

RD-ABG-475
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BUSINESS DEVELOPMENT VISIT TO EGYPT

June 22 - June 29, 1992

including attendance at the

APELL WORKSHOP IN ALEXANDRIA

(June 23 - June 26, 1992)

by

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and

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TABLE OF CONTENTS

I.	Introduction.....	2
II.	Itinerary of Visits and Meetings.....	3
III.	Executive Summary.....	4-6
IV.	Workplan.....	7
V.	Meetings and Discussions.....	8-16
VI.	List of Documents Received.....	17-18
VII.	Business Cards of Contacts.....	19-23
VIII.	Appendices	

I. INTRODUCTION

During June 22 to June 29, 1992, Mr. George Lombardo, Project Manager, Technical Programs of WEC performed a Business Development Visit to Egypt which included attendance at the UNEP sponsored APELL (Awareness and Preparedness for Emergencies at Local Level) workshop held in Alexandria during June 23 to June 26. Mr. Richard Williams, Project Manager, of WEC also attended the APELL workshop.

The purpose of the visit was to meet with USAID/Cairo personnel and representatives from government, non-government organizations, and industry in order to evaluate the past success of the WEC program under Cooperative Agreement No. ANE-0178-A-00-1023-00 and to determine future program directions. In addition, attendance at the APELL workshop, and the WEC sponsorship of a U.S. expert on Community Participation to speak at the workshop, afforded access to the industry representatives in attendance (to whom WEC could provide services) and offered experience in the APELL process which could be replicated in other Near East countries and for chronic as well as catastrophic industrial pollution risks.

II. ITINERARY OF VISITS AND MEETINGS

June 22, 1992

- Dr. Richard Rhoda, Director of the Office of Environment, USAID/Cairo
- Professor Dr. A.S. El-Nockrashy, Executive Director of the Science and Technology Cooperation Project, Academy of Scientific Research and Technology

June 23 to 26, 1992

- Attendance at the APELL Workshop held in Alexandria

June 28, 1992

- Dr. A. Hamdy Sadeek, Manager of the Environmental Department, Suez Cement Company
- Mr. Adel A. Danaf, Chairman of the Holding Company for Metallurgical Industries
- Mr. M.A. Abdel Kerim, Chairman of the Mining and Refractory Holding Company
- Dr. Tarek Genena, International Cooperation Unit, Egyptian Environment Affairs Agency
- Professor Dr. Adel S. Abdel-Khalik, Tabbin Institute for Metallurgical Studies
- Dr. Richard Rhoda, on a Tour of Helwan and its Industries (i.e. cement, iron and steel, etc.)

June 29, 1992

- Mr. Mahmoud El Khouly, Chairman of the Holding Company for Building Materials.

III. EXECUTIVE SUMMARY

This report documents the results of a trip to Egypt made by Messrs. George Lombardo and Richard Williams of WEC during the period between June 22 to 29, 1992. Mr. Lombardo devoted two days strictly to business development purposes where meetings were held with USAID/Cairo, government, and non-government representatives. Four days were devoted by both Messrs. Lombardo and Williams to attending the APELL workshop in Alexandria where experience in the APELL process was gained (towards replicating the process in other Near East countries or regionally) and rapport was established with the various government, non-government, and industry representatives in attendance.

Business Development

Pursuant to the meetings carried out during the trip, the following potential opportunities for WEC involvement are identified:

- technical assistance to the Egyptian Environmental Affairs Agency (EEAA) as they plan to develop vehicle emission standards and testing for Cairo;
- environmental plant assessments at a Urea fertilizer factory, tannery, oil refinery, and others in support of the Mission's STC-ASRT program;
- environmental plant assessments at "holding" company industries as they work towards privatization with assistance from USAID/Cairo's Office of Finance and Investment. Industries identified include glass, iron and steel, lead, copper, and cement manufacturing;
- a workshop for cement industries in the Near East region hosted by a plant where a WEC mission was recently performed. Topics to include the operation and maintenance of air pollution control equipment, housekeeping, and safety;
- joint energy and environmental plant assessments in support of the Mission's Energy Conservation and Efficiency Project.

These activities and others will be evaluated as WEC develops its workplan for September 1992 to September 1993 jointly with the PRIDE team and under the direction of the Near East Bureau at USAID/Washington. In addition, the USAID Mission in Cairo expressed interest in increasing the level of activity that WEC presently carries out in Egypt and is investigating possibilities for funding this increase.

APELL Workshop

An APELL workshop is designed to:

- create and/or increase community awareness of possible hazards within the community, and
- based on this awareness, develop a co-operative plan to respond to any emergencies that these hazards might present.

The key people who should participate in the APELL process are the leaders of industry, the community, and government within the local community.

In October 1991, Mr. Richard Williams and Dr. Ahmed Hamza (Regional Advisor in Environment, UNESCWA, Amman, Jordan; Director of the High Institute of Public Health (HIPH)- Industrial Waste Research Laboratory, University of Alexandria; founder and Executive Secretary for the Egyptian Society of Environment and Industry (ESEI)) discussed the possibility of holding an APELL workshop in Alexandria. Alexandria is a city of 3.5 million with approximately 45% of Egypt's industrial production. According to a report prepared by HIPH, the industrialization in Alexandria has had a profound effect on public services, water supply and waste disposal systems. Environmental quality and public health have been severely affected by unplanned industrial development which infringes on residential districts.

