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February 11, 2005

Mr. Richard Monteith
Georgia Environmental Protection Division
Air Protection Branch
4244 International Parkway, Suite 120
Atlanta, GA 30354

RE: Norbord Georgia, Inc. - Cordele OSB Mill Expansion Project – Permit Application 15812 Air Dispersion Modeling Update

Dear Mr. Monteith:

Norbord Georgia, Inc. (Norbord) submitted a Prevention of Significant Deterioration (PSD) air quality permit application on November 9, 2004 for the expansion of its oriented strandboard (OSB) mill located near Cordele in Crisp County. This project involves the construction of a new OSB manufacturing line to increase the production capacity of existing operations at the plant (expansion project). The expansion project is subject to PSD permitting for significant net emission increases of oxides of nitrogen (NO_X), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}), volatile organic compounds (VOC), and carbon monoxide (CO). Net emission increases of other criteria pollutants (i.e., sulfur dioxide, SO_2) are below significant emission rate thresholds. Trinity Consultants (Trinity) conducted the PSD air quality analyses on behalf of Norbord for this project to demonstrate that modifications at the facility will not cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS) or PSD Increment.

In response to the modeling protocol and the air quality analyses submitted for Norbord's PSD permit application, Georgia EPD informally provided questions about the analyses and requested additional information. This letter was prepared to specifically address outstanding questions initially posed in electronic communication from Mr. Jim Stogner (Georgia EPD) to Mr. Ryan Gesser (Trinity) on December 8, 2004 and a subsequent meeting involving Georgia EPD, Norbord, and Trinity on December 20, 2004. The specific issues addressed in this letter involve the use of an alternative meteorological data set, an evaluation of intermediate and complex terrain processing, assessment of cumulative effects of adjacent regional sources, and impact analysis of additional toxic air pollutants. The analyses described in this letter, following a summary of the project, essentially comprise a complete update to the air quality analyses for the project and confirm the initial determination that the proposed project will neither cause nor contribute to a violation of an applicable air quality standard or otherwise cause an adverse impact in the area surrounding the Cordele OSB Mill.

FACILITY AND PROJECT DESCRIPTION

Norbord operates an OSB mill located near Cordele, Georgia, along Highway 280 West in Crisp County. Mixed southern hardwoods and pine are received by truck, debarked, flaked, and conveyed to dryer metering bins. Upon rotary dryer passage, the dry flakes are collected, screened for fines

removal, and conveyed to blender metering bins. The flakes are then mixed with wax and resin and formed into a continuous mat. The mat is cut into sections and pressed at high temperature and pressure. Finally, the boards are sanded, trimmed to size, edge coated, and packaged for shipment. The expansion project will essentially comprise a complete new manufacturing line comprising similar equipment as the existing facility, but with equal or greater production capacity.

Norbord has determined that the expansion project will be permitted as a major modification to an existing major source under the PSD regulations because facility-wide potential emissions exceed thresholds outlined in 40 CFR §52.21(b). Crisp County is designated as "attainment" or "unclassifiable" for all NAAQS, thus PSD applicability will be evaluated for all criteria pollutants.[1]

Norbord submitted an update to the initial permit application to Georgia EPD on February 2, 2005, to provide more specific information about certain equipment being installed as part of the expansion project. The more specific information did not change any of the relevant parameters in the air quality analysis, including emission rates, stack locations and physical dimensions, exhaust parameters, or building location and dimensions. Table 1 summarizes the source input parameters for the modeling analyses.

TABLE 1. SUMMARY OF STACK PARAMETERS FOR MODELING ANALYSES

Source ID	Source Description	Stack Height (ft)	Stack Height (m)	Stack Diameter (ft)	Stack Diameter (m)	Exhaust Velocity (ft/s)	Exhaust Velocity (m/s)	Exhaust Temperature (F)	Exhaust Temperature (K)
S01	WESP/Wellons	120.73	36.80	7.97	2.43	51.84	15.80	142	334.11
S03	System 1 Baghouse	20.00	6.10	4.66	1.42	59.68	18.19	Ambient	0
S04	System 2 Baghouse	20.00	6.10	4.33	1.32	59.81	18.23	Ambient	0
S10	HP Waste Baghouse	17.39	5.30	1.25	0.38	57.84	17.63	Ambient	0
S11	T&G Sander	21.33	6.50	3.84	1.17	57.32	17.47	Ambient	0
S12	T&G Saw Line	19.36	5.90	2.56	0.78	68.04	20.74	Ambient	0
S13	Globe Line	21.33	6.50	3.51	1.07	68.86	20.99	Ambient	0
S63	Press RTO	89.90	27.40	8.99	2.74	29.89	9.11	232	384.11
S201	Dryer Exhaust (WESP/TO)	50.00	15.240	8.00	2.4384	82.94	25.2787	275	408.15
S202	Press Exhaust (TO)	50.00	15.240	6.00	1.8288	80.63	24.5749	245	391.48
S203	Resinated Fines	50.00	15.240	3.50	1.0668	77.99	23.7723	Ambient	0
S204	Non-resinated Fines	50.00	15.240	3.50	1.0668	77.99	23.7723	Ambient	0
S205	Finishing Line	50.00	15.240	3.50	1.0668	77.99	23.7723	Ambient	0
S206	Wet Strand Line	50.00	15.240	3.50	1.0668	77.99	23.7723	Ambient	0
S207	Dry Fuel Bin	50.00	15.240	2.34	0.7138	193.53	58.9877	Ambient	0
S208	Blowline	50.00	15.240	1.30	0.3962	81.66	24.8898	93	307.04

With the exception of specific procedures described in this letter, the updated analyses were performed according to the U.S. EPA- and Georgia EPD-approved guidelines and methodologies described in the initial permit application using the ISC-PRIME (Version 04269) dispersion model. Throughout the updated analyses presented in this letter, meteorological data from surface observations at Macon, Georgia and upper air observations from Centreville, Alabama for the period 1974 through 1978 were used, whereas the initial analyses used a dataset from Macon and upper air

[1] 40 CFR § 81.311.

observations from Waycross, Georgia. Although the Waycross observations are measured nearer to Cordele (158 km) than the Centreville observations (335 km), Georgia EPD believes Centreville is more representative of Cordele due to the proximity of Waycross to the Atlantic coast. Accordingly, Trinity prepared all updated analyses using the Macon/Centreville dataset to be consistent with Georgia EPD's guidance and other PSD air quality analyses conducted in middle Georgia.

UPDATED SIGNIFICANCE ANALYSIS AND TERRAIN ASSESSMENT

Georgia EPD specifically requested additional analysis of intermediate and complex terrain in the vicinity of the Cordele OSB Mill to ensure the appropriate terrain processing algorithms were used. The area is characterized by rural surroundings with essentially flat terrain. Complex terrain is defined as any terrain elevation exceeding stacktop height. Complex terrain is further sub-categorized into intermediate terrain (terrain elevation less than final plume rise height) and true complex terrain (terrain elevation greater than final plume rise height). A designation of terrain at a particular receptor is source dependent, since it depends on an individual source's release height.

For the purposes of designating terrain for the multiple-point modeling analysis conducted for the Cordele OSB Mill, a stack representative of those from which the majority of emissions emanate was chosen to define the terrain designation for receptors. Considering all modeled sources, representative, emissions weighted-average stack parameters were chosen to define terrain designations for all sources in this modeling analysis. These weighted average stack parameters were computed as a stack height of 91.6 feet (27.91 meters), diameter of 7.61 feet (2.38 meters), exhaust velocity of 70.3 feet per second (21.43 meters per second), and exhaust temperature 238 °F (380 K). These parameters were used to compute the plume rise for each hour of the meteorological data set, to obtain a minimum plume rise of 124 feet (38 meters) above stack height.

The base elevation of the Cordele OSB Mill is 295 feet (90 meters) above mean sea level. Thus, receptors with a ground-level elevation exceeding 387 feet (118 meters) were considered intermediate terrain receptors, and ground level elevations above 511 feet (155 meters) were defined as true complex terrain receptors. Review of the elevation data for receptors within a region extending 25 km from the Cordele OSB Mill indicates that there is only one receptor with an elevation above 511 feet, which is located approximately 15 km to the northeast of the Mill. Since no significant impacts were predicted at this distance, true complex terrain was not an issue for this analysis and modeling using a complex terrain model (e.g., CTSCREEN or AERMOD) was not considered. Trinity did further assess intermediate terrain following U.S. EPA Region 4 guidance.[2]

Under U.S. EPA Region 4 guidance for complex terrain processing, intermediate terrain may be considered complex terrain and an analysis should be performed to determine whether intermediate and complex terrain is an important factor that must be addressed in the analysis using an alternative complex terrain model, or whether ISC-PRIME can be applied using default processing options. The

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[2] U.S. EPA Region 4, *Draft Complex Terrain Modeling Procedures*, May 19, 1999.

relevant component of this guidance is found in "Section 3 – Intermediate Terrain Analysis", and is summarized as follows:

The basic purpose of these procedures is to determine whether predicted impacts in intermediate terrain areas are controlled by complex terrain algorithms or simple terrain algorithms. All modeling in this section is performed with only the new or modified emission sources and with five years of representative meteorological data from the nearest appropriate NWS station. Any modeling must use receptor spacings from 100 meters to 500 meters depending on the nature and spatial extent of the intermediate terrain in question. If any of these optional analyses conclude that simple terrain model algorithms produce concentrations equivalent to or higher than complex terrain algorithms at intermediate terrain receptors of concern for all averaging times, then the ISCST3 model may be used in default mode for the remainder of the analysis for all receptors. The following two steps should be followed:

1. To determine the need for a complex terrain modeling assessment once a SIA has been defined, the terrain at each receptor within the SIA with concentrations greater than the applicable significant impact level is reviewed. If all modeled maximum concentrations above the significant impact level are associated with terrain less than the height of the shortest stack, complex terrain modeling is not needed. In this case, the ISCST3 model can be used in the default mode for the remainder of the ambient air impact assessment.

2. All the intermediate terrain receptors within the SIA defined by the Section 1 analysis are modeled once with the ISCST3 model in the default mode and again with the ISCST3 model in simple terrain mode. For each year of meteorological data considered in the analysis, a receptor by receptor comparison is performed to identify the difference between predictions made by the default mode run and predictions made by the simple terrain run.

All intermediate terrain receptors above the significant impact level within the SIA used in Section 1 modeling are to be used in this comparison. This analysis is performed separately for each of the five years of meteorological data. The averaging periods addressed should be those applicable to the pollutant(s) of concern.

If the comparison shows the simple terrain option concentrations higher than or equal to the default option concentrations for all receptors analyzed for all applicable averaging periods, then it is demonstrated that simple terrain algorithms "controls" the analysis.

