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August 24, 2017

The Honorable James Richard Perry  
Secretary of the Energy  
United States Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Re: Order No. 202-17-2 Renewal Application Filing**

Dear Secretary Perry:

Pursuant to Section 202(c) of the Federal Power Act (“FPA”),<sup>1</sup> Section 301(b) of the Department of Energy Organization Act,<sup>2</sup> the Department of Energy’s (“DOE”) Rules of Practice and Procedure<sup>3</sup> and Order No. 202-17-2 (the “Order”) issued on June 16, 2017, by the Secretary of Energy (“Secretary”), PJM Interconnection, L.L.C. (“PJM”) respectfully submits a request for a 90-day renewal of the Order. PJM incorporates by reference PJM’s application submitted on June 13, 2017 (the “Application”), and all attachments and appendices thereto. Concurrent with this renewal request, PJM along with Dominion Virginia Electric and Power Company (“Dominion Energy Virginia”) submits a separate report and data required by the Order that will allow the Secretary to review past action under the Order to support the continued need for the emergency relief.

**BACKGROUND**

In the Application, PJM stated the need to request renewals of the Order on a rolling basis until the PJM ordered Regional Transmission Expansion Planning Process (“RTEPP”) Skiffes Creek Transmission Project is placed into service, which was at that time anticipated to

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<sup>1</sup> 16 U.S.C. § 824a(c)

<sup>2</sup> 42 U.S.C. §§ 7101 and 7151(b)

<sup>3</sup> 16 C.F.R. §§ 205.370, 205.371 and 205.372 and 205.373

be completed 18-20 months once all permits are issued. The Secretary directed such renewal requests to be submitted 21 days prior to expiration of the Order (*i.e.* August 24, 2017) “if the conditions change – for example, if Dominion Energy Virginia obtains all permitting approvals for the RTEPP upgrade...”<sup>4</sup>

In the Order, the Secretary determined “that an emergency exists in the Commonwealth of Virginia due to a shortage of electric energy, a shortage of facilities for the generation of electric energy, and other causes, and that issuance of this Order will meet the emergency and serve the public interest.”<sup>5</sup> In doing so, the Secretary directed Dominion Energy Virginia to operate Yorktown Units 1 and 2 as directed by PJM as needed to address reliability issues for the entire 90-day period, June 16, 2017 to September 14, 2017, or any renewal thereof.<sup>6</sup>

In the Order, the Secretary authorized PJM to operate Yorktown Units 1 and 2, with no planned transmission outages, to maintain reliability when Dominion Energy Virginia total load reaches approximately 18,400 MW (referred to as “Scenario 1” in the Application).<sup>7</sup> The Order also authorized operation of the Yorktown Units 1 and 2 to maintain reliability at lower Dominion Energy Virginia load levels during various planned transmission outage to support construction of the Skiffes Creek Transmission Project (referred to as “Scenario 2”). As stated in the Application, under Scenario 2 the specific planned transmission outage condition will determine the Dominion Energy Virginia total load level at which the Yorktown Units are required to run to maintain reliability.<sup>8</sup> A table in Appendix III of the Application included the

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<sup>4</sup> Order at page 2 (the RTEPP upgrade referenced in the Order is the “Skiffes Creek Transmission Project”)

<sup>5</sup> Order at page 1

<sup>6</sup> Order as page 2

<sup>7</sup> Order at page 1

<sup>8</sup> Appendix II of the Application includes examples of running the Yorktown Units at different Dominion Energy Virginia total load levels concurrent with planned transmission outages to ensure reliability.

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then current estimates for Yorktown units run time for a planned transmission outage sequence starting in the summer of 2017, which was dependent upon the issuance of the Army Corps of Engineers' permit. The Army Corps' permit was issued July 3, 2017, and Dominion Energy Virginia started construction of the Skiffes Creek project on July 10, 2017. The planned transmission outages are coordinated between PJM and Dominion Energy Virginia to ensure the reliability of service in the area and to support the construction schedule.

### **RENEWAL REQUEST**

As stated in the Application, the Skiffes Creek Transmission Project is expected to be completed and placed into service approximately 18-20 months after receipt of all applicable permits. Thus, given the extended nature of the emergency, PJM proposed to submit requests for renewals of the Secretary's emergency order for successive 90 day periods. Following issuance of the Army Corps' permit on July 3, 2017, Dominion Energy Virginia started construction of the Skiffes Creek project on July 10, 2017. Therefore, the emergency as set forth in the Application and as determined in the Order continues.

The attached Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (Attachment 1), includes a revised construction schedule and planned transmission outage sequence, and Yorktown run and emission estimates. Attachment 1 also provides actual emissions from the July 11-25 Yorktown unit runs, and the current estimated planned transmission outage time frames, transmission limiting contingencies, Dominion Zone load thresholds which trigger the need to operate Yorktown Units 1 and/or 2, estimated run time in days, and Dominion Energy Virginia's estimated emissions for the remainder of the Order period based on the run time estimates. PJM called on Yorktown Unit 2 to run on August 22, 2017 to ensure reliability in compliance with the

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Order, and since the emission and water usage data is not yet available, the Attachment 1 will be updated with all actual run and emissions data for the 90 day period as directed in the Order when the next renewal request is submitted or as otherwise directed by the Secretary.

The attached spreadsheet (Attachment 2), Yorktown Projected Emissions, provides detailed estimated emissions for the Yorktown Units 1 and 2 on a monthly basis for August 2017 through December 2018 as well as actual emissions data for the July 11-25 runs. The construction schedule will likely change and, if necessary, PJM and Dominion Energy Virginia will provide DOE with revised construction schedules and estimated emissions with each renewal application under the Order. Given the extended nature of the emergency, PJM will continue to submit requests for renewals of the Secretary's emergency order for successive 90 day periods until such time as the Skiffes Creek Construction Transmission is completed and placed into service and the emergency no longer exists.

## **CONCLUSION**

PJM respectfully requests that the Secretary grant this renewal application and order the continued generation of Yorktown Units 1 & 2 to alleviate the emergency described in the Application and hereinabove prior to the expiration of the current Order (i.e. September 14, 2017). PJM seeks an order of the Secretary under Section 202 (c) of the FPA which provides: (i) an emergency continues to exist in the Commonwealth of Virginia due to a shortage of electric energy, a shortage of facilities for the generation of electric energy, and other causes, and that issuance of a renewal Order will meet the emergency and serve the public interest; (ii) from September 14, 2017 to December 13, 2017, Dominion Energy Virginia is directed to operate Yorktown Units 1 and 2 as directed by PJM as needed to maintain grid reliability or for other

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local area transmission issues; (iii) Dominion Energy Virginia shall continue to follow the dispatch methodology submitted by PJM on June 27, 2017, as required by the Order; and (iv) PJM and Dominion Energy Virginia shall report all dates on which Yorktown Units 1 and 2 are operated as well as the estimated emissions and water usage date associated with their operation to be submitted at least 14 days before the expiration of the renewal Order. PJM also respectfully requests that DOE clarify that the Order applied, and all renewal orders will apply, to all times where Yorktown Units 1 and 2 are needed to run for reliability, including the periods referred to as “Scenario 1” and “Scenario 2” in the Application.

