Prepared for:

Mirant Potomac River, LLC Potomac Generating Station Alexandria, VA

Mirant Potomac River, LLC Monthly Model Evaluation Study Report November 2006

ENSR Corporation December 2006 Document No.: 10350-003-106-6



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December 20, 2006

Doug Snyder Assistant Regional Counsel Office of Regional Counsel US EPA-Region 3 1650 Arch Street Philadelphia, PA 19103-2029 MIRANT

Michael Dowd Air Enforcement Manager Virginia Department of Environmental Quality 629 East Main Street Richmond, VA 23240-0009

Dear Messrs. Snyder and Dowd:

As you are aware, Mirant Potomac River, L.L.C. (Mirant) is operating per the terms and conditions of the Administrative Compliance Order (ACO) dated June 1, 2006. Under the terms of ACO, Mirant is to deliver a monthly report to include: (1) the modeled input files and results of the daily Predictive Modeling for the preceding month, including the hourly average heat input in the MMBtu for each unit and the exit velocity (or exhaust volume) for each unit; (2) verification that the planned Operating Parameters utilized for Predictive Modeling in the preceding month were not exceeded, or if exceeded, documentation describing that exceedance: (3) the inputs and results of the "follow-up" modeling for the preceding month (or portion thereof during which all Monitors were not in place), including the hourly average heat input in MMBtu for each unit and the exit velocity (or exhaust volume) for each unit and the exit velocity (or exhaust volume) for each unit and the exit velocity (or exhaust volume) for each unit and the monitors were not in place), including the hourly average heat input in MMBtu for each unit and the exit velocity (or exhaust volume) for each unit; and (4) after installation of the Monitors, the data generated by the Monitors.

As a result, please see the attached submission, "Mirant Potomac River, LLC Monthly Model Evaluation Study Report" for the month of November.

The modeling data enclosed includes:

- Modeled Input Files and Results of Predictive Modeling: 3-hour and 24-hour AERMOD predictive modeling results using day-ahead weather forecast data for November 2006;
- Plant Operating Parameters Summary: 3-hour and 24 hour Rate Compliance Summary.
- Plant Operating Data.
- Follow-up Modeling Results: 3-hour and 24-hour AERMOD follow-up modeling results performed by the third-party consultant, ENSR, using observed weather conditions for November 2006; and 3-hour and 24-hour ambient actual monitor data for SO2 averages from the continuous monitoring sites as prescribed in the ACO, for the period of November 2006.
- Monthly Summary Data Reports: Marina Towers Central, Marina Towers South, Southeast, Southwest and Northeast.

• In addition, we have provided a satellite view of the ambient air quality and meteorological network.

It is important to note that, to date, all of the real-time monitoring has demonstrated continued compliance with NAAQS standards in the vicinity of the Potomac River Generating Station. Accordingly, even on the days during which the follow-up model showed potential NAAQS exceedances at the certain monitor sites, the actual monitors demonstrated that there was no NAAQS exceedance as depicted in Figures D-1 and D-2 of the report.

Should you have any questions regarding these modeling results, please contact me at 301-669-8168 or by email: david.cramer@mirant.com.

Regards,

David J. Com

David Cramer Manager – Air Compliance & Permitting

Copies: Bob Driscoll, CEO Mid-Atlantic L.L.C Judith Katz, US EPA Shawn Konary, Director Environmental, Safety and Health, Mirant File Prepared for: Mirant Potomac River, LLC Potomac Generating Station Alexandria, VA

Mirant Potomac River, LLC Monthly Model Evaluation Study Report November 2006

Frank R. Tringale (

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ENSR Corporation [Month Year] Document No.: [Doc. No.]



DOCUMENT CERTIFICATION

Facility Name: Potomac River Generating Station

Identification: __ORIS # 3788; Virginia Registration# 70228

Facility Location: <u>1400 North Royal St.</u>, Alexandria VA 22314

Type of Submittal Attached: <u>November 2006</u> Monthly ACO Report

This November 2006 Monthly Report is being submitted to demonstrate compliance with the Administrative Compliance Order between Mirant Potomac River, LLC and the U.S. EPA, dated June 2, 2006.

Certification: Except as provided below, I certify that the information contained in or accompanying this report is true, accurate, and complete. As to those portions of this report for which I cannot personally verify their accuracy, I certify under the penalty of law that this report and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Responsible Official (Print): <u>Robert E. Driscoll</u>

Title: President & Chief Executive Officer, Mirant Potomac River, LLC

Signature: White usual Date: 12.18.06

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ENSR

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1.0 Introduction

Under an Administrative Compliance Order (ACO) signed on June 1, 2006, between Mirant Potomac River, LLC, (Mirant) and the United States Environmental Protection Agency (EPA), Mirant is submitting a monthly modeling, monitoring, and operating data report for November 2006.

2.0 Daily Predictive Modeling

On June 17, 2006, Mirant began performing daily forecast modeling to calculate maximum sulfur dioxide (SO₂) impacts from the Potomac River Power Plant. Mirant uses this modeling to plan electrical generation for the following day. Mirant uses meteorological data forecasted by the National Weather Service's Global Forecast Model (see http://www.arl.noaa.gov/ready/cmet.html) for Reagan National Airport. Modeling is carried out between 8:00 am – 10:00 am each day for the next day. All other model inputs including receptors, land use and building dimensions derived from BPIP-PRIME for downwash simulations were established in the August 2005 modeling report entitled "A Dispersion Modeling Analysis of Downwash from Mirant's Potomac River Power Plant" (ENSR Document 10350-002-410) and were used in the daily forecast modeling.

Table A-1 in (Appendix A) summarizes the daily predictive modeling results for each day. Mirant is required to control SO₂ emissions so that the maximum modeled 3-hour impact is at or below 1,061 μ g/m³. The 3-hour National Ambient Air Quality Standard (NAAQS) for SO₂ is 1,300 μ g/m³. Mirant assumes that there is an existing background concentration of 239 μ g/m³, representing the contribution to ambient air from other sources. For the 24-hour average, Mirant is required to control SO₂ emissions so that its maximum modeled impact is at or below 314 μ g/m³, allowing for a 51 μ g/m³ background concentration. The 24-hour NAAQS for SO₂ is 365 μ g/m³.

Predictive PM_{10} modeling results can also be found in Table A-1. Mirant conducts PM_{10} modeling using an emission rate of 0.055 lb/MMBtu from each stack that is modeled to run, plus fugitive emissions at levels scaled to the number of units in operation. The emission rate used for PM_{10} modeling was set higher than the highest PM stack test result recorded at the plant. With three units in operation at the 0.055 lb/MMBtu PM_{10} emission rate, the plant shows modeled compliance under all meteorological conditions, therefore the ACO only requires predictive PM_{10} modeling be conducted when four or five units are scheduled to run.

To provide additional conservatism to the predictive modeling, Mirant voluntarily constrains its operations so that modeled impacts do not exceed 800 μ g/m³ for 3-hour SO₂ and 210 μ g/m³ for 24-hour SO₂.

