FINAL DETERMINATION

Air Construction Permit
Tampa Electric Company (TEC)
Polk Units 2 to 5 Conversion to Combined Cycle Configuration
DEP File No. 1050233-034-AC (PSD-FL-421)

PERMITTEE

Tampa Electric Company (TEC)
Post Office Box 111
Tampa, Florida 33601-0111

PERMITTING AUTHORITY

Florida Department of Environmental Protection (Department)
Division of Air Resource Management
Office of Permitting and Compliance (OPC)
2600 Blair Stone Road, MS #5505
Tallahassee, Florida 32399-2400

PROJECT

DEP File No. 1050233-034-AC
TEC Polk Power Station
Polk 2 Combine Cycle
Polk County

TEC operates the existing Polk Power Station. The facility is located in Polk County at 9895 State Road 37 South in Mulberry, Florida.

The project will utilize four existing combustion turbine-electrical generators (CTGs) and will add four new heat recovery steam generators (HRSGs) equipped with natural gas-fired duct burners, a single 500 MW steam turbine-electric generator (STEG), a mechanical draft cooling tower, transmission upgrades and ancillary equipment. The Polk 2 Combine Cycle "4-on-1" unit will have an electrical generating capacity of approximately 1,160 megawatts (MW).

A Prevention of Significant Deterioration (PSD) review and determinations of Best Available Control Technology (BACT) were required for the following pollutants pursuant to the Rule 62-212.400, Florida Administrative Code (F.A.C): volatile organic compounds (VOC), nitrogen oxides (NO_X), carbon monoxide (CO), sulfur dioxide (SO_2), sulfuric acid mist, particulate matter (PM), PM with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10}) and PM with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$). Details of the project are provided in the application and the Technical Evaluation and Preliminary Determination.

NOTICES AND PUBLICATION

The Department distributed a major stationary source modification air construction (PSD) draft permit package on December 31, 2012. TEC did not publish notice following receipt of the first package and requested an extension of time to file a petition while certain matters were resolved. The key issue of concern to the applicant related to future operation of the existing CTGs in simple cycle mode in the event of a long term (up to 6-months) forced shutdown of the new STEG.

The Department distributed a revised PSD draft permit package on March 28, 2013. The written notice is available at Link to Written Notice . The applicant published the Public Notice in The Lakeland Ledger on April 10, 2013. The Department received the proof of publication on April 12. No requests for administrative hearings or requests for extensions of time to file a petition for administrative hearing were received following distribution and publication of the revised PSD draft permit package.

COMMENTS

No comments on the draft permit were received from members of the public. Written comments were received from the EPA Region 4 Office on March 6, 2013 with respect to the draft PSD package distributed on December 31, 2013. Link to Initial EPA Comments . Those comments were reproduced and discussed within the Revised Technical Evaluation and Preliminary Determination (TEPD) distributed on March 28, 2013. Link to Revised TEPD .

On April 8 and 24, 2013 the Department received comments by electronic mail from the EPA Region 4 Office. These are discussed below. On April 29, 2013 the Department received written comments from TEC regarding the revised and publicly noticed draft PSD permit.

I. REVIEW OF COMMENTS FROM TEC

The comments from TEC were received within the 30-day comment period available at the following link: Link to TEC Comments . The comments included a marked up version of the permit with the changes proposed by TEC. Link to Marked-up Draft Permit . The key TEC comments are repeated or paraphrased *(in italics)* below and followed by the Department's response.

1. Draft Permit, Section 3.A., Specific Condition 15, Excess Emissions. *TEC requests additional hours of excess emissions for a warm startup (4 hours) compared with a hot startup (2 hours) of the STEG. We also would like to clarify that the excluded emissions are from any CTG/HRSG that is used in the startup of the STEG. TEC believes that this will provide the necessary language to avoid confusion between which excess emission exclusion should be utilized during startup. Refer to Alstom startup profile submitted with TEC's comments. Link to Alstom STEG Curves . TEC needs the Condition 15 language to be consistent with the vendor documentation from Alstom, the steam turbine manufacturer, which shows that more than 2 hours is needed for a warm startup.*

