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INTERGOVERNMENTAL NEGOTIATING COMMITTEE FOR AN  
INTERNATIONAL LEGALLY BINDING INSTRUMENT  
FOR IMPLEMENTING INTERNATIONAL ACTION ON  
CERTAIN PERSISTENT ORGANIC POLLUTANTS

Sixth session

Geneva, 17-21 June 2002

Item 5 of the provisional agenda\*

PREPARATION FOR THE CONFERENCE OF THE PARTIES

Guidelines on persistent organic pollutant wastes\*\*

Note by the secretariat

As referenced in paragraph 4 of document UNEP/POPS/INC.6/8, attachment 1 of the present document contains the terms of reference for a consultant to prepare technical guidelines for the environmentally sound management of persistent organic pollutants as wastes, drafted by the eighteenth session of the Basel Convention Technical Working Group in June 2001. Attachment 2 of the present document contains the more detailed proposal of the consultant selected to do this work, Senes Consultants Limited of Canada. Both documents are for consideration by the twentieth session of the Technical Working Group in May 2002. The information contained in the documents has been circulated as submitted by the secretariat of the Basel Convention and has not been formally edited.

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\* UNEP/POPS/INC.6/1.

\*\* Conference of Plenipotentiaries on the Stockholm Convention, resolution 5.

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Attachment 1

Development of technical guidelines for the environmentally sound management of POPs as wastes

The Basel Convention Technical Working Group is entrusted with assisting the Stockholm Convention in developing guidance on the environmentally sound management of POPs as wastes. To expedite this work and to ensure the timely development of appropriate guidance, the Technical Working Group proposes to employ the services of a consultant to assist it.

The study will comprise two phases:

- (a) Report on the priorities for the Basel Convention and plan of work and outline elements of the POPs guidance document;
- (b) Detailed development of the draft guidelines on specific texts as directed.

A. Phase I

Working under the guidance of the secretariat of the Basel Convention:

- (a) The consultant will review relevant texts of the Basel Convention and the Stockholm Convention, including UNEP, Basel Convention and other publications on POPs-related issues and the programmes of work of the Technical Working Group to the Basel Convention and the Stockholm Convention Intergovernmental Negotiating Committee;
- (b) The consultant will provide a report on the specific issues for development of the guidelines on environmentally sound management of POPs as wastes, to include information and recommendations on:
  - The scope, format and content of the guidance documents;
  - The priorities and timescales for their development;
  - A draft outline structure of a generic POPs waste guidance document;
  - A sample document;

with particular reference to resolution 5 and article 6 of the Stockholm Convention.

The report on phase I will be prepared by the end of March 2002 for a preliminary review by the small group set up to meet intersessionally.

B. Phase II

Using the results of phase I, the consultant will draft, under the instruction of the secretariat, appropriate guidance documents, to be prepared by the end of April 2002 for consideration by the twentieth session of the Technical Working Group (23-24 May 2002).

In general the documents should be source reference documents of a practical, authoritative and comprehensive nature, and should not seek to reproduce published material readily available internationally.

C. Qualifications of the consultant

The consultant should have demonstrated expertise in:

- POPs;
- Basel Convention;
- Technical guidance preparation.

The consultant should be ready to deliver a quality product, working to a tight timetable.

D. Management of the process by the Technical Working Group

The consultancy will be under the day-to-day management of the secretariat of the Basel Convention, as guided by the Technical Working Group and the interim secretariat of the Stockholm Convention.

