EP

United Nations
Environment
Programme

UNEP(DEC)/MED/GEF WG.208/1
12 April 2002

ENGLISH

MEDITERRANEAN ACTION PLAN

GEF Project *"Determination of Priority Actions for the further Elaboration and Implementation of the Strategic Action Programme for the Mediterranean Sea"*

Second Meeting of the *Ad-hoc* Technical Committee

Tirana, 21-22 March 2002

REPORT
OF THE SECOND MEETING OF THE *AD-HOC* TECHNICAL COMMITTEE

UNEP
Athens, 2002

Introduction, Participants and Agenda

1. Following the decision taken at the First Meeting of the ad-hoc Technical Committee, the second meeting was convened at the premises of the Tirana International Hotel in Tirana (Albania, 21-22 March 2002) prior to the Second Meeting of Inter-agency Steering Committee and the Second Meeting of the GEF Coordination Committee. The objective of the meeting was the final selection of pollution hot spots for the preparation of pre-investment studies and to decide on the undertaking of the country's revalidation mission.

2. The list of participants is attached as Annex I to this report.

Agenda item 1. Opening of the meeting and scope and purpose of the meeting

3. Mr. Ante Baric, GEF Project Manager, opened the second Meeting of the a*d-hoc* Technical Committee at 8.00 a.m. and welcomed the participants. He recalled on the decision from the first Meeting which required the countries to submit before 15 March 2002 additional information, regarding the sustainability of this activity, which is needed for the final selection of hot spots for the preparation of pre-investment studies, and in particular on:

   (i) the existence of relevant national development plan(s);
   (ii) financial allocation(s) to remedy the sites;
   (iii) studies already done for the proposed sites, and
   (iv) responsibility for carrying out the follow-up investment.

   In addition to the above, some counties were asked to submit additional specific information concerning the pre-selected pollution hot spots.

Agenda item 2. Presentation of the information received from the countries

4. Following the information given by the FFEM representative at the first meeting of the *ad-hoc* Technical Committee, that FFEM would undertake activities on the preparation of pre-investment studies in 4-5 GEF eligible countries, the GEF Project Manager informed the meeting that FFEM had selected Algeria, Lebanon, Morocco and Tunisia. The missions to Algeria and Tunisia for the revalidation of pre-selected pollution hot spots had already been organized, while the mission to Morocco was planned for the end of March, and for Lebanon the process of negotiation with the country's representatives was underway.

5. The GEF Project Manager informed the Committee on the country's responses regarding the sustainability of this activity. Four countries (Albania, Bosnia & Herzegovina, Egypt and Turkey), provided the requested information, out of the eight GEF eligible countries which remained after the FFEM selection process.

Agenda item 3. Discussion on the information received and appropriate decisions

6. The discussion which followed the presentation indicated that countries had not provided the requested information in full, as they were required. However, it was decided to initiate activities and send the consultants on mission to the countries.

7. The meeting was informed by the GEF project Manager that Ms. Tatjana Hema, Albanian GEF National GEF Coordinator, had passed on the information that the World Bank had expressed their willingness to assist the country in tackling the problem of the Dürres

pollution hot spot, which had been proposed as the priority hot spot for Albania. In addition, she proposed to select the Vlora pollution hot spot as the first priority for Albania. Since Mr. Arif, the Word Bank representative, was not informed about this issues, the Meeting decided to invite Ms Hema, GEF Project National Coordinator for Albania, to attend the Meeting on 22 March and to provide the additional information. It was also agreed to invite Mr. Tarik Kupusovic, GEF Project National Coordinator for Bosnia and Herzegovina, to provide additional information regarding the Neum hot spot, which was the second priority, because for the Mostar pollution hot spot, as the first selection, the preparation of pre-investment study would be financed from another international source.

8. Ms. Hema informed the meeting of the latest development with the World Bank and proposed that the GEF Project should deal with the Vlora pollution hot spot. The final decision regarding the selection of Vlora as the priority pollution hot spot would be taken after receiving appropriate information from the World Bank.

9. Regarding the Neum hot spot, Mr Kupusovic informed the meeting that the existing feasibility studies for the town of Neum were prepared more than 20 years ago, and needed to be updated. The meeting agreed with the proposal. The updated list of related pollution hot spots is attached as Annex II to this report.

10. Following the decision from the first meeting on the necessity of the preparation of generic TORs by sectors/processes, the GEF Project Manager informed the Meeting that METAP had prepared the Terms of Reference of an International Consultant for Identification Missions in Beneficiary Countries and the Terms of reference for preparation an Investment Plan for Wastewater Services and the Terms of reference for preparation of an Investement Plan for Wastewater Treatment/Remediation Services, which are attached as Annex III, IV and V to this report.

11. It was agreed that all members of the ad-hoc Committee should be informed by the GEF Project Manager on the further development of this action promptly, as soon as any new development is available.

Agenda item 6. Closure of the meeting

12. The meeting was closed at 9.00 hours on 22 March 2002.

ANNEX I

LIST OF PARTICIPANTS

ICS-UNIDO

Mr. Gennaro Longo
Director
Earth, Environmental and Marine
Sciences and Technologies
ICS-UNIDO
Area Science Park, Building L2
Padriciano 99
34012 Trieste
Italy

Tel: +39 040 9228108
Fax: +39 040 9228136
Email: gennaro.longo@ics.trieste.it

METAP

Mr. Jaafar Friaa
METAP Consultant
The World Bank
Middle East and North Africa Region
67 rue Sarajevo
Tunis
Tunisia

Tel: +216 98 206727
Fax: +216 71 707255
Email: jfriaa@gnet.tn

WORLD BANK

Mr. Sherif Arif
METAP Coordinator
Middle East & North Africa Region
The World Bank
1818 H. Street NW
Room H8-133
Washington, DC 20433
USA

Tel: +1 202 473 7315
Fax: +1 202 4771374
Email: sarif@worldbank.org

WORLD HEALTH ORGANIZATION

Mr. George Kamizoulis
WHO/EURO Senior Scientist
World Health Organization
Coordination Unit for the
Mediterranean Action Plan
P.O. Box 18019
48 Vassileos Konstantinou Avenue
11610 Athens
Greece

Tel: +30 010 7273105
Fax: +30 010 7253196/7
Email: whomed@hol.gr

SECRETARIAT

Mr. Francesco-Saverio Civili
MED POL Coordinator
Coordinating Unit for the Mediterranean
Action Plan
P.O. Box 18019
48 Vassileos Konstantinou Avenue
11610 Athens
Greece