   Department Response. The information from the Alstom start-up curves submitted by TEC was summarized by the Department in the following table:

   Alstom Typical Start-up Times to Full Speed and Full Load for STEG following Shutdowns

Start-up Type	Period of Shutdown (hours)	Time to Full Speed (minutes)	Time to Full Load (minutes)
Cold Start	> 120	60	180
Warm Start 1	60	40	140
Warm Start 2	30	10	90
Hot Start	< 8	5	40
TEC Warm Start*	48	>10 and < 40	120
* Interpolated by TEC from Warm Start Cases 1 and 2			

   The Department notes that the curves (vendor documentation) are not actually for the specific STEG that will actually be purchased by TEC. For example, the curves were prepared for a STEG (presumably 400 MW) designed for the 50 hertz (non-U.S.) market. However, by electronic mail dated May 7, 2013 Alstom subsequently advised:

   > *"Our STG design engineers confirmed the expected start-up times for a 50Hz verse 60Hz STG's are essentially the same as the typical diagram 1AHV423640 included in the proposal, of course 100% speed will be 3,600 rpm not 3,000. Once the STG design is complete, project specific information will be available. Please advise if you need an official letter."*

The values in the table clearly indicate that STEG start-up times to full load are at least an hour greater following the defined TEC Warm Start compared with the Hot Start.

Because all HRSGs would be admitting steam to the STEG by the time it reaches 76% of full load, the last CTG/HRSG participating in the startup sequence would no longer be causing excess emissions. Therefore perhaps an extra hour rather than 80 minutes (or the requested two extra hours) is more accurate for the TEC Warm Start compared with the Hot Start.

TEC originally requested 2 hours of excess emissions per CTG/HRSG set for both the Hot and the TEC Warm Start. The Department will allocate 4 hours for the TEC Warm Start. This should provide an adequate margin of safety to insure the fourth CTG/HRSG is warmed up and admitting steam to the STEG without exhibiting excess NO_X emissions by the end of the TEC Warm Start. Even though the TEC Warm Start-up takes less than 4 hours, the tracking of start-up, shutdown and malfunction (SSM) data for this project is based on valid hours (rather than minutes or quarter hours). Thus, an hour during which a CTG is idle for all but 20 minutes would be counted as an excludable hour of SSM.

The following table was subsequently provided by TEC to visualize the entire time needed for excess emissions resulting from a TEC Warm Start following a 48 hour shutdown of the STEG. Some of the explanatory notes were inserted by the Department.

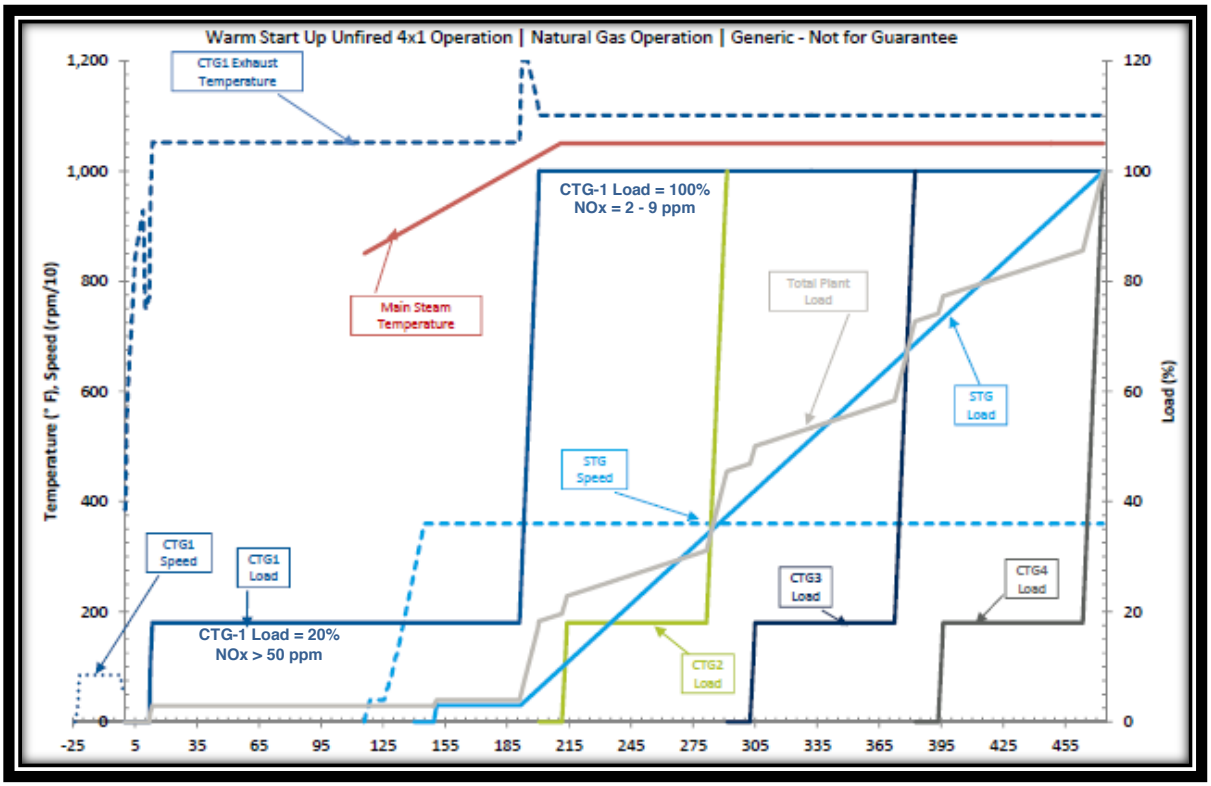
Polk 2 CTG and STEG Loads at the Beginning of each Hour during a TEC Warm Start [1]