Attachment 2

Proposal to prepare technical guidelines  
for the environmentally sound management of persistent organic pollutants as wastes  
by Senes Consultants Limited of Canada  
November 2001

**1.0 Introduction**

This proposal represents SENES' response to the Statement of Work and Deliverables as outlined in the request for proposal (RFP) for "Preparation of Technical Guidelines for the environmentally sound management of POPs as wastes". SENES brings the following qualifications for successful execution of this project:

- Experience in hazardous waste management policy, regulations and technology;
- Experience in dealing with POPs and waste like PCBs, pesticides like Dichlorovos, DDT, Malathion, Parathion, Monocrotophos, Endosulfan etc;
- Strong Understanding of Environmentally Sound Management principles of Basel Convention;
- Extensive experience of ISO 14001 implementation and audits;
- Experience in researching, analysis, summarizing, and reporting technical information;
- Understanding of Basel Convention, Stockholm Convention POPs, and OECD requirements on waste prevention and recycling; and
- Familiarity with the mandate of the Transboundary Movement Branch of Environment Canada.

**2.0 Objective**

The objective of this study is to develop guidelines for environmentally sound management (ESM) of persistent organic pollutants (POPs) wastes.

The proposed study is envisaged in two phases:

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|----------|--|
| Phase I  | <i>Collection of Background Information and Development of a Draft Workplan – 15 December 2001</i> |
| Phase II | <i>Development of guidelines, under the instruction of the secretariat – April 2002</i>            |

### 3.0 Project Workplan

#### ***PHASE I Collection of Background Information and Development of a Draft Workplan***

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Upon project award, SENES will immediately begin collecting and reviewing information on the Basel Convention, the Stockholm Convention, including UNEP, OECD and other POPs-related issues and programs, which is the focus of this study. This information will be reviewed and used to develop a draft workplan that details the proposed methodology for gathering the necessary information and completing the project. A draft outline of the Core Performance guideline will also be included. The Phase I deliverable will include at least the following:

- The scope, format and table of contents of the proposed guideline documents;
- Schedule with deliverables; and
- Draft outline framework of generic POPs waste guideline document.

Particular reference will be made to the resolution 5 and article 6 of the Stockholm Convention (*Measures to reduce or eliminate releases from stockpiles and wastes*). The issues relating to handling, collection, transportation, storage and disposal of the POPs waste is critical to the management and the guidelines have to address these issues specifically.

***Deliverable***  
Draft workplan and sample guideline document for generic POPs waste

The deliverable will be made available for presentation to the Technical Working Group meeting by **15 December 2001**.

#### ***PHASE II Development of the draft guidelines***

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Task 1            Development of background information including definitions and summary of relevant convention requirements like Basel and Stockholm Convention

This task will review the background information and the technical working group documentation on POPs waste from the Basel Convention and the Stockholm Convention on POPs to develop the definitions and backgrounder for the technical guideline document.

The deliverable will contain the following information:

- Definitions;
- Convention interrelationships and summaries; and
- Implementation issues like illegal traffic prevention and ESM for awareness building.

The definitions will incorporate the list of chemical listed under Annex A, B or C. They will also incorporate the requirements under Annex D as the screening criteria for the listing criteria in Annex A, B, or C.

***Deliverable***  
Draft background and definition document

Task 2            Generic guideline for safe handling and management of POPs

This task will develop the generic guidelines for safe management of POPs waste. The task objective is to ascertain the level of POPs waste stockpiles in various countries (members of Basel Convention) and establish terms of reference for the guidelines of individual or group of POPs, in conjunction with the requirements of article 6 elements including the following:

- Establishing levels of destruction/ irreversible transformation;
- Determining environmentally safe disposal methods;
- Establishing appropriate concentration levels; and
- Handling, collection, transportation and storage in an ESM manner.
- Umbrella guidelines (*Table of contents as suggested in the RfP*)

<p style="text-align: center;"><b><i>Deliverable</i></b> Draft generic POPs waste guidelines document</p>
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Task 3                      Separate guidelines for POPs and/or groups of POPs

Based on the generic guidelines and comments received from technical working group members, SENES will embark on developing guidelines for environmentally sound management of POPs waste individually or in groups of POPs. The decision regarding individual or group development would be taken on the recommendations of the technical working group members.