Tel: +30 010 7273106
Fax: +30 010 7253196/7
Email: fscivili@unepmap.gr

Mr. Ante Baric
GEF Project Manager
Coordinating Unit for the Mediterranean
Action Plan
P.O. Box 18019
48 Vassileos Konstantinou Avenue
11610 Athens
Greece

Tel: +30 010 7273102
Fax: +30 010 7253196/7
Email: abaric@unepmap.gr

Mr. Fouad Abousamra
Programme Officer
Coordinating Unit for the Mediterranean
Action Plan
P.O. Box 18019
48 Vassileos Konstantinou Avenue
11610 Athens
Greece

Tel: +30 010 7273116
Fax: +30 010 7253196/7
Email: fouad@unepmap.gr

Annex II
UPDATED LIST
OF SELECTED POLLUTION HOT SPOTS FOR THE PREPARATION OF PRE-INVESTMENT SUDIES

HOT SPOT	TYPE	REMARKS
	Albania	
1. Vlora	• Site contaminated by mercury and other pollutants – on site treatment	
	Algeria	
1. Oran 2. Mostaganem 3. Ghazaouet	• Industrial wastewater, if necessary the extension of sewerage and WWTP • industrial wastewater – plant specific • industrial wastewater – plant specific	Selected by FFEM
	Bosnia and Herzegovina	
1. Neum	• Domestic wastewater – site specific	
	Croatia	
1. Zadar 2. Sibenik	• Industrial wastewater – site specific • Industrial and urban wastewater – site specific	Zadar already selected by UNIDO ICS
	Egypt	
1. El'Mex Bay 2. Abu Quir Bay	• Urban and industrial wastewater – site specific • Urban and industrial wastewater - site specific	For the state owned tannery in El'Mex Bay, a wastewater treatment plant is planned to be constructed by the German aid. However, wastewater from numerous small tanneries will not be treated
	Lebanon	
1. Tripoli 2. Batroun - Salata	• Industrial and urban wastewater – site specific • Industrial wastewater – plant specific	Selected by FFEM
	Morocco	
1. Nader 2. Al Hoceima	• Industrial and domestic wastewater – site specific • Industrial and domestic wastewater – site specific	Selected by FFEM

Slovenia		
1. Dragonja	• industrial wastewater – site specific	• check with the country if the river is included within the project Izola-Kopar-Piran • check with the country if they a pre-investment study is needed for any of the listed pollution hot-spots
Syria		
1. Banias + Jableh	Industrial and domestic wastewater – site specific	
Tunisia		
1. Sfax 2. Lac de Bizerte	• Industrial wastewater only – site specific • Industrial wastewater only – site specific	Selected by FFEM
Turkey		
1. Icel	• Domestic wastewater	
Libyan Arab Jamahiriya		
1. Zanzur 2. Tripoli 3. Benghazi	• Industrial wastewater • Domestic wastewater – site specific • Domestic wastewater – site specific	Ask the country to confirm their interest to participate in this activity – deadline for the response 15 March 2002

ANNEX III

GEF/MAP Project: Hot Spots Pre-investment Studies

Identification Missions in Beneficiary Countries

Terms of Reference of International Consultant

Background

The Contracting Parties to the Barcelona Convention adopted in 1997 a Strategic Action Programme (SAP) to address pollution from land-based activities. The SAP identifies the major pollution problems of the region, indicates the possible control measures, shows the cost of such measures and establishes a work plan and timetable for their implementation.

A GEF Project "Determination of priority actions for the further elaboration and implementation of the Strategic Action Programme for the Mediterranean Sea" (GF/ME/6030-00-08). The objective of this project, which was approved by the GEF Council in 2000, is to improve the quality of the marine environment in the Mediterranean Region by better shared-management of land-based pollution through improved international cooperation in the management of land-based pollution of transboundary and regional significance. The project was initiated in January 2001 and will last in December 2003. It will create a basis for the long-term implementation of the SAP and will be coordinated by the Coordinating Unit of the Mediterranean Action Plan of the United Nations Environment Programme ("UNEP/MAP"), with the assistance of several organizations, including the World Bank as administrator of METAP.

The GEF Project includes, among others, the identification and selection (among the beneficiary countries) of priority hot spots for which pre-investment studies will be prepared. In close coordination with countries and based on a set of criteria, a first list of priority hot spots has been prepared identified (see attachment). This list includes two categories of "hot spots": (i) cities which, by virtue of inadequate wastewater treatment and disposal, contribute significantly to pollution; and (ii) industrial "hot spots" which are either abandoned industries which left behind polluting materials, or existing industries which are a continuous source of pollutant load.

In order to move ahead with the validation of the list of selected hot spots and the preparation of ToRs for the relevant pre-investment studies, the UNEP/MAP in Athens intends to hire an International Consultant in order to undertake identification missions among the project beneficiary countries namely **Albania, Bosnia and Herzegovina, Croatia, Egypt, Libya, Slovenia, Syria, and Turkey.**

The present ToRs detail the assignment of the International Consultant.

Objectives of Country Missions

The main purposes of the proposed field missions are to (i) revalidate the selected pollution hot spots in order to prepare relevant pre-investment studies; (ii) discuss and agree with country officials on the objectives and scope of these studies; and (iii) draft Terms of reference for the relevant pre-investment studied, based on the attached generic ToRs, and prepare their cost estimates.

Main tasks of the Consultant

The Consultant will carry out the following tasks:

- Undertake a 3-days mission in each beneficiary country

- Meet with GEF National Coordinator and all concerned parties (particularly Ministries responsible for planning, environment, and finances) in order to discuss and verify data and information received from country (see attached country reports. In parallel the consultant shall collect information regarding country commitment for further investments in selected hot spots; national/regional/local development plans, future implementing agency, etc.

- Collect and review all available information and data concerning selected priority hot spots, undertake necessary fields visits, identify and review all ongoing activities among the proposed Hot spots

- Based on the above collected data and information, discuss and agree with GEF National Coordinator and concerned parties on the final selection of priority hot spots

- Discuss and agree with the future implementing agency (for the selected Hot spot) the objective and areas of the proposed pre-investment study; key issues and aspects that should be covered by the proposed study; the scope of consulting services to carry out the study, possible in kind participation of country such as soil investigations, topographical documents, etc..

- Draft Terms of Reference of pre-investment studies for the selected hot spots (one for each country) based on the attached generic Terms of Reference.