In November 2006, modeling resulted in 3-hour SO₂ limits ranging from 0.51 lb/MMBtu to 2.88 lb/MMBtu and 24-hour SO₂ limits ranging from 0.40 lb/MMBtu to 0.60 lb/MMBtu.

3.0 Plant Operating Parameters

Upon completion of daily predictive modeling, operating targets for each unit that is scheduled to run the next day are set. The plant then operates the scheduled units at the SO_2 emission rate and level of operation set by the model. A single 24-hour SO_2 emission rate is assumed for all units that operate on a given day. In addition, a maximum 3-hour SO_2 emission rate is determined during the predictive modeling process which is used as a short term upper limit by operators, should equipment malfunction cause SO_2 emissions to rise above the 24-hour average limit. If a unit is not meeting its target SO_2 emission rate, plant operations will be curtailed to an operating configuration that models NAAQS compliance.

There are three ways in which actual plant operations are compared to predictive modeling results to evaluate the plant's adherence to the scheduled operation prescribed by the predictive model.

24-Hour Average SO₂ Emission Rate

Table B-1 (Appendix B) illustrates the 24-hour average SO_2 emission rate each unit achieved for every day of the month, and the corresponding target SO_2 emission rate to be met for each day. The 24-hour emission rate was met by all units in November 2006.

3-Hour Average SO₂ Emission Rate

Table B-2 illustrates the 3-hour maximum SO_2 emission rate each unit attained for every day of the month, and the corresponding target SO_2 emission rate not to be exceeded for each day. The 3-hour emission rate target was met by all units in November 2006 with one exception:

On November 7th, trona flow was interrupted on Unit #1 in the 1000 hour of the day. In addition, the Unit #1 CEM initiated its daily auto-calibration sequence at 10:00am, a period in which no CEM readings are available. Operators dropped unit load from 80 MW to 27 MW to minimize SO₂ emissions until trona flow was reestablished. The SO₂ averages for hours 0900 – 1100 were 0.57, 1.17, and 0.59 lb/MBtu respectively, for a 3-hour average of 0.78 lb/MBtu. The 3-hour SO₂ target for that day was 0.63 lb/MBtu. Operator response was hindered due to the calibration sequence, which takes 25 minutes to complete. Trona flow was reestablished shortly after SO₂ readings became available after the calibration. Four other units were in operation and all complied with the 3-hour target for the day. Follow-up modeling of actual emissions showed no exceedances and no exceedances were observed by the ambient monitoring network.

SO₂ Pounds-Per-Day Emissions

AERMOD models stack SO_2 emissions as a mass emission rate in pounds per hour or grams per second. In order to determine if the actual output from each unit complied with the SO_2 mass emissions predicted by the model, an SO_2 pounds-per-day limit based on model results has been established.

Dispatch signals from PJM vary the generation output of each unit continuously, making it impossible to make hourly comparisons between actual unit generation and hourly-based predictive model results. Unit output can be evaluated however, by comparing each unit's total SO₂ pounds-per-day emitted to a daily target established by the predictive model.

Unit specific SO_2 pounds-per-day targets are computed using heat input to each unit, the daily SO_2 target emission rate, and the unit operating scenario selected for the day.

The daily SO_2 target emission rates and unit operating scenarios can be found in the daily predictive model results summary in Table A-1. Heat inputs for each unit are calculated from the daily operating scenarios, which describe the operating profile for each unit, and unit heat rates, which are a measure of how efficiently the units convert fuel heat content into electricity. The procedure below illustrates how the SO_2 pounds-per-day targets are derived.

The first step is to determine hourly heat input values based on the assumed minimum and maximum loads and associated heat rates listed in Table 3-1.

Unit	Operating Load	Net Power Output (MWh)	Net Heat Rate (MMBtu/MWh)	Heat Input (MMBtu)
1 and 2	Maximum	88	12.6	1113
	Minimum	32	15.3	491
3, 4, and 5	Maximum	102	10.2	1045
	Minimum	32	12.5	401

Table 3-1: Unit Heat Rates

Hourly heat inputs are then used to compute daily heat inputs based on the unit operating conditions. Daily heat inputs for all unit operating combinations are presented below in Table 3-2.

Table 3-2: Daily Unit Heat Inputs

Unit	Daily Operating Scenario	Daily Heat Input per Unit (MMBtu/day)
1 & 2	8 Hours Maximum Load / 8 Hours Minimum Load / 8 Hours Off	12,826
1 & 2	16 Hours Maximum Load / 8 Hours Off	17,801
1 & 2	24 Hours Maximum	26,701
3, 4, & 5	8 Hours Maximum Load / 16 Hours Minimum Load	14,769
3, 4, & 5	12 Hours Maximum Load / 12 Hours Minimum Load	17,346
3, 4, & 5	16 Hours Maximum Load / 8 Hours Minimum Load	19,922
3, 4, & 5	24 Hours Maximum Load	25,076

Based on the daily forecast operating scenario, multiplying the above heat input (in MMBtu/day) for each unit operating scenario times the daily target emission rate (in lb/MMBtu) produces the daily target SO_2 mass emission rate (lb/day) shown in Table B-3 for each unit.

For example, one configuration calls for Units 1 and 2 to operate at maximum load for 8 hours, minimum load for 8 hours, and off for 8 hours; and for Units 3, 4, and 5 to operate for 12 hours at maximum load and 12 hours at minimum load. Assuming the SO_2 limit for the day is 0.6 lb/MMBtu, the daily SO_2 target (in lb/day) is:

Unit 1 and 2: 12,826 MMBtu/day X 0.6 lb/MMBtu = 7,696 lb./day per unit

Unit 3, 4, and 5: 17,346 MMBtu/day X 0.6 lb/MMBtu = 10,408 lb./day per unit

Table B-3 illustrates the pounds per day of SO_2 emitted by each unit for every day of the month and its corresponding SO_2 lb/day target. The SO_2 lb/day targets were met by all units in November 2006.

It should be noted that occasionally a small number of SO₂ pounds can be found in Table B-3 for units on non-operating days. These emissions are the result of boiler startup or shutdown activities associated with operations from the following or previous day. These insignificant emissions are a normal part of transitioning units on and off line and are acknowledged in Section IV.B.1.a of the ACO.

4.0 Follow-Up Modeling

ENSR performed follow-up modeling for the period November 1 - 31, 2006. The modeling used actual, measured, hourly, in-stack emissions parameters and hourly weather data from the National Weather Service site at Reagan National Airport. All other model inputs including receptors, land use and building dimensions derived from BPIP-PRIME for downwash simulations were established in the August 2005 modeling report entitled "A Dispersion Modeling Analysis of Downwash from Mirant's Potomac River Power Plant" (ENSR Document 10350-002-410) and were used in this follow-up modeling.

Appendix C contains daily operating data for the Potomac River Generating Station. The data are included on the accompanying CD. A "read me" file on the CD explains the file structure.