SENES team members have extensive experience working with pesticides like DDT/ Dichlorovos/ Malathion etc, HCB, PCB, Dioxins and Furans and other POPs. SENES staff has dealt with production, waste disposal, and site remediation issues involving most of these chemicals during the course of our project work. Further, SENES has a strong working relationship with Transboundary Movement Branch (TMB) of Environment Canada and this will help coordinate and keep the documentation focused to the requirements by obtaining comments through peer reviews of the deliverables from the TMB staff members. The table of contents for ESM guidelines will include the following:

- 1            General preamble on Basel, Stockholm and other international obligations
- 2            Introduction to waste and generators of these wastes
- 3            Environmental hazards
- 4            Opportunities for recovery and recycle
- 5            Public participation and consultation
- 6            National stockpiles of wastes
- 7            Interim measures for waste collection, handling, packaging, storage and transportation
- 8            Destruction – criteria, technologies and impacts
- 9            Commercial viability issues- costs, energy/ raw materials, availability, safety and other issues
- 10          Stakeholder and community acceptability – statement on environmental and social impacts

<p style="text-align: center;"><b><i>Deliverable</i></b> Environmentally sound management guidelines for management of POPs waste as individual or groups of POPs.</p>
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Task 4                      Draft and Final Report

A draft report that details the results of the study and the methodology used will be presented to the Technical Working Group when the work is complete, as detailed in the Request for Proposal. SENES will incorporate comments and requested revisions received from the Technical Working Group into a Final Report. This Final Report will be submitted in both electronic and hard copy no later than **30 April 2002**.



#### **4.0 Team Experience**

SENES is an established scientifically and research oriented consulting firm specializing in evaluations, assessments and quantitative data analysis on environmental projects. Over the past 21 years, SENES staff have participated in over 4000 projects across Canada, the United States and overseas. Clients include federal, provincial and municipal agencies, the private sector and research organizations.

SENES has extensive national and international experience in assisting in the development, review and execution of environmental audit programs, compliance and management system audits and gap analyses. SENES also has extensive and international experience in the areas of Solid and Hazardous Materials Management, Environmental Assessment, Risk Assessment, Air and Water Quality Management, Information Management, Database Generation and Delivery, Regulatory Review and Standards Development.

For this initiative, SENES has assembled a team of professionals with expertise in a broad range of subjects to address the various aspects covered by the statement of work. The project requires a team with expertise in hazardous waste management, knowledge and work experience with regulatory requirements and knowledge of waste management industry and practices.

Members of the proposed SENES team have been involved in the following previous projects that are directly relevant to the current assignment:

- SENES is developing the Environmentally Sound Management (ESM) guidelines for ship dismantling industry in Canada.
- SENES was associated in a study of waste management at the largest ship-breaking yard in Asia in Alang in Gujarat, India. This study identified all the components of wastes generated in a ship breaking operations and developed a feasibility study for a waste management facility for Gujarat Maritime Board.
- SENES is currently working with an accredited agency to carry out ISO 14001 accreditation audits in Canada and the U.S.
- SENES developed the procedures manual for the Transboundary Movement Division of Environment Canada detailing the procedures that need to be followed by the staff in TMD for approving notices and tracking manifests under the EIHWR. The manual is intended to be both a training manual-cum-reference tool for the staff. (*Environment Canada*)
- SENES created a database of information on Canadian companies for specified industrial sectors (using Standard Industrial Codes) [SIC] that import or export hazardous wastes under the Export and Import of Hazardous Waste Regulations (EIHWR) for Environment Canada based on analysis of the CNMTS database. (*Environment Canada*)