- Propose the composition and qualification of consultants' team required for carrying out these studies

- Draft a tentative schedule for the preparation of studies including process for tendering procedures and consultants selection and contracting.

Output of the Consultant

The Consultant's output will be twofold:

- Mission reports (one for each country visited) summarizing findings and results of the fields missions. Minutes of meetings with country officials, all gathered documents, and any collected data and information should also be provided in annex to mission reports.

- Draft ToRs of pre-investment studies for the selected hot spots (It is expected to have one per country) with confidential cost estimates of required consulting services.

Time Schedule and contracted days

It is estimated that the present assignment will required of about 7 person-days per country. The assignment is expected to commence on ……. and will last on…….

Associated Travel and Expenses

Travel expenses and perdiem will be covered by the UNEP/MAP according to the UN regulations.

Qualification of the Consultant

- Environmental Engineer/expert with solid experience in environment projects identification and development.
- Thorough knowledge with environment management problems, programs and agencies in the Mediterranean region;
- Fluency in English required with excellent written and oral communications skills. Knowledge of Arabic language an asset.

Annex IV

Preparation of an Investment Plan for Wastewater Services for [Name of City/Wastewater Treatment Plan]

TERMS OF REFERENCE

I. Background

The Contracting Parties to the Barcelona Convention adopted in 1997 a Strategic Action Programme (SAP) to address pollution from land-based activities. The SAP identifies the major pollution problems of the region, indicates the possible control measures, shows the cost of such measures and establishes a work plan and timetable for their implementation.

A GEF Project "Determination of priority actions for the further elaboration and implementation of the Strategic Action Programme for the Mediterranean Sea" (GF/ME/6030-00-08). The objective of this project, which was approved by the GEF Council in 2000, is to improve the quality of the marine environment in the Mediterranean Region by better shared-management of land-based pollution through improved international cooperation in the management of land-based pollution of transboundary and regional significance. The project was initiated in January 2001 and will last in December 2003. It will create a basis for the long-term implementation of the SAP and will be coordinated by the Coordinating Unit of the Mediterranean Action Plan of the United Nations Environment Programme ("UNEP/MAP"), with the assistance of several organizations, including the World Bank as administrator of METAP.

The GEF Project includes, among others, the identification and selection (among the beneficiary countries) of priority pollution hot spots for which pre-investment studies will be prepared. In close coordination with countries and based on a set of criteria, a first list of priority hot spots has been prepared (attachment 1). This list includes two categories of "hot spots": (i) cities which, by virtue of inadequate wastewater treatment and disposal, contribute significantly to pollution; and (ii) industrial "hot spots" which are either abandoned industries which left behind polluting materials, or existing industries which are a continuous source of pollutant load. This terms of reference is generic for the type (i) projects.

The wastewater treatment plant of [name] in [Name of City] in [name the country] has been identified by the GEF project as a "hot spot" requiring pollution control measures in the form of improved wastewater treatment. [could list a number of cities in one country]. Consultant services are needed to prepare pre-investment studies including technical, financial and institutional studies which will be used, by the consultant, to determine the scope and cost of a Project which can be presented to the GEF and other financing institutions interested in co-financing the project. The purpose of these terms of reference is to define the studies needed. These TOR give full support to the need to address not only the infrastructure deficiencies but also the larger issues of the legal, institutional, and regulatory framework and the management of wastewater treatment plants. This broader approach to addressing "hot spots" will help to ensure sustainability.

2. Objective

The studies to be conducted under this consultancy have the following three objectives:
(i) To identify a first phase priority investment program leading to the upgrading and expansion of wastewater services, in accordance with environmental and customer priorities; (ii) to

conduct a feasibility study of the priority investments, including design and tender documents; and (iii) to develop a program of reforms to transform the [Name of City wastewater utility] into an efficiently managed and operated consumer oriented enterprise run under corporate and commercial principles

3. "Hot Spot" Description

The scope of the study will cover … [please fill in]. The study area is located [please fill in], covers an area of [please fill in] square kilometers and has a population of [please fill in] inhabitants. The income level of the study area, expressed as Gross Domestic Product per capita per year, is [please fill in]. Wastewater treatment services for the city of [x] are provided by [x]. [Describe the city, sewerage services, coverage, and wastewater treatment system].

4. Scope of Work

The consultant will undertake the following inter-related tasks:

TASK I: Description and Assessment of Wastewater Services in [Name of City] providing an integrated description and assessment of the present status of sewerage, wastewater treatment services, systems and facilities.

TASK II: Preparation of Institutional Development and Strengthening Program aimed at assisting WTTP/utility [Name of City] to develop into an efficiently managed, operated and financially self sufficient utility under an appropriate framework of regulation formulated by the local government; Identify and analyze options for contracting

TASK III: Development of Strategic Facilities Improvement and Expansion Plan outlining long-term (10 years) strategic least cost solutions for the future development of water supply, and wastewater collection and treatment facilities and services. This would include a comprehensive Plan for upgrading and expanding wastewater collection and treatment facilities

TASK IV: Feasibility Studies ; defining and justifying, in technical, financial, and institutional terms, an investment Project aimed at realizing urgent investments for upgrading and expanding wastewater collection and treatment facility(ies) and a program of institutional strengthening.

TASK V: Preparation of Tender Documents; for investments covered under the Project defined under TASK IV; this would include draft contracts and information to bidders

Detailed description of tasks:

The specific activities to be conducted under each of the five tasks are:

TASK I: Description and Assessment of Wastewater Services in [Name of City] The consultant will collect, review and assess the following:

- *Legal* – applicable laws and regulations such as company law, local government law, tax and environmental law including standards; sanitary and engineering standards; the decrees and bylaws of the utility. Identify key legal and regulatory issues that need to be addressed in order to make the utility viable

- *Regulatory* – existing arrangements for economic regulation and oversight of the utility, including its legal basis status and operations of the wastewater utility and the [ministry for environmental and water resources – fill in as appropriate] Review responsibility and

relationships of relevant government entities at different levels and propose mechanisms to ensure proper coordination and cooperation

- *Technical , environmental and planning* – information on the wastewater treatment plant, sewerage system, effluent permits current disposal conditions, operational data and investment projects or existing master plans

- *Financial* – existing documents such as financial statements, auditors reports, tariff schedules, Review the current sewerage cost recovery policies, tariff structure and subsides. Analyze existing and historic tariffs to determine the basis for rate setting, including the relationship between rates and costs, the tariff adjustment process, and treatment of financial and social objectives. Develop forecasts of demand for sewerage services, by customer category. Adjust these forecasts on the basis of the tariff projections. Assess the adequacy of current tariffs to support future requirements in the light of project capital expenditures and demand. Recommend new tariff structure a s appropriate

TASK II: Institutional development and strengthening Program

The purpose of Task II is to design an institutional reform and strengthening program which will transform the existing enterprise operating the WWTP into an efficient service oriented utility, capable of providing a service at a level of quality commensurate with environmental priorities and affordability and which could facilitate the privatization of the private sector in the management and operation of the company and the financing of its future investments.

