

TAMPA ELECTRIC

October 6, 2005

Ms. Trina Vielhauer, Florida Department of Environmental Protection Division of Air Resource Management 111 South Magnolia, Suite 23 Tallahassee, FL 32301

Re: Tampa Electric Company (TEC)

> **Big Bend Station** Title V Permit Number 0570039-023-AV Notification of Insignificant Emissions and Request for Generic Exemption-Fluxing

RECEIVED OCT 07 2005

BUREAU OF AIR REGULATION

Via FedEx Airbill No. 7925 4700 9400

Dear Ms. Vielhauer,

The purpose of this correspondence is to notify the Florida Department of Environmental Protection (Department) that Tampa Electric Company (TEC) intends to introduce fluxing material, specifically iron ore, in the combustion process. TEC intends to store the fluxing material in the former residual fuel building at Big Bend Station.

TEC's Big Bend Station is subject to the provisions of a Consent Decree entered in the United States of America v. Tampa Electric Company, Civil Action Number 99-2524 CIV-T-23F. Paragraphs 29 and 30 of the Consent Decree authorize operation of Units 1, 2 and 3 during outages of the Flue Gas Desulfurization ("FGD") systems serving those units, but requires that an alternative low sulfur coal be utilized during those outages. The use of the alternative low sulfur coal results in several operational and safety changes due to the potential of trapping combustible gases within the slag tank. Big Bend Station Units 1 through 3 are Riley-Stoker Turbo<sup>®</sup> furnace wet-bottom boilers. Proper operation of these boilers requires an ash fusion temperature of the coal such that the ash will stay in a molten state and tap out of the bottom of the boiler. If the ash does not stay in a molten state, then the tap will close trapping combustible gases within the slag tank. The use of iron ore will assist in lowering the ash fusion temperature of this alternative low sulfur coal. Although, iron ore is a material that is known to lower fusion temperature, the extent to which the temperature will be lowered is unknown with this fuel and in the Big Bend Station boilers. If the iron ore is successful in mitigating the current situation with alternative coal, we will be able to maintain reliable operations.

TEC intends to use the building formerly used to store residual fuel at the Big Bend Station to store the iron ore that will be used for fluxing. The iron ore will be brought in by truck at infrequent intervals and stored in the former residual fuel building pending an FGD outage.

TAMPA ELECTRIC COMPANY P. D. BOX 111 TAMPA, FL 33601-0111

(813) 228-4111

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When the iron ore is required, Big Bend Station will transfer the iron ore using the existing hopper and conveyor system in the former residual fuel building or loaded directly onto the K conveyors. This activity will occur only on an infrequent basis, and it is estimated that the maximum amount of iron ore handled in the former residual fuel building will be no more than 5,000 tons per year. The former residual fuel building is enclosed on three sides ensuring that the iron ore will have minimal dust potential.

The iron ore will be emptied into the former residual fuel building from a nominal 24.5 ton dump truck and a bulldozer will either push the material into the dozer trap in the rear of the building onto the BF conveyor or load onto the K conveyors. The conveyors are fully enclosed to prevent fugitive emissions.

TEC requests that the Department confirm that this operation qualifies for a generic exemption from permitting requirements pursuant to the provisions of Rule 62-210.300(3)(b), Florida Administrative Code (F.A.C.). The activity is not subject to any unit specific applicable requirement. The activity will not result in the emission of lead or any hazardous air pollutants, and the activity will fall well below the 5 ton per year threshold for fugitive emissions of particulate matter. Emissions from this activity, in combination with the emissions of other units and activities of the facility, will not cause the facility to exceed any major source threshold either alone, or in combination with emissions from all other insignificant sources. This activity does not constitute a modification of any emissions unit at Big Bend Station.

TEC believes the activity also qualifies as an insignificant emissions activity pursuant to Rule 62-213.430(6), F.A.C. As noted above, the activity is not subject to any unit specific applicable requirement, no lead or hazardous air pollutants are emitted, and the activity will not exceed any major source thresholds, by itself or in combination with emissions from all other insignificant sources. The emissions will fall well below the 5 ton per year threshold for fugitive emissions. We understand that the activity, if determined insignificant, will be incorporated into the Title V permit at its next renewal, assuming that the generic exemption is approved.