Table D-1 (Appendix D) summarizes the follow-up modeling results for each day and compares the results to the daily predictive modeling and to maximum observed ambient SO₂ concentrations in the monitoring network. There were two days in which follow-up modeling showed a potential 3-hour NAAQS exceedance (Nov. 1 and 13). On these two days follow-up modeling also showed a potential 24-hour NAAQS exceedance. The 3-hour and 24-hour exceedances on November 1were predicted on the roof of Marina Towers. The 3-hour and 24-hour exceedances on November 13 were predicted at the SE monitor. Winds on November 1 were southerly, ranging between 5 - 10 mph. Winds on November 13 were from the NNW and NW, ranging between 10 – 18 mph. Observed ambient SO2 concentrations for the two days on which follow-up modeling predicted potential NAAQS exceedances were never greater than 15% of the NAAQS. The maximum observed SO₂ concentrations from the monitors on days that follow-up modeling predicted exceedances were as follows:

Date	3-Hour Max. μg/m ³	24-Hour Avg. μg/m ³
November 1	192.1	36.4
November 13	112.2	53.7
NAAQS	1,300	365

A review of Table D-1 shows that sometimes there is a large discrepancy between the daily predictive modeling results and the follow-up modeling results using actual observed meteorological observations. On some days, follow-up modeling predicted higher concentrations, while on other days predictive modeling had higher concentrations. During southerly wind conditions, when power plant emissions are carried toward Marina Towers, follow-up modeling often predicts higher impacts than daily forecast modeling. ENSR presented a detailed explanation of the likely reasons for the differences between the daily predictive modeling and follow-up modeling for June, 2006 in a separate memo.

Charts D-1 and D-2 graphically display the data contained in Table D-1, with Chart D-1 displaying 3-hour SO_2 concentrations and Chart D-2 displaying 24-hour SO_2 concentrations for each day in November. The maximum predicted concentrations are always higher than observed concentrations, and generally by a wide margin. The likely reasons for this were discussed in the June 2006 memorandum cited above and will be further discussed in the expanded memo that will include July and August data.

Appendix D presents results of the weekly follow-up modeling. Modeling files are contained on the attached CD. A "read me" file on the CD explains the file structure.

5.0 Ambient Monitoring Data

As of August 2006, all six (6) Mirant Ambient Monitoring Program sites were in operation. The air quality monitoring sites measure ambient concentrations of sulfur dioxide (SO_2) in the vicinity of the Potomac River Power Plant. Three of the sites are at ground level and measure SO_2 at approximately 3-4 meters above ground height. Two sites are at a residential building, Marina Towers, where 2 sample probes measure SO_2 at a rooftop elevation. One probe is located at the center area of the building and one probe is positioned at the corner of the southeast wing of the building. One site is located southwest of the plant on the roof of the Holiday Inn. The six air monitoring sites were selected based on the results of extensive dispersion modeling, and the locations were approved by the U.S. EPA Region III as "preferred" sites in the Administrative Compliance Order dated June 1, 2006 (Docket No. CAA-03-2006-0163DA).

The ambient measurement program includes a meteorological measurement system that is comprised of tower-mounted parameters at the plant site. A separate SODAR system will be added in November. The list of air quality and meteorological parameters is provided in Table 5-1.

This report also includes a description of the monitoring equipment and data acquisition system. Section 6 of this report describes the various data validation criteria used for the Mirant ambient monitoring program, while Section 7 presents data results plus data capture statistics along with explanations of significant missing data periods. Appendix E presents monthly summary data reports of air quality and meteorological data. A satellite view of the Air Quality network is presented in Appendix F. The figure shows a view of the land area in the vicinity of the power plant with each measurement site labeled to indicate their location.

5.1 Description of the Ambient Data Report

Ambient air quality and meteorological data are collected and reported on a monthly basis from the Potomac River Generating Station's ambient air quality and meteorological monitoring network. The network was installed between the end of May and the end of July 2006. The Marina Tower probe sites began sampling on June 2, 2006. At the end of June, the network consisted of 4 SO₂ measurement locations, which was increased to 6 probe locations during the later part of July 2006. A separate meteorological monitoring station was installed in July and became operational in August 2006. A separate location has been selected for a SODAR measurement site and will come on line at a later date. The site locations were described in more detail in the monitoring plan document prepared for the project. The air quality data are compared to the National Ambient Air Quality Standards (NAAQS) for SO₂ and summarized on the monthly data report summary pages (MONSUMS) in Appendix E of this report. The parameters that are (and will be) monitored at the sites are listed in Table 5-1. Table 5-2 lists the instrumentation used for the monitoring program.

Configuration, siting, operation, data processing, quality assurance and quality control practices for this measurement program conforms to the provisions of EPA's Ambient Monitoring Guidelines for the Prevention of Significant Deterioration (PSD), EPA-450/4-87-007, May 1987) and On-Site Meteorological Program Guidance for Regulatory Modeling Applications (EPA-450/4-87-013, June 1, 1987) except for the siting criteria of the monitoring stations. Exceptions to the siting criteria were made to meet the special requirements of the measurement program. A project specific Monitoring and QA Plan document details the network locations and operational procedures.

Each site is equipped with an Odessa 3260 data logger that monitors and records the output signals from the continuous measurement analyzers. The data loggers perform preliminary data processing, including computation of 1-hour averages and provide temporary data storage. Wind variability (sigma theta, sigma W) calculations will also be conducted by the data logger. The ENSR Data Center routinely interrogates the data

loggers via a dial-up phone line to retrieve the stored data. Data are then edited and validated within ENSR's PC-based data processing system.

5.2 Continuous Air Quality Measurements

Sulfur dioxide (SO₂) measurements are conducted using continuous measurement analyzers connected to an air intake manifold. Sulfur dioxide is measured at each site using a Thermo Environmental Instruments (TEI) Model 43A analyzer. The Odessa data logger monitors and records the output from the analyzers and provides hourly averages of pollutant concentrations. The hourly averages are reported in the monthly summary reports, which are presented in Appendix E.

Analyzers go through an automatic calibration check each day using the in-station calibration device controlled by the Odessa data logger. The automatic calibration is reviewed each business day by ENSR technical staff to verify that the analyzer is operating within acceptable performance boundaries. In the event that the automatic calibration check shows that the analyzer is not operating as required, corrective action is taken to investigate and resolve any instrument problem, if needed. On a biweekly schedule, each continuous SO₂ analyzer is checked for precision and, if needed, subsequently calibrated using the network gas dilution system (ENSR GASCAL) device and a certified gas cylinder of a known pollutant concentration. The precision statistics are calculated and reported on a quarterly basis.

5.3 Meteorological Measurements

A meteorological measurement system was installed during July-August 2006. Meteorological measurements are made at one tower site using sensors manufactured by Climatronics Corporation. Table 5-2 lists the parameter name and model number for each sensor. The sensors are installed on a 20-meter light tower located south of the power plant along the east fence line near the coal storage area. The wind speed, wind direction, and vertical wind sensors were moved from the 10-meter height to a 20-meter height on November 24, 2006. The meteorological site measures the parameters listed in Table 5-1.

The meteorological data is reviewed each business day to confirm that the system is operating properly and the hourly averages appear reasonable. The meteorological sensors receive a complete calibration and maintenance service check every 6 months.

