

State of Maryland, 1-Hour SO₂ NAAQS State Implementation Plan for the Anne Arundel County and
Baltimore County, MD (“Wagner”) Nonattainment Area

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Appendix B-1: Consent Order – Brandon Shores and Wagner Generating Stations

IN THE MATTER OF:

**RAVEN POWER
FORT SMALLWOOD LLC
1005 Brandon Shores Road
Baltimore, Maryland 21226**

*** BEFORE THE AIR AND
* RADIATION
* ADMINISTRATION
* OF THE MARYLAND
* DEPARTMENT
* OF THE ENVIRONMENT
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CONSENT ORDER

The Maryland Department of the Environment (“Department”) and Raven Power Fort Smallwood LLC (“Raven Power”) hereby represent and acknowledge that they enter into this Consent Order regarding emissions at the Fort Smallwood electric generating complex, consisting of the Brandon Shores and Herbert A. Wagner electric generating stations, as they relate to the Anne Arundel County and Baltimore County 1-Hour Sulfur Dioxide (“SO₂”) Non-Attainment Area.

RECITATIONS

WHEREAS, Raven Power owns and/or operates the Fort Smallwood electric generating complex, located at 1005 Brandon Shores Road in Baltimore, Maryland 21226 and composed of the Brandon Shores and H.A. Wagner electric generating stations (“Fort Smallwood Complex”); and

WHEREAS, on or about January 1, 2017, the Department issued to Raven Power a Part 70 Operating Permit, Permit No. 24-003-0468 (the “Operating Permit”), governing emissions to the ambient atmosphere from the operation of the Fort Smallwood Complex; and

WHEREAS, the Fort Smallwood Complex, in relevant part, burns coal in four fossil

fuel fired steam boilers (Brandon Shores Units BS1 and BS2, and H.A. Wagner Units W2 and W3) and burns oil in two fossil fuel fired steam boilers (H.A. Wagner Units W1 and W4) in order to generate electric energy for commercial sale. The burning of coal and oil at the Fort Smallwood Complex results in the emission of SO₂ to the ambient atmosphere; and

WHEREAS, on or about June 30, 2016 (effective September 12, 2016), the United States Environmental Protection Agency (“EPA”) designated the area within 28.6 kilometers around Unit W3 of the H.A. Wagner electric generating station as a nonattainment area under the 1-Hour SO₂ National Ambient Air Quality Standard (“NAAQS”) (“SO₂ Nonattainment Area”). The Fort Smallwood Complex is within the SO₂ Nonattainment Area; and

WHEREAS, pursuant to its obligations under § 172 of the federal Clean Air Act, 42 U.S.C. § 7502, the State of Maryland is required to submit to the EPA, for its review and approval, a State Implementation Plan (“SIP”) designed to reduce SO₂ emissions such that the SO₂ levels in the SO₂ Nonattainment Area will not exceed the 1-Hour SO₂ NAAQS; and

WHEREAS, a nonattainment SIP may include voluntary emissions reductions from sources of pollutants, so long as the voluntary reductions are made federally enforceable; and

WHEREAS, pursuant to §§ 2-103 and 2-604 of the Environment Article, Annotated Code of Maryland, the Department has jurisdiction over emissions into the air and may

issue corrective orders to address violations of ambient air quality requirements in the State;
and

WHEREAS, notwithstanding the Fort Smallwood Complex's contributions to the SO₂ Nonattainment Area, the Department acknowledges that the Fort Smallwood Complex has not violated the provisions governing SO₂ emissions in the Code of Maryland Regulations or the Operating Permit; and

WHEREAS, Raven Power and the Department wish to enter into this Consent Order, the provisions of which will be incorporated into Maryland's SIP and the Operating Permit, to establish federally enforceable emissions limits designed to help attain the 1-Hour SO₂ NAAQS in the SO₂ Nonattainment Area.