### **REQUEST FOR CEII DESIGNATION**

The filing consists of the following:

1. Non Public version of Attachments 1 (password protected containing Critical Energy Infrastructure (“CEII”) material).
2. Public version Attachments 1 (public version with CEII material redacted).

In regard to the Non Public version of Attachments 1, PJM respectfully requests the information submitted to the DOE be designated as CEII pursuant Federal Power Act (“FPA”) Section 215A(d) and the implementing regulations, 18 C.F.R. Section 388.113.

In FAST Act Section 215A(a)(3), CEII is specifically defined as information “designated as critical electric infrastructure information by ... the Secretary of the Department of Energy pursuant to subsection (d).”<sup>9</sup> Under FPA Section 215A(a)(3), CEII includes information that is

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<sup>9</sup> FAST Act, Pub. L. No. 114-94, section 61,003, 129 Stat. 1312, 1776.

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submitted to the DOE, and designated as such by DOE.<sup>10</sup> The regulations define CEII in pertinent part as follows:

*“1) Critical electric infrastructure information means information related to critical electric infrastructure ... Provided to the Commission or other Federal agency ... that is designated as critical electric infrastructure information by the Commission or the Secretary of the Department of Energy pursuant to section 215A(d) of the Federal Power Act. Such term includes information that qualifies as critical energy infrastructure information under the Commission's regulations. Critical Electric Infrastructure Information is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552(b)(3) and shall not be made available by any Federal, State, political subdivision or tribal authority pursuant to any Federal, State, political subdivision or tribal law requiring public disclosure of information or records pursuant to section 215A(d)(1)(A) and (B) of the Federal Power Act.”*

*2) Critical energy infrastructure information means specific engineering, vulnerability, or detailed design information about ... existing critical infrastructure that:*

- (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
- (ii) Could be useful to a person in planning an attack on critical infrastructure;
- (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
- (iv) Does not simply give the general location of the critical infrastructure.”<sup>11</sup>

PJM submits the redacted information in Attachment 1 is CEII because it provided details about the production, generation and transportation of energy, which if publically available could

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<sup>10</sup> FAST Act, Pub. L. No. 114-94, section 61,003, 129 Stat. 1312, 1773 (“critical electric infrastructure information means information ... generated by or provided to the Commission or other Federal agency ... that is designated as critical electric infrastructure information by the Commission or the Secretary pursuant to subsection (d)”).

<sup>11</sup> 18 C.F.R. Section 388.113(c)(1) and (2).

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be useful in planning an attack on critical infrastructure in the North Hampton Road area of the Commonwealth of Virginia namely the electric transmission system.

Respectfully submitted,



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Associate General Counsel  
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Craig Glazer  
VP, Federal Government Policy  
PJM Interconnection, L.L.C.

Cc: Pat Hoffman, U.S. Department of Energy  
Catherine Jereza, U.S. Department of Energy  
Rakesh Batra, U.S. Department of Energy  
Michael C. Regulinski, Dominion Energy Services, Inc.  
Casey Roberts, Sierra Club Environmental Law Program (Public Version of Attachment 1)

# ATTACHMENT 1

Skiffes Creek outages

table\_081817 with

Emissions Estimates

Renewal

Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (subject to change)

Outage	Outage Time Frame	Limiting Contingency	Load Threshold	Hours over Load Threshold**	Days over load threshold **	Dominion Emissions Estimates
Redacted Information is CEII [REDACTED]	7/9/17-9/29/17	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	87	18	NOx 243.06 SO2 933.11 PM10 7.73 CO2 122,385.60 Pb 0.0100 Hg 0.0015 HCl 22.01 HF 3.56 CO 11.88
Redacted Information is CEII [REDACTED]	9/25/17-10/29/17	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	0	0	NOx 0.0 SO2 0.0 PM10 0.0 CO2 - Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
Redacted Information is CEII [REDACTED]	9/29/17-10/27/17	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	0	0	NOx 0.0 SO2 0.0 PM10 0.0 CO2 - Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
Redacted Information is CEII [REDACTED]	10/27/17-01/19/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	21	4	NOx 54.01 SO2 207.36 PM10 1.72 CO2 27,196.80 Pb 0.0022 Hg 0.0003 HCl 4.89 HF 0.79 CO 2.64
Redacted Information is CEII [REDACTED]	10/30/17-1/28/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	8	3	NOx 40.51 SO2 155.52 PM10 1.29 CO2 20,397.60 Pb 0.0017 Hg 0.0003 HCl 3.67 HF 0.59

**Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (subject to change)**

						CO 1.98
Redacted Information is CEII [REDACTED]	11/13/17-11/17/17	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED] Redacted Information is CEII [REDACTED]	7	2 0	NOx 27.01 SO2 103.68 PM10 0.86 CO2 13,598.40 Pb 0.0011 Hg 0.0002 HCl 2.45 HF 0.40 CO 1.32
Redacted Information is CEII [REDACTED]	1/8/18-2/4/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	5	2	NOx 27.01 SO2 103.68 PM10 0.86 CO2 13,598.40 Pb 0.0011 Hg 0.0002 HCl 2.45 HF 0.40 CO 1.32
Redacted Information is CEII [REDACTED]	2/5/18-2/25/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED] Redacted Information is CEII [REDACTED]	147	10 5	NOx 202.55 SO2 777.59 PM10 6.44 CO2 101,988.00 Pb 0.0083 Hg 0.0013 HCl 18.34 HF 2.97 CO 9.90
Redacted Information is CEII [REDACTED]	2/26/18-3/25/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED]	37	6	NOx 81.02 SO2 311.04 PM10 2.58 CO2 40,795.20 Pb 0.0033 Hg 0.0005 HCl 7.34 HF 1.19 CO 3.96
Redacted Information is CEII [REDACTED]	3/26/18-5/6/18	Redacted Information is CEII [REDACTED]	Redacted Information is CEII [REDACTED] Redacted Information is CEII [REDACTED]	16	4	NOx 54.01 SO2 207.36 PM10 1.72 CO2 27,196.80 Pb 0.0022 Hg 0.0003 HCl 4.89 HF 0.79 CO 2.64

**Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (subject to change)**

Redacted Information is CEII	4/23/18-9/23/18	Redacted Information is CEII	Redacted Information is CEII	117	21	NOx 283.57 SO2 1088.63 PM10 9.02 CO2 142,783.20 Pb 0.0116 Hg 0.0018 HCl 25.68 HF 4.16 CO 13.86
Redacted Information is CEII	10/8/18-10/14/18	Redacted Information is CEII	Redacted Information is CEII	0	0	NOx 0.0 SO2 0.0 PM10 0.0 CO2 - Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
Redacted Information is CEII	10/8/18-12/9/18	Redacted Information is CEII	Redacted Information is CEII	0	0	NOx 0.0 SO2 0.0 PM10 0.0 CO2 - Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
Redacted Information is CEII	10/8/18-12/30/18	Redacted Information is CEII	Redacted Information is CEII	3	1	NOx 13.50 SO2 51.84 PM10 0.43 CO2 6,799.20 Pb 0.0006 Hg 0.0001 HCl 1.22 HF 0.20 CO 0.66
Redacted Information is CEII	10/15/18-10/21/18	Redacted Information is CEII	Redacted Information is CEII	40	4	NOx 54.01 SO2 207.36 PM10 1.72 CO2 27,196.80 Pb 0.0022 Hg 0.0003 HCl 4.89 HF 0.79 CO 2.64
Redacted Information is CEII	10/22/18-10/28/18	Redacted Information is CEII	Redacted Information is CEII	0	0	NOx 0.0 SO2 0.0 PM10 0.0 CO2 -

**Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (subject to change)**

					Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
Redacted Information is CECI	10/29/18-11/11/18	Redacted Information is CECI	Redacted Information is CECI	0	0 NOx 0.0 SO2 0.0 PM10 0.0 CO2 - Pb 0.0 Hg 0.0 HCl 0.0 HF 0.0 CO 0.0
			Total Estimate	488	81 NOx 1093.77 SO2 4199.00 PM10 34.80 CO2 550,735.20 Pb 0.0449 Hg 0.0069 HCl 99.04 HF 16.04 CO 53.47

\*Outages scheduled to complete 12/30/18.

