APPENDIX J

GUIDANCE FOR OFF-SITE EMISSION INVENTORY PREPARATION

Major Sources

Below is additional information that can be used to create a major source (>100 tpy) criteria pollutant emissions inventory for PSD Modeling Projects.

1. Determine Significant Impact Areas and Model Screening Areas:
   - If your project has modeled impacts less than all applicable significant impact levels (SILs), STOP. You do not need to inventory major (or minor) sources.
   - If your project has modeled impacts greater than one or more applicable SIL(s), CONTINUE. Determine all necessary Significant Impact Areas (SIAs) to the nearest 100m receptor as described in the DRAFT New Source Review Workshop Manual, EPA, 1990, pgs C.26-C.31.
   - Determine model screening areas (MSAs) by adding 50 km to the radius of significant impact area (SIA) for each pollutant addressed in the 1990 NSR Workshop Manual. Follow EPA guidance memos for 1-hour NO2 and SO2 NAAQS and PM2.5 NAAQS.

2. Listing of Offsite Facilities: A listing of stationary sources permitted by GA EPD along with their address and lat/long, UTM coordinates, and associated UTM Zone may be found at http://www.georgiaair.org/airpermit/html/sspp/sourcelist.htm. It should be noted that the coordinates in this list may not correspond to the location of the major emission stacks. If more accurate coordinates are available, the applicant should use those coordinates instead.

3. Assess Distances to Offsite Facilities: Use the spreadsheet in step #2 to calculate the distance, d, between each Title V facility and your project site, using the appropriate (project) UTM zone coordinates ($d = ((x_1-x_2)^2+(y_1-y_2)^2)^{0.5}$). Sort the worksheet by distance from the project site. Keep in mind that, state-wide, some facilities may be located in a different UTM zone than the project site. In that case, the UTM coordinates corresponding to the project zone should be used to calculate the distance d. Save those facilities closer to your project than the SIA radius + 50 km.

4. Recent PSD Off-Site Modeling Inventories: A *.pdf copy of recent PSD Off-site modeling inventories can be found at:
http://www.georgiaair.org/airpermit/html/sspp/psdmodeling_inventories.htm
These inventories may be helpful for compiling the emission inventories necessary for your project.

5. Assess Emissions of Offsite Facilities: This should be done for both the NAAQS Inventory and the PSD Increment inventory. The applicant should use the maximum allowable emission rate (lb/hr) as described in 40 CFR Part 51, Appendix W. If a source does not have an allowable emission rate, the applicant should use the hourly potential-to-emit (PTE) for that source. Hourly emission rates (lb/hr) are converted to annual emission rates (tons/year) by using the operating factor defined in Table 8-2 of 40 CFR Part 51, Appendix W.

   Remove those facilities from your inventory which do not have major-level (>100 tpy) emissions of the pollutant(s) you are researching, unless they are within your project's SIA (in which case, go to the Minor Source Inventory instructions), or if they are located within 2 km of another facility. If the latter is true, combine the maximum allowable emissions or PTE emissions for both facilities and again test to see if the total is less than 100 tpy. If the total is less than 100 tpy and there are no other facilities within 2 km of these, go to the Minor Source Inventory instructions.

6. 20D Screening: This can be done for both the NAAQS Inventory and the PSD Increment inventory.
   - Divide the maximum allowable emissions or PTE emissions (tpy) (or combined maximum allowable emissions or PTE for sources within 2km distance of each other) for the pollutant(s) which you are researching by 20 times the short-term d (km) from the sorted spreadsheet in step #3. This value is termed "Q/d" value.
   - Divide the maximum allowable emissions or PTE emissions (tpy) (or combined maximum allowable emissions or PTE for sources within 2km distance of each other) for the pollutant(s) which you are researching by 20 times the annual D (km) [refer to the 20D technique instructions in Section 5 of the document narrative]. This value is termed "Q/D" value.

- Facilities with "Q/d" and "Q/D" values less than 1.0 are considered to have insignificant impact on your project for the pollutant-specific emissions used in this calculation. Such facility sources of the pollutant(s) need not be included in the NAAQS model for the short- or long-term impacts, or both, as may be applicable. If there are no Increment-expanding emissions of the pollutant(s) from sources at that site, then no facility emissions source of the pollutant(s) need be included in an Increment short- or long-term model, or both, as may be applicable.
- While GA EPD accepts pollutant-specific emissions inventories which have been screened using the 20D technique for refined NAAQS or PSD Increment modeling, we require that all facilities within the model screening area (MSA, SIA radius + 50 km) to be listed with an explanation of the basis of their elimination from modeling.

7. Development of Refined NAAQS Inventory:

- Stack locations and source characteristics (stack height, diameter, exhaust flow velocity, and exhaust temperature, etc.) should be obtained from the most current National Emissions Inventory (NEI) for each emission source to be modeled. Stack heights which are in excess of 65 meters must be specifically confirmed with the GA EPD dispersion modeling group (before modeling) to see if such heights may be affected by Good Engineering Practice (GEP) modeling stack height limitations.
- Pollutant-specific background ambient concentrations will be provided by GA EPD for use on the project.

