STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1903-AOP-R7 AFIN: 47-00448

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

AECI - Dell Power Plant
301 E. Hwy 18
Dell, Arkansas 72426

3. PERMIT WRITER:

Charles Hurt

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Fossil Fuel Electric Power Generation
NAICS Code: 221112

5. SUBMITTALS:

8/21/2009, 10/21/2009

6. REVIEWER'S NOTES:

Associated Electric Cooperative, Inc. – Dell Power Plant (AFIN: 47-00448) owns and operates a natural gas fired power plant located at 301 Highway 18 East in Dell, Arkansas 72426. AECI submitted a Title V renewal application with modifications. The permit modifications included firing No. 2 fuel oil for up to 1,850 hours per year and installing two 1.75 million gallon fuel oil storage tanks and one 2.7 million gallon demineralized water storage tank (not a source of air emissions). The emissions associated with the physical modifications are discussed later with the PSD applicability.

AECI requested to revise Specific Condition #27 (b) to account for the combustion process differences between operating on natural gas versus fuel oil. While burning natural gas the combustion turbines cycle through multiple staging modes prior to reaching full load premix operation. Whereas, liquid fuel is burned in burned in a diffusion type flame without staging modes.

AECI requested Specific Condition #41 be revised to allow use of a handheld meter and to reduce the sampling frequency from weekly to monthly for SN-04 through SN-15. The use of the handheld meter will result in a significant reduction in time and cost in demonstrating compliance. Data accompanied the request which indicates compliance can be demonstrated with monthly sampling.

AECI requested to remove the waste water cooling tower (SN-28 through SN-31) and four (4.05 MMBtu/hr each) fuel gas heaters (insignificant activities) from the permit. The waste water cooling tower was never built, and AECI has no future plans to install the waste water cooling tower. The four fuel gas heaters do not exist. The only fuel gas heaters at the facility are SN-32 and SN-33.

Prevention of Significant Deterioration

This facility is considered an existing major source under 40 CFR §52.21, *Prevention of Significant Deterioration* (PSD) regulations because the facility is a fossil fuel fired steam electric plant and has the potential to emit more than 100 tpy of any single NSR pollutant.

Modification PSD Applicability

The emission increase associated with the physical modifications is presented below and is based on past actual and future potential emissions. The past actual emissions are zero because the combustion turbines have operated for less than two years. The future potential emissions are the potential to emit based on calculations submitted by the permittee.

Source	Emission Rate (tpy)					
	PM_{10}	SO_2	VOC	CO	NO_X	Lead
Combustion Turbine	33.21	2.97	6.18	49.04	48.33	0.03
Combustion Turbine	33.21	2.97	6.18	49.04	48.33	0.03
Diesel Storage Tank #1	-	-	1.02	-	-	-
Diesel Storage Tank #2	-	-	1.02	-	-	-
Total	66.42	5.94	14.40	98.08	96.66	0.06
PSD Significant Emission Rate	15	40	40	100	40	0.6
Is Netting Required?	Yes	No	No	No	Yes	No

No further consideration is given to SO_2, VOC, CO or Lead because the increase in the emission rates for those pollutants does not exceed significant emission rates (SER). Since the emission increase associated with the modification exceeds the SER for PM_{10} and NO_X, the contemporaneous changes must be considered in determining whether or not PSD review is triggered. Only one contemporaneous change was identified during the contemporaneous period. On July 18, 2006 Permit No. 1903-AOP-R4 was issued to increase the hours of operation for the auxiliary boiler (SN-03) to 8,760 hours per year.

Source	Emission Rate (tpy)	
	PM_{10}	NO_X
Auxiliary Boiler	2.71	17.82
Net Change	69.13	114.48
PSD Significant Emission Rate	15	40
Subject to PSD Review?	Yes	Yes

The net emission increase exceeded the PSD SER for PM_{10} and NO_X. Therefore, PSD review was triggered for those pollutants.

BACT Analysis Summary

Any major source or major modification subject to PSD review must conduct an analysis to ensure the use of best available control technology (BACT). The requirements for conducting BACT can be found in the PSD regulations. A BACT analysis is required for each new or physically modified emission unit for each pollutant that exceeds an applicable PSD SER. For this modification PM_{10} and NO_X exceed their respective SER. The emission units and pollutants that require BACT are listed below.