\*\* Estimates are for both Yorktown 1 & 2 units.

		07-2017	08-2017	09-2017	10-2017	11-2017	12-2017	01-2018	02-2018	03-2018	04-2018	05-2018	06-2018	07-2018	08-2018	09-2018	10-2018	11-2018	12-2018
Days over load threshold **		9	9	0	0	2	2	7	17	4	3	1	0	10	9	2	5	0	1
Hours over Load Threshold* *		39	48	0	0	7	7	27	158	26	13	3	0	55	59	3	40	0	3
Dominion	NOx	97.89	121.53	0.0	0.0	27.01	27.01	94.52	229.56	54.01	40.51	13.50	0.0	135.03	121.53	27.01	67.52	0.0	13.50

**Skiffes Creek Construction Transmission Outage Schedule and Yorktown Units 1 and 2 Emission Estimates as of August 18, 2017 (subject to change)**

Emission Estimates (tons)	SO2	891.87	466.56	0.0	0.0	103.68	103.68	362.88	881.27	207.36	155.52	51.84	0.0	518.39	466.56	103.68	259.20	0.0	51.84
PM10		3.72	3.87	0.0	0.0	0.86	0.86	3.01	7.30	1.72	1.29	0.43	0.0	4.30	3.87	0.86	2.15	0.0	0.43
CO2		49,173.6	61,192.8	-	-	13,598.4	13,598.4	47,594.4	115,586.4	27,196.8	20,397.6	6,799.2	-	67,992.0	61,192.8	13,598.4	33,996.0	-	6,799.2
Pb		0.0040	0.0050	0.0	0.0	0.0011	0.0011	0.0039	0.0094	0.0022	0.0017	0.0006	0.0	0.0055	0.0050	0.0011	0.0028	0.0	0.0006
Hg		0.0008	0.0008	0.0	0.0	0.0002	0.0002	0.0006	0.0014	0.0003	0.0003	0.0001	0.0	0.0008	0.0008	0.0002	0.0004	0.0	0.0001
HCl		11.48	11.00	0.0	0.0	2.45	2.45	8.56	20.79	4.89	3.67	1.22	0.0	12.23	11.00	2.45	6.11	0.0	1.22
HF		1.43	1.78	0.0	0.0	0.40	0.40	1.39	3.37	0.79	0.59	0.20	0.0	1.98	1.78	0.40	0.99	0.0	0.20
CO		4.78	5.94	0.0	0.0	1.32	1.32	4.62	11.22	2.64	1.98	0.66	0.0	6.60	5.94	1.32	3.30	0.0	0.66