As alternate, less stringent criterion, if the comparison shows the difference in concentrations predicted by the simple terrain option and the default option is less than the respective significance impact level, then it is demonstrated that complex terrain algorithm predicts concentrations equivalent to or insignificantly higher than the simple terrain algorithms. The ISCST3 model may then be used in default mode for all receptors for the remainder of the analysis.

Otherwise, the receptor comparison demonstrates complex terrain impacts are important. Complex terrain modeling Options 2, 3, or 4 of Section 2 should be used for this air quality assessment.

For each of PM_{10}, NO_X, and CO (for which the project causes significant emission increase), the Significance Analysis model was run for five meteorological data years in both the DFAULT and NOCMPL terrain processing modes. The Significance Analysis was conducted using a receptor grid extending approximately 15 km from the Cordele OSB Mill with receptors at 100-meter spacing to ensure adequate coverage of any area likely to be exposed to a high pollutant impact. The MAXI output file option, which writes a separate output file for each averaging period of any modeled event with a predicted impact above a specified threshold, utilized the MSL as the specified threshold. Impacts above the MSL were predicted for PM_{10} and NO_X, but no significant impacts of CO were predicted.

Subsequently, each event was analyzed for each significant receptor and averaging period to determine the controlling terrain algorithm and complex terrain elevations. The difference in results predicted by ISC-PRIME's DFAULT and NOCMPL processing modes was assessed. If there was no difference, the difference was less than the applicable MSL, or the simple terrain algorithm predicts the higher impact, then default ISC-PRIME modeling for the receptor was determined to be sufficient. This two-step process was conducted for each pollutant and averaging period with modeled impacts exceeding the respective MSL.

In Step 1 of the complex terrain processing analysis, no significant impacts were computed at receptors with elevations greater than the complex terrain elevation of 511 feet (155 m) in the PM_{10} and NO_X Significance Analyses. For Step 2, the difference in results predicted by ISC-PRIME's DFAULT and NOCMPL processing modes was calculated. No differences greater than the MSL were observed in the PM_{10} or NO_X Significance Analysis. Therefore, default ISC-PRIME modeling for PM_{10} and NO_X is sufficient for the Significance, NAAQS, and PSD Increment Analyses since complex terrain is not a factor affecting significant impacts of these pollutants.

Attachment 1 to this letter contains a more detailed description of Trinity's processing algorithms for this analysis by providing the FORTRAN code used to analyze model output. The CD-ROM enclosed with this letter contains all model and postprocessing files used in the analysis. Tables 2, 3, and 4 summarize the results of the revised Significance Analysis for NO_2, PM_{10}, and CO, respectively.

TABLE 2. RESULTS OF THE NO_2 MODELING SIGNIFICANCE ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Max Impact ($\mu g/m^3$)	MSL ($\mu g/m^3$)	Significant ?	Radius of Impact (km)
NO_X	Annual	1974	235.331	3,539.979	6.49	1	Yes	2.27
		1975	235.331	3,539.979	6.16	1	Yes	2.23
		1976	235.331	3,539.979	6.60	1	Yes	3.38
		1977	235.331	3,539.979	6.23	1	Yes	2.23
		1978	235.331	3,539.979	6.04	1	Yes	3.47
		Maximum	235.331	3,539.979	6.60	1	Yes	3.47

TABLE 3. RESULTS OF THE PM_{10} MODELING SIGNIFICANCE ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Max Impact ($\mu g/m^3$)	MSL ($\mu g/m^3$)	Significant ?	Radius of Impact (km)
PM_{10}	24-hour	1974	235.400	3,540.100	17.09	5	Yes	2.23
		1975	235.500	3,540.100	15.90	5	Yes	5.35
		1976	235.400	3,540.100	15.23	5	Yes	7.16
		1977	235.500	3,540.100	14.39	5	Yes	6.37
		1978	235.400	3,540.100	16.95	5	Yes	4.48
		Maximum	235.400	3,540.100	17.09	5	Yes	7.16
PM_{10}	Annual	1974	235.331	3,539.979	4.96	1	Yes	2.23
		1975	235.331	3,539.979	4.72	1	Yes	2.23
		1976	235.331	3,539.979	4.89	1	Yes	2.23
		1977	235.331	3,539.979	4.75	1	Yes	2.16
		1978	235.331	3,539.979	4.60	1	Yes	2.16
		Maximum	235.331	3,539.979	4.96	1	Yes	2.23

TABLE 4. RESULTS OF THE CO MODELING SIGNIFICANCE ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Max Impact ($\mu g/m^3$)	MSL ($\mu g/m^3$)	Significant ?	Radius of Impact (km)
CO	1-hour	1974	235.400	3,540.100	114.6	2,000	No	N/A
		1975	235.600	3,539.200	115.6	2,000	No	N/A
		1976	235.400	3,540.100	108.7	2,000	No	N/A
		1977	235.400	3,540.100	108.7	2,000	No	N/A
		1978	235.400	3,540.100	115.6	2,000	No	N/A
		Maximum	235.600	3,539.200	115.6	2,000	No	N/A
CO	8-hour	1974	235.400	3,540.100	55.35	500	No	N/A
		1975	235.283	3,539.993	55.36	500	No	N/A
		1976	235.400	3,540.100	55.05	500	No	N/A
		1977	235.400	3,540.100	59.62	500	No	N/A
		1978	235.400	3,540.100	56.52	500	No	N/A
		Maximum	235.400	3,540.100	59.62	500	No	N/A

The computed maximum radius of significant impact for each pollutant and averaging period is shown in Tables 2 and 3 for NO_X and PM_{10}. Note that the maximum impact and radius of significant impact for each pollutant and averaging period is less using the Macon/Centreville data set than using the Macon/Waycross data set, for which results were initially submitted. In the subsequent regional source analyses, the initial radius of significant impact for PM_{10} (12.3 km) and NO_X (3.5 km) were used to conservatively determine which sources should be analyzed for cumulative impacts. To minimize computer runtime and analysis of exceedance events attributable to regional sources, the following NAAQS and PSD Increment modeling analyses were conducted using only those receptors at which Norbord's proposed expansion project causes a significant impact during some averaging period considered in the 1974 through 1978 meteorological data set. This approach is consistent with U.S. EPA guidance, which states:

> *The [evaluation] determines whether the emissions from the proposed source will have a significant ambient impact at the point of the modeled NAAQS or increment violation when the violation is predicted to occur. If it can be demonstrated that the proposed source's impact is not "significant" in a spatial and temporal sense, then the source may receive a PSD permit… [EPA believes] the most appropriate course of action to follow is the … approach which considers the significant impact of the source in a way that is spatially and temporally consistent with the predicted violations.*[3]

By excluding receptors at which Norbord never causes a significant impact, modeled exceedance events to which Norbord cannot possibly cause or contribute are excluded from further consideration. Figure 1 in Attachment 2 to this letter illustrates the location of receptors at which the proposed expansion project causes significant impacts of PM_{10} and NO_X at some time, and were therefore included in the cumulative PSD Increment and NAAQS analyses.

REGIONAL SOURCE INVENTORY AND PSD INCREMENT AND NAAQS ANALYSES

Georgia EPD provided the following comment regarding regional source inventory processing after reviewing the modeling protocol and initial modeling analyses:

> *With respect to use of the 20D rule for eliminating minor sources, sources in close proximity to each other (say within 2-3 km) should be considered as one source before applying the 20D rule.*

To address this comment, Trinity constructed a matrix of distances separating each of the regional source facilities evaluated for inclusion in the cumulative PSD Increment and NAAQS analyses. Table 5 summarizes all the facilities within a surrounding 23-county area that were initially considered. Tables 6 and 7 present the separation distance matrix for PSD Increment and NAAQS facilities, respectively.

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[3] U.S. EPA Memorandum from Mr. Gerald Emision (OAQPS) to Mr. Thomas Maslany (Air Management Division) dated July 5, 1988.

TABLE 5. FACILITIES CONSIDERED FOR PSD INCREMENT AND NAAQS REGIONAL SOURCE INVENTORY

Source	County	PSD Increment Source?
Georgia Ductile Foundries, LLC	Crisp	Yes
Signature Finishers, LLC	Crisp	Yes
Langdale Forest Products	Dodge	Yes
Georgia-Pacific Corp Resins	Dooly	No
Coats & Clark Inc. Albany	Dougherty	Yes
Cooper Tire & Rubber Co Inc.	Dougherty	Yes
Georgia-Pacific Corporation	Dougherty	Yes
Louis Dreyfus Energy	Dougherty	No
M&M-Mars	Dougherty	Yes
Marine Corps Logistics Base	Dougherty	Yes
Merck & Co. Inc	Dougherty	No
Miller Brewing Company	Dougherty	Yes
Mitchell	Dougherty	No
Phillips Pipe Line	Dougherty	No
Procter & Gamble Paper Products Co.	Dougherty	Yes
Reeves Construction Company 1	Dougherty	Yes
Williams Energy Ventures Inc.	Dougherty	No
Anchor Glass Co. Inc. Plant 14	Houston	No
Cermex	Houston	Yes
Crown Beverage Packaging	Houston	No
Frito-Lay, Inc.	Houston	Yes
Georgia Power Company Robins	Houston	Yes
Medusa Cement Co.	Houston	No
Mid-Georgia Cogen, L.P.	Houston	Yes
Robbins Air Force Base	Houston	Yes
Shepherd Construction Co., Inc.	Houston	Yes
C-E Minerals Plant 5	Macon	No
Chargrill, Inc.	Macon	Yes
Georgia Dept. of Transportation	Macon	No
Unimin Corporation	Marion	No
Weyerhaeuser Company Flint River Plant	Macon	Yes
Blue Bird Body Co.	Peach	No
C-E Minerals Plant 1	Sumter	Yes*
C-E Minerals Plant 2	Sumter	Yes*
Davidson Exterior Trim	Sumter	No
Farmers Peanut and Cotton Exchange	Sumter	Yes
Mullite Company of America	Sumter	Yes
Reeves Construction Company 2	Sumter	Yes
Royster-Clark Agribusiness	Sumter	Yes
ITT Rayonier Inc.	Telfair	No
Duke Energy Tift, LLC	Tift	Yes
Reeves Construction Company 5	Tift	No
Tolleson Lumber Co. Inc	Webster	Yes
Oxford Const Co.	Webster	No
Crisp County Power Plant	Worth	No

* C-E Minerals Plants 1 and 2 were not included as Increment affecting sources in the initial analysis. However, Trinity learned that PSD Permit No. 3255-261-0003-P-01-2 was issued for these facilities in 2004 and therefore certain sources should be considered Increment affecting. These sources were included in both the PSD Increment and NAAQS analyses.