Emission Unit	Source Description	Pollutants Subject to BACT
SN-01	Combustion Turbine	PM_{10} and NO_X
SN-02	Combustion Turbine	PM_{10} and NO_X

The methodology used to determine BACT is the top-down method described in a 1987 memorandum from the EPA Assistant Administrator for Air and Radiation. Following the top-down method all available control technologies are ranked in descending order of control effectiveness. The most stringent control available for a similar or identical source or source category is identified, and a determination of feasibility is made. If the most stringent level of control is determined to be infeasible based on technical, economic, environmental, or energy related reasons, then the next most stringent option is evaluated. The process continues until the BACT level under consideration cannot be eliminated. The *New Source Review Workshop Manual (Draft)* lists the five basic steps of the method.

BACT Evaluation for the Combustion Turbines (SN-01 and SN-02)

Step 1. Identify All Control Technologies. - The following technologies were considered for the turbines:

Pollutant	Control Technology for Combustion Turbines
NO_X	Selective Catalytic Reduction (SCR) Selective Non-Catalytic Reduction (SNCR) Catalytic Absorption Catalytic Combustion Dry Low NO_X Burners (LNB) Water/Steam Injection
PM_{10} (Filterable)	Clean/Low Sulfur Fuels Good Combustion Practices (GCP)

Step 2. Eliminate Technically Infeasible Control Technologies - The second step is to determine which control technologies are infeasible for technical reasons. Each control technologies for each pollutant is considered, those that are clearly technically infeasible are eliminated.

The technically feasible control technologies for NO_X are LNB, steam/water injection, and SCR, and the control technologies for PM_{10} and CO are all of the technologies listed above.

Step 3. Rank Remaining Control Technologies – The third step is to rank the remaining control technologies based on effectiveness.

For PM_{10} both remaining control technologies will be employed. Therefore, ranking is not necessary for PM_{10}.

For NO_X all three remaining control technologies will be employed.

Step 4. Top Down Evaluation of Control Options - The fourth step is to evaluate the remaining control technologies based on economic, energy, and environmental considerations.

For PM_{10} and NO_X the remaining control technologies will be employed. Therefore, evaluation of control options is not necessary for PM_{10} or NO_X.

Step 5. Select BACT – The most effective control option not eliminated is BACT. Based on available information in the RACT/BACT/LAER Clearinghouse, publications from EPA's Clean Air, Technology Center, EPA's National Combustion Turbine Spreadsheet, and BACT determinations for oil fired combined cycle plants, BACT limits were determined to be:

Sources	Pollutant	BACT Determination [a]		
Each 7FA Combustion Turbine / HRSG with and without Duct Burners (SN-01 and SN-02) in No. 2 Fuel Oil Service	PM_{10}	Use of clean fuel [b] and good combustion practice [c]	0.009 lb/MMBtu	Stack Testing (3-hour average) and Fuel Monitoring
	NO_X	Dry Low NO_X Burners Water Injection SCR	6 ppmvd @15 % O_2	3-hour average (CEMS)
	Visible Emissions	Use of clean fuel and good combustion practices	10%	Method 9 Observations

a. BACT Determination is valid only up to 1,850 hours per year per turbine on fuel oil.
b. Clean fuel is No. 2 fuel oil which contains 0.0015 percent by weight of sulfur or less.
c. "Good combustion practices" are taken to mean (1) the turbines shall be operated in a manner to achieve maximum thermal efficiency via operating only at high loads (e.g., greater than 60 percent of the power output capacity) to the extent possible, (2) the best available combustion fuel oil system for the existing turbines shall be installed and tuned properly to ensure complete (as possible) combustion.

Class II Area Ambient Air Impact Analysis

Air Quality Analysis

Since the total facility-wide emissions exceed the PSD SER for NO_X and PM_{10} an air quality analysis is required to demonstrate that these emissions do not cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) or exceed a PSD increment. The air quality analysis consists of a preliminary analysis and where warranted a full impact analysis.

Preliminary Analysis

The preliminary analysis determines whether the applicant can forego further air quality analyses for a particular pollutant; may allow the applicant to be exempted from the ambient monitoring data requirements; and is used to define the impact area within which a full impact analysis must be carried out. The preliminary analysis models only the significant increase in potential emissions of a pollutant from a proposed new source, or the significant net emissions increase of a pollutant from a proposed modification.