Figures highlighted in green are actual emission data for the month

**ATTACHMENT 2**

**Copy of Yorktown July  
2017 Run Time and  
Projected Emissions  
Renewal**

Date/Hour	YT00 PGMW1 Value	YT00 PGMW2 Value	YT00 QHIPM Value	YT00 QHIPM Missing	YT00 QNOXE Value	YT00 QNOXE Missing	YT00 QSO2	YT00 QSO2M Value	YT00 QSO2M Missing	YT00 QCO2	YT00 QCO2M	YT00 QCO2M Missing	
07/10/2017 00	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 01	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 02	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 03	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 04	0	0	4.4	FALSE	0.141	FALSE	84.3	11.2	FALSE	1	0.5	FALSE	0
07/10/2017 05	0	0	1.1	FALSE	0.158	FALSE	52.6	0.7	FALSE	2.3	0.1	FALSE	0
07/10/2017 06	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 07	0	0	0	FALSE	0	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 08	0	0	0	FALSE	0.001	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 09	0	0	0	FALSE	0.001	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 10	0	0	0	FALSE	0.001	FALSE	0	0	FALSE	0	0	FALSE	0
07/10/2017 11	0	0	1	FALSE	0.064	TRUE	31.1	63.4	TRUE	0	0	FALSE	56
07/10/2017 12	0	0	14	FALSE	0.064	TRUE	31.1	65.2	TRUE	0.2	1.4	FALSE	60
07/10/2017 13	0	0	30.6	FALSE	0.064	TRUE	31.1	71	TRUE	0.4	3.1	FALSE	60
07/10/2017 14	0	0	40.3	FALSE	0.064	TRUE	31.1	74.9	TRUE	0.5	4.1	FALSE	60
07/10/2017 15	0	0	59.2	FALSE	0.064	TRUE	31.1	78.6	TRUE	0.7	6.1	FALSE	60
07/10/2017 16	0	0	61.2	FALSE	0.064	TRUE	31.1	81.2	TRUE	0.7	6.3	FALSE	60
07/10/2017 17	0	0	340	FALSE	0.064	TRUE	31.1	83.1	TRUE	3.8	34.9	FALSE	60
07/10/2017 18	0	0	521.5	TRUE	0.064	TRUE	0	0	FALSE	5.8	53.5	TRUE	60
07/10/2017 19	0	0	525.7	TRUE	0.064	TRUE	0	0	FALSE	5.8	53.9	TRUE	60
07/10/2017 20	0	0	528.3	TRUE	0.064	TRUE	0	0	FALSE	5.8	54.2	TRUE	60
07/10/2017 21	0	0	526.9	TRUE	0.064	TRUE	0	0	FALSE	5.8	54.1	TRUE	60
07/10/2017 22	0	0	529.1	TRUE	0.064	TRUE	0	0	FALSE	5.8	54.3	TRUE	60
07/10/2017 23	0	0	529.2	TRUE	0.064	TRUE	0	0	FALSE	5.8	54.3	TRUE	60
07/11/2017 00	0	0	540.4	TRUE	0.064	TRUE	0.3	0.8	FALSE	5.8	55.4	TRUE	60
07/11/2017 01	0	0	581.6	TRUE	0.064	TRUE	1.1	3.3	FALSE	5.8	59.7	TRUE	60
07/11/2017 02	0	0	586.7	TRUE	0.064	TRUE	0.6	1.8	FALSE	5.8	60.2	TRUE	60
07/11/2017 03	0	0	595.2	TRUE	0.064	TRUE	0.7	2.1	FALSE	5.8	61.1	TRUE	60
07/11/2017 04	0	9	593.2	TRUE	0.064	TRUE	40.8	124.7	FALSE	5.8	60.9	TRUE	60
07/11/2017 05	0	16	583.2	TRUE	0.064	TRUE	101.5	305	FALSE	5.8	59.8	TRUE	60
07/11/2017 06	0	44	579	TRUE	0.288	TRUE	189.8	566.2	FALSE	5.8	59.4	TRUE	60
07/11/2017 07	0	65	600.6	TRUE	0.536	TRUE	275.2	851.5	TRUE	5.8	61.6	TRUE	60
07/11/2017 08	0	88	936.8	FALSE	0.342	FALSE	360.6	1310.9	FALSE	7.7	96.1	FALSE	60
07/11/2017 09	0	111	1046.9	FALSE	0.419	FALSE	411.1	1648.7	FALSE	7.8	107.4	FALSE	60
07/11/2017 10	0	101	951.9	FALSE	0.443	FALSE	443	1657.9	FALSE	7.6	97.7	FALSE	60
07/11/2017 11	0	99	946.7	FALSE	0.443	FALSE	444.9	1656	FALSE	7.6	97.1	FALSE	60
07/11/2017 12	0	117	1051.6	FALSE	0.479	FALSE	462.8	1888.6	FALSE	7.7	107.9	FALSE	60
07/11/2017 13	0	136	1187.9	FALSE	0.528	FALSE	463.3	2081.7	FALSE	7.9	121.9	FALSE	60
07/11/2017 14	0	139	1197.4	FALSE	0.52	FALSE	473	2115.4	FALSE	8	122.9	FALSE	60
07/11/2017 15	0	140	1184.2	FALSE	0.525	FALSE	482.9	2135.9	FALSE	8	121.5	FALSE	60
07/11/2017 16	0	140	1206.6	FALSE	0.512	FALSE	485.9	2136.3	FALSE	8.2	123.8	FALSE	60
07/11/2017 17	0	140	1184.2	FALSE	0.524	FALSE	486.2	2150.4	FALSE	8	121.5	FALSE	60
07/11/2017 18	0	134	1160.4	FALSE	0.51	FALSE	487.3	2111.9	FALSE	8	119.1	FALSE	60
07/11/2017 19	0	115	1049.9	FALSE	0.528	FALSE	481.4	1936.2	FALSE	7.8	107.7	FALSE	60
07/11/2017 20	0	119	1096.7	FALSE	0.506	FALSE	485.6	1989.1	FALSE	8	112.5	FALSE	60
07/11/2017 21	0	107	989.7	FALSE	0.526	FALSE	458.9	1785.6	FALSE	7.6	101.5	FALSE	60
07/11/2017 22	0	99	917.7	FALSE	0.516	FALSE	450	1690.3	FALSE	7.3	94.2	FALSE	60
07/11/2017 23	0	100	946.5	FALSE	0.506	FALSE	448.4	1690.8	FALSE	7.5	97.1	FALSE	60
07/12/2017 00	0	100	950.8	FALSE	0.502	FALSE	442.2	1675.1	FALSE	7.5	97.6	FALSE	60
07/12/2017 01	0	100	954.5	FALSE	0.507	FALSE	437.6	1664	FALSE	7.5	97.9	FALSE	60
07/12/2017 02	0	100	954.7	FALSE	0.508	FALSE	430.1	1635.9	FALSE	7.5	98	FALSE	60
07/12/2017 03	0	100	960.2	FALSE	0.51	FALSE	424.6	1624.3	FALSE	7.5	98.5	FALSE	60
07/12/2017 04	0	100	960.9	FALSE	0.51	FALSE	417.6	1598.7	FALSE	7.5	98.6	FALSE	60
07/12/2017 05	0	100	948.4	FALSE	0.515	FALSE	404.7	1549.8	FALSE	7.4	97.3	FALSE	60
07/12/2017 06	0	100	948.3	FALSE	0.519	FALSE	400.5	1533.5	FALSE	7.4	97.3	FALSE	60
07/12/2017 07	0	100	947.5	FALSE	0.522	FALSE	395.6	1513.6	FALSE	7.4	97.2	FALSE	60
07/12/2017 08	0	100	958.5	FALSE	0.515	FALSE	396.3	1513.3	FALSE	7.5	98.3	FALSE	60