Based on the foregoing, TEC believes that the operation is exempt from permitting under Rule 62-210.300(3)(b), and constitutes an insignificant pollutant emitting activity under Rule 62-213.430(6), F.A.C. Enclosed are the emissions calculations and professional engineer's certification. TEC would appreciate the Department providing written concurrence regarding this matter. Thank you for your prompt consideration.

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If you have any questions or need additional information, please contact Shelly Castro or me at (813) 228-4408.

Sincerely,

for Byron T. Barrows, P.E. Manager - Air Programs

Environmental, Health & Safety

EHS/rlk/SSC

## **Enclosures**

c/enc: Mr. David Lloyd, EPA Region IV

Mr. Jason Waters, FDEP SW

Mr. Al Linero, FDEP

Ms. Alice Harman, EPCHC

	EMISSION II	VENTOR	RY WOI	RKSHEET	<u>.</u>			Iron Ore	
Tampa Electric Company - Big Bend Station									
			ON SOUR						
FUG	ITIVE PM - MATE	RIAL TRANS	SFER (DR	OPS)			Figure:		
	F/	CILITY AND	SOURCE	DESCRIPTIO	)N. EEEEE				
Emission Source Description:	Fugitive PM	- Truck Unloading	g of Iron Ore I	lux		-			
Emission Control Method(s)/ID No.(s):	Moist materi	al-					<u> </u>		
Emission Point ID:	IOT-001			,					
		MISSION ES	TIMATIO	VEQUATION	<b>S</b> iddikkaa				
PM Emission (lb/hr) = 0.74 x 0.0032 x [(Wind Speed/	5) <sup>13</sup> / (Material Moisture C	ontent/2) <sup>14</sup> ] x Mater	rial Handled (tor	vhr)	<u> </u>				
PM Emission (tor/yr) = 0.74 x 0.0032 x [(Wind Speed	1/5) <sup>13</sup> / (Material Moisture (	Content/2) <sup>†</sup> ] x Mate	erial Handled (to	эл/ут) x (1 ton/2,000	lb)				
	<u> </u>								
Source: Section 13.2.4, AP-42, January 1995.		-							
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				S CALCULA					
Mean Wind Speed:	8.6 mph	Material Moistu	re Content:	Uncontrolled	10.0 T	weight %			
	Source	Mater	rial	Emission	Control	Emission	Pote	ential PM	
Material Transfer Point	Source ID	Material Transfer Rates		Factor	Efficiency	Factor		sion Rates	
Material Transfer Point	10	(ton/hr)	(ton/yr)	(lb PM/ton)	(%)	(lb PM/ton)	(lb/hr)		
	1	(torvit)	(IOIDYI)	(IU FIVELON)	(70)	(10 Fivition)	(102111)	(ton/yr)	
Truck Unloading to Storage Building	IOT-001A	73.5	5,000	0.000504	25.0	0.000378	0.0278	0.0009	
Transfer to "K" Conveyors	IOT-001B	73.5	5,000	0.000504	0.0	0.000504	0 0370	0.0013	
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		SOURCE	ES OF INP						
Parameter					ta Source			- <del></del>	
Mean Wind Speed, mph		Climate of the States (Tampa, FL), Third Edition, 1985.							
Material Moisture Content	TEC, 2005.								
Material Transfer Point Identification	TEC, 2005.								
Material Transfer Rates	TEC, 2005.				<del></del>				
Control Efficiency	<del></del>	7-2, Workbook or ARG, Septembe		ind Dispersion Mo	deling for Fugit	tive Particulate			
77.5				RVATIONS					
1 Control Efficiency: Side Enclosure (25%)								·	
	<b>860000000000000</b> R	DA	TA CONTI	301	445444444				
Data Collected by:	S. Castro			·==:::::::::::::::::::::::::::::::::::		<u> </u>	oate:	10/05	
Evaluated by:	T. Davis					(	Date:	10/05	
Data Entered by:	T. Davis		,			1	Date:	10/05	