For PSD permits, a full ambient air impact analysis is required for each pollutant from which the net emission increase will result in an ambient impact over the predetermined level. This level is known as the "significant impact level" (SIL). The following table shows the results of the preliminary analysis. A full impact analysis is not required for a particular pollutant when emissions of that pollutant from a proposed source or modification would not increase ambient concentrations by more than prescribed significant ambient impact levels. Therefore, no further consideration is given to PM_{10} (annual) CO, and NO_X. A full impact analysis was required for 24-hour averaging period for PM_{10}.

Pollutant	Averaging Period	Year of Maximum Impact	Maximum Modeled Concentration ($\mu g/m^3$)	Significant impact Level ($\mu g/m^3$)
PM_{10}	24-hour	2006	8.82	5
	Annual	2006	0.51	1
NO_2	Annual	2008	0.91*	1

* The modeled concentration is based on the default ambient ratio NO_2/NO_X of 0.75.

Full Impact Analysis

A full impact analysis is required for any pollutant for which the proposed source's estimated ambient pollutant concentrations exceed prescribed significant ambient impact levels. The preliminary analysis above indicates a full impact analysis for the PM_{10} 24-hour averaging period. Only the receptors with in the area of impact (AOI) are evaluated in the full impact analysis. Impacts exceeding the PM_{10} 24-hour SIL extend out to 978 m. Therefore, the AOI was defined as circular area with a radius of 1 km.

The full impact analysis consists of a NAAQS analysis and increment consumption analysis. For the NAAQS analysis, emissions from the facility were based on the PTE. To estimate the total concentration, the modeled impacts from the facility and nearby facilities (inventory sources with in 50 km plus radius of impact) were added to the background concentration determined based on ambient monitoring data.

Pollutant	Averaging Period	Year of Maximum Impact	Modeled Concentration [(a)] ($\mu g/m^3$)	Total Concentration [(b)] ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)
PM_{10}	24-hour	2004	16.79 [(c)]	80.79	150

a. Modeled concentration is the impact from the source and inventory sources.
b. Total concentration is the impact from the source, inventory sources, and the Little Rock PM_{10} monitor.
c. High 6th High 24-Hour modeled concentration

For the increment analysis the maximum 24-hour 2nd highest modeled impact is compared to the 24-hour increment. Regulation No. §19.904 (C)(1) requires further analysis if more than 80% of a short term increment is consumed. The table below indicates the modeled impacts are less than the increment and that no further analysis is required.

Pollutant	Averaging Period	Year of Maximum Impact	Modeled Concentration [(a)] ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	80% of PSD Increment ($\mu g/m^3$)
PM_{10}	24-hour	2008	17.97	39	31.2

a. Modeled concentration is the impact from the source and inventory sources.

Class II Area Additional Impacts Analysis

An additional impact analysis is based existing air quality, the quantity of emissions, and the sensitivity of local soils, vegetation, and visibility in the project's area of impact. The additional impact analysis consists of three parts: (1) growth, (2) soils and vegetation, and (3) visibility impairment.

Growth Analysis

The growth analysis includes a projection of the associated industrial, commercial, and residential source growth that result in the area due to the source and an estimate of the air emissions generated by the above associated industrial, commercial, and residential growth. The project is not expected to create any new fulltime positions. Residential growth is not expected to result from the project. In addition, the shipping of raw materials and products to and from the facility is not expected to significantly increase the level of rail or ground traffic in the area. Therefore, no appreciable increase in emissions is expected as a result of any industrial, commercial, or residential growth associated with the project.

Soils and Vegetation

The analysis of soil and vegetation air pollution impacts is based on an inventory of the soil and vegetation types found in the impact area. This inventory considers vegetation with commercial or recreational value. The Mississippi County area consists mainly of farmland. The primary crops present in the area include rice, sorghum, wheat, com, cotton, and soybeans. The secondary NAAQS, which establish the ambient concentration levels below which no harmful effects to either soil or vegetation can be expected, are used as indicators of potentially adverse impacts. Thus, the modeled impacts, all of which are below the applicable secondary NAAQS, presumptively show that there will be no adverse impact upon either soil or vegetation due to the proposed project.