ORDER

NOW THEREFORE, pursuant to § 2-604 of the Environment Article, Annotated Code of Maryland, the Department hereby **ORDERS**, and Raven Power hereby **CONSENTS** to the following:

EMISSIONS LIMITS

1. Beginning January 1, 2021, at all times when Unit BS1 and/or BS2 at the Brandon Shores generating station (whether operating individually or in tandem) and Unit W3 at the H.A. Wagner generating station are simultaneously operating, the following SO₂ emissions limits shall apply:

- a. Units BS1, BS2, and W3 shall not exceed a cumulative SO₂ emissions limit of 3,860 pounds per hour, as measured on a 30-day rolling average,

including only those hours when the applicable units are operating; and

- b. Units BS1 and BS2 (operating either individually or in tandem) shall not exceed a cumulative total of 435 hours per calendar year when the applicable units are operating at a combined SO₂ emissions rate greater than 2,851 pounds per hour.

2. Beginning January 1, 2021, at all times when operating, Unit BS1 and BS2 at the Brandon Shores generating station (whether operating individually or in tandem) shall not exceed a combined SO₂ emissions limit of 3,860 pounds per hour, as measured on a 30-day rolling average.

3. Beginning January 1, 2021, at all times when operating, Unit BS1 and BS2 at the Brandon Shores generating station (whether operating individually or in tandem) shall not exceed a combined SO₂ emissions limit of 9,980 pounds per hour, as measured on a rolling three-hour average.

4. Beginning January 1, 2021, at all times when Unit W3 at the H.A. Wagner generating station is not operating, Unit BS1 and BS2 at the Brandon Shores generating station (whether operating individually or in tandem) shall not exceed a combined SO₂ emissions limit of 5,150 pounds per hour, as measured on a 1-hour average, on more than three hours per calendar year.

5. Beginning January 1, 2021, at all times when operating, Unit W1 at the H.A. Wagner generating station shall not exceed an SO₂ emissions limit of 480 pounds per hour, as measured on a one-hour average.

6. Beginning January 1, 2021, at all times when operating, Unit W1 at the H.A. Wagner generating station shall not exceed 438 hours of operation per calendar year when burning fuel oil.

7. No later than July 1, 2020, Unit W2 at the H.A. Wagner generating station shall permanently cease burning coal and shall only burn natural gas.

8. Beginning January 1, 2021, at all times when operating, Unit W3 at the H.A. Wagner generating station shall not exceed an SO₂ emissions limit of 1,904 pounds per hour, as measured on a 30-day rolling average.

9. Beginning January 1, 2021, at all times when operating, Unit W3 at the H.A. Wagner generating station shall not exceed a maximum rate of 3,289 pounds SO₂ per hour, as measured on a one-hour average.

10. Beginning January 1, 2021, at all times when operating, Unit W3 at the H.A. Wagner generating station shall not exceed a cumulative total of 336 hours per calendar year when the Unit's SO₂ emissions rate is greater than 2,299 pounds per hour, as measured on a one-hour average.

11. Beginning January 1, 2021, at all times when operating, Unit W4 at the H.A. Wagner generating station shall not exceed an SO₂ emissions limit of 1,350 pounds per hour, as measured on a one-hour average.

12. Beginning January 1, 2021, at all times when operating, Unit W4 at the H.A. Wagner generating station shall not exceed 438 hours of operation per calendar year when burning fuel oil.

COMPLIANCE MECHANISM

13. Raven Power will demonstrate compliance with the limitations of Paragraphs 1 through 12 through quarterly reports utilizing calculation methodologies, continuous emissions monitoring system (CEMS) availability requirements, and a report format approved by the Department. Raven Power shall submit the proposed methodologies, CEMS availability requirements, and report format within 6 months of the effective date of this consent order for approval by the Department. Raven Power shall submit each quarterly report within 30 days of the end of the applicable quarter.

