**Methodology – Populating Hg Speciation Bins for 2011 Facilities**

1.       Import relevant data.

          Table A) 2011neiv1\_hg\_utilitymact.xlsx

          Table B) Hg\_Speciation\_with\_EISCodes\_EPA\_12\_16\_11.xlsx

          Table C)FacilityInventoryUnit\_Alternate\_Identifiers\_Madeleine\_Strum.csv

2.       Merge Hg bins from Table B into the facilities data (Table A).

          Join by FacilityID, UnitID, and ProcessID.

          Create new table 2011neiv1\_hg\_utilitymact\_w\_speciation bin.

          (Query step 1)

3.       Create an Alt ID to match that in Table C

by concatenating from Table B the ORIS code, “CAMDUNIT”, and the BoilerID.

          (Query step 2)

4.       Pull in more Hg speciation bins from Table C by joining the AlternateIDs.

          (Query step 3)

5.       Merge new Hg speciation column from Query 3 into table … w\_speciation\_

bin by joining by FacilityID and UnitID to create new table

2011neiv1\_hg\_utilitymact\_w\_speciation bin1.

(Query step 4)

6.       Add a new column to select either Hg bin # from the 2 Hg speciation columns using Iif.

          Create new table 2011neiv1\_hg\_utilitymact\_w\_speciation bin2.

          (Query step 5)

7.       Use only the newly populated Hg Speciation bin from …w\_speciation bin2 in the new table 2011neiv1\_hg\_utilitymact\_w\_speciation bin3.

          (Query step 6)

8.       Manually inspect the Hg bin entries left blank. Check SCCs for the blanks in the EIS Gateway SCC table for natural gas, oil, or waste disposal.  These remain blank (no Hg bin).  Mark with a 99 as a temporary holder.

          For the remaining,  use the EIS gateway to find the NEEDs ID for each FacilityID – UnitID combo.  Filter in the NEEDSv410.xls file for that ID in the ORISID column.  Inspect for control measures.  Match the Hg bin from the Hg\_Speciation\_Crossreference table of the Hg\_Speciation\_with\_EISCodes\_EPA\_12\_16\_11.xlsx file.

9.       Eliminate duplicate FacilityID-UnitID-ProcessID combos by grouping.

          Create new table 2011neiv1\_hg\_utilitymact\_w\_speciation bin – final.

          (Query step 7)

10.     Replace the placeholder 99s with blanks in the table 2011neiv1\_hg\_utilitymact\_w\_speciation bin – final.

          (Query step 8)

11.      Find any remaining duplicate FacilityID-UnitID-ProcessID combos by the Removing Duplicates process in Excel.  Manually remove duplicate

          FacilityID-UnitID-ProcessID combos.