8. Development of Refined Increment Inventory: This inventory should be developed in a similar manner to the refined NAAQS emissions inventory. Two exceptions are:

a. All PSD-major facility sources are assumed to consume increment if such sources began initial operation as a PSD-major source after the applicable pollutant-specific PSD trigger date [SO_2 and PM = Aug 7, 1977; NO_2 = Feb 8, 1988]. The actual emissions increases due to equipment constructed after the Major Source Baseline (MSB) date [SO_2 and PM = Jan 6, 1975; NO_2 = Feb 8, 1988] of any pre-existing (pre-MSB-baseline) PSD-major facilities consume applicable Increment. Equipment on the sites of current PSD-major sources which had site-wide emissions less-than-PSD-major-source emissions thresholds

on the MSB date, or equipment which was not installed as of the MSB, should be considered to consume increment if it was installed after the pollutant-specific PSD trigger date.

b. Increment expansion for pre-Major Source Baseline major sources is calculated based on the decrease in emissions based on sustainable 2-yr average pre-1975 (for SO_2 or PM; or pre-1988 for NO_2) actual annual emission rates. Annual and short-term Increment expansion emission rates for minor sources are derived in the same way, but depend on the 2-yr average emission rates prior to the local minor source baseline date. Sources which initially consumed Increment but which will be shut down by the time project construction is complete simply fall off the Increment emissions inventory (not Increment expansion credit). For these purposes, GA EPD accepts the equipment dates of initial operation of the Title V application represented as "Installation Date" on equipment-specific pages under D-7, Significant Equipment. GA EPD also accepts the pollution control equipment dates of initial operation as the later of the Title V application-represented as "Installation Date" on equipment-specific pages under D-10, Control Devices.

9. Alternative Inventory Creation: If you cannot locate sufficient emissions data for a pollutant of interest by reviewing the electronic copy of the facility permits, you may need to review the paper permit files of one or more facilities at the GA EPD Air Branch Office at 4244 International Parkway, Suite 120, Atlanta, GA 30354. If you cannot locate sufficient information to indicate whether the major source, or certain emission sources on the site, consume PSD Increment for the pollutant of interest; you may need to review the paper permit files of one or more facilities at the GA EPD Air Protection Branch located at the address above.

Minor Sources

Below is additional information that can be used to create a minor source (<100 tpy) criteria pollutant emissions inventory for PSD Modeling Projects.

1. Determine Significant Impact Area:
   - If your project has modeled impacts less than all applicable significant impact levels, STOP. You do not need to inventory major (or minor) sources.
   - Determine all necessary Significant Impact Areas (SIAs) to the nearest 100m receptor as described in the DRAFT New Source Review Workshop Manual, EPA, 1990, pgs C.26-C.31.

2. Listing of Offsite Facilities: A listing of stationary sources permitted by GA EPD along with their address and lat/long, UTM coordinates, and associated UTM Zone may be found at www.georgiaair.org/airpermit/html/sspp/sourcelist.htm.

3. Assess Emissions of Offsite Facilities:

   The applicant should use the maximum allowable emission rate (lb/hr) as described in 40 CFR Part 51 Appendix W. If a source does not have an allowable emission rate, the applicant should use the hourly potential-to-emit (PTE) for that source. Hourly emission rates (lb/hr) are converted to annual emission rates (tons/year) by using the operating factor defined in Table 8-2 of 40 CFR Part 51, Appendix W.

   - Go to the EPD website www.georgiaair.org.
   - Click tab labeled 'Permits and Title V Applications'. Click bullet labeled 'Issued Air Permits'. In the box labeled 'AIRS Number', enter the 3-digit AIRS number of the county you wish to explore for minor sources (one county at a time). This will always include the county in which the PSD project is located, but may also include adjacent counties into which the Significant Impact Area may overlap. Select the appropriate permit type (for minor sources only, this is SIP; however, you can double check your major source inventory by selecting either 'All', or 'Title V', or 'PSD/NSR'). Click on the 'Search Permits' box.
   - You should now be looking at a list of all the permits of the type you selected (SIP, ALL, Title V, or PSD/NSR), in the county you selected. If you cannot locate sufficient emissions data for a pollutant of interest by reviewing the electronic copy of the facility permits, you may need to review the paper permit files of one or more facilities at the GA EPD Air Branch Office at 4244 International Parkway, Suite

120, Atlanta, GA 30354. If you cannot locate sufficient information to indicate whether the minor source, or certain emission sources on the site, consume PSD Increment for the pollutant of interest; you may need to review the paper permit files of one or more facilities at the GA EPD Air Protection Branch located at the address above.

4. While GA EPD accepts pollutant-specific potential emissions inventories which have been screened using the 20D technique for refined NAAQS or PSD Increment modeling, we require that all facilities within the model screening area (MSA, SIA radius + 50 km) to be listed with an explanation of the basis of their elimination from modeling. Any emissions source located within the pollutant-specific significant impact area must be included in any modeling inventory for that pollutant. Individual minor sources of any criteria pollutant will screen out of short-term modeling requirements using the 20D technique IF they are located beyond the applicable significant impact distance from the project site, AND the Q/d < 1.0, AND IF they are beyond a 2 km radius of other sources. They will screen out of long-term modeling requirements IF they are located beyond the applicable significant impact distance from the project site, AND the Q/D < 1.0, AND IF they are beyond a 2 km radius of other sources.

5. To resolve whether specific minor source emissions should be included in the pollutant-specific Increment inventory, or only included in the pollutant NAAQS inventory, please refer to the Major Source discussion in this Appendix.