Hour	CTG-1 (MW)	CTG-2 (MW)	CTG-3 (MW)	CTG-4 (MW)	STEG (MW)
0 [2]	**0**	0	0	0	0
1	**30** [3]	0	0	0	0
2	**30**	0	0	0	0
3	**30**	**0**	0	0	Soak [4]
4	170	**30**	**0**	0	85
5	170	170	**30**	**0**	170
6	170	170	170	**30** [5]	255
7	170	170	170	170	340

1. Shaded areas denote hours during which excess emissions occur, not necessarily the time of excess emissions.
2. Hour "0" is actually < 30 minutes, but would constitute a valid hour for data exclusion.
3. Excess emissions are experienced at low CTG load until HRSG is adequately heated. This will occur before the CTG achieves 170 MW and by the time HRSG steam is admitted to the STEG.
4. Soak includes Full Speed No Load and Low Load Soaks.
5. CTG-4 is ramped up at the end of Hour 6, ending Start-up.

The first CTG would require less than four hours of excess emissions during start-up. The other three CTG/HRSG sets would each require less than two hours of excess emissions. Excess emissions for the entire combined cycle would actually occur for less than 6 hours including 2 to 4 hours per CTG/HRSG set. However, during each and every hour (from Hour "0" to Hour "6"), the emission data for at least one CTG/HRSG set will be excluded.

TEC supplied a pictorial representation of the chart given above. It is provided in the figure below. The Department added the notes showing the approximate NO_X concentrations indicative of excess emissions during the 3-4 hours that it takes for the first CTG to achieve lowest emissions category. That point occurs when lean premix, dry low NO_X (DLN) mode 6Q (including quaternary pegs) is reached in conjunction with ammonia injection into the selective catalytic reduction system housed in the HRSG.



Warm Start-up Sequence of a 4-on-1 Combined Cycle Unit

2. Section 1, General Information, Emissions Unit Descriptions. *TEC is requests that the two stacks on each CTG be allocated separate Emissions Unit Identification Numbers (EU IDs). This would result in eight EU IDs. This would allow for easier Relative Accuracy Test Audit (RATA) reporting for each stack. Per 40 CFR 75 requirements a RATA is required on each continuous emission monitoring system (CEMS) that has more than 168 hours for four quarters (does not have to be sequential quarters). This change will avoid submitting two separate RATAs for the same EU ID. In addition, the annual operating reports will be representative of the mode of operation the CTG operates.*

   Department Response. The requested change in the EU IDs appears to be more convenient than the alternative, which would be to designate separate "emission points" within the EU IDs proposed in the revised draft permit. The Department will make the requested changes as indicated in the marked-up version of the draft permit accessible at the link given above.