The workshop held in Alexandria was co-sponsored by the United Nations Environment Program, Industry and Environment Office (UNEP/IEO, the "owners" of APELL) and ESEI in cooperation with WEC which sponsored the participation of International experts in Community and Industry roles. The workshop was attended by 10 international experts and 62 local representatives from government, non-government organizations, and industry. Presentations by international experts included such topics as:

- Industry, Government, and Community roles;
- Emergency Planning Technology - Introduction to APELL/CAMEO (Computer Aided Management of Emergency Operations);
- Siting of Industry and Buffer Zone.

During the workshop's second day, participants were divided into working groups to address separately questions related to the following:

- Starting the local level APELL process;
- Building Community Awareness;
- Preparing for Emergencies;
- Hazards Identification and Evaluation;
- Siting of Industry and the Buffer Zone.

Each working group prepared a report of the results of their discussions and these separate reports were compiled to form the workshop's final "draft" report on how to proceed in order to create a working APELL program for the city of Alexandria.

The establishment of a Master APELL Coordinating Committee for all of Alexandria was recommended, supported by three APELL Coordinating Groups for the main three industrial zones (i.e. Alexandria West (first priority), Alexandria East and Alexandria Central). To help secure the support of the Governor of Alexandria for this recommendation, the Workshop Steering Committee identified the "endorsement" of the workshop's final report by UNEP/IEO as instrumental. UNEP/IEO agreed to review the report towards providing such an endorsement within two weeks of receiving it.

ESEI sees itself as a vehicle for representing the "community" in the Alexandria APELL system. Individual industrial plants will send "industry" representatives to the Coordinating Groups. "Government" representatives will include officials from the Governor's office, the Alexandria City Council and the Civil Defense (fire and rescue - which was well represented at the workshop).

WEC made substantial contacts with Alexandrian Industry at the workshop. A short presentation was given by Messrs. Lombardo and Williams on WEC and WEC literature was distributed. Should WEC provide services to Alexandrian industry in the future (as provided in the past) it will be within a context of strong familiarity with the WEC organization and personnel. WEC will maintain a close relationship with ESEI as the APELL process moves forward in Alexandria and will provide technical assistance as required and appropriate.

IV. Workplan
WEC Potential Programs for Egypt
 (G. Lombardo Business Trip, June 22 and June 29, 1992)

August 12, 1992

Program #	Organization/Industry	Potential Program/Activity	Status/Remarks
1.	Egyptian Environmental Affairs Agency (EEAA)	Technical assistance towards developing vehicle emission standards and testing for Cairo.	
2.	Science and Technology Corporation Project (STC-ASRT)	Plant assessments at a Urea fertilizer factory, tannery, oil refinery, and others.	Extracts from six clean technology technical proposals were received by WEC from STC Executive Director Nochrashy
3.	Privatization Sector Assistance	Plant assessments at holding company industries such as glass, iron and steel, lead, copper, and cement manufacturing.	The Suez Cement Company (subject of a recent WEC mission) has been approached as a potential workshop host.
4.	Cement Industry	Regional workshop on operation and maintenance of air pollution control equipment, housekeeping, and safety.	

*WEC's workplan for the Near East for 9/92 to 9/93 is being jointly developed with PRIDE and under the direction of USAID's Near East Bureau. All activities are subject to review and possible modification or omission.

7

V. MEETINGS AND DISCUSSIONS

June 22, 1992

USAID/Cairo

Dr. Richard Rhoda, Director, Office of Environment, USAID/Cairo

Mr. Marc Madland, Project Officer, USAID/Cairo

Ms. Amal Amin Ibrahim, Project Management Specialist, Office of Finance and Investment, USAID/Cairo

Ms. Salwa Wahba, USAID/Cairo

Mr. George Lombardo, WEC

- The Mission recently formed this new Office of the Environment.
- There are three programs where the Mission could utilize environmental technical assistance:
 - Science and Technology Cooperation (STC) Project;
 - Privatization Sector Assistance;
 - Energy Efficiency and Conservation Program.
- The STC program is conducted in conjunction with the Academy of Scientific Research and Technology, Professor Dr. A.S. El-Nockrashy, Executive Director.
- The STC program's purpose is to redirect Egyptian science and technology programs (primarily Egyptian Universities and Research centers) to solving critical production problems of public and private industries. Recently, the project has been refocused to consolidate sub-activities and to better focus on the Mission's environmental Strategic Objective, "Enhanced protection of freshwater resources and promotion of industrial pollution prevention, particularly in the energy sector", and on the second objective of the Near East Bureau Natural Resources and Environmental Strategy: "Promote the concept of waste minimization and pollution prevention."
- Local Egyptian firms will conduct feasibility studies for the application of in-plant clean technology at selected industries. WEC technical assistance is proposed to provide initial plant assessments where no and low cost approaches to pollution prevention and waste minimization are identified. WEC missions will train plant engineers and technicians, local Egyptian firm personnel, and maximize the chances for soundness in the future design of in-plant clean technology systems.

- The Energy Efficiency and Conservation Program is an ongoing program performing energy audits for selected industries. An environmental component is being added to this program. The performance of joint energy/environmental audits will begin around mid-1993. WEC assistance is proposed to contribute to these joint audits particularly in light of WEC's similar work planned in Morocco with USAID/Rabat's Energy Demand Management project.
- USAID is assisting nationally owned industries in moving towards privatization. The Egyptian government, as a first step, has formed Holding Companies in five major industrial areas:
 - metallurgical;
 - chemical;
 - mining and refractory;
 - cement and building materials;
 - food.