Class II Area Visibility

A screening analysis of predicted impacts on visibility was performed. Visibility was evaluated using VISCREEN. The results from VISCREEN predicted that the light extinction and change in contrast were below the first level of screening (i.e. $\Delta E \leq 2.0$ and $Cp \leq 0.05$). Therefore, it is presumed the project will not have an adverse impact.

Class I Area Impact Analysis

Class I areas are areas of special national or regional natural, scenic, recreational, or historic value for which the PSD regulations provide special protection. The nearest Class I area is the Mingo National Wildlife Refuge (NWR), which is approximately 120 km from the Dell Power Plant site.

A screening analysis of predicted impacts on Class I increments and visibility was performed. Visibility was evaluated using VISCREEN. The results from VISCREEN predicted that the light extinction and change in contrast were below the first level of screening (*i.e.* $\Delta E \leq 2.0$ and $Cp \leq 0.05$).

The Class I increment assessment was performed utilizing AERMOD analyses using a single-ring polar receptor grid, with receptors located at five-degree increments, 50 km from the center of the facility. The emissions associated with the proposed project for PM_{10} and NO_X were modeled and the results compared to the Class I SILs. As shown below, the modeling results are below the applicable Class I Increments and SILs for these pollutants. Therefore, it is presumed the project will not have an adverse impact on Class I increments.

	24-Hour PM_{10} ($\mu g/m^3$)	Annual PM_{10} ($\mu g/m^3$)	Annual NO_X ($\mu g/m^3$)
Maximum Impact	0.1889	0.0130	0.0086
Class I Area Increment	10	5	2.5
Class I Area SIL	0.3	0.2	0.1

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility was last inspected on April 22, 2009 and determined to be operating in accordance with Permit No. 1903-AOP-R6.

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? Y

b. Is the facility categorized as a major source for PSD? Y
Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
03, 32, 33	-	NSPS Dc
01 and 02 including duct burners	SO_2 NO_X	NSPS KKKK
01 and 02	HAPS	NESHAP YYYY

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
All Sources except SN-35 and SN-36	PM/PM_{10} VOC CO NO_X	PSD

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time for SO_2 and VOC.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu g/m^3$)	Averaging Time	Highest Concentration ($\mu g/m^3$)	% of NAAQS
PM_{10}	100.9	50	Annual	27.16	55%
		150	24-Hour	80.95	54%
CO	230.6	10,000	8-Hour	186	2%
		40,000	1-Hour	854	3%
NO_x	132.2	100	Annual	13.5	14%
Pb	0.31	0.15	Rolling 3-month Period over 3 years (not to be exceeded in any 3 month period)	0.04	27%

Non-Criteria Pollutants:

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m^3), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m^3)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
1,3-Butadiene	4.43	0.487	0.068	No
Acetaldehyde	45.040	4.95	0.155	No
Acrolein	0.230	0.025	0.0247	No
Ammonia	17.4	1.92	51.5	Yes
Arsenic	0.010	0.001	0.047	Yes
Barium	0.5	0.055	0.0004	No
Benzene	1.597	0.176	0.238	Yes
Beryllium	0.00005	5.5E-06	0.0013	Yes
Cadmium	0.002	0.0002	0.021	Yes
Chromium	0.500	0.055	0.047	No
Cobalt	0.020	0.002	0.00006	No
Copper	0.2	0.022	0.00007	No
Dichlorobenzene	60.127	6.614	0.001	No
Ethylbenzene	434.19	47.761	0.122	No
Formaldehyde	0.370	0.041	2.754	Yes
Hexane	176.37	19.401	1.290	No
Manganese	0.200	0.022	3.337	Yes
Mercury	0.010	0.001	0.0053	Yes
Molybdenum	0.5	0.055	0.00009	No
Naphthalene	52.43	5.767	0.149	No
Nickel	0.100	0.011	0.021	Yes
PAH	0.2	0.022	0.170	Yes
Propylene Oxide	4.75	0.523	0.110	No
Selenium	0.200	0.022	0.106	Yes
Toluene	75.36	8.290	0.498	No
Xylenes	434.19	47.761	0.244	No