Task II.1: Institutional Assessment

This task should provide an in-depth review of the present legal context and institutional performance of the company, including analyses of the **e**xternal legal/regulatory environment and enterprise management and operation. The consultant would review:

External Legal/Regulatory Environment

- the current legal status of the company highlighting any legal issues or problems obstacles which would prevent the enterprise from evolving into an autonomous utility specifically issues related to ownership and control of assets, the establishment of tariffs, management independence, investment and personnel decisions, etc;

- the relationship between the company and the city council and local government, both de jure and de facto, with specific regard to the definitions of the rights and obligations of the company, the rights and obligations of the city council and local government in particular the economic regulation of the enterprise, the procedure for setting tariffs and investment formulation, etc;

- the relationship between the company and the local environment authorities, the water authorities, drinking water quality regulator, plus any other organizations which play a regulatory role, focusing in particular on the extent to which the company's obligations are clearly and legally defined. This analysis should take into account the laws governing water quality and waste water emissions, the allocation of responsibilities and interdependencies and the fees and fines payable by the enterprise, where applicable.

- the relationship with other wastewater enterprises outside of the company area of operation, especially regarding term and conditions for the transport and treatment of wastewater, and sludge disposal.

Enterprise Management and Operation

- organization and management: number, skills and attributes of employees; appropriateness of the organizational structure; operation of major departments or groups identified on the existing table of organization; policies and practices relative to strategic planning, project preparation and implementation, operational planning and control, allocation of tasks, supervision of task execution, and related matters; identification of in house business activities for which a competitive market exist outside the company;

- administration: systems and procedures including billing and collection, customer service, accounting and record keeping, personnel management and training programs, financial record keeping, financial planning and management, investment planning and execution, and the preparation and distribution of operational reports to management (management information system) and related matters;

- operation and maintenance (O&M) of assets: methods and policies relating to the operation and maintenance of facilities, including support systems such as repair facilities and spare parts inventories, existence of preventive maintenance programs, meter management, system information and mapping, and other matters relating to O&M; and

- estimate what additional equipment, technical assistance and training is required and what its costs would be in order to both improve quality of service, and implement the proposed project. Prepare Terms of Reference for this technical assistance

- computerization: status and adequacy of hard and software.

Task II.2: Policy Formulation

The consultant should work with the local governments involved and enterprise management to develop a detailed strategic plan for the future development of the enterprise and its relationship with local government. This will require:

- definition of the fundamental objectives which will govern the transformation of the enterprise and a vision as to where the enterprise should be by the end of 1994 in terms of legal identity, organizational setup and financial condition;

- a description of the type of entity which the company should become in the long term: e.g. state owned autonomous utility, joint venture with private company, operation under management contract, etc; The options regarding asset ownership should be examined;

- development of a plan for restructuring of the company's activities, including, but not limited to: contracting out support services to the private sector or contracting out part or all of the management and operation of the company and consideration of BOT or similar schemes. The arrangements should specifically address the need for:

  (i) a financial and rate policy based on cost recovery principles which will allow the utility to finance all of its expenses (maintenance and operation, contribute to investments and assume credit liabilities for financing investments) over the

long term; detailed attention is to be given to introduce the introduction of a formal process of tariff setting and adjustments governed by professional considerations;

(ii) a human resources policy which will ensure that the company will be able to attract and retain sufficiently qualified and experienced managers and staff; and,

(iii) an investment planning and selection policy which can assure that future investment plans are least cost, priority and affordable reflecting the preferences of local government and customers and environmental concerns.

(iv) policies which foster efficiency of management, administration and operation.

- The consultant should assist local government involved and utility management in defining the legal/regulatory framework and the definition of main corporate policies and objectives. Specifically the consultants should assist in the formulation/implementation of:

(i) a statement of strategic corporate objectives and policies or business plan (level and quality of service, financial performance and investment levels, administrative and operational efficiency, staffing, etc.) with specific monitorable annual targets for the next five years;

(ii) the legal documents defining the relationship between local government and the company; and

(iii) any activities related to bringing in private sector participation, contracting out support services, for example, including the drafting of terms of reference, legal documents, assistance in tendering and negotiations with private parties.

Task II.3: Preparation of Institutional Development Plan and Strengthening Project

Once the future nature of the utility has been defined, the consultants should assist in the development of a plan to reform and strengthen the internal operation of the company. This plan would be the basis for an institutional development project to be carried out as part of the upcoming investment project. An instrument that should be considered would be a twinning arrangement with a western utility. Examples of institutional strengthening activities which will have to be undertaken as part of a future project include the detailed design and implementation of:

- new organizational structure, including specific staffing plans, staff qualifications, job descriptions, etc.;

- appropriate management and operational systems (accounting, commercial, personnel, information, planning, etc.), including the introduction of an appropriate computerization strategy;

- programs related to leak detection and repair, maintenance and operation, system mapping, customer metering and water conservation, laboratory, water quality monitoring, etc.

- a detailed water demand management program; and

- a permanent unaccounted-for-water and water loss reduction program.

To prepare for the implementation of these activities, consultants will elaborate an institutional development project with:

- a detailed proposal as to the organization and implementation of the technical assistance effort necessary; identification of sources that could most appropriately and effectively help the enterprise; need for foreign assistance and coordination with local experts;

- a plan of action showing means and timing of contracting and implementation of institutional strengthening tasks;

- cost estimates for technical assistance, training and acquisition of equipment and materials needed to carry out the institutional development project component; and

- draft terms of reference for all technical assistance and training activities and tender documents to hire consultants to carry out the technical assistance work.

In addition, the consultants should provide specific practical advice on any queries local governments and utility management may have which can be reasonably accommodated within the resources available to the consultant for the institutional development part of the assignment.