TABLE 6. SEPARATION DISTANCE MATRIX FOR PSD INCREMENT SOURCES

Facility	UTM East (km)	UTM North (km)	Cemex	Chargrill., INC.	Coats & Clark, INC.	Cooper Tire & Rubber Co.	Crisp County Solid Waste Management	Davidson Exterior Trim	Duke Energy Tift, LLC	Farmers Peanut and Cotton Ex.	Frito-Lay, INC.	Georgia Ductile Foundries, LLC	Georgia Power Co.	Georgia-Pacific Corporation	M&M-Mars	Marine Corps Logistics Base	Mid-Georgia Cogen, L.P.	Miller Brewing Company	Mullite Company of America (Mulcoa)	Norbord Cordele	Procter & Gamble Paper Products Co.	Reeves Construction Company 1	Reeves Construction Company 2	Robbins Air Force Base	Royster-Clark Agribusiness	Shepherd Construction Co., INC.	Signature Finishers, LLC	Tolleson Lumber Company	Weyerhaeuser Company
Cemex	252.957	3589.420	0.0	47.5	104.5	102.4	62.5	68.2	103.8	73.5	7.4	51.2	18.6	103.5	109.5	105.2	7.9	101.7	53.2	52.7	106.3	102.8	69.4	22.6	69.9	**3.8**	51.0	10.9	45.5
Chargrill., INC.	205.988	3582.379		0.0	84.4	85.9	61.7	33.2	109.4	38.6	50.8	56.1	57.3	82.3	88.0	88.0	51.4	83.9	17.6	51.4	87.8	80.2	31.9	58.2	33.1	48.0	55.3	38.7	11.0
Coats & Clark, INC.	202.371	3498.009			0.0	7.5	46.5	52.6	56.2	48.4	111.7	57.4	122.5	**3.0**	5.5	6.5	112.3	**4.9**	66.9	53.1	**4.3**	6.5	55.4	125.9	54.0	101.7	57.1	104.1	74.9
Cooper Tire & Rubber Co.	209.706	3496.604				0.0	42.4	55.2	48.7	51.6	109.7	53.7	120.7	10.0	11.9	**2.9**	110.3	**3.1**	68.3	50.1	5.1	13.3	58.3	124.3	56.9	99.5	53.5	102.8	75.8
Crisp County Solid Waste Management	237.000	3529.000					0.0	45.3	47.8	46.2	69.9	11.6	81.1	46.5	51.9	45.2	70.4	42.6	47.5	11.1	47.0	47.2	49.1	85.0	48.2	59.2	11.6	65.1	50.7
Davidson Exterior Trim	197.098	3550.355						0.0	88.3	5.6	73.9	46.3	83.1	50.2	55.7	57.0	74.6	52.8	16.9	39.3	56.3	47.7	**3.9**	85.3	**3.0**	66.9	45.4	63.2	25.9
Duke Energy Tift, LLC	257.173	3485.707							0.0	87.2	110.9	55.8	121.7	58.6	59.9	50.1	111.3	51.6	94.3	58.6	53.0	61.7	92.1	126.1	90.9	100.1	56.3	109.1	98.3
Farmers Peanut and Cotton Ex.	193.912	3545.700								0.0	79.4	48.6	88.7	45.9	51.2	53.1	80.0	49.0	22.5	41.5	52.3	43.2	7.1	90.8	5.7	72.1	47.8	68.7	31.6
Frito-Lay, INC.	254.784	3596.613									0.0	58.6	11.1	110.6	116.7	112.5	**0.6**	109.0	58.4	60.1	113.5	109.9	74.9	15.3	75.5	10.9	58.4	12.2	50.2
Georgia Ductile Foundries, LLC	242.093	3539.379										0.0	69.8	57.2	62.8	56.5	59.1	53.7	44.3	7.1	58.2	57.6	49.9	73.8	49.3	47.8	**0.9**	54.5	45.5
Georgia Power Co.	257.578	3607.396											0.0	121.4	127.5	123.4	10.6	119.9	67.0	71.2	124.4	120.6	83.8	**4.6**	84.5	22.0	69.6	19.9	58.4
Georgia-Pacific Corporation	200.370	3500.305												0.0	6.1	9.5	111.2	7.1	64.7	52.6	7.3	**3.5**	52.8	124.7	51.4	100.8	56.9	102.8	72.9
M&M-Mars	197.990	3494.700													0.0	9.8	117.3	10.0	70.5	58.4	7.0	7.9	58.2	130.8	56.8	106.8	62.5	108.9	78.8
Marine Corps Logistics Base	207.831	3494.419														0.0	113.0	**4.2**	70.4	53.0	**2.9**	13.0	59.9	127.0	58.6	102.3	56.4	105.5	78.1
Mid-Georgia Cogen, L.P.	255.300	3597.000															0.0	109.6	59.0	60.6	114.1	110.5	75.5	14.9	76.1	11.3	58.9	12.7	50.9
Miller Brewing Company	207.234	3498.536																0.0	66.3	49.8	**4.5**	10.3	55.8	123.4	54.4	98.9	53.5	101.8	74.0
Mullite Company of America (Mulcoa)	205.846	3564.810																	0.0	38.3	70.2	62.7	16.8	68.9	17.7	52.4	43.4	47.1	9.1
Norbord Cordele	234.978	3539.887																		0.0	54.3	52.6	42.9	75.0	42.3	49.6	6.3	54.6	40.6
Procter & Gamble Paper Products Co.	204.958	3494.622																			0.0	10.7	59.1	127.9	57.8	103.4	58.0	106.3	78.0
Reeves Construction Company 1	197.799	3502.631																				0.0	50.3	123.8	48.9	100.2	57.2	101.8	71.0
Reeves Construction Company 2	194.071	3552.757																					0.0	85.7	**1.4**	68.3	49.0	63.9	25.8
Robbins Air Force Base	256.196	3611.830																						0.0	86.5	26.2	73.6	22.3	60.1
Royster-Clark Agribusiness	194.319	3551.393																							0.0	68.7	48.4	64.6	26.7
Shepherd Construction Co., INC.	253.834	3585.750																								0.0	47.7	13.6	45.1
Signature Finishers, LLC	241.298	3539.774																									0.0	54.1	44.7
Tolleson Lumber Company	242.950	3593.852																										0.0	38.7
Weyerhaeuser Company	210.763	3572.416																											0.0

TABLE 7. SEPARATION DISTANCE MATRIX FOR NAAQS SOURCES

Facility	UTM East (km)	UTM North (km)	Anchor Glass Co.	C-E Minerals PLT1	C-E Minerals PLT2	C-E Minerals PLT5	Coats & Clark Inc.	Cooper Tire & Rubber Co.	Crisp	Davidson Exterior Trim	Georgia DOT	Georgia-Pacific Corp. Resin Div.	ITT Rayonier INC.	Langdale Forest Prod Co.	Medusa Cement Co.	Merck & Co.	Miller Brewing Co.	Mitchell	Norbord Cordele	Oxford Const Co.	P & G Paper Products Co.	Reeves Construction Company 5	Tolleson Lumber Company	Unimin Corporation	Weyerhaeuser Company
Anchor Glass Co.	256.873	3607.498	0.0	67.5	66.1	51.0	129.8	121.2	113.2	82.2	44.1	52.8	112.8	72.2	19.2	130.9	120.2	136.4	71.1	105.9	124.0	125.4	104.5	83.6	57.9
C-E Minerals PLT1	204.863	3564.495		0.0	***1.9***	20.0	71.5	69.2	72.4	15.9	36.3	28.5	140.0	101.3	53.6	76.6	66.7	82.1	38.9	40.6	70.0	97.9	37.9	54.4	9.9
C-E Minerals PLT2	206.750	3564.441			0.0	19.4	71.8	69.0	71.7	16.7	36.0	26.6	138.1	99.4	51.9	76.6	66.6	82.1	37.4	42.4	69.9	96.8	39.6	55.6	8.9
C-E Minerals PLT5	212.005	3583.160				0.0	91.1	87.7	88.2	35.8	16.7	31.0	138.7	98.0	41.0	95.6	85.5	101.2	49.0	54.9	88.8	110.9	53.9	46.5	10.8
Coats & Clark Inc.	194.265	3493.761					0.0	16.3	37.3	56.6	107.7	77.1	151.9	126.8	111.5	11.0	14.0	14.0	61.5	66.2	11.5	64.5	60.1	116.9	80.4
Cooper Tire & Rubber Co.	210.476	3495.516						0.0	21.0	56.2	104.3	68.7	135.9	111.8	102.3	10.2	***3.6***	15.3	50.7	73.2	***4.9***	49.1	66.8	119.2	76.9
Crisp	231.425	3497.173							0.0	62.8	104.2	63.2	115.3	93.6	94.0	29.3	23.7	32.5	42.9	86.5	25.9	30.3	80.0	125.9	78.0
Davidson Exterior Trim	197.831	3550.271								0.0	51.9	36.7	144.4	107.9	67.0	62.6	53.4	68.0	38.6	32.2	56.3	90.7	27.5	63.5	25.6
Georgia DOT	213.422	3599.770									0.0	44.0	144.3	102.8	40.8	112.3	102.1	117.9	63.6	66.4	105.5	125.7	66.6	41.2	27.5
Georgia-Pacific Corp. Resin Div.	233.074	3560.384										0.0	111.6	72.8	34.5	78.2	67.5	83.7	20.6	67.6	71.3	82.1	63.8	76.9	25.3
ITT Rayonier INC.	341.164	3532.612											0.0	41.6	104.8	144.6	137.9	147.5	106.4	176.6	140.7	97.6	171.6	184.4	136.3
Langdale Forest Prod Co.	305.632	3554.298												0.0	63.2	121.7	113.1	125.7	72.1	139.9	116.4	86.7	135.4	143.2	96.6
Medusa Cement Co.	252.652	3588.737													0.0	112.1	101.4	117.6	51.9	93.7	105.3	106.8	91.4	81.9	45.0
Merck & Co.	203.607	3487.940														0.0	10.7	5.6	60.7	75.7	6.9	54.4	69.4	124.6	84.8
Miller Brewing Co.	207.689	3497.814															0.0	16.2	50.1	69.7	***3.8***	52.4	63.3	116.2	74.7
Mitchell	202.498	3482.422																0.0	66.0	80.0	12.5	55.2	73.8	129.7	90.4
Norbord Cordele	234.978	3,539.887																	0.0	70.5	54.0	62.1	65.2	92.5	40.6
Oxford Const Co.	165.782	3553.493																		0.0	71.2	116.4	6.5	55.8	48.8
P & G Paper Products Co.	205.696	3494.541																			0.0	53.4	64.8	118.8	78.0
Reeves Construction Company 5	257.670	3482.104																				0.0	109.9	152.2	101.8
Tolleson Lumber Company	170.361	3548.902																					0.0	59.9	46.7
Unimin Corporation	173.253	3608.775																						0.0	52.2
Weyerhaeuser Company	210.763	3572.416																							0.0

The preceding tables denote pairs of facilities located within 5 km of one another for further analysis to determine if the combined emissions should be considered in the 20D analysis and evaluated for inclusion. The 20D rule was used as a screening technique such that any source outside of the radius of significant impact is excluded from the inventory if the entire facility's emissions (tpy) are less than 20 times the distance from the facility to the nearest edge of the impact area (km).[4] So that the list of sources used in the NAAQS analysis also encompasses regional sources identified as Increment consuming, the facilities specifically identified as Increment consuming by Georgia EPD were included in the NAAQS analysis inventory even though application of the 20D rule would have excluded some of these sources from the analysis, or if they were not listed in the 2002 operations inventory. Using conservative estimates of the radius of significant impact, the 20D rule was first applied to individual sources. The results of this analysis for PSD Increment and NAAQS for each of PM_{10} and NO_X are presented in Tables 8 through 11.

