Summary of Changes: HRSM01.1 to HRSM01.2

The following Summary of Changes highlights the major modifications implemented in SOW HRSM01.2 compared to SOW HRSM01.1.

This is a high-level summary and is not intended to be a complete or comprehensive listing of every modification. Interested parties are strongly encouraged to read the complete SOW and familiarize themselves with all of the requirements.

HRSM01.2

Global

The title, roles, and responsibilities of the EPA staff have been updated as follows, throughout the document, wherever applicable:

- EPA Analytical Services Branch Program Manager (ASB PM) has been replaced with EPA Analytical Services Branch Contract Laboratory Program Contracting Officer Representative (ASB CLP COR).
- EPA Contract Laboratory Program Project Officer (CLP PO) has been replaced with EPA Regional Laboratory Contracting Officer Representative (COR).

Abbreviations/Acronym List

- SD (Standard Deviation) has been added to the list.

Exhibit B

- **Section 1.1, Table 1, Item H** – The statement "Submit within 60 days after contract award" under the Delivery Schedule of the Quality Assurance Project Plan (QAPP) has been replaced with "Submit within XX^4 days after contract award" to indicate that the number of days will be provided in the associated laboratory contract document and will also be provided at the time of sample scheduling by the Sample Management Office (SMO) Contractor.
- **Section 3.4.2.2.13.2** – The "E" Qualifier and "J" Qualifier descriptions have been updated.

Exhibit D – CDD/CDF

- **Section 1.1** – The reference for EPA Method 1613 has been updated to "Revision B (October 1994)".
- **Section 1.3** – The language has been updated to indicate that the requirements for retention times and limits are evaluated for two exact m/z signals produced by each compound.
- **Section 2.3.1** – The language has been updated to specify that the internal standard volume is included in the final extract volume.
- **Section 2.4.2** – The language "all isomers in the tetra through octa levels of chlorination (e.g., total TCDD)" has been replaced with "all congeners in the tetra through octa levels of chlorination (e.g., Homologue totals)".
- **Section 5.3.7** – The waste handling requirements have been updated to include all personnel.
- **Section 6.1.2** – Venting requirements have been specified for the kiln.
- **Section 6.2.3.1** – Venting requirements have been specified for the oven.

- **Section 6.2.7** – The “mortar and pestle” equipment has been replaced with “sieve” and associated requirements.
- Extraction jars have been added to the list of extraction apparatus in new **Section 6.3.5** and the subsequent section renumbered accordingly.
- **Sections 6.7.3, 10.2.5.7, and 10.2.6.7** – The term “Blowdown Apparatus” has been replaced with “Nitrogen Evaporation Device”.
- The hydrochloric acid, 1N reagent to be used for fly ash sample preparation is listed in new **Section 7.1.7**.
- The equation for the Standard Deviation determination has been provided in new **Section 9.5.6.5**, and subsequent sections and equations renumbered accordingly.
- **Section 10.1.4.1.3.1** – The section number referenced in the instructions for the estimation of particle size has been updated to 10.1.4.1.2.2.
- **Section 10.1.4.2** – The section header and instructions have been updated to indicate that particle sizes greater than 1 mm are no longer subjected to grinding, homogenization, or blending. These large particles are now to be sieved or removed manually.
- **Sections 10.1.4.2.1 and 10.1.4.2.2** – These sections have been deleted as grinding, homogenization, or blending of large particles is no longer performed.
- **Section 10.1.4.3.7** – Particle size is now to be reduced as described in Section 10.1.4.2.
- **Sections 10.1.4.3.8, 10.1.5.2.5, and 10.1.6.1.6** – The language has been updated to clarify that the sample and the reference matrix are the aliquots to be extracted.
- **Section 10.1.5.1.1** – The laboratory is directed to observe all applicable safety precautions when handling the materials used to freeze the samples.
- Extraction procedures for fly ash samples have been described in new **Section 10.1.7**.
- **Section 10.2** – The language has been updated to add that the appropriate extraction methods are to be selected based on sample conditions.
- **Section 10.2.3.2.2** – The procedures for clogged filters replacement during sample extraction have been updated to clarify that, after the filter has been removed, it is to be saved for later extraction.
- **Section 10.2.3.2.4** – The alternate sample extraction step has been updated to clarify that all filter(s) and disk used are extracted per the SDS or Soxhlet procedure.
- **Section 10.2.4.5** – Section 10.1.7.1.7 has been added to the list of sections that are referenced.
- **Section 10.2.5.7** – The term “blowdown procedure” has been replaced with “nitrogen evaporation procedure”.
- **Section 10.2.6.1** – The section number referenced in the instructions for HCl sample digestion/preparation has been updated to 10.1.5.2.5.
- **Section 10.3.4.2** – The term “blowdown vial” has been replaced with “nitrogen evaporation vial”.
- **Section 10.4.8** – The instructions for concentrating the sample extract have been updated to clarify that the sample is to be evaporated until constant weight is obtained.

