

REQUEST FOR PROPOSALS

FEASIBILITY STUDY FOR THE

ALEXANDRIA STYRENE PLANT

Submission Deadline: **12:00 p.m. NOON**

LOCAL TIME

AUGUST 8, 2008

Submission Place: MR. MOHAMED M. ZAKI, OPERATIONS MANAGER
EGYPTIAN STYRENICS PRODUCTION COMPANY
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NASR CITY, CAIRO, EGYPT
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SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant to the Grantee for a Alexandria Styrene Plant Feasibility Study. The grant agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to carry out the Feasibility Study.

1.1 BACKGROUND SUMMARY

A feasibility study is required to investigate the technical, economic and marketing feasibility of implementing a styrene plant in Alexandria, Egypt. The styrene plant would be built in parallel with a polystyrene plant that is currently under design. This study will examine two styrene production capacities of 300,000 MTA (metric tons annually) and 600,000 MTA. The Grantee would like to construct a styrene plant sized to provide all the necessary feedstock for the polystyrene plant, which would reduce feedstock costs and provide a secure supply. Accordingly, the contractor shall show the effect of constructing a styrene/polystyrene complex as an integrated project based on economical indicators for the following feedstock scenarios:

- totally and partially imported ethylene and benzene,
- local ethylene and imported benzene, and
- local ethylene and benzene.

The feasibility study will consider styrene/polystyrene markets for both Egyptian domestic consumption and export. The basis for costs and economics used in the study shall be transparent and clearly described by the Contractor. A background Definitional Mission is provided for reference in Annex 2.

1.2 OBJECTIVE

The Terms of Reference (TOR) for this Feasibility Study is attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted; upon detailed evaluation of technical proposals, one firm will be selected for contract negotiations. The amount for the negotiated contract has been established by a USTDA grant of U.S. \$434,268 dollars.

1.4 CONTRACT FUNDED BY USTDA

The negotiated contract will be funded by USTDA in accordance with the terms and conditions of its grant to the Grantee. The contract must include certain USTDA mandatory clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA mandatory clauses are attached at Annexes 3 and 4 for reference.

Section 2: INSTRUCTIONS TO PROPOSERS

2.1 PROJECT TITLE

The project is called "Alexandria Styrene Plant Feasibility Study"

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal including qualifications statement.

The term "Offeror" means the U.S. individual, or U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. A copy of the Report is attached at Annex 2 for background information only.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Feasibility Study.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution, and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Feasibility Study will be funded under a grant from USTDA. The total amount of the grant is not to exceed U.S. \$434,268 dollars.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal or any other cost incurred by Offeror prior to issuance of an agreement or contract. Neither USTDA nor the Grantee assumes any contractual obligation as a result of the issuance of this proposal request, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, or final selection.

2.7 TAXES

Offerors should submit proposals which note that in Annex 4, USTDA Mandatory Contract Provisions, USTDA funds are not to be used to pay taxes or duties under the laws of host country.

2.8 CONFIDENTIALITY

The Grantee will use its best efforts to preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive and concise description of the Offeror's capabilities to satisfy the requirements of the RFP. There is no necessity for expensive bindings, colored displays, or other promotional material unless such material is absolutely pertinent to the proposal. Emphasis should be placed on completeness and clarity of content.

2.10 SUBSTANTIVE PROPOSALS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on the behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for himself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from host country for up to 20 percent of the amount of the USTDA grant. USTDA nationality requirements are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English, and only English.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Mr. Mohamed M. Zaki
Operations Manager
Egyptian Styrenics Production Company
6 Elnabawy Elmohandes St., Hay Elsefarat
Nasr City, Cairo, Egypt
P.O. Box : 9550 SOS, Children Village, Cairo – 11787
Tel : 202 22719320 Fax : 202 22739023 Cairo
Tel.:203 2020888 Fax : 203 2020777 Alexandria
EMAIL: mzaki@estyrenics.com

An Original and eight (8) copies of your proposal must be received at the above address no later than 12:00 p.m. NOON, on August 8, 2008.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

Each proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and eight (8) copies should be collectively wrapped and sealed, and clearly marked for content.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for sixty (60) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

Firms agree by their response to the RFP announcement to abide by the procedures set forth therein. Material modifications in the TOR or responsibilities of the parties will not be accepted.

Any exceptions in the proposal shall be clearly identified, and shall include the scope of such exception, and its impact, on the procurement. The Grantee shall make final determination as to the responsiveness of such exceptions and their acceptability.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory and Feasibility Study services similar to those required in the TOR.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals and to accept or reject any or all of the items in the proposal, and to award the contract in whole or in part if it is deemed in the best interest of the Grantee.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of consultants and subcontractors. USTDA nationality provisions are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all mandatory USTDA clauses, to be inserted in all subcontracts ensuing to ensure fulfillment of all contractual provisions by subcontractors.

2.21 AWARD

An award resulting from this RFP shall be made to the best qualified Offeror, taking into consideration the evaluation factors set forth herein; however, the right is reserved to reject any

and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) furnish all supplies, supervision, transportation, and other execution accessories, services, and facilities; (b) provide and perform all necessary labor; and (c) in accordance with good technical practice, with due diligence, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete all specified work to the satisfaction of the Grantee.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. Upon approval of each invoice, the Grantee will forward the invoice to USTDA which will process payment to the Contractor. All payments by USTDA under the Grant Agreement will be made in U.S. currency.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. No cost proposal is required as the value of the USTDA grant is established at U.S. \$434,268 dollars.

Offerors shall submit one (1) original and eight (8) copies of the proposal. Proposals received by fax cannot be accepted.

The following sections and content are required for each proposal:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Introduction and Executive Summary,
- Company Information,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan,
- Experience and Qualifications, and
- Miscellaneous.

Detailed requirements and directions for the preparation of each section are presented below.

3.1 SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major facts or features of the proposal, including any conclusions, assumptions, and generalized recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 SECTION 2: COMPANY INFORMATION

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), similar information must be provided for each subcontractor. Offerors are requested to limit the length of the Company Profile Information to one (1) page per firm.

1. Name of firm and business address, including telephone and fax numbers.
2. Year established (include former firm names and year established, if applicable).
3. Type of ownership and parent company, if any.
4. Project Manager's name, address, telephone and fax number, if different from (1).

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any impact of any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Feasibility Study as proposed and within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.3 SECTION 3: ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Feasibility Study. Identify the Project Manager who will be the individual responsible for this project. The Project Manager must have the responsibility and authority to act on behalf of the Offeror in matters related to the proposed Feasibility Study.