•	EMISSION II	VENTO	RY WOI	rksheet	•			Iron Ore		
Tampa Electric Company - Blg Bend Station										
		EMISSIC	ON SOUR	CE TYPE						
FUG	TIVE PM10 - MAT	ERIAL TRAN	ISFER (DF	ROPS)			Figure:			
	F/	CILITY AND	SOURCE	DESCRIPTIO	N					
Emission Source Description:	Fugitive PM	<sub>o</sub> - Truck Unloadi	ing of Iron Ore	Flux						
Emission Control Method(s)/ID No.(s):	Moist materi	al								
Emission Point ID:	IOT-001			<del> </del>						
	E	MISSION ES	STIMATIO	N EQUATION	\$					
PM <sub>10</sub> Emission (b/hr) = 0.35 x 0.0032 x [(Wind Speed	d/5) <sup>1,3</sup> / (Material Moisture	Content/2) <sup>1</sup> x Mat	erial Handled (ti	on/hr)						
PM <sub>10</sub> Emission (ton/yr) = 0.35 x 0.0032 x [(Wind Spe	ed/5) <sup>13</sup> / (Material Moisture	Content/2)14] x Ma	aterial Handled	(ton/yr) x (1 ton/2,00	0 <b>(</b> b)					
Source: Section 13.2.4, AP-42, January 1995.										
Secretary 10.E.4, Fit 4E, Salisary 1333.										
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Mean Wind Speed:	8.6 mph	Material Moistu	re Content:		10.0					
				Uncontrolled		Controlled	5.	d 1 D14		
Makadal Tanada Balas	Source	Mater		Emission	Control	Emission		ntial PM <sub>10</sub>		
Material Transfer Point	ID.	Transfer		Factor (lb PM/ton)	Efficiency	Factor (% CM/4)		sion Rates		
		(ton/hr)	(ton/yr)	(Ib PM/ton)	(%)	(lb PM/ton)	(lb/hr)	(ton/yr)		
Truck Unloading to Storage Building	ЮT-001A	73.5	5,000	0.000238	25.0	0.000179	0.0131	0.000		
Transfer to "K" Conveyors	IOT-001B	73.5	5,000	0.000238	0.0	0.000238	0.0175	0.000		
						Totals	0.0306	0.001		
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		SOURCE	S OF INP	UT DATA						
Parameter				Da	ta Source					
Mean Wind Speed, mph		Climate of the States (Tampa, FL), Third Edition, 1985.								
Material Moisture Content	TEC, 2005.	05.								
Material Transfer Point Identification	TEC, 2005.									
Material Transfer Rates	TEC, 2005.							<del> </del>		
Control Efficiency		Table 3.2.17-2, Workbook on Estimation and Dispersion Modeling for Fugitive Particulate  Sources, UARG, September 1981.								
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Control Efficiency: Side Enclosure (25%)										
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Data Collected by:	S. Castro	DA	TA CONTI	1UL			Date:	10/05		
Evaluated by:	T. Davis						Date:	10/05		
								10/03		