3. Section 3.A., Specific Condition 9, Emission Standards, Table Note f. CO Stack Testing. *TEC requests addition of phrase: "Stack tests while firing duct burners are not required. Stack tests while operating in simple cycle mode are not required". This will make this condition consistent with the Table Note "g" for the VOC emission standards. In prior phone conversations with FDEP, TEC noted that the CO stack test limits shown in Condition 9 for the combined cycle stacks do not include the additional CO emissions that may occur due to the use of the duct burners.*

   Department Response. Table Note f. will be changed as follows:

   f. An initial and an annual CO stack test shall be conducted on each CTG while firing natural gas and operating in combined cycle mode. Stack tests while firing duct burners are not required. Stack tests while operating in simple cycle mode are not required. An initial CO stack test shall be conducted on each CTG while firing fuel oil and operating in combined cycle mode.

The Department concurs that TEC stated the stack test limits proposed by TEC do not include the additional CO emissions that TEC believes may occur due to the use of the duct burners. The Department agrees that on a mass basis there will be greater CO emissions when using the duct burners. On a concentration basis, the CO measurements for both modes (duct burner on/off) will be substantially less than the permitted emission limit of 4.1 parts per million by volume, dry, at 15 percent oxygen (ppmvd @15% O_2). The following table is summary of the emissions profile from the (virtually) identical 4-on-1 FP&L Turkey Point Combined Cycle Unit 5 (also based on GE7FA.03 technology). It demonstrates that concentrations of all pollutants are roughly the same whether the duct burners are on or off.

Emissions from FP&L Turkey Point Combined Cycle Unit 5 (ppmvd @15% O_2).

Unit	Mode	NO_X	CO	VOC (THC) [1]	NH_3	Opacity (%)
Unit 5A	Duct Burner off	1.4	0.56	1.23	0.46	0
	Duct Burner on	1.5	0.90	0.46	0.43	0
Unit 5B	Natural Gas	1.6	0.37	0.29	0.13	0
	Duct burner on	1.5	0.74	0.29	0.45	0
Unit 5C	Natural Gas	1.6	0.26	0.17	0.15	0
	Duct burner on	1.7	0.67	0.20	0.33	0
Unit 5D	Natural Gas	1.4	0.31	0.35	0.64	0
	Duct burner on	1.7	0.94	0.51	0.47	0
1. THC is a conservatively high estimate of VOC because it includes methane and ethane not defined as VOC.						

The Department is confident that CO and VOC concentrations from the TEC Polk 2 Combined Cycle Unit will be low as demonstrated at FP&L Turkey Point Unit 5. Furthermore, (as detailed in the technical evaluation) TEC has already demonstrated that CO emissions are typically less than 1 ppmvd @15% O_2 for the four CTGs that will comprise the combined cycle.

4. Section 3.A., Specific Condition 8.d, Methods of Operation. *TEC requests that Condition 8.d. be made consistent with the other method of operation conditions included in this permit (by using the term "avg. hours/CY/CTG").*

   Department Response. The term "avg. hours/CY/CTG" is already used in the first part of Condition 8.d. The same Department will make the requested change in the second part Condition 8.d. of the final permit as follows:

   d. Fuel Oil Usage – CTGs 2A, 2B, 2C and 2D: CTGs 2A, 2B, 2C and 2D shall use ULSD fuel oil for no more than 750 avg. hours/CY/CTG of which no more than 375 avg. hours/CY/CTG may be in simple cycle mode. The CTGs shall fire ULSD fuel oil no more than 48 hours per day.

5. Section 2, Specific Condition 10 and Section 3.A. Specific Condition 1., Previous Permits. *TEC requests that Section 2, Specific Condition 10 be deleted. This condition is a repetition of what is seen in Section 3.A. Condition 1.*

   Department Response. The two conditions describe the continuation of operation of the four CTGs pursuant to the existing permit in the year during which the Polk Combined Cycle Units commences operation. The Department agrees that the conditions are identical and will the instance at Section 2, Specific Condition 10.