Site Name	Monitored Parameters	Elevation Above Ground Level (AGL)
Marina Towers Air Monitoring Site	Sulfur Dioxide (SO ₂) – Central Rooftop Location, 1 probe	45-meters
	Sulfur Dioxide (SO ₂) – Southeast Rooftop Location, 1 probe	40-meters
Southeast Fence Line	Sulfur Dioxide (SO ₂) – 1 probe	5 meters
Northeast Fence Line	Sulfur Dioxide (SO ₂) – 1 probe	5 meters
North - Daingerfield Park	Sulfur Dioxide (SO ₂) – 1 probe	5 meters
Southwest - Holiday Inn Building	Sulfur Dioxide (SO ₂) – 1 probe	5 meters
	Meteorological Operations	
Met. Tower Site	Wind Speed (scalar & vector)	20 meters
	Wind Direction (scalar & vector)	20 meters
	Vertical Wind Speed	20 meters
	Sigma Theta	20 meters
	Sigma W	20 meters
	Temperature	2 meters
	Temperature Difference (△T)	2 to 10 meters
SODAR Plant Rooftop	Wind Speed (vector)	50, 75, 100, 125, 150, 175, 200 meters
	Wind Direction (vector)	50, 75, 100, 125, 150, 175, 200 meters
	Sigma Theta	50, 75, 100, 125, 150, 175, 200 meters
	Vertical Wind Speeds	50, 75, 100, 125, 150, 175, 200 meters
	Sigma W	50, 75, 100, 125, 150, 175, 200 meters

Table 5-1: Summary of Monitoring Program Parameters for Mirant Air Quality Network

Parameter Instrument		EPA Designation No.		
SO ₂	Thermo Environmental Instruments (TEI) 43A	EQSA-0486-060		
Wind Speed	Climatronics Model F460	N/A		
Wind Direction	Climatronics Model F460	N/A		
Vertical Wind	RM Young	N/A		
Temperature/Temperature Difference	Climatronics			
Sigma Theta, Sigma W	Odessa DSM 3260	N/A		
Support Equipment				
Function	Instru	ment		
Data Acquisition	Odessa DSM 3260			
Telemetry – modem	Practical Peripheral (or other)			
Calibration Tracking	Metronics, In-station Calibrators with Permeation Tube			
Multipoint Calibrations and bi- weekly Precision and Level 1 ChecksENSR GASCAL Portabl with Scott Marrin Compr Nitrogen.		Dilution Calibration System Gas Cylinder of SO ₂ in		
Data Transmitters	Data Linc – Wireless transmitters/Receivers from measurement site into power plant.			

Table 5-2: Monitoring Equipment for the Mirant Ambient Monitoring Program

6.0 Ambient Data Validation Criteria

Data validation, an after-the-fact review of in-field collected data, is the process by which data are determined to be of acceptable or unacceptable quality based on a set of predefined criteria. These criteria depend upon the types of data involved and the purpose for which data are collected.

6.1 Continuous Parameter Data Validation

Data validation, which occurs at several steps along the path of data flow, includes visual, mathematical, and graphical evaluations of the data. Checks are performed by ENSR field technicians, data processing personnel and ENSR operation and maintenance staff. Although the data validation process is continuous, final data validation can only occur at the time of a final calibration of each analyzer so that all of the validation criteria can be considered. ENSR staff review all measured data to determine validity during periods between the routine calibration checks.

Validation of continuous air quality data and meteorological is governed by strict standard operating procedures. For data to be considered valid, they must be accurate and precise within prescribed limits, represent factual conditions, be obtained from a calibrated, well-functioning instrument and from air sampled without interference or obstructions, and be thoroughly documented as traceable to recognized primary standards.

The data validation process initially begins in the field with the ENSR field technician's assessment of data during each site visit. Hourly data averages are subsequently scanned at ENSR for anomalous results and any faulty instrument performance. Events affecting validity are thoroughly documented. During the processing, erroneous data values are highlighted. An experienced ENSR data analyst performs checks of the field station log sheets, calibration data and the data report. The data-review also includes checking any values flagged as suspect and usually 2-5% of each data month's hourly values. Periods of data labeled suspect by the ENSR field technician are subsequently deemed valid or invalid by the ENSR validating meteorologist. All instrument calibrations (i.e., audits, multi-point calibrations, precision and Level 1 checks, etc.) are subsequently analyzed to confirm that initial calibration results are within acceptable tolerances.

6.2 Data Validation Standards and Criteria

The following validation criteria are used in the evaluation of the data:

- The instrument must be in its normal sampling configuration.
- Each hourly average must be based on at least 45 minutes of valid data
- Each air quality data point must be bracketed by calibration checks showing instrument responses to be within \pm 15% of input concentration.
- Audit, multipoint, precision and Level 1 calibration records of the continuous air quality sensors must indicate analyzer responses to be within ± 15% of input concentrations for the period under review.
- The following validation limits are used for the tower-based meteorological parameters:

Wind Speed	\pm 5 mph
Wind Direction	\pm 20 degrees
Vertical Wind	± 5 mph
Temperature	± 3.0° C

 Limits for SODAR-based meteorological data accuracy were presented in Table 1-2 of the QA Plan. Due to the technology associated with SODAR monitoring, it is sometimes difficult to provide definitive data validation limits where a co-located meteorological tower is not present. ENSR provides quantitative reasonability check tolerances upon which a professional meteorologist can base a data validation decision. The following is the validation criteria that will be used to evaluate SODAR data:

Test	Wind Speed (mph)	Wind Direction (degrees)	Vertical Wind Speed (mph)	Sigma W (mph)	Sigma Theta (degrees)
Acceptable Range	0 to 100	1 to 360	-15 to -15	0 to 30	0 to 180
Hourly Difference Between SODAR and Tower	7.0	30	3.0	0.9	10
Mean Difference of a Data Set (Tower vs. SODAR)	1.1	20	0.5	0.7	5
Standard Deviation of Differences for a Data Set (Tower vs. SODAR)	4.5	30	2.0	0.7	10

SODAR data are not judged invalid solely on the basis of the reasonability check acceptance criteria described in this section. Data failing to meet these reasonability check tolerances are ultimately determined valid or invalid by a meteorologist using professional judgment.

7.0 Ambient Data Results and Statistics

The parameter abbreviations used on the Monthly Data Summary Forms for the Mirant Project and their associated definitions are provided in Table 7-1.

Table 7-2 presents the valid data capture statistics for each monitored parameter for the monitoring period. Also included are explanations of all significant missing data periods throughout the report period for air quality parameters not meeting the 80% data capture goal, and meteorological parameters not meeting the 90% data capture goal.