- **Sections 10.5 (Bullet 4) and 11.2.8.1** – The term "isomer" has been replaced with "congener".
- **Section 10.5.1.1** – The Contractor may now prepare columns by the procedure described in this section or purchase commercially available columns.
- **Section 10.5.1.4.2.4** – The procedure has been updated to indicate that a full volume (not 5.0 mL) of methylene chloride is to be run through the system to check for carry-over, if a particularly dirty extract is encountered.
- **Section 11.1.3.1** – The procedure for ion abundance ratios evaluation has been updated.
- **Section 11.2.3.1** – The denominator in the Solid Sample Concentration equation has been changed to "(W_S X S)" and the definition of the "S" term added to the list.
- **Section 11.2.7.1** – The definition of the "S" term has been updated to "%Solids/100 (applicable to soil/sediment samples only)".
- Instructions for the calculation of total homologue concentration are provided in new **Section 11.2.9**.
- **Section 17.0, Table 1** – The acronym "IS" has been defined as "Internal Standard" in Footnote 2.
- **Section 17.0, Table 2** – The tetrachlorinated and pentachlorinated analytes as well as associated retention time references, quantitation references, and relative retention times have been included.

Exhibit D – CBC

- **Section 1.1** – The reference for the EPA Method 1668 has been updated to "Revision C (April 2010)".
- **Section 1.1.1** – The language referring to the second-column analysis option has been updated and the reference to Appendix A removed.
- **Section 1.3** – The language has been updated to indicate that the requirements for retention times and limits are evaluated for two exact m/z signals produced by each compound.
- **Section 2.1.2** – The language for the spiking solution has been updated to clarify that a mixture of ^{13}C-labeled WHO Toxic Congeners and LOC definition CBCs is spiked into a sample containing 10 grams of solids.
- **Section 2.3.1** – The language has been updated to specify that the internal standard volume is included in the final extract volume.
- **Section 4.2.3** – Venting requirements have been specified for the kiln and furnace.
- **Section 5.3.7** – The waste handling requirements have been updated to include all personnel.
- **Section 6.1.2** – Venting requirements have been specified for the kiln.
- **Section 6.2.3.1** – Venting requirements have been specified for the oven.
- **Section 6.2.7** – The "mortar and pestle" equipment has been replaced with a "sieve" and associated requirements.
- **Sections 6.7.3 and 10.2.5.7** – The term "Blowdown Apparatus" has been replaced with "Nitrogen Evaporation Device".