WEC technical assistance is proposed to address the environmental problems existing in many of these industries and to reduce and document the environmental liabilities of these firms towards enhancing their attractiveness to potential investors.

Action: WEC will develop a workplan jointly with the PRIDE team for September 1992 to September 1993 to include activities for Egypt in support of Mission and PRIDE objectives. WEC will continue to discuss the potential for an expanded level of activity in support of Mission objectives and funded through the Mission.

STC - ASRT Program

Prof. Dr. Ahmed Samih el Nockrashy, Executive Director
 Dr. Fawzi A. Elrefaie, Technical Liaison Manager
 Dr. Richard Rhoda, USAID/Cairo
 Mr. George Lombardo, WEC

- The Science and Technology Cooperation project is a 36 million dollar project carried out over 8 years (1987 - 95).
- The project sends out requests for proposals to the Egyptian Science and Technology Community (primarily universities and research centers) for, among other things, the carrying out of feasibility studies for the application of clean technologies in industry.

- WEC has received extracts from 6 proposals written in response to the above RFPs from Dr. Nockrashy. These proposals are:
 - In-plant Modifications and Improvement of Handling Processes to Reduce Wastes at Al Ameria Petroleum Refinery;
 - Chromium Recovery from the Industrial Wastewater of El Nasr Leather Tanning Company for Reuse;
 - Safe Management of Hazardous Wastes of ISMADYE & Efficient Utilization of Water in the Industrial Processes;
 - In-plant modifications to Conserve Water and Optimization Residue Handling at Edfina Company;
 - Process Development at RAKTA Company for Producing Black Liquor Concentrates suitable for Clay Brick and other materials;
 - Process Development for Recovery & Use of Cellulosic Fibers from White Liquor & Water Reuse in Rakta Company.

- It is proposed that WEC dispatch experts to the above industries in order to do an initial pollution prevention and waste minimization assessment (no and low cost approaches) and to train plant engineers/technicians and personnel from the chosen local contractor in the methods of such an assessment. In addition, the WEC expert will review the feasibility study proposals and give his/her perspective on the soundness of the project design.

Actions: WEC will attempt to integrate Mission requests regarding the STC program with PRIDE and Near East Bureau objectives into its workplan for 9/92 to 9/93.

June 23 to 26, 1992

APELL Workshop in Alexandria

See list of International and Egyptian participants in Appendix A.

The APELL process is designed to:

- create and/or increase community awareness of possible hazards within the community, and
- based on this awareness, develop a co-operative plan to respond to any emergencies that these hazards might present.

The key people who should participate in the APELL process are the leaders of industry, the community, and government within the local community. A local "co-ordinating group" should be formed to support the APELL process and this group would typically include:

- Industry
- Local Government
- Police and Fire Department
- Rescue Squads
- Local Institutions i.e. schools and places of worship
- Concerned individuals

UNEP requested the participation of WEC as a co-sponsor of the APELL workshop. UNEP specifically asked that WEC sponsor Ms. Jackie Lockett, Community Organizer and Right-to-Know expert from the Cameron County (Texas) Local Emergency Planning Committee, to give a presentation on Community role and to lead the working group on Building Community Awareness. See Appendix B for Ms. Lockett's presentation, her report as submitted to WEC, and the Scope-of-Work for her mission.

Through the sponsorship of Ms. Lockett, WEC gained access to and was recognized as playing a responsible role in this workshop of national significance for Egypt. Alexandria is a city of 3.5 million with approximately 45% of Egypt's industrial production. According to a report prepared by the High Institute of Public Health (HIPH) of the University of Alexandria, the industrialization in the Alexandria Metropolitan Area (AMA) has had a profound effect on public services, water supply and waste disposal systems. Environmental quality and public health have been severely affected by unplanned industrial development which infringes on residential districts.

The report lists the hazardous raw materials and outputs of different engineering, pulp and paper, food processing, textile and chemical industries of AMA. Most notable are the chlorine production facilities of Misr Chemicals and the Egyptian Petrochemical Companies. In addition, there are numerous hazardous materials being loaded and unloaded in Alexandria Port and being transported to various places throughout the city through heavily populated areas.

The APELL workshop in Alexandria entailed the participation of representatives from industry, non-governmental organizations, and government. Mr. Salah Hafez, Chairman of the Egyptian Environment Affairs Agency, participated in the opening ceremonies. The Egyptian Society for Environment and Industry (ESEI) hosted the workshop. ESEI's membership includes 110 chairmen of industrial companies, 72 researchers and professors, and 35 representatives from government and environmental agencies.

After presentations by the International team of experts, workshop participants were divided into five working groups and, with the assistance of the international experts and UNEP resource persons, focused on specific elements of implementing APELL. The five groups prepared reports on:

- Starting the Local Level Process
- Building Community Awareness
- Preparing for Emergencies
- Hazard Identification and Evaluation
- Siting of Industry and the Buffer Zone

in response to their respective objectives as described in Appendix C.

On the last day of the workshop, the five reports were incorporated into one document to form the basis of an action plan (see the workshop's final report in Appendix D). ESEI will take the lead in approaching the Governor of Alexandria to form an APELL Steering Committee with representatives from ESFI and other community groups, governmental officials from civil defense and the Egyptian Environmental Affairs Agency and industry executives. The Steering Committee will also continue developing the action plan and start discussions with local authorities in different areas of the city. Three local coordinating groups from areas in the city with high-concentrations of hazardous industry may also be formed with participants from the community, government and industry.