Air Quality and Meteorological Parameters			
Parameters / Definition	Monthly Summary Code		
Sulfur Dioxide	SO ₂		
Wind Speed	WS		
Wind Speed – Vector	WS-Vector		
Wind Direction	WD		
Wind Direction – Vector	WD-Vector		
Vertical Wind Speed	VWS		
Sigma Theta (wind direction variability)	Sigma T		
Temperature	Temp		
Temperature Difference 2 to 10- Meters	Delta T		
Site Name	Site Abbreviation		
Marina Towers – Central Probe	Marina Towers - CNTRL		
Marina Towers – South Probe	Marina Towers - SOUTH		
Southeast Site	SOUTHEAST SO ₂		
Northeast Site	NORTHEAST SO ₂		
Southwest Site/Holiday Inn	SOUTHWEST HOLIDAY IN		
North Site/Daingerfield Park	NORTH		

Table 7-1: Parameters, Site Name Codes, and Abbreviations

Table 7-2: Mirant Monthly Data Capture Summary

Site Name	Parameter	% Data	Total %	Reason for	Affected Dates
		Capture*	Data Loss	Significant Periods of Data Loss**	
Marina Towers Central Probe	SO ₂	99.4	0.6		
Marina Towers South Probe	SO ₂	99.4	0.6		
Southeast Fence	SO ₂	99.6	0.4		
Northeast Fence	SO ₂	99.4	0.6		
<u>Southwest</u> Site/Holiday Inn	SO ₂	90.4	9.6	Leaking roof affecting data logger as well as a setting malfunction with the TECO 43A.	Nov 01 – Nov 03
<u>North</u> <u>Site/Daingerfield</u> <u>Park</u>	SO ₂	99.6	0.4		
<u>Meteorological</u> <u>Tower</u>	Wind Speed	100	0		
Measurements Reported as of	Wind Direction	100	0		
November 1, 2006	Vertical Wind	100	0		
	Sigma Theta	100	0		
	Sigma W	100	0		
	Temperature	100	0		
	Temperature Difference	100	0		

November 2006

* Data capture target values are:

• 80% data capture for continuous air quality data.

• 90% data capture for continuous meteorological data.

% data capture is based on the date of the site data start-up.

** Consecutive data loss greater than or equal to 12 hours

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Appendix A

Modeled Input Files and Results of Daily Predictive Modeling (on CD)

Predictive Model Results Summary Table A-1

24 Hr AVG 3 HR MAX

Table A-1: Predictive Model Results Summary Potomac River

AERMOD Model Results I	og
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DATE MODELED	SELECTED CONFIGURATION	TARGET SO2 RATE Ib/MBtu	SO2 RATE (lb/MBtu)
November 1, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.60	1.56
November 2, 2006	A (units 3-4-5 @ 12/12)	0.45	0.72
November 3, 2006	H (Unit 1 @ 8/8/8; 4&5 @ 12/12)	0.45	1.36
November 4, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.50	1.06
November 5, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.60	0.99
November 6, 2006	G3 (Units 1-2-3-4-5 @ 24 max)	0.60	1.48
November 7, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.50	0.63
November 8, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.50	0.90
November 9, 2006	H (Unit 1 @ 8/8/8; 4&5 @ 12/12)	0.60	1.37
November 10, 2006	H (Unit 1 @ 8/8/8; 4&5 @ 12/12)	0.50	0.61
November 11, 2006	V3 (Units 1 & 5 @ 24 max)	0.60	1.66
November 12, 2006	B2(Unit 1 8/8/8; 3-4-5 @ 24 max)	0.60	1.14
November 13, 2006	G (Units 1-2 @ 8/8/8; 3,4,5 @ 12/12)	0.60	0.88
November 14, 2006	G1(1-2 @ 16max/8off; 3,4,5 @ 12/12)	0.60	1.21
November 15, 2006	C1(Unit 2 @ 16max/8off; 3,4,5 @ 12/12)	0.40	0.51
November 16, 2006	X4 (Unit 2 @ 8/8/8; 4 @ 8/16)	0.45	0.56
November 17, 2006	E1(Units 1&2 16/0/8; 3,4,5 @ 12/12)	0.60	1.18
November 18, 2006	E3 (1, 2, 4 & 5 @ 24 Max)	0.60	1.31
November 19, 2006	H3 (Units 1,4,& 5 @ 24 Hrs. Max)	0.60	2.53
November 20, 2006	C2 (Unit 2 @ 8/8/8; 3,4,5 @ 24 max)	0.60	1.55
November 21, 2006	B2(Unit 1 8/8/8; 3,4,5 @ 24 max)	0.50	1.03
November 22, 2006	H3 (Units 1,4,& 5 @ 24 Hrs. Max)	0.50	1.03
November 23, 2006	G(Units 1-2 @ 8/8/8, 3-4-5 @ 12/12)	0.60	1.01
November 24, 2006	G(Units 1-2 @ 8/8/8, 3-4-5 @ 12/12)	0.55	0.68
November 25, 2006	A1 (units 3,4,5 @ 16 max/8 min)	0.55	0.74
November 26, 2006	B (Unit 1 @ 8/8/8; 3,4,5 @ 12/12)	0.55	1.20
November 27, 2006	D3 (Units 1&2 @ 24 Max/ 3&5 @ 24)	0.60	1.57
November 28, 2006	D3 (Units 1&2 @ 24 Max/ 3&5 @ 24)	0.60	2.88
November 29, 2006	C3(Units 2-3-4-5 @ 24 max)	0.60	1.22
November 30, 2006	G1(1-2 @ 16max/8off; 3,4,5 @ 12/12)	0.40	0.82

AERMOD PRE	EDICTED CONCE	NTRATIONS
SO2	SO 2	PM10
3-HOUR	24-HOUR	24-HOUR
366	135	35
597	196	N/A
315	201	N/A
447	207	49
578	159	27
386	103	53
760	150	53
526	177	20
416	194	N/A
784	178	N/A
343	135	N/A
500	200	19
645	199	20
471	192	27
744	200	28
757	210	N/A
485	139	16
434	184	34
225	119	N/A
367	94	25
461	190	41
463	194	N/A
563	198	25
768	133	51
708	198	N/A
437	130	52
362	73	37
198	34	35
466	194	28
464	287	44

AMBIENT LI	MITS (with backgrou	nd removed)
3 HR SO2	24 HR SO2	24 HR PM 10
1061 ug/m ³	314 ug/m ³	105 ug/m ³