TABLE 8. 20D ANALYSIS FOR PM_{10} INCREMENT AFFECTING SOURCES

Facility	PM-10 (lb/hr)	PM-10 (tpy)	UTM E (km)	UTM N (km)	Distance to Norbord (km)	20D (km)	Need to include?
Cargrill., INC.*	0.00	0.00	205.99	3582.38	51.67	787.40	No
Cermex	0.00	0.00	252.96	3589.42	52.67	807.40	No
Coats & Clark, INC. *	2.64	11.56	202.37	3498.01	53.19	817.80	No
Cooper Tire & Rubber Co. *	88.09	385.81	209.71	3496.60	50.20	758.00	No
Crisp County Solid Waste	29.50	129.21	237.00	3529.00	10.94	27.20	Yes
Davidson Exterior Trim*	8.90	38.98	197.10	3550.35	39.60	546.00	No
Duke Energy Tift, LLC	69.73	305.42	257.17	3485.71	58.36	921.20	No
Farmers Peanut and Cotton Ex.*	35.00	153.30	193.91	3545.70	41.78	589.60	No
Frito-Lay, INC.	14.78	64.75	254.78	3596.61	60.07	955.40	No
Georgia Ductile Foundries, LLC	19.53	85.55	242.09	3539.38	6.83	109.40	Yes
Georgia Power Co.	30.00	131.40	257.58	3607.40	71.18	1177.60	No
Georgia-Pacific Corporation*	0.00	0.00	200.37	3500.30	52.71	808.20	No
M&M-Mars*	0.10	0.44	197.99	3494.70	58.52	924.40	No
Marine Corps Logistics Base*	8.20	35.92	207.83	3494.42	53.04	814.80	No
Mid-Georgia Cogen, L.P.	77.82	340.85	255.30	3597.00	60.60	966.00	No
Miller Brewing Company*	95.30	417.41	207.23	3498.54	49.89	751.80	No
Mullite Company of America *	200.23	877.01	205.85	3564.81	38.62	526.40	Yes
P & G Paper Products Co. *	46.60	204.11	204.96	3494.62	54.41	842.20	No
Reeves Construction Company 1*	14.50	63.51	197.80	3502.63	52.78	809.60	No
Reeves Construction Company 2*	11.50	50.37	194.07	3552.76	43.19	617.80	No
Robbins Air Force Base	2.60	11.39	256.20	3611.83	75.00	1254.00	No
Royster-Clark Agribusiness*	21.00	91.98	194.32	3551.39	42.56	605.20	No
Shepherd Construction Co., INC.	9.90	43.36	253.83	3585.75	49.55	745.00	No
Signature Finishers, LLC	0.00	0.00	241.30	3539.77	6.03	125.40	Yes
Tolleson Lumber Company	17.00	74.46	242.95	3593.85	54.59	845.80	No
Weyerhaeuser Company *	126.91	555.87	210.76	3572.42	40.79	569.80	No

* - Coordinates converted from zone 16 to zone 17

[4] *Federal Register* 8079, March 6, 1992.

TABLE 9. 20D ANALYSIS FOR NO_X INCREMENT AFFECTING SOURCES

Facility	NO_X (lb/hr)	NO_X (tpy)	UTM E (km)	UTM N (km)	Distance to Norbord (km)	20D (km)	Need to include?
Cargrill., INC.*	0.00	0.00	205.99	3582.38	51.67	963.40	No
Cermex	0.00	0.00	252.96	3589.42	52.67	983.40	No
Coats & Clark, INC. *	0.00	0.00	202.37	3498.01	53.19	993.80	No
Cooper Tire & Rubber Co. *	0.00	0.00	209.71	3496.60	50.20	934.00	No
Crisp County Solid Waste	0.00	0.00	237.00	3529.00	10.94	148.80	No
Davidson Exterior Trim*	0.70	3.07	197.10	3550.35	39.60	722.00	No
Duke Energy Tift, LLC	87.99	385.40	257.17	3485.71	58.36	1097.20	No
Farmers Peanut and Cotton Ex.*	0.00	0.00	193.91	3545.70	41.78	765.60	No
Frito-Lay, INC.	13.29	58.19	254.78	3596.61	60.07	1131.40	No
Georgia Ductile Foundries, LLC	0.00	0.00	242.09	3539.38	6.83	66.60	No
Georgia Power Co.	660.00	2,890.80	257.58	3607.40	71.18	1353.60	Yes
Georgia-Pacific Corporation*	0.00	0.00	200.37	3500.30	52.71	984.20	No
M&M-Mars*	0.00	0.00	197.99	3494.70	58.52	1100.40	No
Marine Corps Logistics Base*	0.00	0.00	207.83	3494.42	53.04	990.80	No
Mid-Georgia Cogen, L.P.	241.39	1,057.29	255.30	3597.00	60.60	1142.00	No
Miller Brewing Company*	0.00	0.00	207.23	3498.54	49.89	927.80	No
Mullite Company of America *	0.00	0.00	205.85	3564.81	38.62	702.40	No
P & G Paper Products Co. *	116.80	511.58	204.96	3494.62	54.41	1018.20	No
Reeves Construction Company 1*	0.00	0.00	197.80	3502.63	52.78	985.60	No
Reeves Construction Company 2*	0.00	0.00	194.07	3552.76	43.19	793.80	No
Robbins Air Force Base	155.10	679.34	256.20	3611.83	75.00	1430.00	No
Royster-Clark Agribusiness*	0.00	0.00	194.32	3551.39	42.56	781.20	No
Shepherd Construction Co., INC.	28.50	124.83	253.83	3585.75	49.55	921.00	No
Signature Finishers, LLC	1.37	6.00	241.30	3539.77	6.03	50.60	No
Tolleson Lumber Company	6.30	27.59	242.95	3593.85	54.59	1021.80	No
Weyerhaeuser Company *	40.19	176.01	210.76	3572.42	40.79	745.80	No

* - Coordinates converted from zone 16 to zone 17

TABLE 10. 20D ANALYSIS FOR PM_{10} NAAQS SOURCES

Facility	PM_{10} (tpy)	UTM E (km)	UTM N (km)	Distance to Norbord (km)	20D (km)	Need to include?
Anchor Glass Co.	297.17	256.87	3607.50	71.07	1175.40	No
C-E Minerals PLT1	930.91	204.86	3564.50	38.89	531.80	Yes
C-E Minerals PLT2	1133.10	206.75	3564.44	37.41	502.20	Yes
C-E Minerals PLT5	323.74	212.00	3583.16	48.99	733.80	No
Coats & Clark Inc.	36.10	194.27	3493.76	61.52	984.40	No
Cooper Tire & Rubber Co.	580.75	210.48	3495.52	50.69	767.80	No
Crisp	4.70	231.42	3497.17	42.86	611.20	No
Davidson Exterior Trim	2.89	197.83	3550.27	38.57	525.40	No
Georgia DOT	4.99	213.42	3599.77	63.64	1026.80	No
Georgia-Pacific Corp.	386.14	233.07	3560.38	20.58	165.60	Yes
ITT Rayonier INC.	114.00	341.16	3532.61	106.44	1882.80	No
Langdale Forest Prod Co.	14.18	305.63	3554.30	72.11	1196.20	No
Medusa Cement Co.	290.34	252.65	3588.74	51.95	793.00	No
Merck & Co.	30.21	203.61	3487.94	60.68	967.60	No
Miller Brewing Co.	161.28	207.69	3497.81	50.15	757.00	No
Mitchell	36.96	202.50	3482.42	66.01	1074.20	No
Oxford Const Co.	20.98	165.78	3553.49	70.52	1164.40	No
P & G Paper Products Co.	205.76	205.70	3494.54	53.98	833.60	No
Reeves Construction Company 5	30.35	257.67	3482.10	62.08	995.60	No
Tolleson Lumber Company	209.65	170.36	3548.90	65.24	1058.80	No
Unimin Corporation	24.09	173.25	3608.77	92.50	1604.00	No
Weyerhaeuser Company	590.24	210.76	3572.42	40.55	565.00	Yes

All Coordinates converted from lat/long to UTM zone 17

TABLE 11. 20D ANALYSIS FOR NO_X NAAQS SOURCES

Facility	NO_X (tpy)	UTM East (km)	UTM North (km)	Distance to Norbord (km)	20D (km)	Need to include?
Anchor Glass Co.	83.61	256.87	3607.50	71.07	1351.40	No
C-E Minerals PLT1	0.00	204.86	3564.50	38.89	707.80	No
C-E Minerals PLT2	0.00	206.75	3564.44	37.41	678.20	No
C-E Minerals PLT5	0.00	212.00	3583.16	48.99	909.80	No
Coats & Clark Inc.	182.33	194.27	3493.76	61.52	1160.40	No
Cooper Tire & Rubber Co.	245.17	210.48	3495.52	50.69	943.80	No
Crisp	306.20	231.42	3497.17	42.86	787.20	No
Davidson Exterior Trim	115.98	197.83	3550.27	38.57	701.40	No
Georgia DOT	9.83	213.42	3599.77	63.64	1202.80	No
Georgia-Pacific Corp.	218.72	233.07	3560.38	20.58	341.60	No
ITT Rayonier INC.	294.07	341.16	3532.61	106.44	2058.80	No
Langdale Forest Prod Co.	28.59	305.63	3554.30	72.11	1372.20	No
Medusa Cement Co.	2991.84	252.65	3588.74	51.95	969.00	Yes
Merck & Co.	650.33	203.61	3487.94	60.68	1143.60	No
Miller Brewing Co.	0.00	207.69	3497.81	50.15	933.00	No
Mitchell	3400.96	202.50	3482.42	66.01	1250.20	Yes
Oxford Const Co.	293.46	165.78	3553.49	70.52	1340.40	No
P & G Paper Products Co.	806.88	205.70	3494.54	53.98	1009.60	No
Reeves Construction Company 5	25.34	257.67	3482.10	62.08	1171.60	No
Tolleson Lumber Company	161.04	170.36	3548.90	65.24	1234.80	No
Unimin Corporation	55.43	173.25	3608.77	92.50	1780.00	No
Weyerhaeuser Company	1302.56	210.76	3572.42	40.55	741.00	Yes

All Coordinates converted from lat/long to UTM zone 17

Next, Trinity evaluated adjacent facilities (within 5 km) for inclusion in the PSD Increment and NAAQS analyses as shown in Tables 12 and 13 using the 20D rule applied to combined emissions of each of PM_{10} and NO_X and the minimum distance from the radius of significant impact. The combinations of facilities indicated in these tables were included in the cumulative analyses if the combined emissions exceed 20D. For conservatism, any facilities located within 5 km of an affected facility (either on an individual or combined basis) were also included in the analysis.