Task III. Feasibility Study

This task will develop an appropriate cost-effective (least cost) scheme for wastewater collection, treatment and disposal (including sludge disposal); discuss options and variants for wastewater treatment or pre-treatment and disposal giving due consideration to technical, operational, environmental and financial aspects; and recommend the best wastewater development scheme able to satisfy the long term needs of the metropolitan area. The Consultants will need to justify the selected scheme for collection and transfer of wastewater; the choice of technology among the possible alternatives for the treatment of domestic wastewater; and the selection of site(s) for the proposed wastewater treatment and disposal. The Consultants will synthesize their proposal of the required investments with a comprehensive list of components with approximate construction costs and implementation schedule.

Once the definition of priority investments is confirmed and approved by …….. (please fill in) the Consultants will prepare the feasibility study. This study will review all the aspects of the investments: technical, financial, institutional, and environmental, in sufficient detail to allow project appraisal by an International Financial Institution. This will include:

- *Surveys and Investigations* For the proposed priority project, the Consultants will define the investigations and studies, the topographic surveys, the geotechnical and water tests, and other possible surveys and investigations required for the design of the different project components at the feasibility level. With the assistance of the national implementing agency (please add the name of the agency), they will select firms and/or universities to which the national agency will contract these services.

- *Technical Project:* The consultant will provide the general drawings, main technical specifications, and summarized bill of quantities necessary to fully define the proposed investment program for wastewater. Potential difficulties regarding land acquisition, discharge standards, and industrial wastewater treatment will be discussed.

- *Environmental Review* and *Preliminary Environmental Impact Assessment:* The consultant should conduct an environmental review of the proposed investments aimed at identifying and mitigating potentially adverse environmental impacts from the proposed investments. To this end, The Consultant will prepare the preliminary impact assessment of the proposed investments, particularly the wastewater pre-treatment/treatment and disposal facilities (in line with the national legislation and generally accepted international practices).

- *Cost Estimate:* Based on the summarized bill of quantities, the Consultants will determine the cost of the investment program broken down by main components and by districts (i.e. networks extension {primary, secondary}, network rehabilitation, pumping stations, main collectors, treatment plant, storm-water), with a precision of plus or minus 20%. Direct taxes and duties should be clearly identified. The Consultants will also make a detailed estimate of the annual operating and maintenance costs of the total wastewater systems, including administrative costs and overheads. The unit rates shall be those appropriate to the particular types of work required as may prevail in the project area. The Consultants shall include in their estimates all costs of land acquisition and compensation required as a result of the proposed works, as well as the costs of relocating other underground utilities (water, electricity, telephone, etc.). As necessary, the Consultants will also prepare a construction program for all components of the works.

- *Cost Recovery and Financial Justification:* Building on the information gather ed under Task 1, the Consultants will assess the current regulations regarding wastewater fees and how they are applied in the project area (annual revenues). They will determine what level of fees can reasonably be supported by the wastewater service users in relation to their income (willingness to pay), and would be necessary to cover the full cost of the proposed investment (financed under concessionary terms: loan of 18 years with a 5-year grace period and a 3.5% interest rate) and operating and maintenance costs.

- *Private Sector*: The consultant should assess the role the private sector could play in the financing, operation and maintenance of some of the proposed new facilities, particularly for the proposed wastewater treatment facilities.

Task IV. Conceptual Design and Tender Documents.

This phase will only be undertaken if the above phases have been completed satisfactorily and approved by beneficiary country and …. (please fill in).

- *Conceptual Design:* Based on the design criteria agreed on with the respective parties under Task III and any additional information obtained during the work, the Consultants will prepare a conceptual design for all the wastewater components of the priority investments up to a level of detail which will allow efficient competition under design-and-build tendering.

- *Tender documents:* Tender documents - based on FIDIC - will be prepared for a "Design and Build" concept for the various components of the project. They will mainly include :

- Project description,
- Instructions to Tenderers,

- General Conditions of Contract,
- Conditions of Particular Application,
- Specifications,
- Bills of Quantities,
- Forms of Tender, Agreement, Security, etc., and
- Drawings.

The Consultants will also define the detailed cost and prepare the Terms of Reference for the construction supervision services.

5. STUDY SUPERVISION, SCHEDULE AND REPORT

The work of the Consultant would be supervised by [please fill in], who will coordinate with all other ministries, agencies, and international financial institutions. The Consultant shall begin work no later than [please fill in] days after the date of effectiveness of the contract. The Consultant should propose a clear schedule with critical milestones, and make all possible efforts to meet or complete the work in a shorter duration then the proposed time schedule.

It is anticipated that the Consultant would complete the work over a maximum duration of [please fill in] months, including three months for the review of reports. It will be carried out in three phases.

The first phase would encompass Tasks I & II. At the end of the first phase, which should last …… (please fill in) months, the Consultants will issue a draft Institutional Development and Strengthening Program. The Consultants will receive comments on this report within a month and then finalize the document by incorporating all the comments received.

The second phase would encompass Task III and IV. At the end of Phase 2, which should last ……; (please fill in) months, the Consultants will issue a Draft Feasibility Report. The Consultants will receive comments on this report within a month and will have one month to issue the Final Feasibility Report corrected according to all the comments received.

Within …… month after the issue of the Draft Feasibility Report, the Consultants will be notified the exact composition, and allotment, of the works to be studied under phase 3. Under this phase, the Consultants will have ……. months to prepare a draft conceptual design and tender document, for which they will receive comments within a month. They will have another month to issue the final Tender Documents.

Draft and final reports will be issued in …… copies in ……. (please fill in) (of which one for the World Bank/METAP) and ….. in ……. (please fill in). In addition, final reports will be issues in one original allowing for easy reproduction. All reports will include an Executive Summary and have to be prepared in DIN A4 format. A separate volume in DIN A3 format is to be prepared containing all plans, drawings and photographs. A software copy of the final reports (…… and …… versions) will also be given to ……..