Provide a listing of personnel (including subcontractors and consultants) to be engaged in the project, either U.S. or local with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the organizational relationship between the firms must be described.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 SECTION 4: TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed technical approach and work plan. Discuss the project requirements as perceived by the Offeror. Include a brief narrative of tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Technical Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Technical Work Plan, and previous project experience, explain when and where Offeror will require support from the Grantee. Detail the amount of staff time required by the Grantee or participating agencies and any work space or facilities needed to complete the Feasibility Study.

3.5 SECTION 5: EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications which are relevant to the objectives and TOR for the Feasibility Study. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. Relevant experience and qualifications of key staff proposed shall be provided including letters of commitment from the individuals proposed concerning their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided, including the following information:

- Project name,
- Name and address of client (indicate if joint venture),
- Client contact person (name/ position/ current phone and fax numbers),
- Period of Contract,
- Description of services provided,
- Dollar amount of Contract, and
- Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Feasibility Study as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors, and the Grantee shall promptly negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations shall then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

- Understanding of the problems and tasks in the Terms of Reference, and a demonstrated responsiveness to the technical scope needed to
 - compare, analyze, evaluate, and recommend suitable equipment
 - develop operations and maintenance procedures. (15 points)
- Ability to develop a work program, broken down into major work tasks, clearly defining the scope of work, and defining the activities, schedule, labor allocation, and cost to implement the project. (15 points)
- Experience and with design and installation of the associated petrochemical technologies and hardware required for styrene production. (25 points)
- Familiarity, knowledge of, and experience with,
 - training in the operation and maintenance of complex equipment in an environment where cultural and language barriers may be significant;
 - import and transport of large machinery and chemicals in Egypt; and
 - permitting and licensing laws, and all relevant regulations regarding the installation of petrochemical facilities in Egypt. (20 points)
- Knowledge of Egyptian environmental laws. (5 points)
- Background and experience of personnel proposed for the study in the relevant technologies and scope of work, with a preference given to having done similar work in Egypt. (20 points)

Proposals which do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

Mr. Mohamed M. Zaki, Operations Manager, Egyptian Styrenics Production Company, 6 Elnabawy Elmohandes St., Hay Elsefarat, Nasr City, Cairo, Egypt, P.O. Box : 9550 SOS, Children Village, Cairo – 11787, Tel : 202 22719320, Fax : 202 22739023 Cairo, Tel.:203 2020888, Fax : 203 2020777 Alexandria, EMAIL: mzaki@estyrenics.com

B: Alexandria Styrene Plant Feasibility Study

POC Evangela Kunene, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. Alexandria Styrene Plant Feasibility Study. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms which are qualified on the basis of experience and capability to develop a feasibility study for an Alexandria Styrene Plant.

A feasibility study is required to investigate the technical, economic and marketing feasibility of implementing a styrene plant in Alexandria, Egypt. The styrene plant would be built in parallel with a polystyrene plant that is currently under design. This study will examine two styrene production capacities of 300,000 metric tons annually (MTA) and 600,000 MTA. The Grantee would like to construct a styrene plant sized to provide all the necessary feedstock for the polystyrene plant, which would reduce feedstock costs and provide a secure supply. Accordingly, the contractor shall show the effect of constructing a styrene/polystyrene complex as an integrated project based on economical indicators for the following feedstock scenarios:

- totally and partially imported ethylene and benzene,
- local ethylene and imported benzene, and
- local ethylene and benzene.

The feasibility study will consider styrene/polystyrene markets for both Egyptian domestic consumption and export. The basis for costs and economics used in the study shall be transparent and clearly described by the Contractor.

The Egyptian Styrenics production company (E-Styrenics) is a part of the Egyptian petrochemical integrated plan. The company employs more than 40 people in their main office. This number is expected to grow to be 200 employees at a full capacity production state. E-Styrenics has more than US\$ 300 million of total assets, US\$ 260 million of polystyrene production capacity, and US\$ 46.8 million of revenues. E-Styrenics is one of Egypt's largest petrochemical concerns. The company's products include DVD cases, plastic drins bottles, sterile medical devices, biological contact materials and institutional feeding systems.

E-Styrenics is asking the U.S. Trade and Development Agency (USTDA) to fund the proposed feasibility study, i.e., the pre-FEED, for the Phase II styrene plant that will investigate the technical, economic, and marketing feasibility of manufacturing 300,000 (MTA) to 600,000 MTA of styrene as part of an integrated complex with the Phase I

polystyrene plant. The feasibility study for the complex will gather information, and expand and analyze data to enable E-Styrenics to:

- Determine the techno-economic viability of the project as a business investment opportunity.
- Establish market viability.
- Generate interest in management, shareholders, and financial institutions for debt financing.

The U.S. firm selected will be paid in U.S. dollars from a \$434,268 grant to the Grantee from USTDA.

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

<https://www.ustda.gov/USTDA/FedBizOpps/RFP/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 12:00 p.m. NOON, August 8, 2008 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the

selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

Project Description

The Egyptian Styrenics production company (E-Styrenics) is proposing to develop a 300,000 metric ton annually (MTA) to 600,000 MTA styrene plant in Alexandria, Egypt as a part of a Styrenics Complex. The Styrenics Complex will include the following capacities in two phases:

- Phase I: Polystyrene Plant, Utilities 200,000 metric tons annually (MTA)
- and Off-Site Facilities
- Phase II: Styrene Monomer Plant 300,000 to 600,000 MTA

The preliminary Front-End-Engineering Design (pre-FEED) for the polystyrene plant is completed and the FEED is underway that will lead to procurement and construction of the Phase I facility that is expected to start in December 2009 with initial operation beginning in 2011 – 2012. The plant will produce a polystyrene product based on initially importing styrene from Europe and the Arabian Gulf as a feedstock. The following are completed to date:

- Site selection for the two phases (236,000 m² in Dekhila, Alexandria, Egypt).
- Signed license/basic engineering agreements with Ineos Europe Ltd. for the construction of the polystyrene plant.
- Completed the basic engineering for the polystyrene plant.
- Selected the general contractor for construction of the plant.

E-Styrenics wants to implement Phase II in parallel with Phase I to reduce the lag period before the company can produce its own styrene as the feedstock for its polystyrene plant. A preliminary schedule for construction of the Phase II styrene plant is shown in Attachment 1. E-Styrenics is asking USTDA to fund the proposed feasibility study, i.e., the pre-FEED, for the Phase II styrene plant that will investigate the technical, economic, and marketing feasibility of manufacturing 300,000 metric tons annually (MTA) to 600,000 MTA of styrene as part of an integrated complex with the Phase I polystyrene plant. The feasibility study for the complex will gather information, and expand and analyze data to enable E-Styrenics to:

- Determine the techno-economic viability of the project as a business investment opportunity.
- Establish market viability.
- Generate interest in management, shareholders, and financial institutions for debt financing.
- Advance the project whereby basic front-end engineering and design (FEED) can be completed and an Engineering-Procurement-Construction (EPC) contract agreement can be reached to start project implementation.