For example, Miller Brewing Company would not be included in any analysis for any pollutant on the basis of the individual 20D analysis. However, four facilities are located within 5 km of Miller Brewing: P&G Paper Products, Marine Corps Logistics, Cooper Tire & Rubber, and Coats & Clark. Even though only Cooper Tire & Rubber would combine with Miller Brewing to cause a significant amount of emissions (i.e., greater than 20D for PM_{10} PSD Increment), each of these facilities were included in the PSD Increment and NAAQS analyses. This conservative approach was employed to ensure that no cumulative effects of nearby facilities would be overlooked in the analysis. Table 14 summarizes the inventory of facilities modeled in the PSD Increment and NAAQS analyses for each of PM_{10} and NO_X.

TABLE 12. 20D ANALYSIS FOR ADJACENT PSD INCREMENT AFFECTING FACILITIES

Facilities	Cermex	Shepherd	Total	20(D-SIA)	Include
Distance to Norbord (km)	52.67	49.55	49.55		
NOx (tpy)	0.00	124.83	124.83	921	No
PM10 (tpy)	0.00	43.36	43.36	745	No
Facilities	**Coats & Clark**	**Georgia Pacific**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	53.19	52.71	52.71		
NOx (tpy)	0.00	0.00	0.00	984.2	No
PM10 (tpy)	11.56	0.00	11.56	808.2	No
Facilities	**Coats & Clark**	**Marine Corps**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	53.19	53.04	53.04		
NOx (tpy)	0.00	0.00	0.00	990.8	No
PM10 (tpy)	11.56	35.92	47.48	814.8	No
Facilities	**Coats & Clark**	**Miller Brewing**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	53.19	49.89	49.89		
NOx (tpy)	0.00	0.00	0.00	927.8	No
PM10 (tpy)	11.56	417.42	428.98	751.8	No
Facilities	**Coats & Clark**	**P&G Paper**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	53.19	54.41	53.19		
NOx (tpy)	0.00	511.60	511.60	993.8	No
PM10 (tpy)	11.56	204.12	215.68	817.8	No
Facilities	**Cooper Tire**	**Marine Corps**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	50.20	53.04	50.20		
NOx (tpy)	0.00	0.00	0.00	934	No
PM10 (tpy)	7.45	35.92	43.37	758	No
Facilities	**Cooper Tire**	**Miller Brewing**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	50.20	49.89	49.89		
NOx (tpy)	0.00	0.00	0.00	927.8	No
PM10 (tpy)	385.82	417.42	803.24	751.8	Yes
Facilities	**Davidson**	**Reeves 2**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	39.60	43.19	39.60		
NOx (tpy)	3.07	0.00	3.07	722	No
PM10 (tpy)	38.98	50.37	89.35	546	No
Facilities	**Davidson**	**Royster-Clark**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	39.60	42.56	39.60		
NOx (tpy)	3.07	0.00	3.07	722	No
PM10 (tpy)	38.98	91.98	130.96	546	No
Facilities	**Frito-Lay**	**Mid-Georgia Cogen**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	60.07	60.60	60.07		
NOx (tpy)	58.19	1057.29	1115.48	1131.4	No
PM10 (tpy)	64.74	340.86	405.60	955.4	No
Facilities	**Georgia Power**	**Robbins AF**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	71.18	75.00	71.18		
NOx (tpy)	2890.80	679.34	3570.14	1353.6	Yes
PM10 (tpy)	131.40	11.39	142.79	1177.6	No
Facilities	**Georgia Pacific**	**Reeves 1**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	52.71	52.78	52.71		
NOx (tpy)	0.00	0.00	0.00	984.2	No
PM10 (tpy)	0.00	63.51	63.51	808.2	No
Facilities	**Marine Logistics**	**Miller Brewing**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	53.04	49.89	49.89		
NOx (tpy)	0.00	0.00	0.00	927.8	No
PM10 (tpy)	35.92	417.42	453.34	751.8	No
Facilities	**Miller Brewing**	**P&G Paper**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	49.89	54.41	49.89		
NOx (tpy)	0.00	511.6	0.00	927.8	No
PM10 (tpy)	417.42	204.12	417.42	751.8	No
Facilities	**Reeves 2**	**Royster-Clark**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	43.19	42.56	43.19		
NOx (tpy)	0.00	0	0.00	793.8	No
PM10 (tpy)	50.37	91.98	50.37	617.8	No

TABLE 13. 20D ANALYSIS FOR ADJACENT NAAQS FACILITIES

Facilities	CE Minerals 1	CE Minerals 2	Total	20(D-SIA)	Include
Distance to Norbord (km)	38.89	37.41	37.41		
NOx (tpy)	0.00	0.00	0.00	678.2	No
PM10 (tpy)	928.36	1130.00	2058.35	502.2	Yes
Facilities	**Cooper Tire**	**Miller Brewing**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	50.69	50.15	50.15		
NOx (tpy)	244.50	0.00	244.50	933	No
PM10 (tpy)	578.46	92.15	670.62	757	No
Facilities	**Cooper Tire**	**P&G Paper**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	50.69	53.98	50.69		
NOx (tpy)	244.50	804.67	1049.17	943.8	Yes
PM10 (tpy)	578.46	205.19	783.65	767.8	Yes
Facilities	**Miller Brewing**	**P&G Paper**	**Total**	**20(D-SIA)**	**Include**
Distance to Norbord (km)	50.15	53.98	50.15		
NOx (tpy)	0.00	804.67	804.67	933	No
PM10 (tpy)	92.15	205.19	297.35	757	No

TABLE 14. SUMMARY OF REGIONAL SOURCES INCLUDED IN THE PSD INCREMENT AND NAAQS ANALYSES

Facility	Source Code	PSD Increment		NAAQS	
		NOx	PM10	NOx	PM10
C-E Minerals Plant 1	CM1	No	Yes	No	Yes
C-E Minerals Plant 2	CM2	No	Yes	No	Yes
Coats & Clark	CAC	No	Yes	No	Yes
Cooper Tire	CTR	No	Yes	Yes	Yes
Georgia Ductile Foundry	GDF	No	Yes	No	Yes
Georgia Pacific	GPA	No	No	No	Yes
Georgia Power	GPC	Yes	No	Yes	No
Marine Corps Logistics	MAR	No	Yes	No	Yes
Medusa	MCC	No	No	Yes	No
Miller Brewing	MBC	No	Yes	Yes	Yes
Mitchell	MIT	No	No	Yes	No
Mullite of America	MCA	No	Yes	No	Yes
P&G Paper	PGC	No	Yes	Yes	Yes
Robbins AF	RAF	Yes	No	Yes	No
Signature Finishers	SGF	No	Yes	No	Yes
Weyerhaeuser	WEY	No	No	Yes	Yes

Trinity subsequently performed PSD Increment and NAAQS analyses using the revised regional source inventory and Macon/Centreville meteorological data set by computing cumulative impacts only at receptors at which Norbord's proposed expansion project caused a significant impact at some averaging period in the Significance Analysis. Tables 15 and 16 summarize the results of the PSD Increment analysis for PM_{10} and NO_X, respectively. Tables 17 and 18 summarize the results of the NAAQS analysis for PM_{10} and NO_X, respectively, utilizing the same background levels as in the initial analysis.

TABLE 15. RESULTS OF THE PM_{10} PSD INCREMENT ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Design Impact* ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Exceeds Increment?
PM_{10}	24-hour	1974	235.700	3,539.500	25.07	30	No
		1975	235.591	3,539.562	25.43	30	No
		1976	235.591	3,539.562	26.71	30	No
		1977	235.591	3,539.562	27.68	30	No
		1978	235.591	3,539.562	23.76	30	No
		Maximum	235.591	3,539.562	27.68	30	No
PM_{10}	Annual	1974	235.331	3,539.979	8.55	17	No
		1975	235.331	3,539.979	7.97	17	No
		1976	235.331	3,539.979	8.11	17	No
		1977	235.331	3,539.979	7.84	17	No
		1978	235.331	3,539.979	7.44	17	No
		Maximum	235.331	3,539.979	8.55	17	No

* The design impact is the highest, second-high impact for the 24-hour average at each receptor for each year of analysis. This result is used to conservatively represent the highest, sixth-high impact over five years. The design impact for the annual averaging period is simply the maximum annual average.

TABLE 16. RESULTS OF THE NO_X PSD INCREMENT ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Max Impact ($\mu g/m^3$)	PSD Increment ($\mu g/m^3$)	Exceeds Increment?
NO_2	Annual	1974	235.331	3,539.979	10.43	25	No
		1975	235.331	3,539.979	9.54	25	No
		1976	235.331	3,539.979	9.99	25	No
		1977	235.331	3,539.979	9.54	25	No
		1978	235.331	3,539.979	8.91	25	No
		Maximum	235.331	3,539.979	10.43	25	No

TABLE 17. RESULTS OF THE PM_{10} NAAQS ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Design Impact* ($\mu g/m^3$)	Impact with Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Exceeds NAAQS?
PM_{10}	24-hour	1974	235.591	3,539.562	26.41	64.41	150	No
		1975	235.591	3,539.562	27.00	65.00	150	No
	Background	1976	235.591	3,539.562	28.11	66.11	150	No
	Concentration	1977	235.591	3,539.562	31.37	69.37	150	No
	($\mu g/m^3$)	1978	235.591	3,539.562	25.79	63.79	150	No
	38	Maximum	235.591	3,539.562	31.37	69.37	150	No
PM_{10}	Annual	1974	235.331	3,539.979	9.15	29.15	50	No
		1975	235.331	3,539.979	8.53	28.53	50	No
	Background	1976	235.331	3,539.979	8.75	28.75	50	No
	Concentration	1977	235.331	3,539.979	8.36	28.36	50	No
	($\mu g/m^3$)	1978	235.331	3,539.979	7.98	27.98	50	No
	20	Maximum	235.331	3,539.979	9.15	29.15	50	No

* The design impact is the highest, second-high impact for the 24-hour average at each receptor for each year of analysis. This result is used to conservatively represent the highest, sixth-high impact over five years. The design impact for the annual averaging period is simply the maximum annual average.