- SENES co-ordinated and facilitated a series of four two-day stakeholders' consultation workshops regarding the new CEPA 1999 regulations for the control of exports of prescribed non-hazardous waste destined for disposal at Toronto, Montreal, Moncton and Vancouver to get stakeholder inputs from all across Canada. (*Environment Canada*);
- SENES co-ordinated and facilitated a series of four two-day stakeholders' consultation workshops regarding the new CEPA 1999 regulations for the control of inter-provincial movements of hazardous waste and hazardous materials at Toronto, Montreal, Halifax and Calgary to get stakeholder inputs from all across Canada. (*Environment Canada*);
- SENES completed several discussion papers on regulatory reviews for hazardous wastes and hazardous recyclable materials under the technical support to CCME-HWTG on hazardous waste management issues. (*CCME-HWTG*);
- SENES developed a computer based training course, based on the EIHWR, involving the classification, sampling, transportation and management of Hazardous Wastes and Hazardous Recyclable Materials. The target audience for this course was CEPA inspectors, generators, receivers and carriers. (*Environment Canada*);
- SENES developed a Waste Information Index to assist users in identifying previous relevant studies. The index is a computerized database describing studies and reports on solid and hazardous waste in Canada with a focus on waste characterization and composition (*Canadian Council of Ministers of the Environment*);
- SENES developed a database for Material Safety Data Sheet (MSDS) Management for DND to catalogue over 1,500 individual products used by the DND, in accordance with the Workplace Hazardous Management Information System (WHMIS). The work involved a comparison of product information from MSDSs against the definitions of Controlled Products; selecting the Controlled Product Class and Division for each product; contacting DND suppliers to verify product information; selecting applicable supplier labels for and appropriate hazardous symbol(s) to be used on these labels; and assignment of generic risk phrases to ensure consistent labelling of products (*Department of National Defense*);
- SENES completed a four-year inspection program of in-service PCB-containing equipment at several hundred facilities from the Ontario Region PCB Inventory, on behalf of Environment Canada. The work included confirming the accuracy of the existing Environment Canada Inventory, ensuring that all equipment were registered and properly labelled, updating the Inventory as required based on the inspection results, and the preparation of facility-specific reports (*Environment Canada*);
- SENES provided assistance to the Ontario Ministry of the Environment in developing a procedure for identifying hazardous substances. The project involved the development of a comprehensive approach to identify those hazardous substances, including PCBs, in the environment which were in greatest need of being regulated (*Ontario Ministry of the Environment*);
- SENES served as an advisor to the Auditor General of Canada Audit of National Contaminated Sites Remediation Program: Expert advice was provided to the Auditor General of Canada in support of an audit of Environment Canada's management of responsibilities under the National Contaminated Sites Remediation Program (NCSRP). The objectives of the audit were to assess the results and report on the costs of Environment Canada's contribution to the NCSRP. An evaluation of the Development and Demonstration of Site Remediation Technology (DESRT) component of the NCSRP was completed to assess the manner and extent to which representative projects added to "the state-of-the-art" in remediation technology (*Environment Canada*);



## 5.0 Team Members

A brief overview of the project team members' qualifications and experience is provided below, and complete curricula vitae are provided in Appendix A.

**Mr. Edwin J. (Ted) Chart, P.Eng.** Mr. Chart is President of DCS (associate concern of SENES) and a Director of SENES Consultants Limited. Mr. Chart will provide project review and technical advisory services for the project. He has also been designated as the "back-up" Project Manager. Mr. Chart has over 30 years of experience in site assessment and soil and groundwater remediation including experience on federal government projects for PWGSC, Transport Canada and Defence Canada Construction. Prior to establishing DCS, he was president of MacLaren Engineers Inc., one of Canada's largest, multidisciplinary environmental engineering consulting companies and also president of MacLarentech Inc., a consulting engineering company offering services in site cleanup and facility decommissioning.