Actions: As the APELL process in Alexandria proceeds, WEC is in a position to provide environmental, health, and safety technical assistance either through ESEI or directly to industry. In addition, as the APELL process is replicated in other Near East countries, it is hoped that the unique intra-institutional cooperation inherent to APELL can be applied to advantage in addressing chronic as well as catastrophic (i.e. emergency - level) industrial pollution risks. -12-

June 28, 1992

Suez Cement Company (meeting at USAID/Cairo)

Dr. A. Hamdy Sadeék, Manager of the Environmental Department, Suez Cement Company

Dr. Richard Rhoda, USAID/Cairo

Mr. Marc Madland, USAID/Cairo

Ms. Amal Amin Ibrahim, USAID/Cairo

Mr. George Lombardo, WEC

- The Suez and Kattamia cement plants of the Suez Cement Company were the subject of a WEC mission in February, 1992.
- The plants are very pleased with the WEC mission and report and have provided WEC with questions regarding the report recommendations. These questions have been passed along to the expert who performed the mission who has agreed to respond at his earliest convenience.
- The Suez Cement Company has expressed interest in a follow up mission (preferably by the same expert) to address further questions and details on the implementation of report recommendations.
- WEC suggested that in conjunction with such a follow up activity, a workshop with regional participation would be beneficial in light of the significant number of cement industry missions that WEC has performed in the past. The Suez Cement Company has classroom and hostel facilities and will consider being the host for such a workshop.
- Workshop topics will include operation and maintenance of air pollution control equipment, housekeeping, and safety.
- Workshop participants will include representatives from cement companies in Morocco, Tunisia, and Jordan as well as both private and public cement company representatives from Egypt.

Actions: WEC has proposed a regional cement industry workshop in its draft workplan for 9/92 to 9/93. Pending approval, WEC will begin with arrangements. There is the possibility that the workshop will be used, in addition, to support WEC's work with the Energy Demand Management project in Morocco where a joint energy/environmental assessment at a cement plant has been discussed.

Holding Company for Metallurgical Industries

Mr. Adel A. Danaf, Chairman
Dr. Richard Rhoda, USAID/Cairo
Prof. Dr. Adel S. Abdel-Khalik and Colleague, Tabbin Institute for Metallurgical Studies
Mr. George Lombardo, WEC

- Mr. Danaf expressed strong interest in utilizing WEC services to address the significant environmental problems existing in Egypt's Metallurgical industries.
- At the time of this report, WEC has already received completed WEC Industry Questionnaires from Egypt Iron and Steel and National Metals.
- The World Bank recently completed a 4 month project (3/10 to 7/10/92) to assess general environmental conditions in the Helwan and T'lai areas. Stack measurements were taken at plants but no internal audits were performed.
- Representatives from the Tabbin Institute for Metallurgical Studies attended the meeting. The Institute is a pollution laboratory with a staff of 12 including 3 PhD's and 1 Chemist.

Actions: WEC has proposed the support of holding companies' privatization efforts in its draft workplan for 9/92 to 9/93.

Mining and Refractory Holding Company

Mr. M.A. Abdel Kerim, Chairman
Dr. Richard Rhoda, USAID/Cairo
Mr. George Lombardo, WEC

- The main environmental problems identified at this meeting are associated with glass manufacturing. Specifically, fumes and dust and pollution from wastewater.
- Mr. Kerim has been provided a WEC Industry Questionnaire should he have interest in WEC services.

Actions: WEC will address the environmental problems of Holding Companies should this be commensurate with the integrated workplan being presently drafted with PRIDE and the Near East Bureau.

Egyptian Environment Affairs Agency

Dr. Tarek Genena, International Cooperation Unit
Gentleman from CIDA, Dutch donor agency
Dr. Richard Rhoda, USAID/Cairo
Ms. Salwa Wahba, USAID/Cairo
Mr. George Lombardo, WEC

- Dr. Genena has the task of coordinating all donor funding such that tasks are complementary (not redundant) and focused on the critical problems facing Egypt's environment.
- Proposed were several activities requiring technical assistance, most promising being in the area of vehicle emission standards and testing for Cairo.

Actions: Communication with the EEAA will be maintained through Dr. Rick Rhoda and WEC will provide assistance should such efforts fit into the integrated plan being presently developed with PRIDE and the Near East Bureau.

Tabbin Institute for Metallurgical Studies

Professor Dr. Adel S. Abdel-Khalik
Laboratory Staff at the Institute
Dr. Richard Rhoda, USAID/Cairo
Mr. George Lombardo, WEC

- This laboratory was recently equipped with modern apparatus through USAID. There appears to still exist some need for training in equipment operation and maintenance.
- The Institute operates a mobile pollution laboratory in addition to the housed facilities.
- The laboratory participated in the recent World Bank study documenting the pollution problems of Helwan.

Actions: WEC will have no specific programs with the laboratory but may use it as a resource as required by other activities.

Tour of Helwan and its Industries

Dr. Richard Rhoda, USAID/Cairo
Mr. George Lombardo, WEC

- This tour was an eye-opening one for the author. Helwan cement companies have wreaked havoc on the natural landscape primarily through the discharge of unmanageable amounts of cement dust. The iron and steel industry and others add to the very grave pollution problem besetting Helwan and its inhabitants.