TABLE 18. RESULTS OF THE NO_X NAAQS ANALYSIS

Pollutant	Averaging Period	Met Year	UTM East (km)	UTM North (km)	Max Impact ($\mu g/m^3$)	Impact with Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Exceeds NAAQS?
NO_2	Annual	1974	235.331	3,539.979	10.68	37.68	100	No
		1975	235.331	3,539.979	9.78	36.78	100	No
	Background	1976	235.331	3,539.979	10.24	37.24	100	No
	Concentration	1977	235.331	3,539.979	9.74	36.74	100	No
	($\mu g/m^3$)	1978	235.331	3,539.979	9.16	36.16	100	No
	27	Maximum	235.331	3,539.979	10.68	37.68	100	No

The preceding analyses confirm the initial determination that Norbord's proposed expansion project and continued operation of the Cordele OSB Mill neither causes nor contributes to an exceedance of an applicable NAAQS or PSD Increment standard. In its initial review of Norbord's application, Georgia EPD indicated the following:

> *EPD is now reviewing a separate PSD application for a "green field" fiberglass insulation facility proposed to be built in Cordele by Owens Corning. EPA has noted that the facilities are only about 3 miles apart and has suggested that EPD make sure that any modeling done makes sure that additive effects are taken into consideration.*

It is Trinity and Norbord's understanding that at this time, the Owens Corning application is not complete because a dispersion modeling analysis has not been submitted with the PSD application. Because the emissions sources and other parameters required to include the facility in the cumulative impact analysis are not publicly available, Norbord cannot assess any additive effects that may result from the operation of both plants. Norbord is committed to moving forward with the expansion project proposed for the existing Cordele OSB Mill, and we respectfully request that Georgia EPD not allow any uncertainty about the Owens Corning application to delay the issuance of a PSD permit for Norbord's proposed project.

AMBIENT IMPACT ASSESSMENT OF TOXIC AIR POLLUTANT EMISSIONS

The initial application included an evaluation of ambient impacts of toxic pollutant emissions prepared in accordance to the *Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions*, Revised June 21, 1998, which was issued by the Georgia EPD Air Protection Branch pursuant to the provisions of GRAQC 391-3-1-.02(2)(a)3.(ii). The analysis evaluated impacts of three toxic species, formaldehyde, methanol, and phenol, which are emitted in the greatest quantities from facility-wide operations at the Cordele OSB Mill. Georgia EPD requested that any other potentially toxic species be evaluated if emissions are quantifiable.

To address this question, Norbord reviewed emission factors for other pollutants that may be emitted from wood products facilities, using the National Emissions Standards for Hazardous Air Pollutants (NEHSAP) for Plywood and Composite Wood Products (PCWP) facilities (40 CFR Part 63, Subpart DDDD) and industrial boilers (Subpart DDDDD) that potentially apply to operations at the Cordele OSB Mill. These NESHAP identify the following thirteen additional pollutants that may be emitted in amounts that could cause an adverse impact:

Acetaldehyde	Acrolein	Arsenic	Benzene
Beryllium	Cadmium	Chromium	Lead
Hydrogen Chloride	Manganese	Mercury	Nickel
Methylene Diphenyl Diisocyanate			

Whereas Norbord has determined that the volatile species formaldehyde, methanol, and phenol are emitted from various points in the Cordele OSB Mill's operations, the additional thirteen species are emitted only from the combustion source operated to provide energy to the manufacturing process. Emissions from the existing wood-fired energy source and dryers are abated using an electrostatic precipitator and the proposed wood-fired energy source and dryers are controlled by both a WESP and regenerative thermal oxidizer for control of volatile and particulate species and are emitted with the exhaust stream from the OSB dryers (stack codes PS01 and S201, respectively). Therefore, Norbord believes actual emissions of these pollutants are well below published emission factors for uncontrolled sources that were used in this analysis, and are likely below detectable limits. For the purposes of the toxics modeling analysis, the following emission factors were applied based on data obtained from U.S. EPA and wood products industry analyses.

TABLE 20. TOXIC AIR POLLUTANT EMISSION FACTORS AND RATES

Pollutant	Emission Factor (lb/MMBtu)	Existing Dryer PS01 (lb/hr)	Proposed Dryer S201 (lb/hr)
Acetaldehyde	1.210E-01*	3.87E+00	6.28E+00
Acrolein	4.620E-04	9.70E-02	1.32E-01
Arsenic	2.420E-05	5.08E-03	6.90E-03
Benzene	4.620E-03	9.70E-01	1.32E+00
Beryllium	1.210E-06	2.54E-04	3.45E-04
Cadmium	4.510E-06	9.47E-04	1.29E-03
Chromium	2.310E-05	4.85E-03	6.58E-03
Lead	5.280E-05	1.11E-02	1.50E-02
Hydrogen Chloride	6.290E-02	1.32E+01	1.79E+01
Manganese	1.760E-03	3.70E-01	5.02E-01
Mercury	3.500E-06	7.35E-04	9.98E-04
Methylene Diphenyl Diisocyanate	0.000E+00	0.00E+00	0.00E+00
Nickel	3.630E-05	7.62E-03	1.03E-02

* Emission factor expressed in terms of dryer throughput for acetaldehyde (lb/ODT). Existing dryer throughput is 280,000 ODT/year and proposed dryer is 455,000 ODT/year. Existing energy system heat input is 210 MMBtu/hr and proposed energy system is 285 MMBtu/hr.

For the Cordele OSB Mill expansion project, dispersion modeling was conducted using a similar refined modeling approach to the PSD modeling analyses, with a few exceptions. One difference between the toxic air pollutant analysis and the PSD modeling analyses is that Georgia EPD does not require building downwash to be modeled as part of the modeling evaluation because of adequate safety factors incorporated in the AAC derivation scheme. Therefore, downwash was disabled from the ISCST3 model, making the numerical simulation identical to using ISC-PRIME. To obtain 15-minute average impacts, the model output of 1-hour average concentrations was multiplied by the conversion factor of 1.32 specified by Georgia EPD. Table 21 summarizes the results of this analysis for toxic pollutant species by presenting the maximum impact for each relevant averaging period over the five years of meteorological data modeled. The updated toxics modeling was conducted using the Macon/Centreville meteorological data for 1974 through 1978, as for the other updated modeling analyses described in this letter.

TABLE 21. SUMMARY OF TOXIC AIR POLLUTANT ASSESSMENT

Pollutant	Annual Average AAC ($\mu g/m^3$)	Annual Average Impact ($\mu g/m^3$)	24-hour Average AAC ($\mu g/m^3$)	24-hour Average Impact ($\mu g/m^3$)	15-minute Average AAC ($\mu g/m^3$)	15-minute Average Impact* ($\mu g/m^3$)
Acetaldehyde	4.55	0.169	-	-	4,500	6.983
Acrolein	2.00E-02	3.85E-03	-	-	23	0.164
Arsenic	2.33E-04	2.00E-04	-	-	0.2	0.0086
Benzene	0.455	0.0385	-	-	1,500	1.642
Beryllium	4.17E-03	1.00E-05	-	-	0.5	0.000436
Cadmium	5.56E-03	4.00E-05	-	-	-	-
Chromium†	-	-	0.397	0.0014	-	-
Formaldehyde	0.769	0.565	-	-	245	20.790
Hydrogen Chloride	20	0.524		3.922	2,982	22.359
Lead	-	-	0.0397	0.0033	-	-
Manganese	0.05	0.0147	-	-	500	0.626
Mercury	0.3	3.00E-04	-	-	10	0.0012
Methanol	-	-	619	62.279	32,800	444.991
Nickel	-	-	2.38	0.00226	-	-
Phenol	-	-	45.2	0.995	6,000	4.291

* Impact for the 15-minute averaging period computed as maximum 1-hr average result multiplied by a factor of 1.32 per the Georgia Toxics Modeling Guideline.

† Chromium impacts assessed against AAC for chromium metal and Cr (III) compounds. Norbord likely does not emit the more toxic Chromium (VI) compounds.

CLASS I AREA INCREMENT AND AQRV ANALYSES

Federal Class I areas are areas of special national or regional value from a natural, scenic, recreational, or historic perspective. These areas were established as part of the PSD regulations included in the 1977 Clean Air Act Amendments. Class I areas are afforded the highest degrees of protection among the types of areas classified under the PSD regulations. Class I areas are protected through two distinct analyses: Class I Increments and Air Quality Related Values (AQRV). Impacts on PSD Increment at Class I areas are assessed by the state permitting authority, which is Georgia EPD for this analysis. Impacts on AQRV, specifically visibility and nitrogen and sulfur deposition, are evaluated by the Federal Land Manager (FLM) responsible for the Class I area that could be affected by the proposed project.

The nearest Class I areas to the Cordele OSB Mill are the Okefenokee National Wildlife Refuge, located approximately 170 km southeast of the mill along the Georgia-Florida border, and the Bradwell Bay Wilderness and Saint Marks National Wildlife Refuge areas approximately 205 km to the south of the mill along the Florida Gulf Coast. The U.S. Fish & Wildlife Service (USFW) is the FLM responsible for oversight of Okefenokee and Saint Marks; the USDA Forest Service oversees

Bradwell Bay.[5] A completed Class I Area Project Information Form for the Cordele OSB Mill was provided in the initial application to notify the FLM of the proposed expansion project.

Class I increment and AQRV analyses were conducted using the CALPUFF modeling system as described in a report submitted to the FLM, a copy of which is enclosed with this letter. The refined analysis estimated the air quality impacts of facility-wide emissions from the Cordele OSB Mill using three years of meteorological data (1990, 1992, and 1996) processed using the CALMET meteorological processor and refined techniques as described in the Interagency Workgroup on Air Quality Modeling (IWAQM) *Phase 2 Summary Report* and the *Phase I Report of the Federal Land Managers' Air Quality Related Values Workgroup (FLAG)*. Note that in all analyses, the entire facility-wide emissions (not just the project emissions increase) from the Cordele OSB Mill were modeled for comparison against the applicable thresholds.

