

1   **Q.    WILL THERE BE ANY BENEFICIAL TAX REVENUES TO MARYLAND**  
2       **AND/OR BALTIMORE COUNTY?**

3   A.    Project construction will generate significant tax revenues for the state from various  
4       sources, including income taxes, retail sales tax on materials, supplies and selected  
5       construction services, retail sales tax on expenditures by workers, and corporate income  
6       taxes paid by local contractors working on the Project.

7           Local government tax revenues during construction will primarily accrue from  
8       personal income taxes, property taxes, and permitting and impact fees. Although there is  
9       no local sales tax, state sales tax collections for general revenue are returned to the local  
10      level through intergovernmental transfers, grants, etc.

11   **Q.    DOES THIS CONCLUDE YOUR TESTIMONY?**

12   A.    Yes.