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Ammonia	174	5.72	Yes
Arsenic	0.1	0.005	Yes
Benzene	15.97	0.029	Yes
Beryllium	0.0005	0.0002	Yes
Cadmium	0.02	0.002	Yes

Pollutant	PAIL ($\mu g/m^3$) = 1/100 of Threshold Limit Value	Modeled Concentration ($\mu g/m^3$)	Pass?
Formaldehyde	15	0.311	Yes
Manganese	2.0	0.368	Yes
Mercury	0.1	0.001	Yes
Nickel	1.0	0.002	Yes
PAH	2.0	0.019	Yes
Selenium	2.0	0.012	Yes

Other Modeling:

Odor:

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time for hydrogen sulfide or styrene.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 and 02	AP-42 and General Electric Equipment Specs	For HAPs: AP-42 Tables 3.1-2a and 3.1-3	Dry Low NO_x, Water Injection, and Selective Catalytic Reduction	Approx 85%	Controlled emission factors provided for the GE Turbines. Factors assume that SCR is included.
03	AP-42	Table 1.4-1, 1.4-2, 1.4-3, and 1.4-4	Low NO_x Burner	N/A	Uncontrolled emission factors
04-15	AP-42 and AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001	0.0005% Drift Rate and 8000ppm Total Dissolved Solids	N/A	N/A	Uncontrolled emission factors
16-22 and 24-27	AP-42 and AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001	0.0005% Drift Rate and 1500ppm Total Dissolved Solids	N/A	N/A	Uncontrolled emission factors

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
34	AP-42	Table 3.3-1 and 3.3-2	N/A	N/A	Uncontrolled emission factors
32 33	Manufacturer's Specs for CO, NO_X AP-42 all others	1.35 lb NO_X/hr 0.46 lb CO/hr AP-42 1.4	N/A	N/A	Uncontrolled emission factors
35, 36	AP-42 Section 7.1.3.1	40.9 lb VOC/hr	N/A	N/A	Uncontrolled emission factors

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
01 and 02	PM	5 and 202	Initial and then every 5 years for each fuel type	In order to confirm BACT and lb/MMBtu limits
	PM_{10}	201A and 202 or 5 and 202		
	VOC	25A		
	CO	10		
	NO_X	7E		
	Lead	12		To confirm lb/hr and tpy limits
	HAPs and Ammonia	18		To confirm lb/hr and tpy limits for HAPs and ammonia and to verify that no additional HAPs will be emitted
03	NO_X	7E	Initial	In order to confirm BACT and lb/MMBtu

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
01 and 02	Fuel Sulfur Content	ASTM D1072-80, D3031-81, or D3246-81	Daily	If exceeded
	Fuel Nitrogen Content	Fuel Monitoring Protocol for Stationary Gas Turbines subject to 40 CFR 60, Subpart KKKK	Daily	
	Fuel Flow Rate	In-line Fuel Flow Meter (CEM)	Continuous	
	CO	CEM	Continuous	
	NO_X	CEM	Continuous	
	SO_2	CEM	Continuous	
04-15	TDS	Not to exceed 8,000 ppm	Monthly	Y
16-22 and 24-27	TDS	Not to exceed 1,500 ppm	Weekly	Y

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
01 and 02	Fuel Fired	Natural Gas	N/A	Y
	Natural Gas Usage	39,500 million SCF	Annual	Y
	Fuel Nitrogen and Sulfur Contents	N/A	Daily	Y
	No 2. Fuel Oil Usage	1,850 hours per year	Daily	Y
03	Fuel Fired	Natural Gas	N/A	Y
04-15	Total Dissolved Solids	8,000 ppm	Monthly	Y
16-22 and 24-27	Total Dissolved Solids	1,500 ppm	Weekly	Y
34	Fuel Sulfur Content	0.5%	Monthly	Y
	Hours per year of operation	250 hours/yr	Monthly	Y
28-31	Total Suspended Particulate	75,000 ppm	Weekly	Y
32 and 33	Fuel burned	N/A	Monthly	Y
35 and 36	No. 2 Fuel Oil Throughput	257,380,000 gal/yr	Monthly	Y

16. OPACITY:

SN	**Opacity**	**Justification for limit**	**Compliance Mechanism**
01 and 02 (natural gas)	5%	Dept. Limit	Initial reading, then natural gas usage only