June 29, 1992

Holding Company for Building Materials

Mr. Mahmoud El Khouly, Chairman
Dr. Richard Rhoda, USAID/Cairo
Ms. Amal Amin Ibrahim, USAID/Cairo
Mr. George Lombardo, WEC

- Mr. El Khouly agreed that the National Cement Companies' participation at the proposed WEC workshop on the cement industry would be beneficial if practical lessons were learned and then adopted by attendees.
- The World Bank has been doing work with these cement companies and WEC would be careful not to duplicate but complement their efforts.
- The assessment of the Al-Ameria cement company was suggested as a prelude to the workshop to give workshop facilitators a view of the National companies' environmental situation and also to address an immediate problem with dust emission that Mr. El Khouly is faced with.

Actions: Through Ms. Amal Amin Ibrahim contact will be maintained with Mr. El-Khouly and when WEC's workplan is finalized and, if approved, arrangements will be made to begin cooperative efforts with this Holding Company through the workshop and potentially an initial plant assessment.

VI. List of Documents Received

APELL Workshop

- List of Participants.
- Draft Report indicating workshop findings and recommendations concerning the creation of an APELL program for the Alexandria area.
- APELL, United Nations Environment Program (UNEP) and Industry and Environment Office (IEO) presentation.
- Control of Urban Development around High-risk Industrial Sites, Secretary of State to the Prime Minister for the Environment and the Prevention of major technological and natura risks - DEPPR - Industrial Environment Department, October 1990.
- Prevention of Major Industrial Accidents, International Labor Office, Geneva, 1991.
- APELL, A Process for Responding to Technological Accidents, UNEP, 1988.

USAID, STC-ASRT Program

- Science and Technology Cooperation Project brochure, Ministry of scientific Research - Academy of Scientific Research and technology in cooperation with USAID.
- Annual Report, Fiscal Year 1990 and 1991, Office of Science and Technology, Directorate of Human resources Development and Cooperation, USAID/CAIRO, November 1, 1991.
- Draft New Project Narrative.
- "NEWS", Science and Technology Cooperation Project Newsletter, March 1990 and February 1991.
- RD&E Challenges in Problems of Water Treatment and role of STC, Presentation given at the tenth Annual Conference in Alexandria on Water treatment Technology during May 26 - 28, 1992.
- Project Paper Amendment #1, Science and Technology Cooperation, July 7, 1987.
- Request for Proposal, Science and technology Cooperation, March 1991.

- Science and Technology Cooperation Project Serving Egyptian Production Sectors, Ministry of Scientific Research - Academy of Scientific Research and Technology, 1991/1992.
- Science and Technology Cooperation Project and National Development, Ministry of scientific Research - Academy of Scientific Research and Technology, February 1992.
- STC Biannual Summary, Status Report, ASRT, March 1992.
- Science and Technology Cooperation Project, Mid-Term Evaluation, Development Associates, Inc; March 1992.

USAID, Energy Conservation and Efficiency Project, ECEP

- Annual Report, 1990 - 1991.
- Marketing Brochures in english and Arabic.
- Draft New Project Narrative.

Tabbin Institute for Metallurgical Studies

- Prospectus 1991.
- Central Laboratory for the Study of Industrial Pollution, Technical Specifications, 1991.

Abu Qir Fertilizers and Chemical Industries Company

- Company brochure.



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APPENDIX A

APELL SEMINAR/WORKSHOP
 Alexandria 23-26 , June 1992

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LIST OF INTERNATIONAL PARTICIPANTS

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10

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Dr. Ahmed Badr EL-Din	Khalda petroleum Co.
Dr. Ahmed Hassan Gaber	Faculty of Engineering Cairo university.
Nabil Arafa Mostafa	As the security manager of Alexandria Company For

Dr: Mohamed Mohie EL-Din

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1. Prof. Dr Ahmed Hanga.

~~HIPT~~ - High Institute of publ.

2. Prof. Dr Samia Gabel Saad

~~HIPT~~ Health. (HIPT)

3. Prof. Dr Fahmy EL-sterkawy HIPT.

4. ~~Dr~~ Dr Ahmed Hossein EL-Din HIPT. -

UNEP APELL Conference, Alexandria, Egypt
Presentation "The Importance of the Community Role in Emergency Planning for
Chemical Accidents"
Jackie Lockett, Brownsville, Texas, USA

I am from Texas where the Rio Grande River meets the Gulf of Mexico. We are very similar to Alexandria, Egypt. I have been very excited about coming to visit you and have brought you gifts. I have brought two wonderful posters from our area, one is of the many unusual but common birds in our area; the other is of fish from our Gulf of Mexico. I know I represent "community members" and most of you represent government and industry, but we all care about our birds, fish, water, air and environmental health. As you know I am not a industrial technical expert, but I do work for my husband who is a dentist and I have brought you toothbrushes and toothpaste strippers from his office. Actually we are a very small business compared to your industries, but we still have to be concerned about the safe use and disposal and accident preparedness for the chemical we use just as you do, just on a much smaller level.

Our organization, the Cameron County Local Emergency Planning Committee (LEPC) is similar to other LEPCs all over the United States. Our US government mandated these organizations in order for communities to plan for accident prevention and emergency response involving hazardous chemicals at the local level, within our communities or districts. Our district (county) is about 150 miles by 100 miles in size and contains three major cities and about 200,000 people. In addition we are on the United States/Mexico border, and just across the Rio Grande River is our sister city Matamoros of 500,000. Matamoros has experienced tremendous industrial growth in the last fifteen years, and is struggling with issues of infrastructure, such as health, waste disposal, waste water treatment, housing, and overpopulation.