07/12/2017 09	0	100	991.9	FALSE	0.493	FALSE	395.5	1502.9	FALSE	7.8	101.8	FALSE	60
07/12/2017 10	0	100	1001	FALSE	0.49	FALSE	394	1491.7	FALSE	7.9	102.7	FALSE	60
07/12/2017 11	0	100	971.9	FALSE	0.509	FALSE	391.8	1477.7	FALSE	7.7	99.7	FALSE	60
07/12/2017 12	0	102	992	FALSE	0.506	FALSE	392.3	1490.8	FALSE	7.8	101.8	FALSE	60
07/12/2017 13	0	114	895.3	TRUE	0.507	TRUE	336.9	1365.6	TRUE	6.6	91.9	TRUE	60
07/12/2017 14	0	129	926.4	TRUE	0.511	TRUE	336.9	1413	TRUE	6.6	95	TRUE	60
07/12/2017 15	0	142	961.6	TRUE	0.511	TRUE	336.9	1466.6	TRUE	6.6	98.7	TRUE	60
07/12/2017 16	0	147	1020.7	TRUE	0.511	TRUE	336.9	1556.7	TRUE	6.6	104.7	TRUE	60
07/12/2017 17	0	147	1018.5	TRUE	0.511	TRUE	336.9	1553.4	TRUE	6.6	104.5	TRUE	60
07/12/2017 18	0	147	1305.7	TRUE	0.511	TRUE	336.9	1991.6	TRUE	6.6	134	TRUE	60
07/12/2017 19	0	147	1425.5	TRUE	0.511	TRUE	336.9	2174.3	TRUE	6.6	146.3	TRUE	60
07/12/2017 20	0	148	1434.8	TRUE	0.475	TRUE	336.9	2188.4	TRUE	6.6	147.2	TRUE	60
07/12/2017 21	0	144	1430.7	TRUE	0.511	TRUE	336.9	2182.2	TRUE	6.6	146.8	TRUE	60
07/12/2017 22	0	102	1223.8	TRUE	0.507	TRUE	336.9	1866.6	TRUE	6.6	125.6	TRUE	60
07/12/2017 23	0	99	1215.4	TRUE	0.507	TRUE	336.9	1853.8	TRUE	6.6	124.7	TRUE	60
07/13/2017 00	0	98	1218.6	TRUE	0.507	TRUE	336.9	1858.7	TRUE	6.6	125	TRUE	60
07/13/2017 01	0	98	1284.8	TRUE	0.507	TRUE	336.9	1959.6	TRUE	6.6	131.8	TRUE	60
07/13/2017 02	0	98	1318.8	TRUE	0.507	TRUE	336.9	2011.4	TRUE	6.6	135.3	TRUE	60
07/13/2017 03	0	98	1324.3	TRUE	0.507	TRUE	336.9	2019.9	TRUE	6.6	135.9	TRUE	60
07/13/2017 04	0	98	1324.3	TRUE	0.507	TRUE	336.9	2019.8	TRUE	6.6	135.9	TRUE	60
07/13/2017 05	0	98	1308.1	TRUE	0.507	TRUE	336.9	1995.2	TRUE	6.6	134.2	TRUE	60
07/13/2017 06	0	98	1303.5	TRUE	0.507	TRUE	336.9	1988.2	TRUE	6.6	133.7	TRUE	60
07/13/2017 07	0	98	1300.8	TRUE	0.507	TRUE	336.9	1984	TRUE	6.6	133.5	TRUE	60
07/13/2017 08	0	100	1303.3	TRUE	0.507	TRUE	336.9	1987.9	TRUE	6.6	133.7	TRUE	60
07/13/2017 09	0	129	1471.4	TRUE	0.511	TRUE	336.9	2244.2	TRUE	6.6	151	TRUE	60
07/13/2017 10	0	145	1546.2	TRUE	0.511	TRUE	336.9	2358.4	TRUE	6.6	158.6	TRUE	60
07/13/2017 11	0	146	1537	TRUE	0.511	TRUE	336.9	2344.3	TRUE	6.6	157.7	TRUE	60
07/13/2017 12	0	146	1280.9	FALSE	0.48	FALSE	281.4	1994.5	FALSE	5.4	131.4	FALSE	60
07/13/2017 13	0	145	1280.9	FALSE	0.457	FALSE	285.2	2021.3	FALSE	5.4	131.4	FALSE	60
07/13/2017 14	0	144	1324.8	FALSE	0.439	FALSE	299.1	2114.3	FALSE	5.6	135.9	FALSE	60
07/13/2017 15	0	144	1349.8	FALSE	0.443	FALSE	290.1	2052.7	FALSE	5.7	138.5	FALSE	60
07/13/2017 16	34	144	1627.7	FALSE	0.438	FALSE	326.7	2302.9	FALSE	6.9	167	FALSE	60
07/13/2017 17	52	144	1800.9	FALSE	0.419	FALSE	377.8	2675	FALSE	7.6	184.8	FALSE	60
07/13/2017 18	68	143	2029.2	FALSE	0.397	FALSE	467.2	3372.3	FALSE	8.4	208.2	FALSE	60
07/13/2017 19	84	143	2245.9	FALSE	0.418	FALSE	502.4	3920.4	FALSE	8.6	230.4	FALSE	60
07/13/2017 20	102	143	2399.8	FALSE	0.463	FALSE	538.4	4337.9	FALSE	8.9	246.2	FALSE	60
07/13/2017 21	101	135	2287.5	FALSE	0.462	FALSE	532.4	4135.1	FALSE	8.8	234.7	FALSE	60
07/13/2017 22	100	104	2019.9	FALSE	0.47	FALSE	511.6	3632.7	FALSE	8.5	207.2	FALSE	60
07/13/2017 23	100	99	1991.6	FALSE	0.477	FALSE	509.2	3564.9	FALSE	8.5	204.3	FALSE	60
07/14/2017 00	100	98	1971	FALSE	0.49	FALSE	507.9	3561	FALSE	8.4	202.2	FALSE	60
07/14/2017 01	100	98	1972.4	FALSE	0.494	FALSE	506.4	3552.9	FALSE	8.4	202.4	FALSE	60
07/14/2017 02	101	98	1980.5	FALSE	0.497	FALSE	504.9	3557	FALSE	8.4	203.2	FALSE	60
07/14/2017 03	101	98	1984.6	FALSE	0.497	FALSE	503.8	3556.6	FALSE	8.4	203.6	FALSE	60
07/14/2017 04	101	98	1986.4	FALSE	0.498	FALSE	504.2	3562.7	FALSE	8.4	203.8	FALSE	60
07/14/2017 05	101	99	1962.6	FALSE	0.502	FALSE	498	3518.6	FALSE	8.3	201.4	FALSE	60
07/14/2017 06	101	99	1984.9	FALSE	0.495	FALSE	498.3	3518.3	FALSE	8.4	203.7	FALSE	60
07/14/2017 07	101	99	1985	FALSE	0.496	FALSE	495.9	3501.5	FALSE	8.4	203.7	FALSE	60
07/14/2017 08	101	100	1991	FALSE	0.496	FALSE	493.3	3493.7	FALSE	8.4	204.3	FALSE	60
07/14/2017 09	130	136	2582.9	FALSE	0.471	FALSE	523.9	4543.1	FALSE	8.9	265	FALSE	60
07/14/2017 10	147	145	2755	FALSE	0.479	FALSE	524	4846.7	FALSE	8.9	282.7	FALSE	60
07/14/2017 11	147	145	2761.4	FALSE	0.473	FALSE	522.9	4793.8	FALSE	9	283.3	FALSE	60
07/14/2017 12	147	145	2744.1	FALSE	0.468	FALSE	524.6	4779.2	FALSE	9	281.5	FALSE	60
07/14/2017 13	147	145	2732.9	FALSE	0.466	FALSE	523.7	4751.6	FALSE	9	280.4	FALSE	60
07/14/2017 14	146	144	2745.3	FALSE	0.459	FALSE	526	4741.4	FALSE	9.1	281.7	FALSE	60
07/14/2017 15	144	144	2730.5	FALSE	0.437	FALSE	539.4	4732	FALSE	9.3	280.1	FALSE	60
07/14/2017 16	136	135	2543.6	FALSE	0.44	FALSE	533.3	4454	FALSE	9.1	261	FALSE	60
07/14/2017 17	121	120	2322.2	FALSE	0.428	FALSE	528.3	4073	FALSE	9	238.3	FALSE	60
07/14/2017 18	125	124	2369.6	FALSE	0.442	FALSE	528.5	4157.7	FALSE	9	243.1	FALSE	60
07/14/2017 19	108	101	2047.6	FALSE	0.45	FALSE	501	3523.2	FALSE	8.7	210.1	FALSE	60

