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May 10, 2006

Mr. Al Linero, P.E.
South Permitting Section
Bureau of Air Regulation
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED
MAY 11 2006
BUREAU OF AIR REGULATION

Subject: OUC Stanton B Netting Submittal

Dear Mr. Linero

The purpose of this letter submittal is to notify the Florida Department of Environmental Protection (FDEP) that Orlando Utilities Commission (OUC) and Southern Company would like to net out of prevention of significant deterioration (PSD) for NO_x for the Stanton B Project. This submittal provides the basis for the netting analysis and demonstrates that the net emissions increase of NO_x associated with the Stanton B project will be less than the prevention of significant deterioration (PSD) significant emission rate (SER) for NO_x and thereby avoid NO_x PSD major modification permitting for Stanton B. With this submittal, OUC is requesting a new combined Stanton Unit 1 and Unit 2 8,300 tons per year (tpy) NO_x emissions limit to be effective on the first day of the month that Stanton B commences operation. This requested limit will be used to establish an emissions decrease from Units 1 and 2 used in a netting analysis to demonstrate that the net emissions change relating to Stanton B construction will be less than the PSD SER for NO_x. As such, Stanton B will not be subject to PSD permitting for NO_x, avoiding the requirement for use of best available control technology (BACT) for NO_x emissions control and the need for an ambient air quality impact analysis for NO_x. The following provides the basis for the requested combined Stanton Unit 1 and Unit 2 tpy NO_x emissions limit and the Stanton B netting analysis.

Baseline Actual Emissions

The baseline actual emissions (BAE) for existing Stanton Unit 1 and Unit 2 are used to determine the emissions decrease associated with OUC accepting a ton per year (tpy) emission limit on these units. From 62-210.200(34), F.A.C., baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete application is received by the Department." Therefore the 5-year "look-back period" used to determine the BAE is May 2001 through April 2006. Acid Rain emissions information was used to determine the appropriate baseline actual emissions for Units 1 and 2 as shown in Table 1. OUC has chosen the calendar year 2004 through 2005 24-month period to establish the combined Unit 1 and 2 BAE NO_x emissions level of 9,325.4 tpy.

Based on discussions with FDEP personnel, it was agreed that it would be appropriate to use the Acid Rain data to determine the BAE for a netting analysis. It is also understood that tracking of emissions to demonstrate compliance with the new tpy limit will be based on the Acid Rain continuous emission monitoring system (CEMS) data. Note that the acid rain database emissions differ from the emissions information provided in the annual operating reports (AORs) submitted to FDEP. The AORs are based on an annual average lb/mmBtu emission rate derived from the Acid Rain CEMS data multiplied by the heat input rate for each type of fuel used in the unit. The annual heat input for each fuel type is calculated as the total quantity of the fuel used in that year multiplied by the fuel heating value (annual average). This is done separately for each type of fuel used during the reporting year. This is done because the AOR requires reporting of a separate emissions value for each fuel type.

Unit 1 and 2 NO_x Emissions Decrease

With the BAE established as 9,325.4 tpy of NO_x, the next step is to determine the emissions decrease associated with OUC accepting a combined Stanton Unit 1 and Unit 2 tpy NO_x emissions limit. This emissions decrease is calculated as the potential to emit after the new combined Stanton Unit 1 and Unit 2 tpy NO_x emissions limit becomes effective less the BAE. Note that the BAE used in this application conservatively does not include the concept of accounting for excludable emissions, emissions that result from natural demand growth, in the calculation. As part of this submittal OUC is requesting that combined Stanton Unit 1 and Unit 2 NO_x emissions be limited by permit to 8,300 tpy on a rolling 12-month basis, effective the first day of the month that Stanton B commences operation. The first compliance date for the new limit would be 12 months after the effective date. This limit establishes the combined Unit 1 and Unit 2 potential to emit to use in the net emissions decrease calculation. As such the emissions decrease is 1,025.4 tpy.

Note that while the netting analysis must include all contemporaneous emission increases and decreases that were not relied upon in issuance of a PSD permit, there were no other facility modifications that resulted in NO_x emission increases or decreases during the netting contemporaneous period.

OUC is currently conducting a study to ascertain the optimum methods to affect NO_x reductions from Stanton Units 1 and/or Unit 2. Because this study has not been completed, OUC is not ready at this point to provide a detailed description of the NO_x control technology(s) that will be used to reduce NO_x emissions from Units 1 and/or 2. However, OUC is committed to achieving the level of NO_x emission reductions presented in this submittal. The following provides a brief discussion of the types of NO_x reduction technologies being considered for Stanton Unit 1 and Unit 2.

The following types of NO_x controls are being considered for Stanton Unit 1, which has no existing NO_x controls: Low-NO_x burners (LNB), Overfire air (OFA), selective non-catalytic reduction (SNCR), and selective catalytic reduction (SCR). These technologies may be used separately or in combination to achieve the targeted emission reductions. The use of LNB is a combustion control technology whereby NO_x formation is limited by controlling the stoichiometric and temperature profiles of combustion in each burner zone. OFA systems reduce NO_x formation by creating a fuel-rich combustion zone. The OFA is introduced above the main combustion zone where fuel burnout can be completed at a lower temperature. SCR is a post-combustion NO_x emissions reduction system. In SCR systems, vaporized ammonia (ammonia may be generated from urea conversion system) injected into the flue gas stream acts as a reducing agent in the presence of a catalyst, achieving the desired NO_x reduction. The NO_x and ammonia reagent react to form nitrogen and water. SNCR is another post-combustion control technology that uses a reagent such as ammonia or urea to control NO_x emissions. SNCR systems rely on an appropriate reagent injection temperature, good reagent-gas mixing, and adequate reaction time rather than a catalyst to achieve NO_x reductions.