Project Sponsor's Capabilities and Commitment

E-Styrenics is enthusiastically committed to the Phase II styrene project. The company is an Egyptian joint stock company established in March 2005 according to the Investment Guarantees and Incentives Law of Egypt No. 8 of 1997 as a Free Zone company to construct a styrenics complex in Alexandria in the two phases described above. The company's authorized capital is US\$ 100 million. The issued capital is US\$ 20 million divided into 20,000 cash shares each having a par value of US\$ 1,000. All of the company's shares are nominal shares subscribed as indicated in the table below.

Name	Nationality	Number of Shares	Nominal Value (US\$)	Percent of Shareholding
Echem	Egyptian	7,000	7 million	35%
National Investment Bank	Egyptian	4,000	4 million	20%
Ministry of Finance	Egyptian	4,000	4 million	20%
Petrojet	Egyptian	3,000	3 million	15%
Enppi	Egyptian	2,000	3 million	10%
Total		20,000	20 million	100%

E-Styrenics is a part of the Egyptian petrochemical integrated plan. The company employs more than 40 people in their main office. This number is expected to grow to be 200 employees at a full capacity production state. E-Styrenics has more than US\$ 300million of total assets, US\$ 260 million of polystyrene production capacity, and US\$ 46.8 million of revenues. E-Styrenics is one of Egypt's largest petrochemical concerns. The company's products include DVD cases, plastic drins bottles, sterile medical devices, biological contact materials and institutional feeding systems. E-Styrenics was granted a feasibility study by USTDA for a petrochemical plant that was completed by Fluor Corporation (an American company).

Implementation Financing

The Engineering, Procurement and Design (EPC) contract for the polystyrene plant (Phase I) will be US\$ 200-250 million. Term sheets have been signed with ABC Bank and Misr Bank for a total of US\$ 300 million for Phase I to cover any contingencies or unforeseen additional expenses. Phase I financing has been arranged through a 35% equity committed by the shareholders to be paid during the second half of 2007 and the first half of 2008.

E-Styrenics shareholders have committed to finance Phase II (the styrene plant) based on the same financing structure used for Phase I. The actual total investment cost for the Phase II project is estimated to be US\$ 216 million including interest accrued during construction and working capital. The project financing is structured as 35% equity (US\$ 75.5 million) and 65% debt (US\$ 140.5 million). The US\$ 140.5 million debt includes a maximum foreign currency portion of US\$ 114 million. The remaining US\$ 26.5 million will be local currency.

The feasibility study for Phase I cost about US\$ 0.5 million and was financed by the Spanish government. The basic engineering for Phase I was completed by ABB Lummus, an American company. E-Styrenics expects the Phase II feasibility study will involve petrochemical engineers, agricultural specialists, financial analysts, and developmental and environmental specialists and take about 6-months to complete.

U.S. Export Potential

The implementation of the multi-million dollar Styrene complex will provide significant opportunities for the supply of U.S. materials, goods and services. The project provides opportunity for U.S. companies to export project design, engineering and/or management services, training, equipment, and spare parts. E-Styrenics is an influential Egyptian-owned company. Participation with them in the project would afford U.S. companies the opportunity to become involved with many Egyptian companies that could be potential future customers for their goods and services. Participation in this project presents an opportunity for U.S. companies to get involved with all aspects of a new industry in Egypt, i.e., polystyrene production, marketing, local distribution and export.

E-Styrenics would like to construct a styrene plant sized to provide all the necessary feedstock for the polystyrene plant. The styrene plant would give the company control over the cost of the feedstock and security of the supply. Since the plants are in a “free zone” at least 50% of the styrene product must be exported. The feasibility study will do a cost comparison of the feedstock for the styrene plant (ethylene and benzene) – supplied both locally and part-locally. The polystyrene plant output will be 200,000 metric tons annually (MTA). Current Egyptian local consumption of polystyrene is 80,000 MTA, so 120,000 MTA of the 200,000 MTA will be exported. In 2006 the local consumption of polystyrene grew by 5 percent. This growth is expected to continue. Possible U.S. exports include:

The Phase I (Polystyrene plant) is estimated to have a total of US exports of US\$ 65.5 million in raw materials, chemicals and equipment. The Phase II (Styrene plant) is estimated to have a total of US exports of US\$ 121 million as follows:

- *Raw materials (styrene):* US\$ 100 million per year
- *Chemicals:* US\$ 1.0 million per year
- *Equipment:* US\$ 20 million

Licenses and basic engineering agreements for Phase I were signed with Ineos Europe Ltd. for the polystyrene plant (Phase I) but the license/basic engineering agreements for the styrene plant (Phase II) have not been signed yet. There is an opportunity for U.S. firms to sign these agreements. Styrene suppliers have been selected to provide the feedstock for the Phase I polystyrene plant. They are Tricon Energy (an American company), HELM AG (a German company), and SABIC (a Saudi Arabian Company).

The suppliers for the Phase II styrene plant have not been selected yet. ABB Lummus/UOP, an American company, will complete the Front End Engineering and Design (FEED). The detailed Engineering-Procurement-Construction (EPC) contract for Phase II will not be awarded until the feasibility study (the pre-FEED – which USYDA is being requested to fund) and the FEED are completed. The involvement of an American company in the feasibility study will provide a strong opportunity for a U.S. contractor to win the EPC contract and thus have the opportunity to specify American equipment worth an estimated US\$ 20 million of U.S. exports. Raw materials and chemical exports for the styrene plant will add another US\$101 million annually as indicated above.

Market Entry Issues and Foreign Competition

Regional styrene/polystyrene plants are located in Saudi Arabia and Iran. The Saudi plant is an operating 600,000 MTA styrene plant that uses the ABB Lummus licensed technology that will be used in Phase I of this project. ABB Lummus (an American company) and Universal Oil Products (UOP) also own licenses for the polystyrene process. There is enough worldwide market to absorb the polystyrene supply from the new complex in Alexandria based on the market study included in the Phase I feasibility study.

USTDA's funding of the Phase II feasibility study for implementation of the Styrene Plant will facilitate the access to U.S technical expertise during the different project implementation stages. This access includes the preparing of the basic engineering package, styrene production license selection, supply of raw material and chemicals, supply of catalysts, equipment procurement and detail engineering activities. American companies will provide the license of production and the basic engineering package, e.g. ABB Lummus Global and UOP. Raw material can be supplied from Tricon Energy (an American company). A considerable number of American vendors can supply the critical equipment for this type of project.