5. STAFFING REQUIREMENTS

It is anticipated that the Consultant would establish a strong, focused team of specialists that contains a clearly indicated mix of local and foreign specialist inputs. It is envisaged that an Wastewater management expert would serve as project team leader with a resident national as deputy. The Consultant should create a project team that has technical competence in

wastewater management, environmental, and engineering fields as well as competence in the institutional, private sector participation and financial fields. The team is expected to provide pragmatic and insightful planning to justify the chosen wastewater management in [please fill in]. The Consultant shall propose and justify the range of disciplines to be included in the project team. It is expected that the proposed project team will contain several of, but not necessarily be confined to, the following specialists:

- Wastewater management specialist
- Environmental specialist
- Wastewater treatment specialist
- Industrial pollution expert
- Siting\environmental planning specialist
- Infrastructure\cost estimation specialist
- Institutional specialist
- Financial analyst
- Project preparation expert

ANNEX V

Preparation of an Investment Plan for Wastewater Treatment/Remediation Services for [Name of Country/Hot Spot]
(PLANT Specific)

TERMS OF REFERENCE

I. Background

The Contracting Parties to the Barcelona Convention adopted in 1997 a Strategic Action Programme (SAP) to address pollution from land-based activities. The SAP identifies the major pollution problems of the region, indicates the possible control measures, shows the cost of such measures and establishes a work plan and timetable for their implementation.

A GEF Project "Determination of priority actions for the further elaboration and implementation of the Strategic Action Programme for the Mediterranean Sea" (GF/ME/6030-00-08). The objective of this project, which was approved by the GEF Council in 2000, is to improve the quality of the marine environment in the Mediterranean Region by better shared-management of land-based pollution through improved international cooperation in the management of land-based pollution of transboundary and regional significance. The project was initiated in January 2001 and will last in December 2003. It will create a basis for the long-term implementation of the SAP and will be coordinated by the Coordinating Unit of the Mediterranean Action Plan of the United Nations Environment Programme ("UNEP/MAP"), with the assistance of several organizations, including the World Bank as administrator of METAP.

The GEF Project includes, among others, the identification and selection (among the beneficiary countries) of priority pollution hot spots for which pre-investment studies will be prepared. In close coordination with countries and based on a set of criteria, a first list of priority hot spots has been prepared (attachment 1). This list includes two categories of "hot spots": (i) cities which, by virtue of inadequate wastewater, collection, treatment and disposal, contribute significantly to pollution; and (ii) industrial "hot spots" which are either abandoned industries which left behind polluting materials, or existing industries which are a continuous source of pollutant load. These terms of reference are generic for the type (ii) projects.

An industrial "hot spot" in [Name of City], [name the country] has been identified by the GEF project and pollution control measures in the form of wastewater management and/or land remediation are necessary. Consultant services are needed to prepare pre-investment studies including technical, financial and institutional studies which will be used, by the consultant, to determine the scope and cost of measures to be taken to mitigate environmental impacts of the "hot spot". These measures will constitute a Project which can be presented to the GEF and other financing institutions interested in co-financing the cleanup. The purpose of these TORs is to define the studies needed. These TOR give full support to the need for addressing not only pollution control/remediation requirements but also the larger issues of the legal, institutional, and regulatory frameworks which allowed creation of these "hot spots" in the first place..

This broader approach to addressing the fundamental causes of the “hot spots” and how they may be eliminated will help to ensure sustainability.

2. Objective

The studies to be conducted under this consultancy have the following three objectives: (i) To identify investment program leading to controlling water pollution from industrial effluents and/or disposal sites in accordance with priorities based upon human health and safety and/or environmental protection; (ii) to conduct a feasibility study of the priority investments, including design and tender documents; and (iii) to develop a program of reforms to provide the industrial enterprise with a sound cost-effective environmental management program (including mitigation and monitoring), and (iv) to provide a program of institutional strengthening and regulatory reform necessary to assure enterprise environmental management programs are sustained.

3. “Hot Spot” Description

The scope of the study will cover identification of the chief industrial pollutants creating the "hot spot" and the industrial enterprises whose operations/practices are the sources of these pollutants. The study area is located [please fill in], covers an area of [please fill in] square kilometers and has a population of [please fill in] inhabitants. The income level of the study area, expressed as Gross Domestic Product per capita per year, is [please fill in]. Industrial facilities in this area include [please list names of companies, what they manufacture, and how long they have been in production].

4. Scope of Work

The consultant will undertake the following inter-related tasks:

TASK I: Collection of Environmental/Epidemiological Data

Objective: The objective of this Task is to define in quantitative terms the physical/chemical characteristics of the “hot spot” and the specific nature of the impacts on the human and natural environment

Description of Work Effort: The Consultant will collect appropriate reports describing conditions on the human and natural environment at the “hot spot”, visit appropriate government authorities collecting data on soil and water quality (surface and ground), vegetative loss, health mortality and morbidity statistics, etc. Visits should be made to the “hot spots” and discussions held with affected parties and local environmental/health authorities to verify/substantiate official literature information. During these visits attention should be paid to assessing liquid and solids discharges into the environment from various industrial activities. If (solid/liquid) discharge data is readily available it should be collected (see Annex A for supplementary Environmental Audit TORs). Anecdotal information, e.g. local people views on conditions prior to the installation of a particular industrial enterprise should be solicited. At a minimum, field visits should confirm alleged environmental/health impacts, and a preliminary opinion of the environmental management practices of various industrial operations in the “hot spot” area be formed.

The consultant should review this information and together with the field visits and discussions with local authorities and affected groups: (a) verify that the area in question is truly a “hot spot”, and (b) provide an initial view as to the magnitude and severity of the impact(s).

TASK II: Identification of Specific Industrial Pollutants Responsible for "Hot Spot" Creation

Objective: To focus on the primary physical/biological/chemical agents responsible or likely responsible for the impacts identified in Task I.

Description of Work Effort: The Consultant will examine various pollutant levels in water (surface and ground), particularly water utilized for drinking and agriculture, and groundwater particularly in industrial wastes disposal areas, and soil contamination, again particularly in industrial waste disposal areas. These pollutant levels will be compared with internationally accepted standards or norms (e.g. WHO, EU, Western Europe etc.) to establish which agents are the likely causes of the local impacts, or more simply stated the agents which have created the “hot spot”.

Normally, substantial exceedances of accepted norms may be considered indicators of the observed impacts. Occasionally, specific pollutants (e.g. arsenic, lead, nitrate etc.) can be directly associated with epidemiological anomalies or “clusters”, and such information can substitute for or supplement water quality data.

Based upon this effort, the Consultant should identify the specific pollutant and/or pollutant classes (e.g. chlorinated hydrocarbons) responsible for the degradation established in Task I.

TASK III: Determination of Industrial Enterprises Releasing "Hot Spot Pollutants"

Objective: Define the complete range of potential industrial pollution sources responsible for the elevated levels of the specific pollutants/pollutant classes identified in the “hot spot”.