Mr. Chart's experience, with DCS, includes the investigation, evaluation and cleanup requirements at the Hamilton Airport Fire Training Area for Transport Canada, investigation, evaluation, risk assessment, remedial action plan development and remedial action plan implementation for decommissioning of 16 spent acid battery disposal sites at Base Petawawa for DCC/DND and development of the investigation and evaluation of the Greenwood Race Rack site. He also was responsible for the evaluation and remediation of former spent acid lagoons used for neutralization and storage of process wastes from a sulphuric acid reactor process at the Viskase (former Union Carbide) viscose manufacturing plant in Lindsay, Ontario. He was responsible for the provision of soil, groundwater and plant site and infrastructural contamination and remedial cleanup cost evaluation for the 8 ha Inglis Limited appliance manufacturing facility and site in Toronto, Ontario; PCB soil contaminant management and mitigation of a property owned by Slough Estates Canada Inc., which was severely impacted by dielectric fluid leaks from the former Federal Pioneer transfer manufacturing facility in Toronto, Ontario.

Prior to establishing DCS, Mr. Chart was responsible for site investigation, approvals and decommissioning design for a 300 ha phosphogypsum plant including radioactively-contaminated facilities and tailings and inorganically-contaminated soil and groundwater caused by discharges from the sulphuric acid/phosphate rock digestion process for IMC Canada Limited at Port Maitland, Ontario.

He was Project Director for the evaluation and cleanup of the Federal Governments Special Waste site which was used for the disposal of laboratory wastes generated from all departmental facilities in the Ottawa region. The facility at Ottawa International Airport in Gloucester, Ontario was used to dispose of a wide range of hazardous materials by detonation and burial. Mr. Chart is a recognized expert in management of radioactive wastes and has directed numerous projects across Canada and the United States, including Cosmos 949 in the NWT, the relocation of 6,000,000 t of uranium mill tailings at Silver King in Edgemont, South Dakota and the cleanup of radioactive soil in the Malvern residential community in Scarborough, Ontario for AECL.

**Murali Ganapathy M.A.Sc., P. Eng.** is a senior environmental engineer at SENES and has over 20 years experience in hazardous waste management and process engineering. He is a process engineer by training and has been involved with regulations and guideline development, pollution prevention and waste management studies in a wide variety of industrial sectors.

Some recent representative work in the area of waste management includes: Project Manager for developing ESM guidelines study for ship dismantling project; Project Manager for Stakeholders Consultation Workshops for control of interprovincial movement of hazardous waste and hazardous recyclable materials regulations development; Project Manager for developing the procedures manual for Transboundary Movement Division of Environment Canada; Project manager for Hazardous Waste Task Group of CCME - technical support for hazardous waste management project; Project manager for computer based training course development for EIHWR for Transboundary Movement Division of Environment Canada; Project manager for identification and custom model development of Canadian companies who could be potentially

be regulated under the EIHWR for Environment Canada; Course manager for training of 15 Environmental Regulators on a 7-week course in association with University of Ottawa, on Pollution Prevention and Clean Technology Project Implementation; Project Manager for waste characterization of industrial hazardous waste for a feasibility study and environmental impact assessment of a secured sludge disposal facility; and Design, operations, and waste management experience at a large pesticide manufacturing facility in India (Technical DDT/ Dichlorovos/ Monocrotophos/ Endosulfan and others)

**John W. Stolys, P.Eng.**, is an Environmental Engineer who first started working with SENES in 1989, and joined on in a full-time capacity in 1993. He has participated in numerous solid waste management investigations. These projects have involved both industrial and municipal clients, and have been concerned with hazardous and non-hazardous materials. John has lead several investigations into wastes, including the preparation of investigative procedures and, completion of field-testing of the procedures. Investigation procedures were developed using techniques including: review of purchasing records and usage records, interviews with management personnel and employees, physical sorts that were based on random sampling techniques and logic-based extrapolations.

In addition, John has participated in data collection through interviewing representatives from waste sources as part of the Metropolitan Toronto Waste Composition Study and participated in projects for the Canadian Council of Ministers of the Environment (CCME) concerning the Waste Information Index and the National Packaging Database. He has assisted in landfill site searches for the Region of Peel, Town of Meaford and Town of Paris. He was involved in the MOE/Greater Toronto Solid Waste Management Plan and an investigation into storage of recycled material.