Developmental Impact

Infrastructure Development

Field construction activities are projected to span two years. Direct field expenditures locally will reach about US\$ 76 million. These expenditures are mainly in engineering, construction labor and supervision, construction expenses, and locally made and equipment and bulk materials. In addition, materials for civil, structural, and architectural facilities; buildings; and electrical cables will be purchased locally. Some equipment such as low-pressure carbon steel vessels and atmospheric storage tanks, electrical transformers, motor control centers and lighting fixtures may also be competitively procured in Egypt.

Market-Oriented Reform

The polystyrene market in Egypt is well established. The styrene project could lead to the broadening of markets in that it would guarantee feedstock supply. Operation of the plant may help encourage further downstream economic development through local supply of employees and the purchase of supporting materials and products – perhaps as much as several million dollars per annum thus providing hard-currency capital for opportunities for business development. A number of local small to medium enterprises (SMEs) could benefit from site procurement contracts. The project would also contribute to foreign direct investment into Egypt, providing a positive signal to the international market.

Human Capacity Building

Construction of the plant will require over 190,000 man-hours of construction craft labor over two years. This employment will inject over US\$ 44 million into the national and local economy. Secondary construction support businesses, industries and local suppliers of equipment and materials will add an estimated 1,000 jobs in the same time frame. Many of the craft laborers will gain new advanced skills and experience to prepare them for future jobs in the petrochemical industries. The permanent plant operating staff and labor are projected to require 100 persons drawing salaries and benefits that total US\$ 0.5 million annually. E-Styrenics estimates that for every job created there will be five indirect job opportunities established to support on-going operation of the complex, maintenance, sales and distribution activities. In summary, over 500 new jobs opportunities for skilled and semi-skilled workers are expected because of this project.

Technology Transfer and Productivity Improvement

This project will result in an expanded industry based on styrene production in Egypt. The styrene/polystyrene complex, once fully operational in 2012, will effectively provide opportunities for export of a range of polystyrene products generating sufficient hard currency to cover the costs of raw materials, as well as payment of all project financing principal and interest charges. The styrene plant total operating budget is estimated at US\$ 418 million (excluding interest payments) while total sales revenues are projected to be US\$ 448 million. The combined annual expenditures and income streams of US\$ 866 million will have a rippling effect on the local economy and the Egyptian gross domestic product (GDP).

Impact on the Environment

The governing standards for the proposed E-Styrenics styrene petrochemical complex are set forth in Egyptian Law No. 48 for the year 1982 and Egyptian Law No. 4 for the year 1994, enacted by the Egyptian Environmental Affairs Agency (EEAA). The technologies for the plant have been commercially in operation for decades. The discharge streams such as air emissions, wastewater effluents, and solid waste have been characterized and quantified based on many production facilities in operation or under license from the different licensors in various countries with strong environmental laws. The design of the styrene complex includes the appropriate air, water, and solid emission abatement systems and remedial processes to protect the safety and health of its employees and the surrounding environment. The appropriate safeguards to ensure strict compliance with Egyptian environmental laws and international engineering standards and practices are included in the plant design and construction procedures.

Impact on U.S. Labor

The project does not provide:

- Any financial incentive to a business enterprise currently located in the United States for the purpose of inducing them to relocate outside the United States if such incentive or inducement is likely to reduce their number of employees in the United States because United States production is being replaced by such an enterprise outside the United States;
- Assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area;
- Direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.

Justification

Without USTDA assistance, it is quite likely that E-Styrenics will secure other foreign aid assistance. This would give an advantage to other foreign companies for this and future work with them in the expanding regional petrochemical market. Egypt is very interested in U.S. involvement in the modernization and development of their petrochemical industries. The sales of imported goods and services for this project are very significant. U.S. firms have previously been involved in this type of project and are very competitive in all technical, service, and hardware requirements of a styrene plant.

ANNEX 3



**U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131**

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

“Source” means the country from which shipment is made.

“Origin” means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

DEPARTMENT OF ECONOMIC DEVELOPMENT
MAY 12 2008
Egyp Pt
2008-21007A

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and Egyptian Styrenics Production Company ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Agreement US\$434,268 ("USTDA Grant") to fund the cost of goods and services required for a feasibility study ("Study") on the proposed Alexandria Styrene Plant ("Project") in Egypt ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the Study ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Study ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Study will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the Study shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

5. USTDA as Financier

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* (www.fedbizopps.gov). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the Study. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the Study. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Study that they were not selected.

(C) USTDA Approval of Contract Between Grantee and Contractor

The Grantee and the Contractor shall enter into a contract for performance of the Study. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the Study by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. Study Schedule

(A) Study Completion Date

The completion date for the Study, which is October 27, 2008, is the date by which the parties estimate that the Study will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

9. USTDA Mandatory Clauses

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the Study, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the Study and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the Study and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the Chairman and Chief Executive Officer. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Operations Manager
Egyptian Styrenics Production Company

6, El Nabawy El Mohandis Street
Hay El Sefarat-East Gas Building
Nasr City, Cairo

Phone: +20 267 17199
Fax: +20 022 273 9023

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:118/91001
Activity No.: 2008-21007A
Reservation No.: 2008210013
Grant No.: GH2008210003

18. Termination Clause

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the Study, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this Study, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

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IN WITNESS WHEREOF, the Government of the United States of America and the Egyptian Styrenics Production Company, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

**For the Government of the
United States of America**

**For the Egyptian Styrenics
Production Company**

By: Margaret Deakney

By: Khaled A-badie

Date: May 8, 2008

Date: 8 May 2008

Witnessed:

Witnessed:

By: [Signature]

By: [Signature]

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

A feasibility study is required to investigate the technical, economic and marketing feasibility of implementing a styrene plant in Alexandria, Egypt. The styrene plant would be built in parallel with a polystyrene plant that is currently under design. This study will examine two styrene production capacities of 300,000 MTA and 600,000 MTA. The Grantee would like to construct a styrene plant sized to provide all the necessary feedstock for the polystyrene plant, which would reduce feedstock costs and provide a secure supply. Accordingly, the contractor shall show the effect of constructing a styrene/polystyrene complex as an integrated project based on economical indicators for the following feedstock scenarios:

- totally and partially imported ethylene and benzene,
- local ethylene and imported benzene, and
- local ethylene and benzene.

The feasibility study will consider styrene/polystyrene markets for both Egyptian domestic consumption and export. The basis for costs and economics used in the study shall be transparent and clearly described by the Contractor.

Task 1 Project Work Plan and Schedule

The Contractor shall meet with the Grantee's management to develop a detailed Project Work Plan and Schedule to serve as the main project management tool for the execution of the work. The work plan will specify the tasks and sub-tasks required by these Terms of Reference (TOR), define the roles of the participants, establish work sequences, and set milestones for task completions. The work plan shall include the following:

- Management structure for the project team, task responsibilities, and reporting arrangements.
- Detailed descriptions of the work required to perform each task and sub-task under the TOR, and team participants' assignments
- Work spans, milestones, and key decision points
- Labor allocations and project budget; and
- Final Report content, format specifications and preparation schedule.