6. Section 3.A., Specific Condition 1, Previously Applicable Permits. *In this revised draft permit, the previously applicable permit requirements (i.e., the current permit requirements for simple cycle operation) remain in effect only through December 31 of the year that Polk 2 Combined Cycle begins operation. Depending on when Polk 2 Combined Cycle commences operation, this would allow the previously permit requirements to be utilized for a period ranging from 364 days (if Polk 2 Combined Cycle commences operation on January 1st) to one day (if Polk 2 Combined Cycle commences operation on December 30th). A short transition period would not allow TEC to provide load if any operational issues or other issues arise with the initial startup of Polk 2 Combined Cycle. TEC requests to be allowed to utilize past permits for up to one year after Polk 2 Combined Cycle began operation or when the revised Title V draft permit is received. Per the revised draft permit, an application for a revised Title V permit is required by 90 days prior to the AC permit expiration but not later than 180 days after commencing operation.*

   Department Response. The Department did not intend to provide a full 365 days of operation in simple cycle mode under the previous permits once the unit commences operation in combined cycle mode. Once the concept of additional hours of operation (3,480 hours and 900 avg. hours/CY/CTG) was incorporated into the revised permit, there was even less justification to provide for up to an additional full year of operation under the earlier simple cycle permits.

   The Department notes that long-term simple cycle operation is described in Section 3.A., Specific Condition 8.c. Such operation is marked to the calendar year after "demonstrating initial compliance" in combined cycle rather than "commencing operation" in combined cycle mode. The Department will reference the calendar year during which operation may continue under the previous permits as the year during which initial compliance is demonstrated rather than the year when the Polk 2 Combined Cycle commences operation. This will provide additional time if further operational issues arise that are not resolved before commencement of operation in combined cycle and before demonstrating initial compliance in combined cycle operation. The condition is modified as follows:

   1. The four CTGs designated as Units 2, 3, 4, and 5 (Emissions Units 009, 010, 013 and 014) were constructed pursuant to permits PSD-FL-263 and PSD-FL-363. They may be operated in the manner described in those permits, modifications to those permits and the applicable facility Title V Operation Permit through December 31 of the calendar year during which the initial compliance demonstrations required by Section 3.A., Specific Condition 19 are conducted on Polk 2 Combined Cycle ~~commences operation~~. On and after January 1 of the following calendar year, the four CTGs designated as Emissions Units 09, 10, 13, and 14 may only be operated as allowed by this permit and by the subsequent Title V Operation Permit described in Section 2, Condition 8.

7. Section 3.A., Specific Conditions 15 and17, Excess Emissions Allowed and Ammonia Injection. *TEC requests that conditions 15 and 17 be changed to be clear that each CTG/HRSG system is allowed 2 hours in any 24 hour period for a documented malfunction.*

   Department Response. The Department will amend Section 3.A., Condition 15, Final Bullet as follows:

   - *Documented Malfunction*: For any ~~the~~ CTG /HRSG system, excess emissions of NO_X resulting from documented malfunctions shall not exceed two hours in any 24-hour period. A "documented malfunction" means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.

   The Department will amend Section 3.A., Specific Condition 17 as follows:

   17. Ammonia Injection: Ammonia injection shall begin as soon as operation of the CTG/HRSG system achieves the operating parameters specified by the manufacturer. As authorized by Rule 62-210.700(5), F.A.C., the above condition allows excess emissions only for specifically defined periods of startup, shutdown, fuel switching, and documented malfunction of any ~~the~~ CTG/HRSG

system including the pollution control equipment.
[Design; Rules 62-212.400(BACT) and 62-210.700, F.A.C.]