14. For the purposes of Paragraphs 1-12, which require the calculation of emissions rates, an emissions rate shall be calculated as the sum of the SO₂ hourly emissions (lbs) of all the applicable units during the applicable period, divided by the sum of the operating hours during the applicable period. "Operating hour" is defined as any hour or portion of an hour that a unit combusts fossil fuel.

CONTINGENCY MEASURES

15. Raven Power shall comply with the following contingency measures, which are a required component of the nonattainment SIP revision pursuant to Section 172(c)(9) of the Clean Air Act.

16. At any time that emissions from BS1, BS2, and/or W3 at the Fort Smallwood Complex exceed one or more of the SO₂ emissions limits or fuel oil operations limits identified in Paragraphs 1 through 12 of this Consent Order, Raven Power shall, with 48

hours of such exceedance, undertake a full-system audit of Units BS1, BS2, W1, W2, W3, and W4 (cumulatively) at the Fort Smallwood Complex and shall submit a telephone report on the next business day and a written report to the Department within 10 days of the exceedance. At any time that emissions from Units W1, W2, and/or W4 at the Fort Smallwood Complex exceed one or more of the SO₂ emissions limits or fuel oil operations limits identified in Paragraphs 1 through 12 of this Consent Order, Raven Power shall, within 48 hours of knowledge of fuel test results, undertake a full-system audit of Units BS1, BS2, W1, W2, W3, and W4 (cumulatively) at the Fort Smallwood Complex and shall submit a telephone report on the next business day and a written report to the Department within 10 days of the exceedance. The telephone report shall be submitted pursuant to COMAR 26.11.01.07C. A written report to satisfy this requirement shall include both (1) the results of the full-system audit, and (2) a report of excess emissions prepared pursuant to COMAR 26.11.01.07D and Section 3.4 of the Operating Permit. The full-system audit shall consist of a review of the parameters routinely monitored by the continuous emissions monitoring systems and the digital data acquisition systems installed on the SO₂ generating units and their control devices and programs to determine whether or not the units and their controls were operating in accordance with good engineering practices.

- a. If the units or their controls were not operating in accordance with good engineering practices, then Raven Power shall implement corrective actions to ensure that the limits of this Consent Order are not exceeded.
- b. If the units and controls **were** operating in accordance with good

engineering practice, then Raven Power shall inform the Department as to the reasons for their exceedance of one or more of their SO₂ emissions limits and implement corrective actions to ensure that the limits of this Consent Order are not exceeded.

- c. In any case of an exceedance of an SO₂ emission limit or of a fuel oil operations limit, Raven Power shall document and notify the Department of the corrective actions that they have taken.
- d. The audit, report of excess emissions, documentation of corrective actions taken, and associated records shall be maintained on site for five years.

17. If the Essex, Maryland monitor (AIRS ID 24-005-3001) or any other Department-approved air quality SO₂ monitor located within the SO₂ Nonattainment Area, measures a 1-hour SO₂ concentration exceeding 75 parts per billion (i.e. an exceedance of the 1-hour SO₂ NAAQS), then the Department will notify Raven Power within 5 business days both verbally and in writing. If, however, Raven Power first notifies the Department both verbally and in writing of the monitored exceedance, then the Department will not also notify Raven Power. In either case, whether it is the Department or Raven Power who first notifies the other party of the monitor's exceedance of the 75 parts per billion SO₂ limit, within 2 business days of that first notification, Raven Power shall notify the Department whether Units BS1, BS2, W1, W2, W3, and W4 were running at the time of the exceedance or within 24 hours preceding the exceedance. If any of those Units were running during that timeframe, Raven Power shall analyze the meteorological data on the day the 1-hour

exceedance occurred to determine the extent the Fort Smallwood SO₂ emissions contributed to the 1-hour exceedance. The meteorological data analysis shall include: (1) trajectories run at three different heights (one at stack height; and two more within the boundary layer) by the National Oceanic and Atmospheric Administration's Hysplit program or an equivalent program; and (2) an analysis of meteorological data including the Baltimore-Washington International Airport's meteorological data and modeled upper air data using the National Weather Service's Bufkit or an equivalent program. Raven Power shall submit its meteorological data analysis, and its findings there from, to the Department within 30 days of written notification of the exceedance of the 1-hour SO₂ NAAQS.

