Draft annotated outline of the guidance on monitoring for the effectiveness evaluation of the Minamata Convention

1. Acknowledgements
   To be drafted by the Secretariat. Briefly describe how the guidance was developed.

2. List of abbreviations and glossary of terms
   To be developed by the Secretariat after the completion of the text.

3. Introduction and objectives
   To be drafted by the Secretariat. Explain the provision of the Convention (Articles 1 and 22) and guidance from COP on monitoring in the effectiveness evaluation. Explain the objectives of the document, which is to support the arrangements for providing COP with comparable monitoring data for the effectiveness evaluation. Explain the structure of the document.

4. Use of comparable monitoring data for the effectiveness evaluation
   To be drafted by the Secretariat, based on the input from the consultants. Discuss the use of monitoring data in informing indicators on the level of mercury in the environment, biotic media and vulnerable populations for the purpose of the effectiveness evaluation. Explain the selected media for monitoring – air, biota and humans. Discuss how the data can be aggregated to understand the overall level of mercury, geographical patterns, temporal trends and environmental and health risk.

5. Air monitoring
   To be drafted by a consultant under the guidance of the Secretariat. Following is a tentative structure of the chapter, to be adjusted as appropriate.
   (1) Mercury monitoring in air – rationale (Describe the recommendation for total gaseous mercury in air and wet deposition of mercury. Also mention the possible use of speciated monitoring data)
   (2) Consideration of monitoring sites (representativeness, influence of local emissions, description of sites etc. Existing monitoring networks or programmes may have their own site selection policies.)
   (3) Sampling and measurement: methods (continuous measurement, active sampling, passive sampling), timing (frequency and duration), sampling equipment, sampling procedure, sample preparation, in-situ or laboratory measurements, etc)
   (4) Quality assurance (requirement for sampling and analytical operations, control samples, inter-laboratory comparison, intercomparison of measurements, etc)
   (5) Data collection (data elements that need to be available, ancillary data can be collected to make the data more useful for interpretation, data quality, data extraction, etc)
   (6) Data management (data storage and dissemination)
   (7) Statistical consideration (how the monitoring data can be aggregated to understand the overall level of mercury, geographical patterns, temporal trends and environmental and health risk, and to identify gaps)

6. Biota monitoring
   To be drafted by a consultant under the guidance of the Secretariat. Following is a tentative structure of the chapter, to be adjusted as appropriate.
   (1) Mercury monitoring in biotic media – rationale (What organisms and tissue types are selected for monitoring for different assessment frameworks: (A) Ocean Framework: e.g., total mercury in muscle tissue of fish and marine mammals at trophic level 4. (B) Continental Framework: e.g., total mercury in muscle tissue of fish and relevant tissues of birds
(2) Consideration of monitoring sites (representativeness, identification of ecosystem sensitivity spots, etc)

(3) Sampling and measurement: sampling methods, timing, sample size, transport, laboratory analysis, etc.

(4) Quality assurance (requirement for sampling and analytical operations, control samples, inter-laboratory comparison, intercomparison of measurements, etc)

(5) Data collection (data elements that need to be available, data quality, data extraction, etc)

(6) Data management (data storage and dissemination)

(7) Statistical considerations ((how the monitoring data can be aggregated to understand the overall level of mercury, geographical patterns, temporal trends and environmental and health risk, and to identify gaps)

7. Human biomonitoring

To be drafted by a consultant under the guidance of the Secretariat. Following is a tentative structure of the chapter, proposed by WHO. To be adjusted as appropriate.

(1) Ethical considerations in, and requirements for, human biomonitoring studies (short overview. WHO is preparing guidance on this issue that can be referred to).

(2) Human biomonitoring for mercury exposure – rationale. Short summary of the different purposes for biomonitoring of Hg (can include some references eg the WHO document on identifying populations at risk from mercury exposure), Describe the recommendations for total mercury level in scalp hair as a primary matrix and total mercury in (cord) blood as an alternative for general population exposure most vulnerable group (foetal exposure).

(3) Development of a survey protocol (general considerations in developing a protocol and refer to WHO protocol which contains a statement about adapting to national needs; other protocols such as AMAP, HBM4U could also be referenced as examples of protocols for larger scale programmes).

(4) Data management, analysis and evaluation in the context of the Minamata Convention (the WHO survey protocol includes guidance on the topic, therefore the Minamata guidance should set out considerations that will support sharing and compilation of data for effectiveness evaluation).

(5) Communication of results in the context of the Minamata Convention (same point as above – should not go into details covered in more detailed technical guidance).

(6) Periodicity of survey implementation (see UNEP/MC/COP.3/14/Add.1 for the guidance on this).

8. Data compilation and analysis

To be drafted by the Secretariat, based on the input from the consultants. This chapter will discuss how the monitoring data can be compiled, analyzed and synthesized, and how conclusions on the changes in mercury levels in environmental and human media can be drawn.

9. References

To be developed during the drafting of the text

Annex 1: Standard operation procedures, protocols and reference materials
To be collected from existing networks

Annex 2: Review of monitoring networks
To be developed by the Secretariat, building on Part I of UNEP/MC/COP.3/INF/15.