The LEPC brings together members of our community who are concerned with or might respond to a hazardous chemical accident. Membership on the committee consists of emergency responders such as fire, police, ambulance, civil defence, hospitals, as well as governmental representatives, community members from civic groups, and industry representatives. One thing that makes our group special is that we also have the same kind of representatives from our Sister City Matamoros, Mexico, who attend our meetings and work with us.

Organizing an LEPC is simple. Bring the representatives together and meet regularly once a month and plan. For the first three years we worked with a budget of about \$50/month which we used for postage for our monthly communication. Making an LEPC work is not easy, but it is very rewarding for everyone- industry, emergency responders and community.

I have brought some slides of our area and one of our activities. I hope you will enjoy them.

SLIDE 1: TANK TRUCK FIRE
 SLIDE 2: PESTICIDE: KEEP OFF THE GRASS SIGN
 SLIDE 3: COTTON FIELD: DEFOLIATED: PURPOSEFUL RELEASE OF CHEMICAL
 SLIDE 4: HARLINGEN: VALLEY INTERNATIONAL AIRPORT
 SLIDE 5: STATE OF TEXAS SIGN: INTERNATIONAL BLVD; BROWNSVILLE
 SLIDE 6: TEXAS BLUEBONNETS
 SLIDE 7: BROWNSVILLE SIGN; POPULATION 98,962
 SLIDE 8: GATEWAY INTERNATIONAL BRIDGE: EXIT POINT
 SLIDE 9: RIO GRANDE RIVER: NOT NEARLY SO MUCH WATER AS THE NILE
 SLIDE 10: B&M INTERNATIONAL/RR BRIDGE/LEVEE
 SLIDE 11: RESACA (OXBOW LAKE)/ NATIVE TREES
 SLIDE 12: BROWNSVILLE NAVIGATION DISTRICT ADMINISTRATION OFFICE
 SLIDE 13: SHIP CHANNEL WITH OIL RIG
 SLIDE 14: ENTRY SIGN AT LANDFILL
 SLIDE 15: PILES OF SULFUR AT PORT
 SLIDE 16: ITAPCO TANKS/ VEGETABLE OILS
 SLIDE 17: RAILROAD TANK CARS/ LOADING FACILITY
 SLIDE 18: GRAIN STORAGE FACILITY
 SLIDE 19: LEPC COMPUTER
 SLIDE 20: CAMEO MAIN SCREEN ON MONITOR
 SLIDE 21: STREET BANNER FOR FULL SCALE EXERCISE IN MATAMOROS
 "SIMULACRO"
 SLIDE 22: MEXICAN TANK TRUCK USED IN EXERCISE "OPERATION AMIGO II"
 SLIDE 23: PARTICIPANTS WAITING FOR EXERCISE TO BEGIN
 SLIDE 24: YELLOW SAFETY LINE AROUND EXERCISE SCENE/ MANY
 OBSERVERS
 SLIDE 25: SCENE OF MANY STREET SPECTATORS
 SLIDE 26: TWO BROWNSVILLE POLICE OFFICERS- NOT IN UNIFORM SINCE
 THEY WERE IN MATAMOROS
 SLIDE 27: SLIDE OF DR. TREVINO IN HIS "PLAYER" CAP- ON HIS KNEES

My presentation was scheduled for forty five minutes . As it turned out, I had only thirty minutes dues to overruns of other topics. I did note that after a slide presentation, people are tired and ready for the speaker to finish. Therefore, I would encourage other speakers to say what they need to say before and during a slide presentation and to end with the last slide. I would also encourage speakers to appoint a timer to keep them on schedule.

It is interesting to note that one of the participants was a CEO for a pharmaceutical distributor. He was also a dentist who had a dental practice in the evening. His concern was the unregulated and undocumented storage of chemicals in warehouse throughout the city.

I was glad I included the grain storage facility. One of the industry reps was from a grain storage facility, and of course he was interested about dust explosions.

The slide presentation was very well received. I was able to show the similarity of our two regions. I was especially happy that I put in the slides of the international exercise.

The audience was especially amazed that the exercise was out in the public with lots of opportunity for public observation. They were impressed with the international nature and cooperation of the exercise as evidenced by the Brownsville policemen who participated, but not in uniform. The last slide is a little humorous. I asked Dr. Trevino, who is an international expert on HF, to kneel down so I could take a picture of his "participant" cap. He assumed a "praying" position. The subtleties of that slide are immense. For industry to trust the community enough to stage these exercises and be honest and open with the public is a major risk. To stage an exercise in public leaves emergency planners and responders open to criticism, especially from the press and media. Yet we must take these chances if we are to protect our residents, environment, industries, and emergency responders.

My presence at the workshop seemed to be appreciated by the government, academic, and industry representatives. The women at the conference were particularly interested in what I had done. The women, like the men, were all extremely well educated. This whole idea of "community members" being allies instead of enemies really deserves a lot of attention. I think my being there softened some of the tension in the meeting.

Alexandria/APELL Workshop " Building Community Awareness"

The workshop on "Building Community Awareness" was informative, and shed light on interesting differences between Egypt and the US. The workshop was very small, just eleven participants. Most of the other participants were interested in the more technical avenues, such as hazard assessment and evaluation.

Our workshop was led by Dr. Mohamed Amin Mandil, Professor of Chemical Engineering. He was the past teacher of many of the participants, including Dr. and Dr. Hamza, the directors of the Conference. Also included in the workshop were managers of a freezing plant in Alexandria, a utility plant in Aswan, a cement factory in Helwan, a fertilizer company in Suez, and a pharmaceutical company in Cairo. Dr. Ahmed Amin Ibrahim, was an Advisor to the EEAA, an Egyptian government organization regulating environmental concerns.