INCORPORATION OF REQUIREMENTS

18. The Department intends to submit this Consent Order to the EPA for inclusion in the Maryland SIP. Raven Power agrees that it will not object to a revision of the Maryland SIP that incorporates the SO₂ emissions limits and contingency measures of this Consent Order. Upon renewal of the Operating Permit, the Department shall incorporate the SO₂ emissions limits, compliance mechanisms, and contingency measures of this Consent Order into the federally enforceable portion of the Operating Permit pursuant to COMAR 26.11.03.20A(1)(d). Raven Power further agrees that it shall not object to incorporation of the SO₂ emissions limits, compliance mechanisms, and contingency measures of this Consent Order into the Operating Permit.

IN WITNESS WHEREOF, this Consent Order is agreed to, and the terms and conditions herein consented to, as evidenced by the parties' respective signatures affixed

below as of the day and year written.

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT

4 December 2019
Date

George S. Aburn, Jr.
George S. Aburn, Jr., Director
Air & Radiation Administration

RAVEN POWER FORT SMALLWOOD LLC

12/2/2019
Date

Scott M Blair
Scott Blair, Vice President
Raven Power Fort Smallwood LLC

Approved as to form and legal sufficiency
this 4th day of December, 2019.

Michael F. Strande
Michael F. Strande
Assistant Attorney General

Appendix B-2: Consent Order – C.P. Crane Generating Station

IN THE MATTER OF:

**C.P. CRANE LLC
251 Little River Drive
Wilmington, Delaware 19808**

*** BEFORE THE AIR AND
* RADIATION
* ADMINISTRATION
* OF THE MARYLAND
* DEPARTMENT
* OF THE ENVIRONMENT
*
*

CONSENT ORDER

The Maryland Department of the Environment (hereinafter “the Department” or “MDE”) and C.P. Crane LLC hereby represent and acknowledge that they enter into this Consent Order regarding emissions at the C.P. Crane electric generating station as they relate to the Anne Arundel County and Baltimore County 1-Hour Sulfur Dioxide (“SO₂”) Non-Attainment Area.

RECITATIONS

WHEREAS, C.P. Crane LLC owns and operates the C.P. Crane electric generating station, located at 1001 Carroll Island Road in Middle River, Maryland 21220 (“Crane Generating Station”); and

WHEREAS, on or about June 1, 2016, the Department issued to C.P. Crane LLC Part 70 Operating Permit, Permit No. 24-005-0079 (the “Operating Permit”), governing emissions to the ambient atmosphere from the operation of the Crane Generating Station; and

WHEREAS, the Crane Generating Station, in relevant part, burns coal in two fossil-fuel fired cyclone burner steam boilers in order to generate electric energy for commercial sale. The burning of coal at Unit 1 and Unit 2 of the Crane Generating

Station results in the emission of SO₂ to the ambient atmosphere; and

WHEREAS, on or about June 30, 2016, the United States Environmental Protection Agency designated the area within 28.6 kilometers around Unit W3 of the H.A. Wagner electric generating station as a nonattainment area under the 1-hour SO₂ National Ambient Air Quality Standard (“NAAQS”) (“SO₂ Nonattainment Area”). The Crane Generating Station is within the SO₂ Nonattainment Area; and

WHEREAS, pursuant to its obligations under § 172 of the federal Clean Air Act, 42 U.S.C. § 7502, the State of Maryland is required to submit to the EPA, for its review and approval, a State Implementation Plan (“SIP”) designed to reduce SO₂ emissions such that the SO₂ levels in the SO₂ Nonattainment Area will not exceed the 1-Hour SO₂ NAAQS; and