Deliverable:

Within 5 working days of the meeting, the Contractor shall:

- Prepare a memorandum summarizing the major items discussed and agreed upon at the meeting. At a minimum, this shall include (1) a list of all parties (organizations and individuals within those organizations) who will contribute to the Study
- Submit an itemized list of Egyptian government and other resources (if any) that will be provided to the Contractor

- Submit the final work plan and schedule for completion of all tasks and subtasks required under the TOR.

Task 2 Feedstock Assessment

The Contractor shall complete a feedstock assessment with regard to benzene and ethylene streams from local producers and international suppliers. The assessment shall include but is not limited to:

- An economic feasibility of obtaining benzene and ethylene feedstocks from major international suppliers and current local suppliers. The Contractor shall take into account the cost of transportation to the complex site at Dekhila, Alexandria, Egypt.
- Recommendations for the most likely source for benzene and ethylene.
- Recommendations for a transfer pricing system that will recognize product values within the integrated complex.
- Forecast of the local, regional and international price of benzene, and ethylene for the next fifteen (15) years.

Deliverables:

The Contractor shall provide a Feedstock Assessment Report to the Grantee .

Task 3. Marketing and Export Potential Assessment

The Contractor shall evaluate the potential markets for styrene and polystyrene in the Middle East, Africa, Asia and Europe as follows:

- Determine Styrene and polystyrene domestic and foreign consumption for the past ten (10) years and estimate forecast consumption for the next fifteen (15) years.
- Identify producers, production capacities, and, to the fullest extent possible, report non-confidential information regarding planned production increases for each region stated above.
- Develop an overall supply and demand forecast for the next fifteen (15) years for each region stated above.
- Assess historic styrene and polystyrene prices for the past ten (10) years and forecast prices for the next fifteen (15) years.
- Evaluate the likely competition E-Styrenics may have from other styrene and polystyrene and market price fluctuations.
- Characterize the local styrene and polystyrene market by type, size, and growth rate. The characterization shall include styrene and polystyrene imports, sources of import, and pricing structure.
- Evaluate styrene export markets for both 300,000 MTA and 600,000 MTA sized plants (which would result in 100,000 or 400,000 in export capacity respectively).

Deliverable:

The Contractor shall provide a Marketing and Export Potential Assessment Report to the Grantee.

Task 4. Confirmation of Site Selection

The contractor shall assess the selected site for the styrene plant at Dekhila, Alexandria, Egypt with regard to the following:

- Adequacy of area considering that both the styrene and polystyrene plants are to be built in an integrated complex.
- Access by land and by water.
- Environmental sensitivities, if any.
- Nearest infrastructure systems (electrical power, water, natural gas, and telecommunications, etc.)
- Pipeline routes for feedstocks.
- Preliminary marine requirements.
- Assumptions regarding extent of development.
- Any other factors, other than cost that should be considered.

Deliverable:

The Contractor shall provide to the Grantee a Site Selection Report that clearly identifies the selected site and the rationale for that selection. The Report shall comprehensively address, but not be limited to, all items in the bulleted list above.

Task 5. Technology and Technical Evaluation for the Styrene Plant

The Contractor shall establish the design basis for feedstocks, products, utilities, and technology for the styrene plant. The Contractor shall evaluate the most applicable technologies for the styrene plant and recommend licensors or open designs where applicable. The Contractor shall prepare a design basis for the styrene plant facility. This design basis shall include, but not be limited to the following:

- Feedstock rates for each process unit
- Compositions and key properties for feedstock, intermediate products and final product
- Product specifications
- Block process flow diagrams (PFDs) with preliminary heat and material balances
- Preliminary plot plans (taking into consideration the polystyrene plant)
- Building layouts, preliminary piling layouts, and overall site layouts indicating paving roads, rails, rail and truck loading, buried pipelines, pipe racks, fire treatment, fire protection and site drainage
- Special requirements and considerations, including governing codes and industry specifications
- Battery limit conditions for feeds and products
- Product storage drawings and specifications sufficient to define the costs
- Utility sources and specifications
- Initial and annual catalyst and chemicals requirements

- Site data and environmental requirements

Deliverables: The Contractor shall provide a report that :

- Clearly identifies the most applicable technologies for the styrene plant and the rationale for the selection
- Provides recommendations for licensors or open designs where applicable.
- Clearly describes the design basis for the styrene plant facility by comprehensively addressing all items in the bulleted list above.

Task 6. Integration

The Contractor shall evaluate the potential integration between the styrene and polystyrene plants. The contractor shall evaluate the cost of tie-ins and provide sketches and descriptions of connection pipe racks, roads, etc. The contractor shall prepare a plot plan for the integrated complex, i.e., the styrene/polystyrene plants and associated facilities. The Contractor shall evaluate the potential integration between the styrene/polystyrene complex and any neighboring petrochemical plant and refineries. Integration issues to be discussed include, but are not limited to the following:

- General utilities such as steam; cooling and process water; nitrogen; monitoring instrumentation; plant cooling, heating, and ventilation
- Maintenance and warehousing facilities
- Plant services such as change houses and cafeterias
- Wastewater treatment facilities
- Loading facilities
- Fire protection and flaring

Deliverable:

The Contractor shall provide to the Grantee an Integration Report that comprehensively evaluates the potential integration between the styrene and polystyrene plants by addressing all issues listed above.

Task 7. Preliminary Environmental Assessment

The Contractor shall perform a preliminary environmental impact assessment (EIA) of the Project. The primary objective of this task is to ensure that the implementation of the Project will comply with all relevant Egyptian environmental regulations, and those of likely multilateral lending agencies. The emphasis of the EIA shall be on those environmental concerns that are associated specifically with the construction and operation of petrochemical plants. The assessment should also include a review of regulatory issues related to the Project and a discussion of any regulations that would impact the Project's viability.

Deliverable:

The Contractor shall provide a Preliminary Environmental Assessment Report that identifies potential negative impacts, discusses the extent to which they can be mitigated, and develops plans for a full EIA if and when the Project moves forward to the implementation stage. The report shall include the identification of steps that will need to be undertaken by the Project sponsor subsequent to the Project's completion and prior to Project implementation.