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Appendix B

Plant Operating Parameters Summary

24 Hour SO₂ Rate Compliance Summary Table B-1

3 Hour SO₂ Rate Compliance Summary Table B-2

24 Hour SO₂ Lb/Day Compliance Summary Table B-3

Table B-1						
24 Hour SO ₂ Rate Cor	npliance Summ	ary				
						· · · · · · · · · · · · · · · · · · ·
	Unit 1 SO2	Unit 2 SO2	Unit 3 SO2	Unit 4 SO2	Unit 5 SO2	Daily
DATE	24 Hr Avg	24 Hr Avg	24 Hr Avg	24 Hr Avg	24 Hr Avg	SO2 Target
	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu
November 1, 2006	0.42	0.51	0.51	0.54	0.54	0.60
November 2, 2006	0.00	0.00	0.41	0.39	0.43	0.45
November 3, 2006	0.34	0.00	0.00	0.40	0.43	0.45
November 4, 2006	0.41	0.41	0.41	0.48	0.45	0.50
November 5, 2006	0.46	0.54	0.55	0.55	0.54	0.60
November 6, 2006	0.47	0.50	0.55	0.54	0.54	0.60
November 7, 2006	0.47	0.45	0.45	0.46	0.47	0.50
November 8, 2006	0.42	0.44	0.44	0.46	0.47	0.50
November 9, 2006	0.45	0.00	0.00	0.56	0.53	0.60
November 10, 2006	0.39	0.00	0.00	0.48	0.46	0.50
November 11, 2006	0.34	0.00	0.00	0.00	0.57	0.60
November 12, 2006	0.39	0.00	0.40	0.47	0.56	0.60
November 13, 2006	0.45	0.41	0.52	0.51	0.54	0.60
November 14, 2006	0.44	0.36	0.54	0.53	0.54	0.60
November 15, 2006	0.00	0.31	0.36	0.38	0.36	0.40
November 16, 2006	0.00	0.36	0.00	0.40	0.00	0.45
November 17, 2006	0.45	0.53	0.00	0.49	0.46	0.60
November 18, 2006	0.49	0.54	0.00	0.55	0.55	0.60
November 19, 2006	0.48	0.00	0.00	0.53	0.52	0.60
November 20, 2006	0.00	0.40	0.36	0.55	0.51	0.60
November 21, 2006	0.41	0.00	0.47	0.47	0.44	0.50
November 22, 2006	0.39	0.00	0.00	0.48	0.43	0.50
November 23, 2006	0.00	0.00	0.44	0.53	0.51	0.60
November 24, 2006	0.42	0.00	0.50	0.50	0.42	0.55
November 25, 2006	0.00	0.00	0.49	0.50	0.51	0.55
November 26, 2006	0.00	0.00	0.48	0.40	0.38	0.55
November 27, 2006	0.38	0.45	0.54	0.00	0.54	0.60
November 28, 2006	0.00	0.00	0.54	0.00	0.54	0.60
November 29, 2006	0.00	0.50	0.50	0.00	0.56	0.60
November 30, 2006	0.29	0.37	0.36	0.34	0.37	0.40

Table B-2

3-Hour SO2 Rate Complian	ce Summary						
	Unit 1	Unit 2	Unit 3	llnit 4	II nit 5		3.Hour
	Maximum 3-		omour				
	Hour SO2		502				
DATE	Rate	Rate	Rate	Rate	Rate		Target
	(Ib/MMBtu)	(Ib/MMBtu)	(Ib/MMBtu)	(Ib/MMBtu)	(Ib/MMBtu)		Ib/MMBtu)
November 1, 2006	0.55	0.74	0.55	0.56	0.57	Ì	1.56
November 2, 2006	0.00	0.00	0.42	0.42	0.45		0.72
November 3, 2006	0.42	0.00	0.07	0.41	0.57		1.36
November 4, 2006	0.47	0.47	0.46	0.54	0.55		1.06
November 5, 2006	0.51	0.68	0.56	0.56	0.55		0.99
November 6, 2006	0.59	0.56	0.55	0.55	0.55		1.48
November 7, 2006	0.78	0.50	0.46	0.51	0.51		0.63
November 8, 2006	0.50	0.54	0.44	0.51	0.57		0.90
November 9, 2006	0.49	0.00	0.00	0.59	0.56		1.37
November 10, 2006	0.46	0.00	0.00	0.58	0.47		0.61
November 11, 2006	0.47	0.00	0.00	0.00	0.61		1.66
November 12, 2006	0.49	0.00	0.54	0.62	0.57		1.14
November 13, 2006	0.51	0.54	0.55	0.64	0.55		0.88
November 14, 2006	0.50	0.54	0.57	0.55	0.56		1.21
November 15, 2006	0.00	0.38	0.36	0.46	0.37		0.51
November 16, 2006	0.00	0.44	0.00	0.50	0.00		0.56
November 17, 2006	0.61	0.64	0.00	0.54	0.61		1.18
November 18, 2006	0.57	0.63	0.00	0.58	0.56		1.31
November 19, 2006	0.49	0.00	0.00	0.63	0.60		2.53
November 20, 2006	0.00	0.51	0.55	0.60	0.60	[1.55
November 21, 2006	0.57	0.00	0.49	0.51	0.49		1.03
November 22, 2006	0.44	0.00	0.00	0.52	0.48		1.03
November 23, 2006	0.00	0.00	0.58	0.65	0.51	. [1.01
November 24, 2006	0.51	0.00	0.51	0.52	0.54		0.68
November 25, 2006	0.00	0.00	0.53	0.52	0.54		0.74
November 26, 2006	0.00	0.00	0.50	0.43	0.53		1.20
November 27, 2006	0.49	0.61	0.55	0.00	0.58		1.57
November 28, 2006	0.00	0.00	0.56	0.00	0.56		2.88
November 29, 2006	0.00	0.57	0.54	0.12	0.63		1.22
November 30, 2006	0.39	0.50	0.43	0.43	0.40		0.82

Table B-3

24 Hour SO2 Lb/Day Com	pliance Summar	V								
	Unit '	1 SO2	Unit 2	SO2	Unit 3	SO2	Unit 4	SO2	Unit 5	SO2
DATE	24 Hr Total	SO2 Target1	24 Hr Total	SO2 Target	24 Hr Total	SO2 Target	24 Hr Total	SO2 Target	24 Hr Total	SO2 Target
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
November 1, 2006	5,266	7,695	4,899	7,695	8,220	10,408	8,977	10,408	7,134	10,408
November 2, 2006	-		2420	-	5,188	7,806	6,002	7,806	5,823	7,806
November 3, 2006	3,990	5,771	(i n)	-	8	-	6,203	7,806	4,894	7,806
November 4, 2006	5,411	6,413	4,918	6,413	7,873	8,673	8,386	8,673	5,620	8,673
November 5, 2006	6,121	7,695	6,226	7,695	8,843	10,408	8,220	10,408	5,593	10,408
November 6, 2006	8,711	16,021	6,999	16,021	11,845	15,045	9,154	15,045	5,067	15,045
November 7, 2006	5,648	6,413	5,713	6,413	7,017	8,673	6,131	8,673	4,778	8,673
November 8, 2006	5,986	6,413	5,034	6,413	6,882	8,673	5,720	8,673	4,079	8,673
November 9, 2006	4,756	7,695	-	-	85	-	7,259	10,408	6.803	10,408
November 10, 2006	2,902	6,413	-	-		-	5,973	8,673	6.227	8,673
November 11, 2006	1,633	16,021	-	-	-	-	99	-	5,993	15,045
November 12, 2006	2,399	7,695	-	-	2,763	15,045	3,889	15,045	6,492	15,045
November 13, 2006	6,194	7,695	5,991	7,695	6,535	10,408	6,178	10,408	7,536	10,408
November 14, 2006	6,094	10,680	5,418	10,680	7,587	10,408	6,523	10,408	8,814	10,408
November 15, 2006	-	-	4,044	7,120	5,586	6,938	4,281	6,938	4,977	6,938
November 16, 2006	-	-	4,211	5,771	-	-	4.374	6,646	11	-
November 17, 2006	5,420	10,680	3,348	10,680	-	10,408	5,628	10,408	6,423	10,408
November 18, 2006	5,662	16,021	3,891	16,021	-	-	9,212	15,045	7,735	15.045
November 19, 2006	2,011	16,021	-	-	+	-	7.519	15.045	6.695	15,045
November 20, 2006	-	-	3,185	7,695	5,214	15.045	8.602	15,045	6.251	15,045
November 21, 2006	4,017	6,413	-	-	8,994	12,538	6.132	12.538	5,464	12,538
November 22, 2006	5,290	13,351	-		91	-	7,805	12,538	6,772	12,538
November 23, 2006	-	7,695	-	7,695	4,152	10,408	6.352	10,408	669	10,408
November 24, 2006	3,924	7,054	-	7.054	5,249	9,540	5,329	9,540	3.917	9,540
November 25, 2006	-	-	-	-	5,588	10,957	5.870	10,957	1,999	10,957
November 26, 2006	-	7,054	-	-	6,081	9,540	132	9,540	2,095	9,540
November 27, 2006	4,743	16,021	3,912	16,021	8,088	15,045	-		7,335	15,045
November 28, 2006	-	16,021	-	16,021	8,292	15,045		-	8,226	15,045
November 29, 2006	-	-	4,739	16,021	6,744	15,045	6	15,045	8,120	15,045
November 30, 2006	1,273	7,120	1,527	7,120	4,135	6,938	3,495	6,938	4,564	6,938