Description of Work Effort: The Consultant will examine all industrial enterprises operating at or near the “hot spot” to determine the likelihood that their operation (both past, e.g. disposal practices and current highly contaminated effluent discharges) are contributing to the impacts on the human and natural environment at or near the “hot spot”.

The Consultant should make rough estimates of the relative contributions of discharges from the various industrial enterprises for the key pollutants. Based upon these rough estimates, the Consultant should prepare a list of priority enterprises which are to be candidates for “environmental audits” (EAs).

TASK IV: Environmental Audits of Enterprises Identified as "Hot Spot Pollutant Sources"

Objective: To identify the specific aspects of the industrial operation (past and present) which generate the pollutant releases, prioritize the sources, and establish cost effective pollution control/remediation measures.

Description of Work Effort: The Consultant will perform enterprise specific EAs (see Annex for Work Scope of the Environmental Audit) for the priority enterprises identified under Task III.

The enterprise specific EAs will define the necessary cost effective mitigation and/or remediation measures necessary to reduce the pollutant discharges from priority sources to levels considered acceptable.

The Consultant will review all the enterprise specific EAs and develop a priority ranking for measures to be taken at each enterprise in order to assure the most efficient and cost effective strategy for reducing “hot spot” pollution to acceptable levels.

As part of the EA effort the Consultant will identify and review the current enterprise environmental management program (mitigation, monitoring, reporting, decision making etc.) and make specific recommendations for improvement.

TASK V: Feasibility Studies

Objective: Define in technical, financial, and institutional terms, the mitigation program for each of the priority industrial pollution sources.

Description of Work Effort: The Consultant will prepare detailed feasibility studies for all of the priority mitigation and/or remediation measures identified in Task IV. The feasibility studies will include but not be limited to: technical feasibility, costs (construction and operation, domestic and foreign exchange), and a program of institutional strengthening (monitoring equipment, training, electronic data management and reporting systems etc.) and reporting focused on improving the environmental management programs of the enterprises subjected to the EA. The total of all the mitigating actions for which feasibility studies are prepared will constitute the Investment Project designed to eliminate the “hot spot”..

TASK VI: Conceptual Design and Tender Documents.

Description of Work Effort: For investments covered under the Investment Project defined under TASK V the Consultant would prepare the appropriate tender documents, including draft contracts and information to bidders

This phase will only be undertaken if the above phases have been completed satisfactorily and approved by beneficiary country and …. (please fill in).

- *Conceptual Design:* Based on the design criteria agreed on with the respective parties under Task III and any additional information obtained during the work, the Consultants will prepare a conceptual design for all the wastewater components of the priority investments up to a level of detail which will allow efficient competition under design-and-build tendering.

- *Tender documents:* Tender documents - based on FIDIC - will be prepared for a "Design and Build" concept for the various components of the project. They will mainly include :
  - Project description,
  - Instructions to Tenderers,
  - General Conditions of Contract,
  - Conditions of Particular Application,
  - Specifications,
  - Bills of Quantities,
  - Forms of Tender, Agreement, Security, etc., and
  - Drawings.

The Consultants will also define the detailed cost and prepare the Terms of Reference for the construction supervision services.

TASK VII: Assessment of Environmental Regulatory/Institutional Framework

Description of Work Effort: Creation of a “hot spot” is in part due to the shortcomings in the institutional and regulatory framework which allowed poor environmental management practices to be maintained by the industrial enterprises.

The Consultant will perform a review of the current national regulatory framework, to assess the adequacy of environmental laws regulations and standards regarding industrial operations. In particular, the Consultant will assess regulations regarding environmental assessment, environmental audits, effluent discharges, classification and management of solid waste (hazardous and nonhazardous), quality standards for water and soil and any legislation regarding environmental liability.

The Consultant will investigate the enforcement mechanisms in place for insuring compliance, including, but not limited to: fees and fines for effluent discharges and solid waste disposal, any economic incentive schemes, and monitoring arrangements. Roles and responsibilities of national and local environmental authorities in the regulatory and enforcement process.

The Consultant will also investigate institutional capacity to implement the regulatory framework. In particular, the Consultant will assess staffing

levels of environmental authorities, capabilities for source and ambient pollution monitoring and analysis, environmental assessment and environmental auditing, capability levels for data processing and report generation, etc.

TASK VIII: Development of a Program of Regulatory Reform and Institutional Strengthening

Based on the results of Task VII, the Consultant will prepare a detailed program of regulatory reform and institutional strengthening. Which will include, inter alia, as necessary or appropriate, draft legislation for environmental protection (assessment, audits etc.) proposed standards for industrial effluent discharges, standards for surface and groundwater quality (including classification systems based upon intended or desired use), recommended enforcement mechanisms (command and control, economic incentives, pollution trading etc.). If appropriate, the Consultant will also make recommendation for alternate institutional mechanisms between government authorities and their industrial counterparts to insure improved reporting and more efficient and effective decision making.

The program will also include recommendations for improved sampling as well as source and ambient monitoring of ground and surface waters, and soils (equipment and laboratory needs, training etc.), staff recruitment (including specific disciplines) staff training/study tours, consultant services, and any special studies.

Finally, the Consultant will prepare a detailed cost estimate and financing plan for this Task and a detailed priority based implementation schedule.

5. STUDY SUPERVISION, SCHEDULE AND REPORT

The work of the Consultant would be supervised by [please fill in], who will coordinate with all other ministries, agencies, and international financial institutions. The Consultant shall begin work no later than [please fill in] days after the date of effectiveness of the contract. The Consultant should propose a clear schedule with critical milestones, and make all possible efforts to meet or complete the work in a shorter duration then the proposed time schedule.

It is anticipated that the Consultant would complete the work over a maximum duration of [please fill in] months, including three months for the review of reports. It will be carried out in three phases.

The first phase would encompass Tasks I, II and III. At the end of the first phase, which should last …… (please fill in) months, the Consultant would issue an Inception Report. This report would summarize the findings of the Tasks completed, and present a program for Task IV, the Environmental audits of the priority enterprises.

The second phase would encompass Task IV and V. At the end of Phase 2, which should last ……; (please fill in) months, the Consultants will issue a Draft

Feasibility Report which will present the overall Investment Program for the elimination of the "hot spot". The Consultants will receive comments on this report within a month and will have one month to issue the Final Feasibility Report corrected according to all the comments received.