Task 8. Developmental Impact

The Contractor shall report on the potential Development Impact of the project in the host country. In this section, the Contractor should focus on what the economic development outcomes will be if the project is implemented according to the study recommendations. While specific focus should be paid to the immediate impact of the specific project that is being considered, the Contractor should include, where appropriate, any additional developmental benefits to the project, including spin-off and demonstration effects. The analysis of potential benefits of the feasibility study contractor should be as concrete and detailed as possible. The Development Impact factors are intended to provide the project's decision-makers and interested parties with a broader view of the project's potential effects on the host country. The Contractor will provide estimates of the project's potential benefits in the following areas:

- a. *Infrastructure*: Provide a statement on the infrastructure impact, giving a brief synopsis. Estimate the scale of construction/installation expected and comment on the capabilities of any recommended infrastructure improvements.
- b. *Market-Oriented Reform*: Provide a description of any regulation, laws, institutional, or policy changes that are recommended and the effect they would have if implemented.
- c. *Human Capacity Building*: Assess the number and type of local positions that would be needed to construct and operate the proposed Project, as well as the number of local people who would receive training, the type of training and the desired outcome of the training. Distinguish between temporary construction jobs and the number of permanent jobs once construction is complete (or the number of jobs that may be lost because of labor saving technology).
- d. *Technology Transfer and Productivity Enhancement*: Provide a description of any advanced technologies that would be used, including discussion of any commercial contracts for licensing that may be required as a result of the Project. Describe any expected efficiency gains, such as improved processes that enhance productivity or result in a more efficient use of resources.
- e. *Other*: Describe any other indirect developmental impacts or benefits that would result from the Project, for example, follow-on or replication Projects, safer workplace, increased good governance or improved financial revenue flows to Egypt.

Deliverable:

The Contractor shall provide to the Grantee a Developmental Report that comprehensively addresses the potential development impact of the project in Egypt with

regard to infrastructure, market-oriented reform, human capacity building, and technology transfer and productivity enhancement.

Task 9. Project Cost Estimation

The Contractor shall prepare capital and operating cost estimates for the integrated styrene and polystyrene plant in accordance with best industry standards. The cost estimates shall be prepared in sufficient detail for the owners, investors, and lenders for the integrated styrene and polystyrene plant. The cost estimate shall also provide sufficient information to confirm the basis for the financial and economic parameters of the Grantee's applications for project financing. In preparing the capital cost estimate, the Contractor shall complete the following at a minimum:

- Solicit phone quotes for all major equipment (major equipment is defined as process equipment appearing on Process Flow Diagrams (PFDs) and/or Utility Flow Diagrams (UFDs))
- Prepare an estimate of Front End Engineering and Design (FEED) costs for Detailed Design and Engineering and Procurement Services (DDEP), Construction and Construction Management Services (CM)

The Contractor shall break down the cost by process unit. In the case of the offsite facilities, the cost breakdown shall be for each major electrical/mechanical system. The costs should be stated in both local and foreign currencies. The Contractor shall present the cost estimates in accordance with the following elements:

- Total Installed Cost (TIC) including engineering, procurement, construction, commissioning and start up for onsite and all offsite facilities
- Identify and segregate FEED, DDEP, construction and CM services, as well as commissioning and start-up costs
- Identify Licensor cost, catalyst and chemical costs for initial fill
- Estimate all utility costs and the apportioned cost of any shared utilities and facilities
- Estimate, in coordination with the Grantee, the owner's capital costs; financing cost, maintenance costs, and administrative costs
- Estimate annual catalyst and chemical consumption, spare parts, and operations labor

Deliverable:

The Contractor shall provide a detailed project cost estimate that clearly addresses all cost items identified above in accordance with the best available industry standards for the integrated styrene and polystyrene plant.

Task 10. Economic Assessment of Base Case and Alternative Feedstock Scenarios

The Contractor shall prepare a final economic assessment including a twenty-five (25) year cash flow model with internal rate of return (IRR) calculations, a discounted cash flow model and net present value calculations. This final economic assessment shall be based on the feed stock assessment (Task 2), the marketing assessment (Task 3), and

project cost estimates (Task 8) and shall reflect the financing strategy previously approved by the Grantee. The Contractor shall complete sensitivity analyses of various variable parameters including but not limited to, feedstock costs; product prices; operating rates; capital cost; and financing cost.

The Contractor shall evaluate the economic and operational feasibility of the following feedstock scenarios for an integrated styrene and polystyrene plant complex (evaluating both 300,000 MTA and 600,000 MTA styrene plant sizes) based on the estimates of capital and operating cost:

- Totally and partially imported ethylene and benzene
- Local ethylene and imported benzene
- Local ethylene and benzene

Deliverable:

The contractor shall provide an *Economic Assessment* of the base case integrated styrene/polystyrene plant that includes the three feedstock scenarios identified above.

Task 11. Implementation Plan, Budget and Schedule

The Contractor shall develop a preliminary implementation plan for the Project. The Contractor shall develop a Task Completion Schedule and timeline of critical milestones for implementing each task of the Project. The Task Completion Schedule shall list each major task to be performed in Project implementation. The Contractor shall present the duration of each task graphically in a bar chart.

The Contractor shall create a preliminary line item budget and task breakdown for each task in the Project implementation, along with a budget narrative. All costs in the budget shall be reasonable and allocable to the work to be performed during Project implementation. The Contractor shall support the budget with sufficient detail to enable the Grantee to understand completely, not only the budgeted amounts, but also the methodology that justifies the budget amounts. The budget shall include labor, budgeted by task. Where applicable, the Contractor shall itemize per diem, transportation, communications, purchased services/contracts, and other direct costs. The Contractor shall provide a budget narrative that includes a detailed budget explanation and justification of how all costs have been derived. The contractor shall develop an itemized list of U.S. sources of supply of required equipment, supplies and services anticipated as necessary to implement the Project, including costs. The list shall include company names and contact information.

Deliverable:

The Contractor shall provide an implementation plan, budget and schedule for the integrated project that, at a minimum, addresses all items specified above.

Task 12. Preparation of Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall provide three copies of the Final Report to the Grantee. The copies of the Final Report provided to USTDA shall be in accordance with Clause I of Annex II of the Grant Agreement.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Egyptian Styrenics Production Company ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("Study") for the Alexandria Styrene Plant project ("Project") in Egypt ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

(2) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the Study and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not

bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Study. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as an advance payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by

USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For an advance payment (if any):

"As a condition for this advance payment, which is an advance against future Study costs, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice for an advance payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to advance payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement.

Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

“The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution.”

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. Study Schedule

(1) Study Completion Date

The completion date for the Study, which is October 27, 2008, is the date by which the parties estimate that the Study will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Study. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the Study will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.: 118/91001
Activity No.: 2008-21007A
Reservation No.: 2008210013
Grant No.: GH2008210003

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

TERMS OF REFERENCE

A feasibility study is required to investigate the technical, economic and marketing feasibility of implementing a styrene plant in Alexandria, Egypt. The styrene plant would be built in parallel with a polystyrene plant that is currently under design. This study will examine two styrene production capacities of 300,000 MTA and 600,000 MTA. The Grantee would like to construct a styrene plant sized to provide all the necessary feedstock for the polystyrene plant, which would reduce feedstock costs and provide a secure supply. Accordingly, the contractor shall show the effect of constructing a styrene/polystyrene complex as an integrated project based on economical indicators for the following feedstock scenarios:

- totally and partially imported ethylene and benzene,
- local ethylene and imported benzene, and
- local ethylene and benzene.