8. Section 3.A., Specific Condition 18, Operating Rate During Testing. *Condition 18 should not have the language "and correct as described in Specific Condition 6" as there is no mass emission limits associated with these units.*

   Department Response. The correction (to ISO conditions) is implicit in the design heat rating. The condition will be modified as requested by TEC as follows:

   18. Operating Rate During Testing: Initial and annual stack tests shall be conducted at 90% or greater of the CTG design heat input ratings provided in emissions unit description above ~~and corrected as described in **Specific Condition 6** of this subsection~~. If it is impracticable to test at 90% or greater of the design heat rate for the applicable conditions, the combustion turbine may be tested at less than 90%. In such case, the measured mass emission rates shall be corrected by dividing the result by the percent of the design heat rating at which the test was conducted and multiplying by 100%. [Rule 62-297.310, F.A.C.; 40 CFR 60.8]

9. Section 3.A., Specific Condition 26.e., CEMS Data Requirements/Data Exclusion. *Condition 26.e. references Conditions 14 and 15 related to excess emissions best operating practices and excess emissions duration, respectively. Condition 16 related to combustor tuning also be referenced to account for allowed data exclusions during tuning events.*

   Department Response. The Department concurs that Condition 16 provides for excess emissions during combustor tuning and should, therefore, be referenced in Specific Condition 26.e. The change will be made to Specific Condition 26.e. as requested by TEC.

10. Section 3.A., Specific Condition 24, Test Methods. *TEC would prefer the flexibility to also EPA Method 320 instead of Method 18 to measure methane and ethane. Method 18 is not the preferred method for this procedure as the bags as susceptible to leaks and contamination. Additionally, the analyses are very expensive. The contract laboratory charges $325 per sample bag. An analysis amounts to $1,625 minimum per test, since typically 5 bags are shipped, not counting shipping and cost of the materials. Method 320 is a sampling method we are proficient at performing, is a real-time instrumental measurement system method, and is also being used to satisfy other parameters in the permit requirements.*

    Department Response. EPA Method 18 Tedlar bags are no longer manufactured, which is the reason that the remaining stock is becoming expensive. The Department concurs with TEC's request and added EPA Method 320 as an applicable test method for the measurement of organic compounds.

11. Section 3.A., Specific Condition 15, Permit Note. *In Condition 15, bullet 1, TEC requests the removal of the language that refers to how a cold startup of the STEG occurs. Due to the large nature of the STEG, we may need more than one CTG to provide additional steam to bring the STEG online. For this reason, TEC would like the flexibility to use an additional CTG, if necessary.*

    Department Response. The description in the permitting note states that CTG/HRSGs are brought on line in a sequential manner as shown in the warm start graphic above. During a cold start, it is possible that two sets may be brought on-line at (exactly) the same time and not sequentially. The permitting note is not a condition and is not necessary. Therefore, it will be removed at the request of TEC.

12. Section 3.D., Specific Conditions 8, 9 and 10, Emergency Generator Compliance, Testing Requirements. *The testing requirements (Conditions 9 and 10) should be deleted as there is no performance testing required for the purchase of new emergency generators as they come certified from the manufacturer.*

Department Response. The Department will delete Section 3.D., Specific Conditions 9 and 10 and will renumber Specific Conditions 11 – 13 (related to records and reporting) as Specific Conditions 9-11. The Department will amend Specific Condition 8 to require certification by the engine manufacturer in lieu of the testing requirements in the deleted Specific Conditions 9 and 10. Condition 8 will read as follows:

8. Compliance and Testing Requirements. Manufacturer certification shall ~~can~~ be provided by the permittee to the Department in lieu of actual stack testing in accordance to 40 CFR Part 89 or Part 94, as applicable, for the same model year and maximum engine power. The emergency engines shall be certified by the engine manufacturer to meet the applicable 40 CFR Part 60 Subpart IIII emission limits.

13. Minor Administrative Errors. *TEC has identified some administrative errors that should be corrected before a final permit is received. Please see the red line version of the permit attached for the various requested administrative changes (available at the link to the marked up permit given on Page 1).*

Department Response. Minor changes were made as appropriate.

II. REVIEW OF COMMENTS FROM EPA REGION 4 REGARDING THE REVISED DRAFT

The Department received written comments from EPA Region 4 regarding the revised draft permit on April 8 and April 24, 2013. Link to April 8 EPA Comments Link to April 24 EPA Comments The key EPA comments are repeated or paraphrased *(in italics)* below and followed by the Department's response.