The third phase of the program would consist of Task VI. Within ……. month after the issue of the Draft Feasibility Report, the Consultants will be notified the exact composition, and allotment, of the works to be studied under Phase 3. Under this phase, the Consultants will have ……. months to prepare a draft conceptual design and tender document, for which they will receive comments within a month. They will have another month to issue the final Tender Documents.

The fourth and final phase of the program will consist of Tasks VII and VIII. At the end of this Phase anticipated to require ……months to prepare, the Consultants will issue a draft report for a program of Regulatory Reform and Institutional Development and Strengthening. The Consultants will receive comments on this report within a month and then finalize the document by incorporating all the comments received.

Draft and final reports will be issued in …… copies in ……. (please fill in) (of which one for the World Bank/METAP) and ….. in ……. (please fill in). In addition, final reports will be issues in one original allowing for easy reproduction. All reports will include an Executive Summary and have to be prepared in DIN A4 format. A separate volume in DIN A3 format is to be prepared containing all plans, drawings and photographs. A software copy of the final reports (…… and …… versions) will also be given to ……..

5. STAFFING REQUIREMENTS

It is anticipated that the Consultant would establish a strong, focused team of specialists that contains a clearly indicated mix of local and foreign specialist inputs. It is envisaged that an industrial pollution management expert would serve as project team leader. In the case that a project team leader is from abroad a resident national should be a deputy. The Consultant should create a project team that has technical competence in wastewater management, industrial waste disposal site remediation, environmental, and engineering fields as well as competence in the institutional, private sector participation and financial fields. The team is expected to provide pragmatic and insightful planning to justify the chosen wastewater management/site remediation schemes in [please fill in names of industrial enterprises]. The Consultant shall propose and justify the range of disciplines to be included in the project team. It is expected that the proposed project team will contain several of, but not necessarily be confined to, the following specialists:

- Industrial wastewater management specialist
- Industrial site remediation specialist
- Environmental specialist
- Infrastructure\cost estimation specialist
- Institutional specialist
- Financial analyst
- Project preparation specialist (preparation of tender documents, contracts etc.)

WORK SCOPE FOR INDUSTRIAL ENTERPRISE ENVIRONMENTAL AUDIT
(Note: Scope is confined to water pollution aspects only)

The Environmental Audit (EA) will consist of the following aspects:

Consultant Activities

- Review of Environmental Management Organization
- Regulatory Framework
- Plant Pollution Characteristics
- Operational Efficiency Review
- Mitigation Program

Industrial Enterprise Activities

Details are described below:

Consultant Activities

Review of Environmental Management Organization

The Consultant will examine the current environmental management organization of the enterprise, assess its adequacy in terms of personnel (number of staff and appropriateness of skills/training), management effectiveness, monitoring programs and monitoring capacity, data analysis and reporting, coordination with government environmental authorities and management decision making hierarchy.

Regulatory Framework

The Consultant will determine: (a) standards, regulations regarding liquid effluents, solid waste disposal, classification schemes for hazardous and nonhazardous wastes, worker health and safety norms which are to be complied with by the enterprise. In the absence of such norms, appropriate values from the World Bank Pollution Prevention Handbook, EU, ILO, WHO should be used. Furthermore, the Consultant should also determine if all necessary permits, licenses, approvals are current, and how often they are to be renewed/reevaluated.

A record of fees, fines and any other penalties relating to environment/worker health and safety as well as a record of payments and any environmental liabilities should be collected.

Plant Pollution Characteristics

- WATER

The Consultant will ascertain the chief pollutant parameters, determine discharge levels and flow characteristics at all appropriate locations of the enterprise. Discharges should include both point sources (pipeline discharges) as well as extended sources (runoff, drainage etc.). In addition, the Consultant will assess the performance characteristics of all installed water pollution control equipment, compare the performance to the original design, examine any particular operational or design problems. The Consultant should also evaluate the effluent monitoring program and the capability for sampling and analysis.

- SOLID WASTE

The Consultant will examine the waste disposal practices of the enterprise and establish the physical/chemical/biological characteristics of the disposed materials, and collect/review existing groundwater and surface water analyses.

As necessary, the Consultant should secure reliable data on ground/surface waters, review disposal site construction plans and visit the facilities. If necessary, the Consultant should perform leachate tests.

All storage facilities of raw materials, products, and byproducts should be examined for leaks, mechanical integrity, safety and appropriateness of design (are the tanks designed for the

material they contain?), materials of construction, fabrication quality, relative spacing, and physical condition (rust, corrosion, etc.).
The Consultant should also evaluate the solid waste evaluation and soil, groundwater monitoring programs and the enterprise capability for sampling and analysis.

Operational Efficiency Review
The Consultant will:

- prepare a material balance for the facility and clearly identify measurements versus estimates

- review: (a) the quality of fuel and raw material inputs with relationship to the requirements specified in the plant design, and (b) the scope for more efficient use of inputs (e.g. water use, energy consumption, raw materials) by improving operations and maintenance, (c) the scope for more efficient use of outputs (e.g. byproduct recovery, recycling and reuse).

- evaluate: (a) whether changes in process technology or product mix could provide more cost effective ways to prevent pollution at the source, or (b) whether end of pipe would be an element of the least cost approach to pollution abatement at the industrial enterprise.

Mitigation Program
The Consultant will examine opportunities to improve environmental performance of the enterprise including but not limited to: rehabilitation of existing pollution control equipment, installation/replacement of new or additional pollution control equipment, enhancement of in-house cleanup procedures (including water minimization opportunities), alternate process technologies, alternate raw materials, recycling/reuse of byproducts or wastes.

Based upon this evaluation the Consultant will recommend the most reasonable cost-effective option for achieving the necessary levels of pollution control and provide an estimate of the costs (investment/operating, local/foreign) for the selected option.

Industrial Enterprise Activities

Industrial enterprises should provide the following support to the Consultant:

- designate a counterpart team from the enterprise (preferably from the environmental unit) to work with the Consultant on a continuous basis during the duration of the audit
- prepare a background study on environmental issues concerning current and planned operations of the industrial enterprise, including, but not limited to: structure of environmental management (monitoring and pollution control/remediation), description of process operations, products and production levels, description of raw materials (particularly any toxic/hazardous materials), material balance for all process unit operations, record of environmental monitoring program results, record of any environmental fees, fines, liabilities, enterprise plot plan identifying major process units, and materials storage and disposal areas
- full access to the enterprise facilities including, but not limited to, authorization to collect/analyze samples of effluents, groundwater, soils, conduct or observe process operations, make detailed drawings, and take photographs (subject to prior approval from enterprise management).