The feasibility study will consider styrene/polystyrene markets for both Egyptian domestic consumption and export. The basis for costs and economics used in the study shall be transparent and clearly described by the Contractor.

Task 1 Project Work Plan and Schedule

The Contractor shall meet with the Grantee's management to develop a detailed Project Work Plan and Schedule to serve as the main project management tool for the execution of the work. The work plan will specify the tasks and sub-tasks required by these Terms of Reference (TOR), define the roles of the participants, establish work sequences, and set milestones for task completions. The work plan shall include the following:

- Management structure for the project team, task responsibilities, and reporting arrangements.
- Detailed descriptions of the work required to perform each task and sub-task under the TOR, and team participants' assignments
- Work spans, milestones, and key decision points
- Labor allocations and project budget; and
- Final Report content, format specifications and preparation schedule.

Deliverable:

Within 5 working days of the meeting, the Contractor shall:

- Prepare a memorandum summarizing the major items discussed and agreed upon at the meeting. At a minimum, this shall include (1) a list of all parties (organizations and individuals within those organizations) who will contribute to the Study
- Submit an itemized list of Egyptian government and other resources (if any) that will be provided to the Contractor
- Submit the final work plan and schedule for completion of all tasks and subtasks required under the TOR.

Task 2 Feedstock Assessment

The Contractor shall complete a feedstock assessment with regard to benzene and ethylene streams from local producers and international suppliers. The assessment shall include but is not limited to:

- An economic feasibility of obtaining benzene and ethylene feedstocks from major international suppliers and current local suppliers. The Contractor shall take into account the cost of transportation to the complex site at Dekhila, Alexandria, Egypt.
- Recommendations for the most likely source for benzene and ethylene.
- Recommendations for a transfer pricing system that will recognize product values within the integrated complex.
- Forecast of the local, regional and international price of benzene, and ethylene for the next fifteen (15) years.

Deliverables:

The Contractor shall provide a Feedstock Assessment Report to the Grantee .

Task 3. Marketing and Export Potential Assessment

The Contractor shall evaluate the potential markets for styrene and polystyrene in the Middle East, Africa, Asia and Europe as follows:

- Determine Styrene and polystyrene domestic and foreign consumption for the past ten (10) years and estimate forecast consumption for the next fifteen (15) years.
- Identify producers, production capacities, and, to the fullest extent possible, report non-confidential information regarding planned production increases for each region stated above.
- Develop an overall supply and demand forecast for the next fifteen (15) years for each region stated above.
- Assess historic styrene and polystyrene prices for the past ten (10) years and forecast prices for the next fifteen (15) years.
- Evaluate the likely competition E-Styrenics may have from other styrene and polystyrene and market price fluctuations.
- Characterize the local styrene and polystyrene market by type, size, and growth rate. The characterization shall include styrene and polystyrene imports, sources of import, and pricing structure.
- Evaluate styrene export markets for both 300,000 MTA and 600,000 MTA sized plants (which would result in 100,000 or 400,000 in export capacity respectively).

Deliverable:

The Contractor shall provide a Marketing and Export Potential Assessment Report to the Grantee.

Task 4. Confirmation of Site Selection

The contractor shall assess the selected site for the styrene plant at Dekhila, Alexandria, Egypt with regard to the following:

- Adequacy of area considering that both the styrene and polystyrene plants are to be built in an integrated complex.
- Access by land and by water.
- Environmental sensitivities, if any.
- Nearest infrastructure systems (electrical power, water, natural gas, and telecommunications, etc.)
- Pipeline routes for feedstocks.
- Preliminary marine requirements.
- Assumptions regarding extent of development.
- Any other factors, other than cost that should be considered.

Deliverable:

The Contractor shall provide to the Grantee a Site Selection Report that clearly identifies the selected site and the rationale for that selection. The Report shall comprehensively address, but not be limited to, all items in the bulleted list above.

Task 5. Technology and Technical Evaluation for the Styrene Plant

The Contractor shall establish the design basis for feedstocks, products, utilities, and technology for the styrene plant. The Contractor shall evaluate the most applicable technologies for the styrene plant and recommend licensors or open designs where applicable. The Contractor shall prepare a design basis for the styrene plant facility. This design basis shall include, but not be limited to the following:

- Feedstock rates for each process unit
- Compositions and key properties for feedstock, intermediate products and final product
- Product specifications
- Block process flow diagrams (PFDs) with preliminary heat and material balances
- Preliminary plot plans (taking into consideration the polystyrene plant)
- Building layouts, preliminary piling layouts, and overall site layouts indicating paving roads, rails, rail and truck loading, buried pipelines, pipe racks, fire treatment, fire protection and site drainage
- Special requirements and considerations, including governing codes and industry specifications
- Battery limit conditions for feeds and products
- Product storage drawings and specifications sufficient to define the costs
- Utility sources and specifications
- Initial and annual catalyst and chemicals requirements
- Site data and environmental requirements

Deliverables: The Contractor shall provide a report that :

- Clearly identifies the most applicable technologies for the styrene plant and the rationale for the selection
- Provides recommendations for licensors or open designs where applicable.
- Clearly describes the design basis for the styrene plant facility by comprehensively addressing all items in the bulleted list above.

Task 6. Integration

The Contractor shall evaluate the potential integration between the styrene and polystyrene plants. The contractor shall evaluate the cost of tie-ins and provide sketches and descriptions of connection pipe racks, roads, etc. The contractor shall prepare a plot plan for the integrated complex, i.e., the styrene/polystyrene plants and associated facilities. The Contractor shall evaluate the potential integration between the styrene/polystyrene complex and any neighboring petrochemical plant and refineries. Integration issues to be discussed include, but are not limited to the following:

- General utilities such as steam; cooling and process water; nitrogen; monitoring instrumentation; plant cooling, heating, and ventilation
- Maintenance and warehousing facilities
- Plant services such as change houses and cafeterias
- Wastewater treatment facilities
- Loading facilities
- Fire protection and flaring

Deliverable:

The Contractor shall provide to the Grantee an Integration Report that comprehensively evaluates the potential integration between the styrene and polystyrene plants by addressing all issues listed above.

Task 7. Preliminary Environmental Assessment

The Contractor shall perform a preliminary environmental impact assessment (EIA) of the Project. The primary objective of this task is to ensure that the implementation of the Project will comply with all relevant Egyptian environmental regulations, and those of likely multilateral lending agencies. The emphasis of the EIA shall be on those environmental concerns that are associated specifically with the construction and operation of petrochemical plants. The assessment should also include a review of regulatory issues related to the Project and a discussion of any regulations that would impact the Project's viability.