- **Section 7.5.4.2** – The section number referenced in the instructions to establish the elution pattern of the florisil column has been updated to 10.5.6.4.
- The equation for the Standard Deviation determination has been provided in new **Section 9.5.6.5**, and subsequent sections and equations renumbered accordingly.
- **Section 10.1.4.1.3.1** – The section number referenced in the instructions for the estimation of particle size has been updated to 10.1.4.1.2.2.
- **Section 10.1.4.2** – The section header and instructions have been updated to indicate that particle sizes greater than 1 mm are no longer subjected to grinding, homogenization, or blending. These large particles are now to be sieved or removed manually.
- **Sections 10.1.4.2.1 and 10.1.4.2.2** – These sections have been deleted as grinding, homogenization, or blending of large particles is no longer performed.
- **Section 10.1.4.3.7** – Particle size is now to be reduced as described in Section 10.1.4.2.
- **Sections 10.1.4.3.8, 10.1.5.2.5, and 10.1.6.1.6** – The language has been updated to clarify that the sample and the reference matrix are the aliquots to be extracted.
- **Section 10.1.5.1.1** – The laboratory is directed to observe all applicable safety precautions when handling the materials used to freeze the samples.
- **Section 10.2** – The language has been updated to add that the appropriate extraction methods are to be selected based on sample conditions.
- **Section 10.2.3.2.2** – The procedures for clogged filters replacement during sample extraction have been updated to clarify that, after the filter has been removed, it is to be saved for later extraction.
- **Section 10.2.3.2.4** – The alternate sample extraction step has been updated to clarify that all filter(s) and disk used are extracted per the SDS or Soxhlet procedure.
- **Section 10.2.5.7** – The term “blowdown procedure” has been replaced with “nitrogen evaporation procedure”.
- **Section 10.3.4.2** – The term “blowdown vial” has been replaced with “nitrogen evaporation vial”.
- **Section 10.4.8** – The instructions for concentrating the sample extract have been updated to clarify that the sample is to be evaporated until constant weight is obtained.
- **Section 10.5.1.1** – The Contractor may now prepare columns by the procedure described in this section or purchase commercially available columns.
- **Section 10.5.1.4.2.4** – The procedure has been updated to indicate that a full volume (not 5.0 mL) of methylene chloride is run through the system to check for carry-over, if a particularly dirty extract is encountered.
- **Section 10.5.5.1.4** – The language has been updated to clarify that a small portion of the extract is to be removed for percent lipids determination of residue content.
- Instructions to pre-elute the column with 20 mL of hexane have been provided in **Section 10.5.6.1** and subsequent sections renumbered accordingly.

- **Section 10.6.3** – The requirement to compare the injection concentration in the sample to the highest point of the calibration standard (CS5) for the non-WHO Toxic Congeners has been removed.
- **Section 11.1.3.1** – The procedure for ion abundance ratios evaluation has been updated.
- **Section 11.2.3.1** – The denominator in the Solid Sample Concentration equation has been changed to "(W_S X S)" and the definition of the "S" term added to the list.
- **Section 11.2.7.1** – The definition of the "S" term has been updated to "%Solids/100 (applicable to soil/sediment samples only)".
- Instructions for the calculation of total homologue concentration are provided in new **Section 11.2.9**.
- The reference for EPA Method 8082A has been provided in new **Section 16.2** and subsequent sections renumbered accordingly.
- **Section 17.0, Table 5** – The "Labeled Compound Recovery in Samples (%)" for Cleanup Standard PCB-28L has been updated to "5-145".

Exhibit E

- **Section 3.3.1** – The Contractor is now required to submit their QAPP to the EPA CO within the number of days provided in the associated laboratory contract document.

Exhibit G

- The definition of "ASTM/ASTM International" has been added.

Exhibit H

- **Section 3.1.5** – The "Analysis" node requirements have been clarified.
- **Section 7.1, Table 1** – "TEQs" have been added to the Instructions for the "Result" data element.
- **Appendix A, Section 1.0** – The requirement to include "Level" and "Matrix" in the Microsoft® Excel file name of the Method Detection Limit (MDL) study data deliverable and the associated NOTE have been removed. The required file name format is now "MDL_SOW Number_Analytical Method_Preparation Method_Instrument ID.xls".
- **Appendix A, Table A-1** – The MDL study data deliverable table has been updated to include a "Level" and a "Matrix" column and associated instructions before the "InstrumentID" column.
- **Appendix A, Table A-1** – The instructions for the "MDLAcceptable" column in the MDL study data deliverable table have been updated to "Enter "Y" if the calculated MDL is less than one-half the CRQL for the analyte and matrix. Otherwise enter "N"."
- **Appendix A, Table A-1** – The instructions for the "ConcentrationAcceptable" column in the MDL study data deliverable table have been updated to "Enter "Y" if the concentration of the analyte in the MDL standards was less than or equal to 10 times the calculated MDL for that analyte. Otherwise enter "N"."