07/14/2017	20	99	99	1950.1	FALSE	0.47	FALSE
07/14/2017	21	69	99	1623.4	FALSE	0.462	FALSE
07/14/2017	22	0	98	965.2	FALSE	0.434	FALSE
07/14/2017	23	0	77	794.2	FALSE	0.293	FALSE
07/15/2017	00	0	3	388.8	FALSE	0.152	FALSE
07/15/2017	01	0	0	51	FALSE	0	FALSE
07/15/2017	02	0	0	52.5	FALSE	0	FALSE
07/15/2017	03	0	0	56.2	FALSE	0	FALSE
07/15/2017	04	0	0	259	FALSE	0.148	FALSE
07/15/2017	05	0	0	421.6	FALSE	0.156	FALSE
07/15/2017	06	0	0	30.7	FALSE	0	FALSE
07/15/2017	07	0	0	30.6	FALSE	0	FALSE
07/15/2017	08	0	0	30.5	FALSE	0.001	FALSE
07/15/2017	09	0	0	20.4	FALSE	0	FALSE
07/15/2017	10	0	0	14.4	FALSE	0	FALSE
07/15/2017	11	0	0	9.8	FALSE	0.001	FALSE
07/15/2017	12	0	0	0.1	FALSE	0	FALSE
07/15/2017	13	0	0	0	FALSE	0	FALSE
07/15/2017	14	0	0	0.1	FALSE	0	FALSE
07/15/2017	15	0	0	0.1	FALSE	0	FALSE
07/15/2017	16	0	0	0	FALSE	0	FALSE
07/15/2017	17	0	0	0.3	FALSE	0	FALSE
07/15/2017	18	0	0	0.5	FALSE	0	FALSE
07/15/2017	19	0	0	0.7	FALSE	0	FALSE
07/15/2017	20	0	0	0.6	FALSE	0	FALSE
07/15/2017	21	0	0	0.5	FALSE	0	FALSE
07/15/2017	22	0	0	0.7	FALSE	0	FALSE
07/15/2017	23	0	0	0.7	FALSE	0	FALSE
07/16/2017	00	0	0	0.8	FALSE	0	FALSE
07/16/2017	01	0	0	0.6	FALSE	0	FALSE
07/16/2017	02	0	0	0.5	FALSE	0	FALSE
07/16/2017	03	0	0	0.5	FALSE	0	FALSE
07/16/2017	04	0	0	12.3	FALSE	0.142	FALSE
07/16/2017	05	0	0	4.2	FALSE	0.152	FALSE
07/16/2017	06	0	0	0	FALSE	0	FALSE
07/16/2017	07	0	0	0	FALSE	0	FALSE
07/16/2017	08	0	0	0	FALSE	0	FALSE
07/16/2017	09	0	0	0	FALSE	0	FALSE
07/16/2017	10	0	0	0	FALSE	0	FALSE
07/16/2017	11	0	0	0	FALSE	0	FALSE
07/16/2017	12	0	0	0	FALSE	0	FALSE
07/16/2017	13	0	0	0	FALSE	0	FALSE
07/16/2017	14	0	0	0	FALSE	0	FALSE
07/16/2017	15	0	0	0	FALSE	0	FALSE
07/16/2017	16	0	0	0	FALSE	0	FALSE
07/16/2017	17	0	0	0	FALSE	0	FALSE
07/16/2017	18	0	0	0	FALSE	0	FALSE
07/16/2017	19	0	0	0	FALSE	0	FALSE
07/16/2017	20	0	0	0	FALSE	0	FALSE
07/16/2017	21	0	0	0	FALSE	0	FALSE
07/16/2017	22	0	0	0	FALSE	0	FALSE
07/16/2017	23	0	0	0	FALSE	0	FALSE
07/17/2017	00	0	0	0	FALSE	0	FALSE
07/17/2017	01	0	0	0	FALSE	0	FALSE
07/17/2017	02	0	0	0	FALSE	0	FALSE
07/17/2017	03	0	0	0	FALSE	0	FALSE
07/17/2017	04	0	0	6.5	FALSE	0.141	FALSE
07/17/2017	05	0	0	1.4	FALSE	0.152	FALSE
07/17/2017	06	0	0	0	FALSE	0	FALSE

488	3345.3	FALSE	8.5	200.1	FALSE	60
395.4	2557.3	FALSE	7.5	166.6	FALSE	60
236.7	1516.9	FALSE	4.5	99	FALSE	60
154.8	1113.2	FALSE	3.3	81.5	FALSE	60
54.5	372.5	FALSE	1.7	39.9	FALSE	11
0	0	FALSE	0.2	5.2	FALSE	0
0	0	FALSE	0.2	5.4	FALSE	0
0	0	FALSE	0.2	5.8	FALSE	0
88.4	456.1	FALSE	1.5	26.6	FALSE	0
48	215.9	FALSE	2.8	43.3	FALSE	0
0	0	FALSE	0.2	3.2	FALSE	0
0	0	FALSE	0.2	3.1	FALSE	0
0	0	FALSE	0.2	3.1	FALSE	0
0	0	FALSE	0.2	2.1	FALSE	0
0	0	FALSE	0.2	1.5	FALSE	0
0	0	FALSE	0.2	1	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
0	0	FALSE	0.2	0.1	FALSE	0
87.8	21.5	FALSE	1.5	1.3	FALSE	0
47.3	2.1	FALSE	2.8	0.4	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
0	0	FALSE	0.2	0	FALSE	0
87.6	11.4	FALSE	1.5	0.7	FALSE	0
47.2	0.7	FALSE	2.9	0.1	FALSE	0
0	0	FALSE	0.2	0	FALSE	0