CLASS I INCREMENT ANALYSIS

This analysis is analogous to the Class II Increment analysis in that predicted model impacts are assessed against a reduced NAAQS standard to determine whether a "significant deterioration" of air quality would result from a proposed project. For Class I areas, the incremental amount of deterioration allowed is much lower than in Class II areas. FLM guidelines provide for a Significance Analysis for Class I area evaluations. Instead of a pre-defined MSL as has been established for Class II area analyses, the modeling significance level for Class I area is taken to be 4% of the Class I Increment. As an example, the Class I Increment for NO_2 is 2.5 $\mu g/m^3$ (compared to 25 $\mu g/m^3$ for Class II areas). Therefore, the Class I modeling significance level is 0.1 $\mu g/m^3$ (e.g., 2.5 $\mu g/m^3 \times 4\%$). Table 22 summarizes the results of the Class I increment Significance Analysis for the three years of meteorological data modeled by presenting the maximum impact calculated at each Class I area.

[5] Visibility is not an air quality related value for Bradwell Bay.

TABLE 22. SUMMARY OF CLASS I INCREMENT SIGNIFICANCE ANALYSIS

Pollutant	Averaging Period	Okefenokee Maximum Predicted Impact ($\mu g/m^3$)	Saint Marks Maximum Predicted Impact ($\mu g/m^3$)	Bradwell Bay Maximum Predicted Impact ($\mu g/m^3$)	Significance Level ($\mu g/m^3$)
NO_2	Annual	1.80×10^{-3}	5.67×10^{-4}	4.32×10^{-4}	0.1
SO_2	Annual	1.26×10^{-4}	4.36×10^{-5}	3.98×10^{-5}	0.08
	24-hour	0.0035	0.0016	0.0017	0.2
	3-hour	0.0075	0.0058	0.0045	1
PM_{10}	Annual	0.012	0.0050	0.0048	0.16
	24-hour	0.30	0.17	0.15	0.32

Because the predicted impact at all Class I receptors is below the Class I MSL, no further analysis of Class I Increment is required. It is presumed that the proposed Cordele OSB Mill Expansion Project will not cause significant deterioration of air quality at Okefenokee, Saint Marks, or Bradwell Bay.

AIR QUALITY RELATED VALUES ANALYSIS

It is the FLM's responsibility to identify Air Quality Related Values (AQRV) in each of the Class I areas that may be affected by air pollution. With the exception of visibility, the Clean Air Act and the existing PSD regulations do not define AQRV, do not provide procedures for defining AQRV, and do not provide any criteria to determine critical pollutant loadings at which an adverse impact on AQRV would occur. The FLM AQRV Workgroup (FLAG) December 2000 Phase I report defines the following:

> *Air Quality Related Value* — a scenic, cultural, physical, biological, ecological, or recreational resource which may be affected by a change in air quality, as defined by the FLM.
>
> *Adverse Impact on Air Quality Related Values* — a deleterious effect on any AQRV defined by the FLM, resulting from the emissions of a proposed source or modification, that interferes with the management, protection, preservation, or enjoyment of the AQRV.

AQRV indicators typically identified by FLM include visibility degradation and deposition of sulfur and nitrogen species. Regional haze is a degradation of visibility that occurs at distances greater than 50 km from a source of pollutants and results primarily from the dispersion and chemical conversion of NO_2, SO_2, and particulate matter into nitrate and sulfate aerosols. Impacts on regional haze attributable to the Cordele OSB Mill expansion project were assessed using the CALPUFF model. CALPUFF is more refined than simple dispersion models (e.g., ISC-PRIME) because of its capability to simulate chemical transformations of emissions into species that degrade visibility and result in deposition. Impacts on visibility are assessed in terms of the change in light extinction that would occur at the Class I area due to emissions from the proposed project. FLM have established that

single source visibility impacts above 5% may require that the source's emissions be modeled in addition to other sources in a cumulative analysis.

Deposition impacts are assessed in terms of the total sulfur or nitrogen mass deposited per area over the course of a year. The FLM have established deposition assessment thresholds (DAT) above which deposition from a single project might need to be considered cumulatively with emissions of other facilities. Table 23 summarizes the impacts predicted by the CALPUFF model for the Cordele OSB Mill expansion project.

TABLE 23. SUMMARY OF CLASS I AQRV ANALYSES

AQRV	Averaging Period	Okefenokee Maximum Predicted Impact	Saint Marks Maximum Predicted Impact	Bradwell Bay Maximum Predicted Impact	Assessment Threshold
Visibility	24-hours	4.35 %	2.52 %	--*	5%
Sulfur Deposition	Annual	9.84×10^{-5} kg/ha/yr	4.53×10^{-5} kg/ha/yr	3.90×10^{-5} kg/ha/yr	0.01 kg/ha/yr
Nitrogen Deposition	Annual	8.54×10^{-4} kg/ha/yr	3.36×10^{-4} kg/ha/yr	3.20×10^{-4} kg/ha/yr	0.01 kg/ha/yr

* Visibility is not an AQRV at Bradwell Bay.

The CALPUFF analysis indicated that emissions associated with the Cordele OSB Mill expansion project and continued operation of the facility would not cause a significant impact on regional haze or deposition at potentially affected Class I areas. The modeling analysis and report has been submitted directly to the FLM under separate cover and a copy is enclosed with this letter for Georgia EPD's reference.

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The air quality modeling analyses included with the PSD permit application and the updated analyses described in this letter indicate that construction of the Cordele OSB Mill expansion project and continued operation of the Cordele OSB Mill is expected to be in compliance with applicable ambient standards for criteria and toxic air pollutants under normal operating conditions.

If you have any questions about the material presented in this letter or require additional information, please do not hesitate to contact me at (404) 256-1919. We appreciate your prompt attention to the information in this letter and your continued commitment to working with Norbord and Trinity to facilitate prompt issuance of the PSD permit.

Sincerely,

TRINITY CONSULTANTS

Ryan A. Gesser
Managing Consultant

Attachments/Enclosures

cc: Mr. John Yntema, Georgia EPD (Atlanta)
Mr. Phil Towles, Norbord, Inc. (Joanna, South Carolina)

ATTACHMENT 1

Intermediate Terrain Processing and Analysis

Controlling Terrain Analysis Processing Methods

Trinity postprocesses the ISC-PRIME model output (LST files) from both DFAULT and NOCMPL runs first by preparing a reduced form of the PLT output file that contains only the receptor coordinates and peak impact for the averaging period of interest. The COMPTERR.F FORTRAN program is used to process these files, called INP files, by comparing on a receptor-by-receptor basis the magnitude of the peak impact to determine whether the simple terrain (NOCMPL) processing predicts a higher impact than ISC-PRIME's intermediate terrain processing algorithms (DFAULT). The program also determines whether the creceptor is in simple, intermediate, or complex terrain based on a user-specified input of the stack-top (intermediate) and minimum complex terrain height determined from an analysis of hourly plume rise. The outputs of the COMPTERR process include the following:

- ALL files, which report the difference in concentration between DFAULT and NOCMPLX runs for each receptor, and indicate the terrain type based on user-specified intermediate and minimum complex terrain heights
- DIF files, which report only receptors having a non-zero difference between DFAULT and NOCMPLX runs
- MSL files, which report only receptors having a non-zero difference between DFAULT and NOCMPLX runs that is greater than the user-specified MSL.