Further NO_x control being considered for Stanton Unit 2, which already employs the use of LNB and SCR, include an upgrade to the existing LNBs and upgrading the existing SCR. Upgrades to the SCR may include increasing catalyst volume, changing catalyst formulation, improving fluegas/ammonia distribution in the SCR, etc. These upgrades may be implemented separately or in combination to achieve the targeted emission reductions.

NO_x Net Emissions Change For the Stanton B Project

The combined Unit 1 and Unit 2 NO_x emissions decrease discussed above, in combination with the NO_x emission increases from the new Stanton B Project are used in determining the Stanton B net emissions increase to determine PSD applicability. If the net emissions increase is less than the NO_x PSD major modification SER of 40 tpy, then the Stanton B project will not be a PSD major modification for NO_x and will not be subject to PSD for NO_x. The Stanton B Project potential to emit as provided in this submittal and as will be established through the construction permit for Stanton B is 1,006.2 tpy {Phase 1 as given in the 3/17/06 revision to the Stanton B application}. This increase in NO_x emissions in combination with the combined Unit 1 and Unit 2 NO_x emissions decrease as described above results in a net NO_x emissions **decrease** of 19.2 tpy. Therefore, through the requested new combined Unit 1 and Unit 2 tpy NO_x emissions limit, the emissions change from the Stanton B netting analysis is not only below the PSD SER levels but also results in a decrease in facility NO_x emissions of approximately 19 tpy.

Summary

In summary, this submittal provides requested permit limits and a netting demonstration that shows that the net emissions increase of the Stanton B Project, when considering the emission decreases from existing Stanton Unit 1 and Unit 2 are less than the PSD SER for NO_x, and actually show a decrease in NO_x emissions. As such, the Stanton B project will not be subject to PSD for NO_x emissions, thereby avoiding the need to implement BACT emission controls and an ambient air quality impact analysis for NO_x.

If there are any questions regarding this submittal please contact me at 407-737-4236.

Sincerely,

Denise M. Stalls
Vice President
Environmental Affairs
OUC

DMS

Table 1 – Stanton Units 1 and 2 Combined Baseline Actual Emissions					
Year	Month	Unit 1 NO_x Emissions (tons)	Unit 2 NO_x Emissions (tons)	Combined Unit 1 and Unit 2 NO_x Emissions (tons)	Rolling 24-month annual average NO_x emissions (tpy)
2001	5	672.7	265.6	938.3	
2001	6	652.0	249.9	901.9	
2001	7	670.3	258.7	929.0	
2001	8	679.0	267.9	946.9	
2001	9	666.0	250.3	916.3	
2001	10	388.0	269.5	657.5	
2001	11	224.0	251.2	475.2	
2001	12	625.2	235.3	860.5	
2002	1	584.7	227.6	812.3	
2002	2	510.0	192.4	702.4	
2002	3	647.1	121.1	768.2	
2002	4	649.3	113.5	762.8	
2002	5	580.9	205.0	785.9	
2002	6	353.8	202.2	556.0	
2002	7	524.2	226.2	750.4	
2002	8	637.6	166.2	803.8	
2002	9	699.1	165.9	865.0	
2002	10	471.6	231.9	703.5	
2002	11	203.8	222.0	425.8	
2002	12	631.6	274.8	906.4	
2003	1	615.4	253.0	868.4	
2003	2	580.0	170.4	750.4	
2003	3	620.7		620.7	
2003	4	607.7	39.8	647.5	9,177.6
2003	5	569.4	239.8	809.2	9,113.0
2003	6	526.1	204.5	730.6	9,027.4
2003	7	566.2	265.7	831.9	8,978.8
2003	8	558.1	297.9	856.0	8,933.4
2003	9	561.0	279.7	840.7	8,895.6
2003	10	479.5	279.7	759.2	8,946.4
2003	11	144.0	238.8	382.8	8,900.2
2003	12	546.9	250.4	797.3	8,868.6
2004	1	536.4	211.9	748.3	8,836.6
2004	2	535.5	160.3	695.8	8,833.3
2004	3	601.1	38.3	639.4	8,768.9
2004	4	707.0	209.0	916.0	8,845.5
2004	5	662.5	255.4	917.9	8,911.5
2004	6	607.7	248.2	855.9	9,061.5
2004	7	563.6	238.9	802.5	9,087.5
2004	8	529.8	216.3	746.1	9,058.7
2004	9	409.4	233.1	642.5	8,947.4
2004	10		252.1	252.1	8,721.7
2004	11	128.9	247.2	376.1	8,696.9
2004	12	578.2	255.2	833.4	8,660.4
2005	1	565.5	246.7	812.2	8,632.3
2005	2	537.4	228.5	765.9	8,640.0
2005	3	706.1	33.3	739.4	8,699.4
2005	4	607.7	144.4	752.1	8,751.7
2005	5	417.8	247.5	665.3	8,679.7
2005	6	590.1	261.6	851.7	8,740.3
2005	7	676.5	267.8	944.3	8,796.5
2005	8	642.9	280.8	923.7	8,830.3
2005	9	641.9	260.8	902.7	8,861.3
2005	10	635.1	239.8	874.9	8,919.2
2005	11	717.4	232.2	949.6	9,202.6
2005	12	794.3	248.7	1043.0	9,325.4

The look-back period is May 2001 through April 2006.
Data was downloaded from the USEPA Clean Air Markets Web Site. The 2005 data is listed as preliminary in the data base.
Data for January 2006 through April 2006 was not available from the USEPA Clean Air Markets Web Site.
The highest 24-month annual average of 9,325.4 tpy is for the January 2004 through December 2005 period.