07/22/2017 05	100	98	1889.4	FALSE	0.453	FALSE	469.4	3312.6	FALSE	8	193.9	FALSE	60
07/22/2017 06	99	98	1893.4	FALSE	0.447	FALSE	473.9	3310	FALSE	8.1	194.3	FALSE	60
07/22/2017 07	98	98	1881.5	FALSE	0.444	FALSE	474.9	3296.1	FALSE	8.1	193	FALSE	60
07/22/2017 08	99	98	1874.5	FALSE	0.441	FALSE	476.9	3297.6	FALSE	8.1	192.3	FALSE	60
07/22/2017 09	110	106	2036.3	FALSE	0.435	FALSE	492.6	3611.1	FALSE	8.3	208.9	FALSE	60
07/22/2017 10	119	120	2256.7	FALSE	0.468	FALSE	502.8	3988.6	FALSE	8.5	231.5	FALSE	60
07/22/2017 11	136	143	2587.6	FALSE	0.481	FALSE	516.9	4593.7	FALSE	8.7	265.5	FALSE	60
07/22/2017 12	136	145	2592.8	FALSE	0.473	FALSE	522.8	4602.5	FALSE	8.8	266	FALSE	60
07/22/2017 13	135	145	2594.5	FALSE	0.459	FALSE	529	4607.9	FALSE	8.9	266.2	FALSE	60
07/22/2017 14	135	145	2587.3	FALSE	0.451	FALSE	531.9	4620.3	FALSE	8.9	265.5	FALSE	60
07/22/2017 15	136	145	2586.9	FALSE	0.447	FALSE	531.9	4619.5	FALSE	8.9	265.4	FALSE	60
07/22/2017 16	136	145	2595.5	FALSE	0.447	FALSE	530.3	4620.9	FALSE	8.9	266.3	FALSE	60
07/22/2017 17	137	145	2629.7	FALSE	0.452	FALSE	528.9	4669.5	FALSE	8.9	269.8	FALSE	60
07/22/2017 18	138	146	2614.7	FALSE	0.462	FALSE	528.5	4692.1	FALSE	8.8	268.3	FALSE	60
07/22/2017 19	138	146	2639.9	FALSE	0.451	FALSE	536.6	4755.8	FALSE	8.9	270.9	FALSE	60
07/22/2017 20	139	146	2640.4	FALSE	0.453	FALSE	540.7	4793.2	FALSE	8.9	270.9	FALSE	60
07/22/2017 21	104	114	2024.5	FALSE	0.43	FALSE	503.6	3670.4	FALSE	8.3	207.7	FALSE	60
07/22/2017 22	99	98	1896.5	FALSE	0.392	FALSE	505.7	3452.5	FALSE	8.3	194.6	FALSE	60
07/22/2017 23	99	97	1900	FALSE	0.405	FALSE	508.2	3476	FALSE	8.3	194.9	FALSE	60
07/23/2017 00	99	97	1883.4	FALSE	0.423	FALSE	507	3479.4	FALSE	8.2	193.2	FALSE	60
07/23/2017 01	98	97	1888.6	FALSE	0.428	FALSE	506.4	3484.9	FALSE	8.2	193.8	FALSE	60
07/23/2017 02	97	98	1861.5	FALSE	0.437	FALSE	509	3495.3	FALSE	8.1	191	FALSE	60
07/23/2017 03	96	98	1856.4	FALSE	0.441	FALSE	515.3	3528.8	FALSE	8.1	190.5	FALSE	60
07/23/2017 04	97	98	1860.5	FALSE	0.443	FALSE	520.5	3572.3	FALSE	8.1	190.9	FALSE	60
07/23/2017 05	98	98	1865.7	FALSE	0.439	FALSE	529.4	3643.4	FALSE	8.1	191.4	FALSE	60
07/23/2017 06	98	98	1872	FALSE	0.44	FALSE	530.2	3661.3	FALSE	8.1	192.1	FALSE	60
07/23/2017 07	98	98	1885.3	FALSE	0.434	FALSE	534.4	3671.3	FALSE	8.2	193.4	FALSE	60
07/23/2017 08	98	98	1885.3	FALSE	0.434	FALSE	540.7	3714.5	FALSE	8.2	193.4	FALSE	60
07/23/2017 09	99	98	1886.3	FALSE	0.43	FALSE	543.6	3736.5	FALSE	8.2	193.5	FALSE	60
07/23/2017 10	113	114	2128.8	FALSE	0.44	FALSE	566.4	4289	FALSE	8.4	218.4	FALSE	60
07/23/2017 11	133	140	2521.7	FALSE	0.491	FALSE	575.7	5043.9	FALSE	8.6	258.7	FALSE	60
07/23/2017 12	135	147	2583.9	FALSE	0.489	FALSE	581.9	5163.9	FALSE	8.7	265.1	FALSE	60
07/23/2017 13	135	144	2549.9	FALSE	0.481	FALSE	586	5132	FALSE	8.7	261.6	FALSE	60
07/23/2017 14	135	144	2533.6	FALSE	0.479	FALSE	588.7	5122.7	FALSE	8.7	260	FALSE	60
07/23/2017 15	135	144	2558.6	FALSE	0.471	FALSE	592	5143.2	FALSE	8.8	262.5	FALSE	60
07/23/2017 16	128	128	2356.8	FALSE	0.454	FALSE	584	4727.1	FALSE	8.7	241.8	FALSE	60
07/23/2017 17	125	119	2260.4	FALSE	0.452	FALSE	581.9	4570	FALSE	8.6	231.9	FALSE	60
07/23/2017 18	125	118	2260.7	FALSE	0.451	FALSE	580.5	4559.5	FALSE	8.6	231.9	FALSE	60
07/23/2017 19	107	102	1955.3	FALSE	0.454	FALSE	555.5	3957.9	FALSE	8.2	200.6	FALSE	60
07/23/2017 20	98	98	1873.5	FALSE	0.424	FALSE	552.8	3773.8	FALSE	8.2	192.2	FALSE	60
07/23/2017 21	99	98	1878.2	FALSE	0.426	FALSE	552.6	3782	FALSE	8.2	192.7	FALSE	60
07/23/2017 22	99	98	1883.1	FALSE	0.427	FALSE	552.9	3793.9	FALSE	8.2	193.2	FALSE	60
07/23/2017 23	97	98	1890.4	FALSE	0.429	FALSE	551.7	3800.4	FALSE	8.2	194	FALSE	60
07/24/2017 00	98	98	1888.8	FALSE	0.43	FALSE	552.5	3802.7	FALSE	8.2	193.8	FALSE	60
07/24/2017 01	100	96	1884.4	FALSE	0.426	FALSE	554.6	3808.1	FALSE	8.2	193.3	FALSE	60
07/24/2017 02	100	96	1890.5	FALSE	0.424	FALSE	556.3	3832.2	FALSE	8.2	194	FALSE	60
07/24/2017 03	100	98	1898.3	FALSE	0.432	FALSE	553.5	3828.7	FALSE	8.2	194.8	FALSE	60
07/24/2017 04	101	98	1902.1	FALSE	0.435	FALSE	552.5	3829.4	FALSE	8.2	195.2	FALSE	60
07/24/2017 05	101	98	1877.4	FALSE	0.442	FALSE	548	3795.1	FALSE	8.1	192.6	FALSE	60
07/24/2017 06	101	99	1878	FALSE	0.438	FALSE	548.8	3801.9	FALSE	8.1	192.7	FALSE	60
07/24/2017 07	101	99	1898.8	FALSE	0.433	FALSE	552.4	3822.1	FALSE	8.2	194.8	FALSE	60
07/24/2017 08	101	99	1897.8	FALSE	0.431	FALSE	548.6	3793.9	FALSE	8.2	194.7	FALSE	60
07/24/2017 09	100	98	1895.6	FALSE	0.433	FALSE	544.7	3762.4	FALSE	8.2	194.5	FALSE	60
07/24/2017 10	99	98	1897.4	FALSE	0.436	FALSE	542.6	3751.5	FALSE	8.2	194.7	FALSE	60
07/24/2017 11	100	102	1926.3	FALSE	0.439	FALSE	541.4	3800.3	FALSE	8.2	197.6	FALSE	60
07/24/2017 12	110	127	2214.9	FALSE	0.494	FALSE	545.1	4294.7	FALSE	8.4	227.2	FALSE	60
07/24/2017 13	127	119	2278.8	FALSE	0.47	FALSE	552.9	4429	FALSE	8.5	233.8	FALSE	60
07/24/2017 14	132	110	2232.9	FALSE	0.486	FALSE	539	4332.8	FALSE	8.3	229.1	FALSE	60
07/24/2017 15	134	136	2465.3	FALSE	0.484	FALSE	558.5	4783.8	FALSE	8.6	252.9	FALSE	60