1. Section 3.A., Specific Condition 8. *Other than for the simple purpose of consistency, we do not see any reason to change the compliance periods for the duct burner operation and fuel oil usage limitations to "calendar year" and, thus, would prefer they remain on an "any consecutive 12 months" basis.*

   Department Response. Compliance with the key short-term emission standards (24-hour NO_X) and the short term National Ambient Air Quality Standard (NAAQS, 1-hour NO_X) will not be affected by specifying duct burner usage or fuel oil firing on the basis of 12 rolling months versus a calendar year. The Department will retain the compliance period for duct burner usage and fuel oil firing on a calendar year basis for consistency and for simplicity. The effects on annual NAAQS are discussed below.

2. Ambient Air Modeling. *After looking more closely at the operational limits for the duct burners, simple cycle mode, and fuel oil usage, we now have questions regarding whether modeling truly addressed the worst-case scenario possible. The annual air quality impact assessment was performed with the worst-case calendar year emissions. The annual ambient air impact standards (i.e., NAAQS and PSD increments) are not explicitly based on calendar year operation. The possible worst-case 12-month operational scenario encompassing more than one calendar year has greater emissions than that used in the annual impact assessments provided. Though the difference between the calendar year maximum modeled ambient annual concentrations and applicable significant impact levels (SIL) appear to provide sufficient margin for the larger 12-month worst-case emissions, an assessment should be provided to demonstrate that annual impact assessments using the worst case 12-month rolling period emissions would also be less than the applicable SIL.*

   Department Response. A 12 month period straddling two years can indeed exhibit greater ground level concentrations of a pollutant than individual calendar years if the high emitting modes are loaded towards the end of the first year and the beginning of the second year. However, the long-term NAAQS encompass periods of discrete numbers of calendar years and not portions of calendar years.

   The annual SO_2 NAAQS was rescinded when the 1-hour NAAQS was promulgated. The annual nitrogen dioxide (NO_2) NAAQS is still applicable despite the promulgation of a very stringent (and controlling) 1-hour NO_2 NAAQS. The annual NO_2 NAAQS is contained in 40 CFR §50.11(e) that states:

*(e) The annual primary standard is met when the **annual average concentration in a calendar year** is less than or equal to 53 parts per billion (ppb), as determined in accordance with appendix S of this part for the annual standard*. Link to 40 CFR 50.16

The following table contains a summary of the measurements at the nearest monitor. It is influenced by the same factors as the area near the Polk Power Station, including power plants, fertilizer facilities, citrus agriculture, etc.

NO_2 Ambient Air Quality Measurements Nearest to the Project Site (2009-2011).

Pollutant	Location (Site Number)	Averaging Period	Ambient Concentration			
			Compliance Period	Value	Standard	Units
NO_2	Hillsborough Co (L0571065)	Annual	2011	5.1	53	ppb
		1-hour	2009-2011	37	100	ppb

The measured annual average concentrations are approximately 10% of the annual NO_2 NAAQS. Even the 1-hour design value (i.e. the three-year average of the annual 98th percentile maximum daily 1-hour value) is much less than the allowable single calendar year average value. The synthetic straddling of higher emissions modes over two calendar years to create a 12-month string of possibly greater impacts (than the applicable Class II SIL) does not justify additional modeling for the annual NO_2 parameter.

3. Section 3.D., Specific Condition 9, Emission Standards. *The compliance periods for a couple of the BACT emission limits are specified as a "24-hour block". We believe, particularly since compliance will be assured via CEMS and that BACT applies at all times, a more appropriate averaging time would be a "24-hour rolling" period.*

   Department Response. The 24-hour NO_X emission standard is specified on a 24-hour block that begins at midnight of each operating day. If a unit operates less than 24 hours during the block, or there are less than 24 valid hourly averages available, the 24-hour block shall be the average of all available valid hourly average concentration values for the 24-hour block. This approach assures that BACT applies at all times (as does the EPA-recommended 24-hour rolling approach). If anything, it is more stringent because the probability of an exceedance is greater, particularly on days when less than 24 valid hours are available to calculate 24-hour block NO_X concentrations.

   The 24-hour block is also more compatible with the excess emission provisions that refer to "any 24-hour period", meaning a calendar day from midnight to midnight.

CONCLUSION

The final action of the Department is to issue the final permit with changes from the revised draft permit as discussed above.