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Appendix C

Plant Operating Data for August (on CD)

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Appendix D

Follow-Up Modeling Results (on CD)

Follow-up Model Summary Table D-1 3 Hour SO₂ Comparison Figure D-1 24 Hour SO₂ Comparison Figure D-2

Table D-1: Follow-Up Model Summary

Mirant Potomac, Alexandria, Virginia Maximum SO 2 Impacts Predicted by AERMOD Using Actual Stack Emissions/Parameters Along with Historical Meteorological Observations

Maximum Measured SO 2 Concentrations from Ambient Monitoring Network

Predicted Concentrations above the threshold values are in **bold**

3-hr Threshold Value: 1300 (NAAQS) - 238.4 (Background) = 1061.6 μ g/m³

24-hr Threshold Value: 365 (NAAQS) - 51 (Background) = 314 μ g/m³

Date	Units Operating	AERMOD Concentr Predicted	Predicted ations with Met Data	AERMOD Concentra Observed	Predicted ations with Met Data	Observed D	MONITOR ATA	-
		<u>3-hr (μg/m³)</u>	24-hr (μg/m ³)	<u>3-hr (μg/m³)</u>	24-hr (μg/m [°])	<u>3-hr (μg/m[°])</u>	24-hr (µg/m°)	Max Impact Location - Roof of Marina Towers
November 1, 2006	Units 1, 2, 3, 4, 5	366	135	1,102.2	525.6	192.1	97.7	
November 2, 2006	Units 3, 4, 5	597	196	370.2	156.3	140.0	77.0	-
November 3, 2006	Units 1, 4, 5	315	201	170.6	88.4	138.9	77.9	-
November 4, 2006	Units 1, 2, 3, 4, 5	447	207	884.4	149.0	43.2	35.1	4
November 5, 2006	Units 1, 2, 3, 4, 5	578	159	770.1	270.7	41.5	34.0	4
November 6, 2006	Units 1, 2, 3, 4, 5	386	103	158.1	26.4	39.7	29.8	4
November 7, 2006	Units 1, 2, 3, 4, 5	760	150	181.4	75.8	31.4	16.7	-
November 8, 2006	Units 1, 2, 3, 4, 5	526	177	466.0	110.8	31.9	11.4	-
November 9, 2006	Units 1, 4, 5	416	194	240.5	76.8	205.7	55.5	_
November 10, 2006	Units 1, 4, 5	784	178	270.4	55.4	34.5	18.7	
November 11, 2006	Units 1, 5	343	135	287.7	130.0	142.3	53.9	
November 12, 2006	Units 1,3, 4, 5	500	200	310.2	107.4	145.8	65.9	
November 13, 2006	Units 1, 2, 3, 4, 5	645	199	1,112.8	396.2	112.2	53.7	Max Impact Location - Ground level fenceline, east-southeast of stack 1
November 14, 2006	Units 1, 2, 3, 4, 5	471	192	286.3	94.4	31.0	25.0	_
November 15, 2006	Units 2, 3, 4, 5	744	200	148.7	35.3	50.7	21.3	
November 16, 2006	Units 2, 4	757	210	527.0	232.8	308.3	99.0	
November 17, 2006	Units 1, 2, 4, 5	485	139	697.7	196.6	181.6	68.2	
November 18, 2006	Units 1, 2, 4, 5	434	184	305.5	141.1	36.7	25.1	
November 19, 2006	Units 1, 4, 5	225	119	270.4	55.4	27.9	15.1	
November 20, 2006	Units 2, 3, 4, 5	367	94	273.8	112.9	135.8	39.6	
November 21, 2006	Units 1,3, 4, 5	461	190	530.5	174.3	114.0	40.5	
November 22, 2006	Units 1, 4, 5	463	194	394.3	191.0	285.2	186.8	
November 23, 2006	Units 3, 4, 5	563	198	206.1	51.9	64.6	18.2	
November 24, 2006	Units 1, 3, 4, 5	768	133	247.3	74.0	59.8	19.0	
November 25, 2006	Units 3, 4, 5	708	198	206.1	51.9	30.1	19.8	
November 26, 2006	Units 3, 5	437	130	210.5	76.8	19.2	13.1	
November 27, 2006	Units 1, 2, 3, 5	362	73	459.3	168.8	33.7	20.2	
November 28, 2006	Units 3, 5	198	34	12.9	2.1	38.4	25.5	
November 29, 2006	Units 2, 3, 4, 5	466	194	751.2	130.1	22.3	18.7	
November 30, 2006	Units 1, 2, 3, 4, 5	6 464	287	286.3	94.4	30.6	11.1	



Figure D-1: November 2006 3 Hr SO₂ Comparison





Figure D-2: November 2006 24 Hr SO₂ Comparison



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Appendix E

Monthly Summary Data Reports (on CD)