SN	Opacity	Justification for limit	Compliance Mechanism
01 and 02 (fuel oil)	10%	BACT Limit	Daily Method 9 Observations during fuel oil combustion
03	5%	Dept. Limit	Natural gas usage only
04-22 and 24-27	20%	Dept. Limit	Total Dissolved Solids Limit (SC#42 and 43)
23	20%	Dept. Limit	Readings taken if operated more than 3 consecutive hours
28-31	20%	Dept. Limit	TSP Limit (SC#55)
32 and 33	5%	Dept. Limit	Natural gas as fuel

17. DELETED CONDITIONS:

Former SC	Justification for removal
51 - 55	The sources were removed from permit.

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/PM_{10}	SO_2	VOC	CO	NO_x	HAPs	
							Single	Total
Fire Pump	A-1	0.1	0.1	0.2	0.1	1.0		0.01
Diesel Tank 500 gal	A-3			0.0001				
Diesel Tank 400 gal	A-3			0.0001				

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1903-AOP-R6

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Phillip Murphy, P.E.
Engineering Supervisor, Air Division

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

Fee Calculation for Major Source

Revised 07-27-09

Facility Name: AECI - Dell Power Plant
ermit Number: 1903-AOP-R7
AFIN: 47-00448

$/ton factor	22.07	Annual Chargeable Emissions (tpy)	1124.5
Permit Type	Modification	Permit Fee $	3658.7646

Minor Modification Fee $	500
Minimum Modification Fee $	1000
Renewal with Minor Modification $	500
Check if Facility Holds an Active Minor Source Permit	☐
If Hold Active Permit, Amt of Last Annual Air Permit Invoice $	0
Total Permit Fee Chargeable Emissions (tpy)	165.78
Initial Title V Permit Fee Chargeable Emissions (tpy)	

HAPs not included in VOC or PM: *Chlorine, Hydrazine, HCl, HF, Methyl Chloroform, Methylene Chloride, Phosphine, Tetrachloroethylene, Titanium Tetrachloride*

Air Contaminants: *All air contaminants are chargeable unless they are included in other totals (e.g., H2SO4 in condensible PM, H2S in TRS, etc.)*

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
PM	☑	307.92	392.4	84.48	84.48	392.4
PM_{10}	☐	207.82	298.5	90.68		
SO_2	☑	35.46	42.1	6.64	6.64	42.1
VOC	☑	106.12	82.5	-23.62	-23.62	82.5
CO	☐	555.12	623.6	68.48		
NO_X	☑	293.82	392.1	98.28	98.28	392.1
Lead - Inclued in PM/PM10	☐	0.3	0.51	0.21		
1,3-Butadiene	☐	0.04	0.11	0.07		
Acetaldehyde	☐	0.75	0.81	0.06		
Acrolein	☐	0.14	0.13	-0.01		
Ammonia	☑	215.4	215.40	0	0	215.4
Arsenic	☐	0.01	0.09	0.08		
Benzene	☐	0.25	0.44	0.19		
Beryllium	☐	0.01	0.05	0.04		
Cadmium	☐	0.01	0.05	0.04		
Chromium	☐	0.01	0.09	0.08		
'obalt	☐	0.01	0.05	0.04		
Dichlorobenzene	☐	0.01	0.05	0.04		
Ethylbenzene	☐	0.6	0.60	0		

Pollutant (tpy)	Check if Chargeable Emission	Old Permit	New Permit	Change in Emissions	Permit Fee Chargeable Emissions	Annual Chargeable Emissions
Formaldehyde	☐	12.59	13.38	0.79		
Hexane	☐	0.7	6.96	6.26		
Manganese	☐	0.01	3.11	3.1		
Mercury	☐	0.01	0.05	0.04		
Naphthalene	☐	0.07	0.20	0.13		
Nickel	☐	0.01	0.04	0.03		
PAH	☐	0.06	0.21	0.15		
Phenanthrene	☐	0.01	0.01	0		
POM	☐		0.01	0.01		
Propylene Oxide	☐	0.54	0.50	-0.04		
Selenium	☐	0.01	0.13	0.12		
Toluene	☐	2.33	2.24	-0.09		
Xylene	☐	1.18	1.21	0.03		