Dr. Ahmed Hamza, the UN Regional Advisor on the Environment joined us for a while, along with Dr. El Shal of the High Institute of Public Health, and Richard Williams of the World Environment Center, USA.

Interestingly, the first challenge was to define "community." The Egyptian industries are all government owned, though they are now up for sale. The government representative said he thought it might be against the law to let the residents around the industry know about the chemicals inside due to national security. He thought maybe the process should wait until all of the proper government regulations were checked and new ones passed as needed. However, the group proceeded using the basis of community "outside the fence" need to know for response and right to know for planning.

The group suggested three categories of who should know.

- a. General public
- b. Special interest groups- civil defence, police and traffic, NGOs, social service groups, education centers, hospitals
- c. Other industries in the vicinity of the plant

What information should be available:

- a. Hazards and risks from the plant to the community
- b. Hazards from material in transport
- c. Hazards from stored or waste materials
- d. Risks during usage of hazardous materials by general public

What type of information should be given:

- a. General information via mass media in response to an incident
- b. Detailed reports after accidents

Sensitivity of information:

- a. One should take into consideration the reaction of the public.
- b. The form in which the information is released should be formulated not to create panic.
- c. Need to work with authorities, NGOs, and governments in the event of an accident

This is the report the Building Community Awareness group submitted. The thoughts I brought with me were perhaps not appropriate at this high level group. I had wanted to bring in the monthly meetings, the subcommittees, the planning, the exercises, the information gathering, even the parties, but I felt that this group was not ready for that. After all, they had to get past the issue of "government security." I think they did very well, all things considered. Probably the people who contributed the most to the general discussions and made this workshop more meaningful were the representatives of the Civil Defence who had been involved in several chemical accidents where they had not known the chemicals involved or had been given the wrong information. Those first hand accounts were very important.

Evaluation of the Alexandria/APELL Plan

A draft plan for Alexandria/APELL was presented at the close of the workshop. This draft plan was to be submitted to UNEP for comments on or before July 10. Once UNEP had approved the plan, the Egyptian Society for Environment and Industry (ESEI) in close cooperation with Egyptian Environment Affairs Agency (EEAA) would proceed with the work of establishing A/APELL. The UN APELL manual has already been translated into arabic. Once that is received, a project document would be taken to local authorities in order to secure the endorsement of the local council and Governor of Alexandria. Because ESEI was dealing with governments, all of these endorsements from high level government were very necessary, i.e., the UN, The Governor of Alexandria, and the local council.

The various industry representatives and the Civil Defence members seemed very interested in seeing the project move forward. This response, I believe, is to be expected globally. The hard questions to answer always is who will do the work and how will it get done. The ESEI seemed to be willing to take the initial lead. However, the questions of funding was mentioned with a figure of \$1 to 2 million pounds (\$1=3.3 LE). During that discussion it was interesting to note the request that local consultant be hired to do most of the work. There seemed to be a feeling of wanting to do this ourselves, though not necessarily for free.

A target date of September 30, 1992 was set for the establishment of A/APELL. The idea was to set up western, middle and eastern area A/APELL groups, each made up of government, community, and industry to report to the lead A/APELL committee which would be made up of the Governor's advisor, EEAA, Leader of the Civil Defence, the Local Council, ESEI, and Industry Chairmen.

The USEPA representative taught on of the members to use the CAMEO program and left the program ready to be loaded up on a computer. They will thus have access to that very useful information about chemicals and emergency response, as well as to be able to use the program for information tracking.

The enthusiasm for the program was there. I hope to be able to communicate with some of the friends that I made and encourage them to keep working on the project. It really is very worthwhile for all- government, industry, and community!

Guidelines for Adopting APELL at the Local Level

The APELL handbook is very clear and thorough. It certainly is the guide all countries can use for thorough implementation of Right to Know in their communities. It is comforting to know that each country does not have to "re-invent the wheel." Having the APELL standard globally at least gives us an understanding of what countries are promising when they adopt the APELL Guidelines.

It is my understanding that the President of Mexico has said that his country has adopted the APELL Guidelines. This then makes it easier for emergency planning work to proceed at the local level, without necessarily waiting for direction from the central government. For to accept the APELL Guidelines is to authorize planning for chemical accidents at the local level, as well as community right to know (RTK) as we know it in the United States.

When working with different countries, however, one does need to research differences in legal and regulatory requirements. The idea of RTK compromising national security, as we heard at the workshop, was a little surprising to me. However, I do remember the fear that this public knowledge might be used by terrorists in the US during Desert Storm. I suppose there is a trade off. But protection of the residents must be a priority.

I did not have the opportunity to find out too much about the Egyptian legal system. However, here on the US/Mexican border, we are well aware that Mexico works under the Napoleonic system of law. "Guilty until proven innocent." This places more fear in the "hearts" of industry, as in Mexico they can be shut down at a moment's notice, until they prove they are up to standards. This would not happen in the US without sufficient warning time and much litigation. This Napoleonic law is what gives Mexican Federal, State, and local police such powers. The US Supreme Courts' ruling to allowing the kidnapping of criminals in foreign lands should send a note of fear to US residents that Mexican police would then have the right under their laws to arrest and hold American citizens until the citizens prove themselves innocent. This is not minor threat. Thankfully, the US and Mexico seem to be in negotiations over this ruling. Also, as a border community, we depend very much on friendly working relationships with our neighboring cities' enforcement agencies. We certainly do not need any hostilities because of inappropriate action in the nations' capitols.