Monthly SO₂ and Meteorological Summary Reports

NONTHLY SUMMARY REPORT

										NON	THLY	SUKHA	RY RE	FORT							na an an À	177 for the cost of		··· ··· ··· ··· ··· ···	*
LOCATI	ON (M	APINA	TOWE	RS SO	2				CNTR	H.L L	RANT	POTON	ΑC (u	g/m3)							DAT RUN	A FOR DATE	NOV +12/1	2006 2706	** ***
HR-BEG HR-END DAY	80 61	61 02	Ø2 Ø3	@3 @4	84 85	& 5 & 6	06 07	@ 7 Ø 8	88 89	09 10	HOU 10 11	RS/es 11 12	t) 12 13	13 14	145	155	16 17	17 18	18 19	19 20	20 21	21 22	223	234	AVG
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LOCATION: SOUTHEAST FENCELIN	994 2.2	VWS	(MPH)		DATA FOR NOV 200 RUN DATE:12/13/06	6
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AVG HOURS	23.8 30	23.1 30	24.1 30	26.4 30	21.6 30	$22.5 \\ 30$	$21.5 \\ 30$	$24.7 \\ 30$	26.6 30	$28.3 \\ 30$	29.0 30	24.3 30	26.1 30	21.3 30	20.6 30	21.9	17.6 30	13.4 30	16.1 30	$19.8 \\ 30$	21.0 30	20.6 30	20.7	20.3 30	$22.3 \\ 720$
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LOCATION: S	SOUTHE	AST F	ENCEL	TRE				SW				(6	ER)							DAT RUN	A FOR DATE	NOV :12/1	2006 3706	
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AVG 0.7 HOURS 30	0.6 30	0.6 30	0.6 30	0.6 30	0.6 30	0.6 30	0.6 30	0.8 30	0.9 30	0.9 30	0,9 30	0,9 30	0.9 30	0.8 30	0.8 30	0,7 30	0.7 30	0,7 30	0.7 30	0.7 30	0.7 30	0.7 30	0.7 30	0. 720
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AVG 47.9 HOURS 30	47.2 30	46.9 30	46.3 30	46.0 30	45.5 30	45.4 30	45.8 30	47.3 30	49.3 30	51.3 30	53.0 30	54.2 30	55.0 30	55.3 30	55.4 30	54.6 30	53,5 30	52.3 30	51.6 30	50.5 30	49.9 30	49.0 30	48.6 30	50.1 720
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LOCATION: SOUTHEAST FENCELINE	州主政 取型員会	ANT POTOMAC (DEGF)	DATA FOR NOV 2006 RUN DATE:12/13/06	
HR-BESCO 01 02 03 04 05 HR-END01 02 03 04 05 06 DAY	05 07 08 09 07 08 09 10	HOURS(EST) 10 11 12 13 14 15 11 12 13 14 15 16	16 17 18 19 20 21 22 23 17 18 19 20 21 22 23 24 *	AVG
$\begin{array}{c} 711\\ 77.2\\ $	$\begin{array}{c} 7.7 \\ 6.6 \\ 6.5 \\ 8.1 \\ 6.6 \\ 6.7 \\ 7.7 \\ 7.7 \\ 6.5 \\ 8.1 \\ 6.6 \\ 6.7 \\ 7.7 \\ 7.7 \\ 6.5 \\ 6.6 \\ 6.7 \\ 7.7 \\ 7.7 \\ 6.5 \\ 6.6 \\ 6.7 \\ 7.7 \\$	$\begin{array}{c} 2.7 \\ 74.2 \\ 75.89 \\ 74.2.7 \\ 74.66 \\ 74.2.7 \\ 73.99 \\ 74.2.8 \\ 74.2.7 \\ 73.99 \\ 74.2.8 \\ 74.2.7 \\ 73.5 \\ 74.2.7 \\ 73.5 \\ 77.2.8 \\ 74.2.8 \\ 74.2.7 \\ 73.5 \\ 77.2.8 \\ 77.2.9 \\ 77.3.3 \\ 77.2.9 \\ 77.3.3 \\ 77.2.9 \\ 77.3.3 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77.3.9 \\ 77.3.3 \\ 77.3.9 \\ 77$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	7766666677777777777666666676666777 326378923339912222399664668889922
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TOTAL HOURS 720 NUMBER OF GOOD HOURS 720 NUMBER OF MISSING HOURS 0 DATA CAPTURE (PERCENT) 100.0 STANDARD DEVIATION 3.8	TOTAL AVERAGE HIGHEST HOURLY VALUE 2nd HIGH HOURLY VALUE MINIMUM REPORTED VALUE	69.9 77.4 76.8 54.7		
NOTE: MISSING VALUE INDICATOR IS-	*** *** ***			

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Appendix F

Satellite View of the Ambient Air Quality and Meteorological Network



U.S. Locations

AK, Anchorage (907) 561-5700

AL, Birmingham (205) 980-0054

AL, Florence (256) 767-1210

CA, Alameda (510) 748-6700

CA, Camarillo (805) 388-3775

CA, Orange (714) 973-9740

CA, Sacramento (916) 362-7100

CO, Ft. Collins (970) 493-8878

CO, Ft. Collins Tox Lab. (970) 416-0916

CT, Stamford (203) 323-6620

CT, Willington (860) 429-5323

FL, St. Petersburg (727) 577-5430

FL, Tallahassee (850) 385-5006

GA, Norcross (770) 381-1836

IL, Chicago (630) 836-1700

IL, Collinsville (618) 344-1545

LA, Baton Rouge (225) 751-3012

MA, Harvard Air Lab. (978) 772-2345

MA, Sagamore Beach (508) 888-3900

MA, Westford (978) 589-3000

MA, Woods Hole (508) 457-7900

MD, Columbia (410) 884-9280

ME, Portland (207) 773-9501

MI, Detroit (269) 385-4245

MN, Minneapolis (952) 924-0117

NC, Charlotte (704) 529-1755

NC, Raleigh (919) 872-6600

NH, Belmont (603) 524-8866

NJ, Piscataway (732) 981-0200

NY, Albany (518) 453-6444

NY, Rochester (585) 381-2210

NY, Syracuse (315) 432-0506

NY, Syracuse Air Lab. (315) 432-0506

OH, Cincinnati (513) 772-7800

PA, Langhorne (215) 757-4900

PA, Pittsburgh (412) 261-2910

RI, Providence (401) 274-5685

SC, Columbia (803) 216-0003

TX, Dallas (972) 509-2250

TX, Houston (713) 520-9900

TX, San Antonio (210) 296-2125

VA, Chesapeake (757) 312-0063

VA, Glen Allen (804) 290-7920

WA, Redmond (425) 881-7700

WI, Milwaukee (262) 523-2040

Headquarters MA, Westford (978) 589-3000

Worldwide Locations

Azerbaijan Belgium Bolivia Brazil China England France Germany Ireland Italv Japan Malaysia Netherlands Philippines Scotland Singapore Thailand Turkey Venezuela

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About ENSR

ENSR, an AECOM company, is a leading worldwide environmental services firm. Founded in 1968, ENSR serves industrial companies and government agencies with consulting, engineering, remediation, and environmental health and safety solutions. ENSR is a recipient of the BP HSSE Diamond Award, Textron Environmental Remediation Partner in Excellence Award, and Environmental Business Journal awards. As an AECOM company, ENSR is part of a global design and management company with 24,000 employees worldwide serving the transportation, facilities, and environmental markets.

ENSR Locations

Belgium Bolivia

Brazil

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France

Ireland

Italy

Japan

Malaysia

Scotland

Thailand

Turkey

Germany

Azerbaijan Alabama Alaska California Colorado Connecticut Florida Georgia Illinois Louisiana Maine Maryland Massachusetts Michigan Netherlands Minnesota Philippines New Hampshire New Jersey Singapore New York North Carolina Ohio Venezuela Pennsylvania Rhode Island South Carolina Headquarters Texas

Westford Massachusetts USA

Virginia Washington Wisconsin