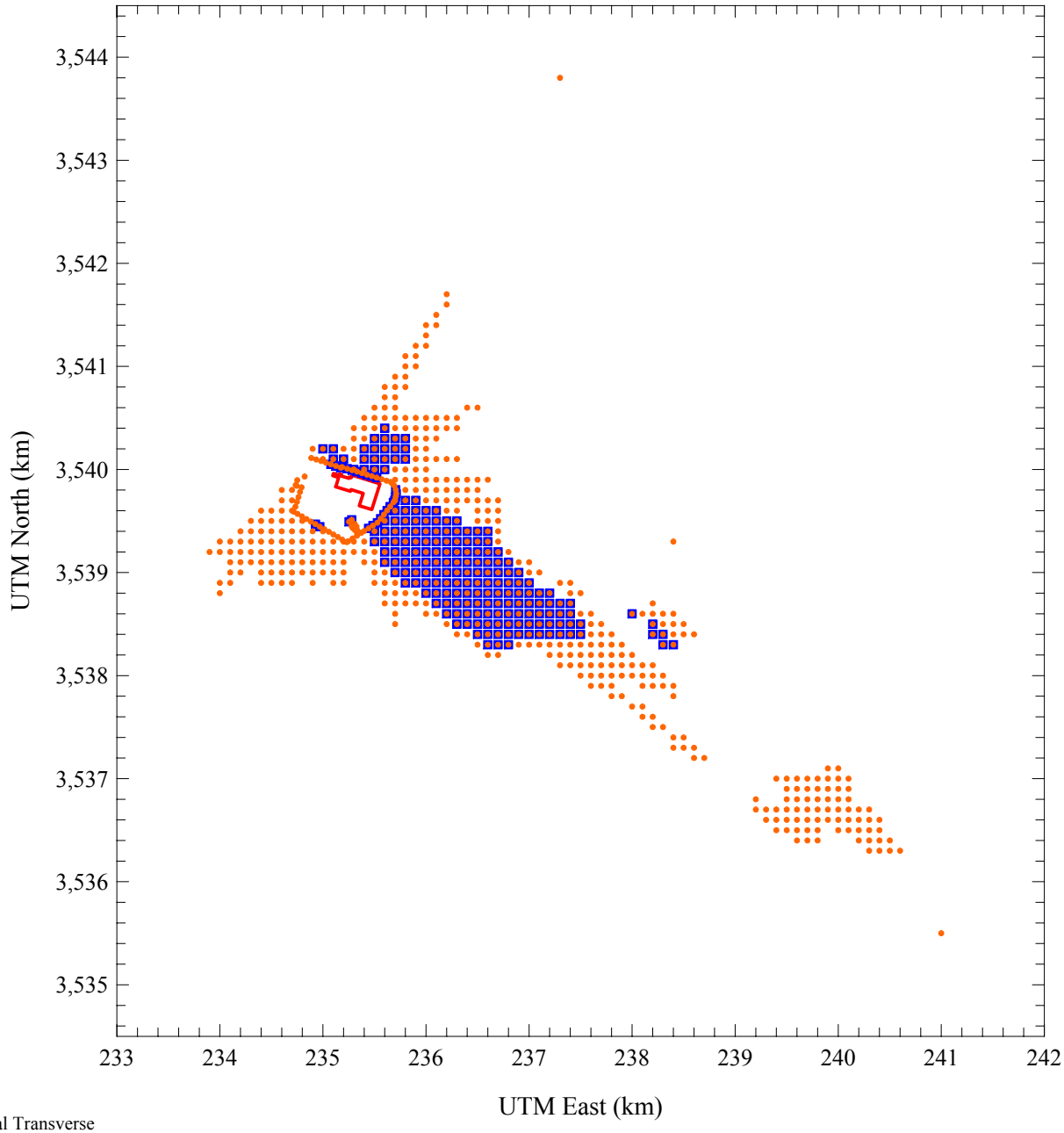
```
      PROGRAM COMPTERR
C     RAG 12.29.2004 COMPARE MODEL OUTPUT
C     FOR INP FILE FROM DEFAULT RUN AND NOCOMPL
C     RUN TO COMPUTE DIFFERENCE AND COMPARE AGAINST MSL

      REAL UTMEDF,UTMNDF,CONCDF,ZRECDF,UTMENC,UTMNNC,CONCNC,ZRECNC
      REAL CHKE,CHKN,CHKZ,INTZ,COMPZ,MSL
       CHARACTER(12) ZTYPE,DFFILE,NCFILE,OUTFILE,SUMFILE,MSLFILE

       PRINT*, 'Enter DFAULT *.INP File'
       READ*, DFFILE
       PRINT*, 'Enter NOCMPL *.INP File'
       READ*, NCFILE
       PRINT*, 'Output File will contain all receptors with difference in
     + modeled concentrations'
       PRINT*, 'Enter Complete Output File'
       READ*, OUTFILE
       PRINT*, 'Summary File will contain only receptors with any differe
     +nce in modeled concentration at a particular receptor'
       PRINT*, 'Enter Summary Output File'
       READ*, SUMFILE
       PRINT*, 'Enter Modeling Significance Level (ug/m3)'
       READ*, MSL
       PRINT*, 'MSL File will contain only receptors with difference in m
      +odeled concentration greater than user-specified MSL'
       PRINT*, 'Enter MSL Summary File'
       READ*, MSLFILE
       PRINT*, 'Enter Intermediate Terrain Height (m)'
       READ*, INTZ
       PRINT*, 'Enter Minimum Complex Terrain Height (m)'
       READ*, COMPZ
       PRINT*, 'Computing modeled differences...'

       OPEN (31, FILE = DFFILE)
       OPEN (32, FILE = NCFILE)
       OPEN (33, FILE = OUTFILE)
       OPEN (34, FILE = SUMFILE)
       OPEN (35, FILE = MSLFILE)

       I=0
```

```
      DO I = 1,39932
      READ (31,*) UTMEDF,UTMNDF,CONCDF,ZRECDF

      IF ((ZRECDF.GE.INTZ).AND.(ZRECDF.LT.COMPZ)) THEN
      ZTYPE = 'Intermediate'
      ENDIF
      IF (ZRECDF.GE.COMPZ) THEN
      ZTYPE = 'Complex'
      ENDIF
      IF (ZRECDF.LT.INTZ) THEN
      ZTYPE = 'Simple'
      ENDIF

      READ (32,*) UTMENC,UTMNNC,CONCNC,ZRECNC

      CHKE = UTMEDF-UTMENC
      CHKN = UTMNDF-UTMNNC
      CHKZ = ZRECDF-ZRECNC

      WRITE (33,101) UTMEDF,UTMNDF,CONCNC-CONCDF,ZRECDF,ZTYPE,CHKE,CHKN,
     +CHKZ
101   FORMAT (F8.3,2X,F8.3,2X,F11.5,2X,F7.2,2X,A12,2X,F8.3,2X,F8.3,2X,F7
     +.2)

      IF (CONCNC-CONCDF.NE.0) THEN
      WRITE (34,102) UTMENC,UTMNNC,CONCNC-CONCDF,ZRECNC,ZTYPE,MSL,ABS(CO
     +NCNC-CONCDF)/MSL
      ENDIF
      IF (CHKE.NE.0) THEN
      WRITE (34,102) UTMENC,UTMNNC,CONCNC-CONCDF,ZRECNC,ZTYPE,MSL,ABS(CO
     +NCNC-CONCDF)/MSL
      ENDIF
      IF (CHKN.NE.0) THEN
      WRITE (34,102) UTMENC,UTMNNC,CONCNC-CONCDF,ZRECNC,ZTYPE,MSL,ABS(CO
     +NCNC-CONCDF)/MSL
      ENDIF
      IF (CHKZ.NE.0) THEN
      WRITE (34,102) UTMENC,UTMNNC,CONCNC-CONCDF,ZRECNC,ZTYPE,MSL,ABS(CO
     +NCNC-CONCDF)/MSL
      ENDIF
102   FORMAT (F8.3,2X,F8.3,2X,F11.5,2X,F7.2,2X,A12,2X,F4.1,2X,F5.3)

      IF (ABS(CONCNC-CONCDF).GE.MSL) THEN
      WRITE (35,103) UTMENC,UTMNNC,CONCNC-CONCDF,ZRECNC,ZTYPE,MSL,ABS(CO
     +NCNC-CONCDF)/MSL
103   FORMAT (F8.3,2X,F8.3,2X,F11.5,2X,F7.2,2X,A12,2X,F4.1,2X,F5.3)
      ENDIF

      END DO
      CLOSE (31)
      CLOSE (32)
      CLOSE (33)
      CLOSE (34)
      CLOSE (35)

      END
```

ATTACHMENT 2

Reference Figure

Figure 1. Receptors at which Significant Impacts are Predicted
Norbord - Cordele, Georgia
NOx Receptors in Blue, PM10 Receptors in Orange



Edge markings shown in Universal Transverse Mercator Coordinates, Zone 17, NAD27

Norbord
041101.0101
Significant Receptors.srf

ATTACHMENT 3

Modeling CD-ROM Index

CD-ROM FILE INDEX

Meteorological Data

MCNCNT74.ASC	ISCST3 Meteorological Input Data File for 1974
MCNCNT75.ASC	ISCST3 Meteorological Input Data File for 1975
MCNCNT76.ASC	ISCST3 Meteorological Input Data File for 1976
MCNCNT77.ASC	ISCST3 Meteorological Input Data File for 1977
MCNCNT78.ASC	ISCST3 Meteorological Input Data File for 1978

Significance Analysis

DFAULT Runs

PS08YY.DAT	ISCST3 Input File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PS08YY.LST	ISCST3 Output List File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PS08YYDA.MAX	ISCST3 MAXI File for PM_{10} for Year 19YY on 24-hour Averaging Period
NS08YY.DAT	ISCST3 Input File for NO_X for 19YY Model Year (YY = 74 to 78)
NS08YY.LST	ISCST3 Output List File for NO_X for 19YY Model Year (YY = 74 to 78)
CS08YY.DAT	ISCST3 Input File for CO for 19YY Model Year (YY = 74 to 78)
CS08YY.LST	ISCST3 Output List File for CO for 19YY Model Year (YY = 74 to 78)
CS08YYHA.MAX	ISCST3 MAXI File for CO for Year 19YY on 1-hour Averaging Period
CS08YYEA.MAX	ISCST3 MAXI File for CO for Year 19YY on 8-hour Averaging Period

NOCMPL Runs

PX08YY.DAT	ISCST3 Input File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PX08YY.LST	ISCST3 Output List File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PX08YYDA.MAX	ISCST3 MAXI File for PM_{10} for Year 19YY on 24-hour Averaging Period
NX08YY.DAT	ISCST3 Input File for NO_X for 19YY Model Year (YY = 74 to 78)
NX08YY.LST	ISCST3 Output List File for NO_X for 19YY Model Year (YY = 74 to 78)
CX08YY.DAT	ISCST3 Input File for CO for 19YY Model Year (YY = 74 to 78)
CX08YY.LST	ISCST3 Output List File for CO for 19YY Model Year (YY = 74 to 78)
CX08YYHA.MAX	ISCST3 MAXI File for CO for Year 19YY on 1-hour Averaging Period
CS08YYEA.MAX	ISCST3 MAXI File for CO for Year 19YY on 8-hour Averaging Period

Controlling Terrain Analysis Postprocessing

COMPTERR.F	FORTRAN Code for Terrain Analysis Processing
PPS08YY.INP	DFAULT INP format file for pollutant PP (N=NO_X, P=PM_{10}, C=CO) for 19YY Model Year (YY = 74 to 78)
PPX08YY.INP	NOCMPL INP format file for pollutant PP (N=NO_X, P=PM_{10}, C=CO) for 19YY Model Year (YY = 74 to 78)
PP08YYV.IN	Terrain control file for pollutant PP (N=NO_X, P=PM_{10}, C=CO), averaging period V (H = 1-hour, E = 8-hour, D = 24-hour, A = annual) for 19YY Model Year (YY = 74 to 78)
PP08YYV.ALL	Terrain output file for pollutant PP (N=NO_X, P=PM_{10}, C=CO), averaging period V (H = 1-hour, E = 8-hour, D = 24-hour, A = annual) for 19YY Model Year (YY = 74 to 78)
PP08YYV.DIF	Terrain difference file for pollutant PP (N=NO_X, P=PM_{10}, C=CO), averaging period V (H = 1-hour, E = 8-hour, D = 24-hour, A = annual) for 19YY Model Year (YY = 74 to 78)
PP08YYV.MSL	Terrain signifance file for pollutant PP (N=NO_X, P=PM_{10}, C=CO), averaging period V (H = 1-hour, E = 8-hour, D = 24-hour, A = annual) for 19YY Model Year (YY = 74 to 78)

NAAQS Analysis

PN11YY.DAT	ISCST3 Input File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PN11YY.LST	ISCST3 Output List File for PM_{10} for 19YY Model Year (YY = 74 to 78)
NN11YY.DAT	ISCST3 Input File for NO_X for 19YY Model Year (YY = 74 to 78)
NN11YY.LST	ISCST3 Output List File for NO_X for 19YY Model Year (YY = 74 to 78)

PSD Increment Analysis

PI11YY.DAT	ISCST3 Input File for PM_{10} for 19YY Model Year (YY = 74 to 78)
PI11YY.LST	ISCST3 Output List File for PM_{10} for 19YY Model Year (YY = 74 to 78)
NI11YY.DAT	ISCST3 Input File for NO_X for 19YY Model Year (YY = 74 to 78)
NI11YY.LST	ISCST3 Output List File for NO_X for 19YY Model Year (YY = 74 to 78)

Toxics Analysis

SS01YY.DAT	ISCST3 Input File for TAP for 19YY Model Year (YY = 74 to 78)
SS01YY.LST	ISCST3 Output List File for TAP for 19YY Model Year (YY = 74 to 78)

SS denotes Toxics Species:

AE	Acetaldehyde
AN	Acrolein
AC	Arsenic
BE	Beryllium
BZ	Benzene
CD	Cadmium
CR	Chromium
FS	Formaldehyde
PB	Lead
HC	Hydrogen Chloride
MN	Manganese
MS	Methanol
HG	Mercury
LS	Phenol
NK	Nickel