**Overview of Non-road Methodology and Supporting Documents in this Appendix**

Annual Emissions and general information:

Emissions from NONROAD equipment and mobile sources for 2018 and 2033 were obtained through running the NONROAD portion of the recently released (November 16, 2020), most updated version of the MOVES model, MOVES3. With the newest nonroad features and updated allocations/growth estimates superior to any data in our possession, we elected to run the model using national defaults from the model for emissions estimates. The exception was the use of 2018 meteorology inputs for both 2018 and 2033. The fuel in MOVES3 matches the Atlanta area so defaults are used this time unlike in the past. An input database was compiled to include the local meteorology data and is included in this appendix. Output files are included with this submission along with the MOVES runspec files. The NONROAD portion of MOVES3 produces emissions only down to the 24-hr daytype level (weekday or weekend). We aggregated these emissions to monthly totals first. For each month, the weekday emissions were multiplied by the number of weekdays and weekend emissions by the number of weekends (holidays are included as weekends). Finally these monthly totals are summed up for an overall annual total by county. The same summing up/aggregation method is conducted for each of up to 211 SCCs. So both annual emissions by SCC and overall are included. More detailed modeling information can be found in U.S. EPA’s OTAQ website, specifically the MOVES3 technical and policy guidance. For typical summer July weekday, instead of aggregation, one just filters out emissions from the model for monthid=7 and daytypeid=5 (weekday).

The supporting documentation includes the input databases (“Inputfiles” folder with 1 database covering all months, counties and both 2018 and 2033 since nonroad option allows to run multiple counties even if uses different fuel blends) which was used with the MOVES run to assure local meteorology was included. A “ScriptsandQueries” folder contains all the scripts used to obtain the numbers used in the narrative of the SIP (see “July weekday” discussion at the end of this document for more details since the results from those queries are specifically what is used in the narrative) as well as the emissions inventory requirements for annual and county by county data down to SCC level. There are also extra scripts describing how data could be grabbed both in Excel and in MySQL files through queries. “MRSFILES” folder contain the runspec used (one runspec covers both years (2018, 2033), all months, all daytypes, and all counties) and the “Outputfiles” folder contains the output databases “2015maintenancesip7county\_out” and “ 2015maintenancesip7countyallmonthsyears\_out” which include the output for July weekend emissions (“typical summer weekday”) and for annual emissions, respectively. The raw outputs in “movesoutput” are at the typical weekday and weekend level so one cannot just sum the data in the “movesoutput” table to obtain weekly or monthly data (how it is properly done is described in the previous paragraph). Please note due to averaging when running one month and day (typical July weekday run representing ozone season) which was “2015maintenancesip7count\_out” versus each month and day of the year with “2015maintenancesip7countyallmonthsyears\_out” cause insignificant variation in the output totals (much less than 0.1%). We went with the summation outputs with all months/years with “2015maintenancesip7countyallmonthsyears\_out” to be consistent between annual and typical July weekday (representing ozone season). The other output database was kept for demonstrative purposes.

The individual xlsx, .csv, and docx files in this Appendix are grouped as follows:

1. The “atl\_2018\_final\_annual\_sccmaintsip.xlsx”/”atl\_2033\_final\_annual\_sccmaintsip.xlsx” files provide final calculations down to the SCC level used for the emissions inventory. There is an equivalent group of files with “osd” in the title for typical July weekday emissions.
2. The “Maintenance SIP\_ATL\_annual\_summary.xlsx” file provides total annual emissions by county and total 7 county region. There is an equivalent file “ozone summary” for typical July weekday emissions.
3. The “emissionsbycounty2018\_2033annualandsumday.xlsx” files show how the daily data was summed to month and then potentially to annual over the whole 7 county region by pollutant
4. “nremissionsbysccforsipmysql2018\_2033.csv”, “nremissionsbysccforsipmysql2018\_2033.xlsx”, and “nremissionsbysccforsipmysql2018\_2033annual.xlsx” demonstrate the same as step 3 but aggregated (annual) or filtered (typical summer July workday) by SCC instead of county.
5. “nrmeteorology.csv” is the meteorology file uploaded to the input database
6. “ReadMe\_MethodologyNRMAINSIP2015\_Detailed.docx”: Contains a step by step highly detailed description of how the emissions were obtained for those with a strong, technical background in MOVES who might want to know more details.

July weekday/ozone season extra note:

The summer day emissions from nonroad mobile sources for 2018 and 2033 are calculated using the latest version of MOVES, MOVES3 (released November 16, 2020), running the NONROAD portion, for a July weekday using the same inputs as described in the section for calculating annual emissions for nonroad mobile sources (national defaults). In this case the values obtained here are July weekday. For quick perusal take a look at any files with “osd” and “ozone summary” for summarized emissions totals for July weekday/ozone season. The July weekday/ozone season values were taken from “2015maintenancesip7countyallmonthsyears\_out”.