WHEREAS, a nonattainment SIP may include voluntary emissions reductions from sources of pollutants, so long as the voluntary reductions are made federally enforceable; and

WHEREAS, pursuant to §§ 2-103 and 2-604 of the Environment Article, Annotated Code of Maryland, the Department has jurisdiction over emissions into the air and may issue corrective orders to address violations of ambient air quality requirements in the State; and

WHEREAS, notwithstanding the Crane Generating Station’s contributions to the SO₂ Nonattainment Area, the Department acknowledges that the Crane Generating Station has not violated the provisions governing SO₂ emissions in the Code of Maryland

Regulations or the Operating Permit; and

WHEREAS, C.P. Crane LLC and the Department wish to enter into this Consent Order, the provisions of which will be incorporated into Maryland's SIP and the Operating Permit, to establish federally enforceable emissions limits designed to help attain the 1-Hour SO₂ NAAQS in the SO₂ Nonattainment Area.

ORDER

NOW THEREFORE, pursuant to § 2-604 of the Environment Article, Annotated Code of Maryland, the Department hereby **ORDERS**, and C.P. Crane LLC hereby **CONSENTS** to the following:

EMISSIONS LIMIT

1. At all times, Unit 1 and Unit 2 (the "Units") at the Crane Generating Station (whether operating individually or in tandem) shall not exceed a combined SO₂ emissions limit of 2,900 pounds per hour, as measured on a 1-hour average.

COMPLIANCE MECHANISM

2. C.P. Crane LLC has disabled the Units and C.P. Crane LLC agreed to permanently cease the burning of coal in the Units under a previous Consent Order executed with the Department. As such, C.P. Crane LLC will notify the Department (1) upon implementation of any plan to restart coal burning operations at either Unit 1 or Unit 2 and (2) of any change in the inoperable status of the Units within 48 hours of the change.

3. Should a change in status to the Units occur that affects the SO₂ emission

limits of the units then C.P. Crane LLC will demonstrate compliance with the limitation of Paragraph 1 through reports utilizing calculation methods approved by the Department.

4. For the purposes of calculating a combined emissions rate pursuant to Paragraph 1, C.P. Crane LLC shall document each unit's hourly emissions rate, as calculated on a 1-hour average. A combined hourly emissions rate shall be calculated as the sum of each applicable unit's hourly average emissions (lbs) during the applicable period.

5. Compliance with the SO₂ emissions limit of Paragraph 1 shall be measured using a continuous emissions monitoring system installed, maintained, and operated in accordance with COMAR 26.11.01.011 and 40 CFR Part 75.

INCORPORATION OF REQUIREMENTS

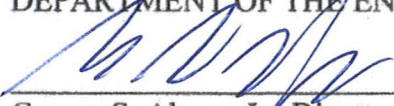
6. The Department intends to submit this Consent Order to the U.S. Environmental Protection Agency for inclusion in the Maryland State Implementation Plan. C.P. Crane LLC agrees that it will not object to a revision of the Maryland State Implementation Plan that incorporates the SO₂ emissions limits of this Consent Order. Upon renewal of the Operating Permit, the Department shall incorporate the SO₂ emissions limits of this Consent Order into the federally enforceable portion of the Operating Permit pursuant to COMAR 26.11.03.20A(1)(d). C.P. Crane LLC further agrees that it shall not object to incorporation of the SO₂ emissions limits of this Consent Order into the Operating Permit.

IN WITNESS WHEREOF, this Consent Order is agreed to and the terms and

conditions herein consented to as evidenced by the parties' respective signatures affixed below as of the day and year written.

10/9/19
Date

STATE OF MARYLAND
DEPARTMENT OF THE ENVIRONMENT


George S. Aburn, Jr., Director
Air & Radiation Management Administration


C.P. CRANE LLC

10/8/19
Date



Jennifer Phillips Vice President
Printed Name and Title

Approved as to form and legal sufficiency
this 9th day of October, 2019.


Michael F. Strande
Assistant Attorney General