Deliverable:

The Contractor shall provide a Preliminary Environmental Assessment Report that identifies potential negative impacts, discusses the extent to which they can be mitigated, and develops plans for a full EIA if and when the Project moves forward to the implementation stage. The report shall include the identification of steps that will need to be undertaken by the Project sponsor subsequent to the Project's completion and prior to Project implementation.

Task 8. Developmental Impact

The Contractor shall report on the potential Development Impact of the project in the host country. In this section, the Contractor should focus on what the economic development

outcomes will be if the project is implemented according to the study recommendations. While specific focus should be paid to the immediate impact of the specific project that is being considered, the Contractor should include, where appropriate, any additional developmental benefits to the project, including spin-off and demonstration effects. The analysis of potential benefits of the feasibility study contractor should be as concrete and detailed as possible. The Development Impact factors are intended to provide the project's decision-makers and interested parties with a broader view of the project's potential effects on the host country. The Contractor will provide estimates of the project's potential benefits in the following areas:

- f. *Infrastructure*: Provide a statement on the infrastructure impact, giving a brief synopsis. Estimate the scale of construction/installation expected and comment on the capabilities of any recommended infrastructure improvements.
- g. *Market-Oriented Reform*: Provide a description of any regulation, laws, institutional, or policy changes that are recommended and the effect they would have if implemented.
- h. *Human Capacity Building*: Assess the number and type of local positions that would be needed to construct and operate the proposed Project, as well as the number of local people who would receive training, the type of training and the desired outcome of the training. Distinguish between temporary construction jobs and the number of permanent jobs once construction is complete (or the number of jobs that may be lost because of labor saving technology).
- i. *Technology Transfer and Productivity Enhancement*: Provide a description of any advanced technologies that would be used, including discussion of any commercial contracts for licensing that may be required as a result of the Project. Describe any expected efficiency gains, such as improved processes that enhance productivity or result in a more efficient use of resources.
- j. *Other*: Describe any other indirect developmental impacts or benefits that would result from the Project, for example, follow-on or replication Projects, safer workplace, increased good governance or improved financial revenue flows to Egypt.

Deliverable:

The Contractor shall provide to the Grantee a Developmental Report that comprehensively addresses the potential development impact of the project in Egypt with regard to infrastructure, market-oriented reform, human capacity building, and technology transfer and productivity enhancement.

Task 9. Project Cost Estimation

The Contractor shall prepare capital and operating cost estimates for the integrated styrene and polystyrene plant in accordance with best industry standards. The cost estimates shall be prepared in sufficient detail for the owners, investors, and lenders for the integrated styrene and polystyrene plant. The cost estimate shall also provide sufficient information to confirm the basis for the financial and economic parameters of the Grantee's applications for project financing. In preparing the capital cost estimate, the Contractor shall complete the following at a minimum:

- Solicit phone quotes for all major equipment (major equipment is defined as process equipment appearing on Process Flow Diagrams (PFDs) and/or Utility Flow Diagrams (UFDs))
- Prepare an estimate of Front End Engineering and Design (FEED) costs for Detailed Design and Engineering and Procurement Services (DDEP), Construction and Construction Management Services (CM)

The Contractor shall break down the cost by process unit. In the case of the offsite facilities, the cost breakdown shall be for each major electrical/mechanical system. The costs should be stated in both local and foreign currencies. The Contractor shall present the cost estimates in accordance with the following elements:

- Total Installed Cost (TIC) including engineering, procurement, construction, commissioning and start up for onsite and all offsite facilities
- Identify and segregate FEED, DDEP, construction and CM services, as well as commissioning and start-up costs
- Identify Licensor cost, catalyst and chemical costs for initial fill
- Estimate all utility costs and the apportioned cost of any shared utilities and facilities
- Estimate, in coordination with the Grantee, the owner's capital costs; financing cost, maintenance costs, and administrative costs
- Estimate annual catalyst and chemical consumption, spare parts, and operations labor

Deliverable:

The Contractor shall provide a detailed project cost estimate that clearly addresses all cost items identified above in accordance with the best available industry standards for the integrated styrene and polystyrene plant.

Task 10. Economic Assessment of Base Case and Alternative Feedstock Scenarios

The Contractor shall prepare a final economic assessment including a twenty-five (25) year cash flow model with internal rate of return (IRR) calculations, a discounted cash flow model and net present value calculations. This final economic assessment shall be based on the feed stock assessment (Task 2), the marketing assessment (Task 3), and project cost estimates (Task 8) and shall reflect the financing strategy previously approved by the Grantee. The Contractor shall complete sensitivity analyses of various variable parameters including but not limited to, feedstock costs; product prices; operating rates; capital cost; and financing cost.

The Contractor shall evaluate the economic and operational feasibility of the following feedstock scenarios for an integrated styrene and polystyrene plant complex (evaluating both 300,000 MTA and 600,000 MTA styrene plant sizes) based on the estimates of capital and operating cost:

- Totally and partially imported ethylene and benzene
- Local ethylene and imported benzene
- Local ethylene and benzene

Deliverable:

The contractor shall provide an *Economic Assessment* of the base case integrated styrene/polystyrene plant that includes the three feedstock scenarios identified above.

Task 11. Implementation Plan, Budget and Schedule

The Contractor shall develop a preliminary implementation plan for the Project. The Contractor shall develop a Task Completion Schedule and timeline of critical milestones for implementing each task of the Project. The Task Completion Schedule shall list each major task to be performed in Project implementation. The Contractor shall present the duration of each task graphically in a bar chart.

The Contractor shall create a preliminary line item budget and task breakdown for each task in the Project implementation, along with a budget narrative. All costs in the budget shall be reasonable and allocable to the work to be performed during Project implementation. The Contractor shall support the budget with sufficient detail to enable the Grantee to understand completely, not only the budgeted amounts, but also the methodology that justifies the budget amounts. The budget shall include labor, budgeted by task. Where applicable, the Contractor shall itemize per diem, transportation, communications, purchased services/contracts, and other direct costs. The Contractor shall provide a budget narrative that includes a detailed budget explanation and justification of how all costs have been derived. The contractor shall develop an itemized list of U.S. sources of supply of required equipment, supplies and services anticipated as necessary to implement the Project, including costs. The list shall include company names and contact information.

Deliverable:

The Contractor shall provide an implementation plan, budget and schedule for the integrated project that, at a minimum, addresses all items specified above.

Task 12. Preparation of Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall provide three copies of the Final Report to the Grantee. The copies of the Final Report provided to USTDA shall be in accordance with Clause I of Annex II of the Grant Agreement.

Notes:

- (4) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (5) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

- (6) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.