Representative experience includes:

- Managing a project for Daimler Chrysler Canada to investigate the composition of hazardous and non-hazardous wastes at the Etobicoke Aluminum Casting Plant. The project also involved the preparation of a pollution prevention and waste minimization plan.
- Co-authoring waste audit protocols for hazardous and non-hazardous solid waste for the Canada Post Corporation. The protocols included step-by-step checklists and supporting instruction sheets to lead personnel through the procedures to investigate and report on waste composition.
- Evaluating waste management practices at nine automotive manufacturing facilities as part of an environmental compliance program on behalf of General Motors of Canada Limited.
- Completion of a project as lead investigator for the CCME to prepare a statistically-valid methodology that will serve as the recommended methodology for direct waste analysis across Canada.

**John Myslicki, P.Eng.** is the chief of Transboundary Movement Branch of Environment Canada responsible for the development of national policies related to the management of hazardous waste and transboundary movement of wastes. John has over 31 years of professional experience in the waste management industry directing federal policies and initiatives.

John is accountable for planning and directing a national program which includes problem analysis, feasibility studies, development of regulations, consultation with provinces/ OGDs/ stakeholders /foreign governments. John provides specialist advice on recycling and recovery opportunities and ensure these are implemented. John plans and directs the development of control measures for transboundary movement of wastes under the authority of the Canadian Environmental Protection Act (CEPA) and the Transportation of Dangerous Goods Act (TDGA).

John represents the Department and the Government at international (UNEP, OECD, USEPA) negotiation sessions related to the transboundary movement or environmentally sound management of hazardous wastes. John made a number of presentations at international or domestic conferences and workshops.

John will provide technical and policy oversight for this study.

**Alan Wakelin, P. Eng. –Hazardous Waste Treatment Specialist** - Mr. Wakelin is a specialist consultant to SENES with broad experience in operations, maintenance and project management in the hazardous waste management facilities. Provincial and federal governmental agencies, legal authorities and peers recognize Mr. Wakelin as a leading individual in the management of hazardous wastes and toxic substances. He was Chairman of both the Policy and Technical panels in the matter of a hazardous waste incinerator for Alberta and has prepared numerous applications and secured approvals for the construction, testing and operation of industrial waste management facilities in Canada and the U.S. and abroad.

Highlights of Mr. Wakelin's experience include:

- Currently technical advisor to BOVAR Waste Management at Swan Hills Hazardous Waste Treatment Facility, Alberta (facility licensed to dispose of POPs including DDT, PCBs, pesticides, dioxins and furans);
- Management of the successful design and start up and continued training programs of the first fully-integrated hazardous waste treatment and disposal facility at Alberta Special Waste Facility;
- Delivery of a three week hazardous waste training program in India;
- Development and delivery of training programs for Technical and Regulatory personnel from several environmental agencies in Shanghai, China;
- Assisting Mexican federal authorities in the development of the infrastructure for an integrated hazardous waste management system in Mexico;
- Evaluation of pollution control devices for hazardous waste incinerators in Europe, the U.S. and Canada; and
- Development of protocols for the identification, acceptance and treatment of hazardous wastes and the disposal options available to waste generators in Alberta.

Alan Wakelin is a SENES resource on waste management and will be utilised on needs only basis.

## **6.0 Financial Proposal**

### *Professional Fees*

Table 6.1 outlines the total costs for each anticipated task, and reflects daily charge rates and level of effort required for each. A total labour cost of **\$53445.00** is estimated to complete this work. This represents a total of **72** person-days of effort, as presented in Table 6.1.

### *Disbursements*

Table 6.2 details the expenses that are anticipated for the completion of this study. A total of **\$905.00** is required for expenses such as airfare, accommodation and per diem, in addition to telephone, fax and courier charges.

### *Total*

The total estimated cost for this study is **\$ 54,350.00**.

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