**MEDEP 2011 NEI METHODOLOGIES**

All of the county databases in Maine’s 2011 NEI submittal contain a combination of EPA defaults and local data inputs. With the exception of Cumberland County, Maine is providing local data for 10 of the tables listed on the 2011 NEI check list. Cumberland County has one additional table (IMCoverage) containing local inputs. MEDEP opted to utilize generic templates to create the tables containing local inputs with the XML importer tool to convert the local inputs into a MOVES database format. The MOVES formated local input tables were then used to replace the default tables in the 2011 NEI EPA default CDBs. While the audit log does not actually contain local data inputs the XML importer tool created an audit log describing our local inputs that we used to replace the EPA defaults.

Each county database contains local data for avgspeeddistribution, dayvmtfractions, fuelformulation, fuelsupply, hourvmtfraction, hpmsvtypefraction, monthvmtfraction, roadtype, roadtypedistribution, and sourcetypeyear. The following information describes the methodology used to create the local inputs with a description of the supporting documentation files included with our submittal.

**Vehicle miles traveled, ramp fractions, speed and road type distribution tables** are compiled from local inputs provided by Maine Department of Transportation (MEDOT). MEDOT conducts traffic studies using traffic counts throughout the state to determine VMT fractions for all vehicles and road types. With the exception of the annual VMT, the data computed from the DOT represents VMT fractions until the MEDOT conducts another traffic study to update the model. VMT is updated annually in July of each year with projections for VMT modeled out to 2035 using growth factors. The 2011 VMT results used to populate the hpmsvtypefraction tables are stored in the **(2011 VMT wPACTS forcasted Growth to 2035.xlsx)** file. The local inputs for avgspeeddistribution, dayvmtfractions, hourvmtfraction, hpmsvtypefraction, monthvmtfraction, roadtype, roadtypedistribution (**MOVES VMT-fractions.xls**) were created in August of 2011. MEDOT used census population data to aggregate data out to the county level.

**Fuel formulation and fuel supply tables** were created by using local data. Maine DEP collects fuel information from terminals on a monthly basis. The data available includes RVP, sulfur, aromatic content and benzene. To compile information for attainment and non-attainment counties, DEP staff were able to sort the list based on RVP for the months where non-attainment counties must use fuels with an RVP of 7.8 or less. Results of weighted averages with RVP's of 7.8 or less were used for non-attainment counties and the remaining fuels were applied to attainment counties. For the months were RVP is not a requirement statewide, weighted averages were generated and used for all counties. All fuels in 2011 contained a minumum of 10% ethanol. The regulatory requirement for sulfur content also applies, all counties must maintain a sulfur content of 30.00 ppm or less. To input data into the MOVES model, the 2011 default data was generated out of the MOVES database and edited to report the weighted average results for data reported from Maine's terminals. In the 2011 defaults, Maine has two inputs for fuel mixtures that apply, one for attainment and the other for non-attainment counties. In the instances were both attainment and non-attainment counties have the same results, both fuel formulations are edited and reported. Where Maine no longer has fuels without ethanol, the market share was changed to 1.0 and fuels with ETOHVolumnes are no longer reported. The worksheet called **(2011 MEDEP Fuel Mixture.xlsx)** contains all of the documentation regarding the data that was used to build the MOVES input templates.

**Sourcetypeyear tables** were created using local data. The vehicle population tables were generated from two sources of information compiled by Maine Department of Motor Vehicles (MEDMV). Each month the MEDMV compiles of summary of all plate registrations statewide. The records summarized in January of 2012 were used to build the CDBs for 2011. A second file compiling records based on vehicle make and model was used to determine the amounts of passenger cars within the counts for 2011. From these two files we could determine what the break down was between passenger cars and trucks. Motorcyles, motor homes, and buses were also available. MEDEP used the national fractions for vehicle population data to apply to the remaining plate registration data. Once a breakdown for vehicle types was completed, census population data was applied to distribute the data out to the county levels. The **(2011 NEI VEHPOP Development.xlsx)** file contains more information regarding the methodology used for this submittal.

**IMCoverage tables** only apply to Cumberland County. Local data was used to replace EPA defaults. Inspections are required annually. Maine began testing all gasoline fueled vehicle On Board Diagnostic systems (OBD) in 1993. In 1999 the unloaded idle test was omitted and all OBD from diesel vehicles were added to the testing schedule. Maine does not have a grace period for I/M inspections. Testing is performed and reported on all model year vehicles.

MOVES 2010b is not equipped to handle I/M emissions effects for diesel fuel. No inputs are available in the defaults for diesel fuel type sources. All inputs for diesel testing have to be excluded in the input tables until MOVES is updated to handle I/M Coverage for diesel fuel type. All gasoline and ethanol fueled passenger cars, trucks and light commercial trucks are tested annually for HC (Hydrocarbons), CO and NOx emissions for start and running exhaust. To meet Stage II requirements, HC testing is also done for Evaporative Fuel Vapor Venting and Evaporative Fuel Leaks. These tests are making sure that the On Board Diagnostic systems built into the newer model year vehicles for vapor recovery are working properly.

When submitting data to MOVES, all records in the default database were applied to the local data set. Any record that required a change was duplicated and defaults were turned off by placing a “N” in the useIMyn field. The duplicate record was edited by placing a “Y” in the useIMyn field AND a “1” in front of each IMProgramID record number. This allowed MOVES to accept the duplicate records. More information can be found in the **(IM COVERAGE MOVES Tables.doc)** file.