	<b>EMISSION</b>	INVENT	ORY	WORK	SHEET			Truck Traffic		
	Tampa Ele	ectric Comp	oany - B	ig Bend St	ation			(Paved Roads)		
				SOURCE 1						
	FUGI				N PAVED RO	ADS				
notinotinativasiaisiasiasiasiaikasia		FACILITY	AND SC	URCE DE	SCRIPTION	0.000.000.000.000.000	Y64, Y44, Y44, A44, A44, A44, A44, A44, A4	rang probgodista		
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Emission Point ID:		OT-002	····							
		EMISSIO	N ESTIN	ATION EC	DUATIONS					
PM Emission (lb/hr) = ((0.082 x [(Sit Loading	Factor/2) <sup>0 65</sup> ] x [(Truck W	/eight/3) <sup>150</sup> - 0.00	047) x (1 - (	"Wet" Days/1,4	60)) x Vehicle Miles	Traveled (VMT)/hr	x (1 - (Control Eff. / 100))			
PM Emission (ton/yr) = ((0.082 x [(Sill Load	ng Factor/2) <sup>6 e5</sup> ] x [(Truck \	Weight/3) <sup>1 5)‡</sup> - 0.0	00047) x (1-	("Wer" Days/1,4	60)) x Vehicle Miles	Traveled (VMT)/yr	x (1 torv2,000 lb) x (1 - (	Control Eff. / 100))		
Source: Section 13.2.1, AP-42, Dec	ember 2003.									
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			ND EM	ISSIONS C	ALCULATIO	<b>V\$</b>				
Uncontrolled Silt Loading Factor:	70.0 (	g/m² M	ean Annua	al Number of	"Wet" Days:	100				
Operating Hours:	1 1	hr/dy	75	dy/yr	75	hr/yr				
Iron Ore Received by Truck:				l Distance (or	<del></del>		ft			
Hourly Truck Count:	2 t	trucks/hr A	nnual Truc	ck Count:	204	trucks/yr				
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			Vehicle		Vehicle	Control	Potent			
Truck Traffic Type	Source ID		Traveled		Weight	Efficiency	Emissio	· · · · · · · · · · · · · · · · · · ·		
		(	VMT/hr)	(VMT/yr)	(ton)	(%)	(lb/hr)	(ton/yr)		
less Ora Terralis (Ferstal)	107.000		4 000		100					
Iron Ore Trucks (Empty)	IOT-002a		1.629	166	16.0	90.0	1.545	0.079		
Iron Ore Trucks (Full)	IOT-002b		1.629	166	40.5	90.0	6.223	0.318		
				-		Totals	7.77	0.396		
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Parameter						Source				
Uncontrolled Silt Loading Factor	Based on fact	sed on factor for sand and gravel processing, Suggested by FDEP, 2005.								
Mean Annual Number of "Wet" Days	Figure 13.2.1-	gure 13.2.1-2, Section 13.2.1, AP-42, November 2003.								
Vehicle Miles Traveled, VMT	TEC, 2005.	EC, 2005.								
Truck Weights, ton TEC, 2009										
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Evaluated by:		. Davis					Date:	10/05		

	<b>EMISSIO</b>	N INVE	NTORY	WORK	SHEET			Truck Traffic			
Tampa Electric Company - Big Bend Station								(Paved Roads)			
					YPE						
	FUGI				ON PAVED R	OADS					
					SCRIPTION	<u></u>					
Emission Source Description:			-	ıx Truck Traffi	c on Paved Road	5					
Emission Control Method(s)/ID No.(s):		Watering, As IOT-002	s Necessary								
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PM <sub>10</sub> Emission (lb/hr) = ((0.016 x [(Silt Loadin	ng Factor/2) <sup>085</sup> ] x [(Truc	k Weight/3)1 50	- 0.00047) x (1 -	("Wet" Days/1,	460)) x Vehicle Mile	s Traveled (VMT)	fr x (1 - (Control Eff. / 100)	))			
PM <sub>10</sub> Emission (ton/yr) = ((0.016 x [(Silt Load											
<u>-</u>											
Source: Section 13.2.1, AP-42, Decem	ber 2003.										
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Uncontrolled Silt Loading Factor:		g/m²	T	Number of "V		100	*.*.*.*.*.* * * *,* *,*,*,*,* *,* *				
Operating Hours.		hr/dy		dy/yr	600						
Iron Ore Received by Truck:	5,000	ton/yr	T	Distance (one		4,300	Ħ				
Hourly Truck Count:		trucks/hr	Annual Truck		204	trucks/yr					
	-										
			Vehicle	Miles	Vehicle	Control	Potentia	al PM <sub>10</sub>			
Truck Traffic Type	Source II	Source ID		eied	Weight	Efficiency	Emission Rates				
			(VMT/hr)	(VMT/yr)	(ton)	(%)	(lb/hr)	(ton/yr)			
Iron Ore Trucks (Empty)	IOT-002		1.629	166	16.0 40.5	90.0	0.301	0.015 0.062			
Iron Ore Trucks (Full)	KOT-0021	,	1.629	166	403	90.0	1.214	0.062			
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Parameter		<u> </u>	OUNOLUC	, mir ur L		Source					
Uncontrolled Silt Loading Factor		Based on fa	actor for sand a	and gravel pro			005.	·			
Mean Annual Number of "Wet" Days			used on factor for sand and gravel processing, Suggested by FDEP, 2005.  gure 13.2.1-2, Section 13.2.1, AP-42, November 2003.								
Vehicle Miles Traveled, VMT		TEC, 2005									
Truck Weights, ton	TEC, 2005	TEC, 2005									
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Evaluated by:		T. Davis					Date:	10/05			
Data Entered by:		T. Davis					Date:	10/05			