07/24/2017 16	130	112	2234.8	FALSE	0.42	FALSE	551.9	4335.8	FALSE	8.5	229.3	FALSE	60
07/24/2017 17	127	124	2317.3	FALSE	0.482	FALSE	545.9	4446.9	FALSE	8.5	237.8	FALSE	60
07/24/2017 18	126	127	2329.1	FALSE	0.448	FALSE	553.9	4482.3	FALSE	8.6	239	FALSE	60
07/24/2017 19	120	116	2200.3	FALSE	0.45	FALSE	547.9	4237.8	FALSE	8.5	225.7	FALSE	60
07/24/2017 20	119	114	2200.4	FALSE	0.447	FALSE	547.9	4238	FALSE	8.5	225.8	FALSE	60
07/24/2017 21	119	114	2199.4	FALSE	0.454	FALSE	544.9	4213	FALSE	8.5	225.7	FALSE	60
07/24/2017 22	119	114	2196.7	FALSE	0.453	FALSE	542.8	4191.5	FALSE	8.5	225.4	FALSE	60
07/24/2017 23	109	116	2095.9	FALSE	0.41	FALSE	510.5	3851.8	FALSE	8.3	215	FALSE	60
07/25/2017 00	110	131	2163.3	FALSE	0.392	FALSE	476.1	3753.1	FALSE	8.2	222	FALSE	60
07/25/2017 01	111	130	2175.1	FALSE	0.394	FALSE	475.2	3766.3	FALSE	8.2	223.2	FALSE	60
07/25/2017 02	87	129	1958.6	FALSE	0.378	FALSE	454.9	3369.9	FALSE	7.9	201	FALSE	60
07/25/2017 03	84	122	1865.2	FALSE	0.339	FALSE	450.7	3179.6	FALSE	7.9	191.4	FALSE	60
07/25/2017 04	85	110	1778.1	FALSE	0.292	FALSE	443.6	3021.5	FALSE	7.8	182.4	FALSE	60
07/25/2017 05	86	112	1787.9	FALSE	0.316	FALSE	433.5	3007.6	FALSE	7.7	183.4	FALSE	60
07/25/2017 06	81	94	1623.3	FALSE	0.281	FALSE	417.3	2628.7	FALSE	7.7	166.5	FALSE	60
07/25/2017 07	70	56	1283.6	FALSE	0.29	FALSE	331.6	1956.6	FALSE	6.5	131.7	FALSE	60
07/25/2017 08	47	31	859.4	FALSE	0.3	FALSE	217.5	1117.1	FALSE	5	88.2	FALSE	60
07/25/2017 09	41	34	844.4	FALSE	0.294	FALSE	221	1138	FALSE	4.9	86.6	FALSE	60
07/25/2017 10	48	44	993.3	FALSE	0.251	FALSE	269.9	1381.1	FALSE	5.8	101.9	FALSE	60
07/25/2017 11	49	44	1013.9	FALSE	0.244	FALSE	275.7	1415.7	FALSE	5.9	104	FALSE	60
07/25/2017 12	50	16	724	FALSE	0.198	FALSE	193.8	975	FALSE	4.3	74.3	FALSE	60
07/25/2017 13	49	0	502.4	FALSE	0.129	FALSE	134.8	674.5	FALSE	3	51.5	FALSE	60
07/25/2017 14	5	0	480.5	FALSE	0.127	FALSE	107.3	616.2	FALSE	2.5	49.3	FALSE	8
07/25/2017 15	0	0	48.8	FALSE	0	FALSE	0	0	FALSE	0.2	5	FALSE	0
07/25/2017 16	0	0	51.6	FALSE	0	FALSE	0	0	FALSE	0.2	5.3	FALSE	0
07/25/2017 17	0	0	48	FALSE	0	FALSE	0	0	FALSE	0.2	4.9	FALSE	0
07/25/2017 18	0	0	46.8	FALSE	0.001	FALSE	0	0	FALSE	0.2	4.8	FALSE	0
07/25/2017 19	0	0	45.8	FALSE	0	FALSE	0	0	FALSE	0.2	4.7	FALSE	0
07/25/2017 20	0	0	44.5	FALSE	0	FALSE	0	0	FALSE	0.2	4.6	FALSE	0
07/25/2017 21	0	0	35.9	FALSE	0	FALSE	0	0	FALSE	0.2	3.7	FALSE	0
07/25/2017 22	0	0	17.4	FALSE	0	FALSE	0	0	FALSE	0.1	1.8	FALSE	0
07/25/2017 23	0	0	16.8	FALSE	0	FALSE	0	0	FALSE	0.1	1.7	FALSE	0
07/26/2017 00	0	0	2.2	FALSE	0.001	FALSE	0	0	FALSE	0.1	0.2	FALSE	0
07/26/2017 01	0	0	0.7	FALSE	0	FALSE	0	0	FALSE	0.1	0.1	FALSE	0
07/26/2017 02	0	0	0.7	FALSE	0	FALSE	0	0	FALSE	0.1	0.1	FALSE	0
07/26/2017 03	0	0	0.6	FALSE	0	FALSE	0	0	FALSE	0.1	0.1	FALSE	0
07/26/2017 04	0	0	15.6	FALSE	0.141	FALSE	89.9	30	FALSE	1.4	1.6	FALSE	0
07/26/2017 05	0	0	17.9	FALSE	0.151	FALSE	48.8	9.6	FALSE	2.7	1.8	FALSE	0
07/26/2017 06	0	0	0.3	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 07	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 08	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 09	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 10	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 11	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 12	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 13	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 14	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 15	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 16	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 17	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 18	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 19	0	0	0.2	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 20	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 21	0	0	0.1	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 22	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0
07/26/2017 23	0	0	0	FALSE	0	FALSE	0	0	FALSE	0.1	0	FALSE	0











MAX 2761.4 mmBtu/hr MAX hourly heat input combined, Units 1 and 2  
 AVERAGE 1816.1 mmBtu/hr AVERAGE hourly heat input combined, Units 1 and 2 (used for MIN LOAD scenario)

**DAILY COMBINED HEAT INPUT (16 hours min load, 8 hours max load)**

MAX 22091.2 mmBtu  
 MIN 29057.78 mmBtu  
 TOTAL 51148.98 mmBtu/day

	FACTOR	UNITS	PROJECTED DAILY EMISSIONS	
			MAX (lbs/day)	
NOx	0.528	lb/mmBtu	11664.15	
SO2	2.027	lb/mmBtu	44778.86	
PM-10	0.0168	lb/mmBtu	371.13	
CO2	283.3	tons/hr	2266.40	
Lead	0.0462	lb/hr	0.37	
Mercury	3.3068	lb/T Btu	0.07	
HCl	0.0478	lb/mmBtu	1056.15	
HF	16.5024	lb/hr	132.02	
CO	55.0080	lb/hr	440.06	

880 tons coal  
 1088 tons coal  
 1968 tons coal/day  
 110 tons coal/hr max  
 68 tons coal/hr avg

MIN (lbs/day)	TOTAL (lbs/day)	TOTAL (tons/day)
18	0	1
15342.51	27006.66	13.50
58900.13	103678.99	51.84
488.17	859.30	0.43
4532.80	6799.20	6799.20
0.74	1.11	0.0006
0.10	0.17	0.0001
1389.22	2445.37	1.22
264.04	396.06	0.20
880.13	1320.19	0.65

PROJECTED EMISSIONS BY OUTAGE DAYS (tons)

	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
ACTUALS	9	0	0	2	2	7	17	4	3	1	0	10	9	2	5	0	1	
18	243.06	0.00	13.50	54.01	40.51	27.01	27.01	202.55	81.02	54.01	283.57	1093.77	97.89	121.53	0.00	0.00	13.50	
58900.13	933.11	0.00	51.84	207.36	155.52	103.68	103.68	777.59	311.04	207.36	1088.63	4199.00	391.87	466.56	0.00	0.00	103.68	
488.17	7.73	0.00	0.43	1.72	1.29	0.86	0.86	6.44	2.58	1.72	9.02	34.80	3.72	3.87	0.00	0.00	51.84	
4532.80	-	6,799.20	27,196.80	20,397.60	13,598.40	13,598.40	101,988.00	40,795.20	27,196.80	142,783.20	550,735.20	49,173.9	61,192.8	-	-	13,598.4	13,598.4	
0.74	0.0100	0.0000	0.0006	0.0022	0.0017	0.0011	0.0011	0.0083	0.0033	0.0022	0.0116	0.0449	0.0040	0.0050	0.0000	0.0011	0.0006	
0.10	0.0015	0.0000	0.0001	0.0003	0.0003	0.0002	0.0002	0.0013	0.0005	0.0003	0.0018	0.0069	0.0008	0.0008	0.0000	0.0001	0.0006	
1389.22	22.01	0.00	1.22	4.89	3.67	2.45	2.45	18.34	7.34	4.89	25.68	99.04	11.48	11.00	0.00	2.45	8.56	
264.04	3.56	0.00	0.20	0.79	0.59	0.40	0.40	2.97	1.19	0.79	4.16	16.04	1.43	1.78	0.00	0.40	1.39	
880.13	11.88	0.00	0.66	2.64	1.98	1.32	1.32	9.90	3.96	2.64	13.86	53.47	4.78	5.94	0.00	0.00	1.32	