In order to make sure that everyone understands the issues, it would be good if actual grass roots level people would be involved in any decision making process. I believe that this is the beauty of APELL. Once government approval is received, the real work begins with the actual involved people at the local level. Our international planning at the local level has been successful because of that. We have operated with very little funding and a lot of begging. Other communities can do the same, in the beginning, if they can find a leader.

SCOPE OF WORK

Ms. Jackie Lockett, Community Organizer and Right-to-Know expert from the Cameron County (Texas) Local Emergency Planning Committee, will travel from the U.S. to Egypt on June 18, 1992 (to return to the U.S. on June 28, 1992) to participate in the APELL (Awareness and Preparedness for Emergencies at Local Level) workshop sponsored by the United Nations Environment Program (UNEP) and the Egyptian Society of Environment and Industry (ESEI) held in Alexandria during June 23 - 26, 1992.

Ms. Lockett's responsibilities during the workshop will include the following:

- a 45 minute presentation given at the workshop on "Community Role"
- participation in the working group session on "Building Community Awareness".
- meetings with Messrs. Richard Williams and George Lombardo of WEC to provide impressions and comments on the content, structure, and dynamic of the workshop.

This input will be valuable as WEC attempts to develop an APELL - type workshop model applicable to other countries in the Near East region and to lower-level, "chronic" industrial pollution risks as well as high-level, "catastrophic" risks.

Within 30 days after her return to the U.S., Ms. Lockett will submit a report to WEC which will include the following:

- her workshop presentation on "Community Role"
- the results of the working group session on "Building Community Awareness"
- an evaluation of the cooperation and the cooperative plan developed at the workshop between Alexandrian industry, community, government, and non-government representatives and suggestions for improvement
- guidelines for adapting the APELL process (i.e. creating community awareness and developing a local action plan based on this awareness) to specific local conditions and requirements. These guidelines should consider differences in culture, value systems, community infrastructure, response capabilities and resources, and legal and regulatory requirements.

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APPENDIX C

APELL WORKSHOP PROGRAMME - ASSIGNMENTS FOR WORKING GROUPS

Each Working Group (with nominated Facilitator) should designate their Chairman and a Rapporteur, then address the topic/questions assigned to each group from the following list.

Group A: Starting the Local Level APELL Process

- . What is the principle objective of implementing the APELL Process?
- . What sectors should be represented in a Coordinating Group and who would be the best qualified members/leaders?
- . How should a Coordinating Group get started and who should initiate and pursue its activities?
- . What APELL elements do you see needing priority in your communities and how should recommendations be effectively adopted?

Group B: Building Community Awareness

- . What is meant within a community by the term "Right to Know"?
- . What information should industry provide and to whom in the community?
- . What is the role of the media in the APELL process?
- . Of the APELL points listed for consideration in building community awareness, how many, or any other points, do you think are applicable?

Group C: Preparing for Emergencies

- . How should a Coordinating Group involve industry and the community in joint Emergency Response (ER) Planning?
- . Once a joint industry/community Emergency Response (ER) Plan is established, how should it be maintained as a living entity?
- . Have the proposed APELL issues listed in Emergency Preparedness Planning really been addressed in your plan?
- . What should be added to the APELL list?

Group D: Hazards Identification and Evaluation

- . What are the objectives of hazard identification and evaluation (HIE) related to APELL?
- . How are/should local level hazards in communities be identified and evaluated?
- . What aspects of HIE should be reinforced? By which means?
- . Who are the qualified experts within industry, government and community to pursue HIE? How can they best serve a Co-ordinating Group?

Group E: Siting of Industry and the Buffer Zone

- . What are the critical issues regarding the proximity of industry and your local communities?
- . What should be the role of industry, government and community leaders in resolving these problems?
- . How should specific issues be raised and possible solutions suggested?
- . What would you expect as short term measures and as a Long Term Plan?

APPENDIX D

APELL SEMINAR/WORKSHOP, ALEXANDRIA, EGYPT

DRAFT REPORT

The compiled report presented here addresses mostly what is to be done in order to create an APELL program for the Alexandria area which we can right away call: "Alexandria/APELL" (A/APELL). Due to time limitations the five group reports have been compiled as presented by the different groups.

It is envisaged that this compiled report will be edited along with added comments of UNEP representatives which are to be expected on or before July 10th, 1992. From there on, ESEI, in close cooperation with EEAA on the local level and UNEP on the international level, will pave the way for launching A/APELL through:

1. Preparation of the final report for this seminar/workshop.
2. Acquiring an Arabic version of the ^{APELL MANUAL} ~~program~~.
3. Seeking support of the local government.
4. Preparation of a project document or an action plan
5. Discussion of the document (or the plan) with local authorities in order to secure the endorsement of A/APELL by the local council and the Governor of Alexandria.

A schedule will be formulated, with a target date of September 30th, 1992, for the realization of these objectives.

43

Group A Report

Starting The Local Level APELL Process

1. Principal Objective:

prevent loss of life or damage to health and social well-being, avoid property damage and ensure environmental safety in the local community in the of Alexandria.

2. How to start an emergency response APELL program in Alexandria :-

a. Divide the city of Alexandria into three main sectors (Eastern, middle and western area)

b. take one of the above areas at a time and initiate the APELL program (e.g. the western region)

c. Establish a ^{sub}coordinating group for the whole area to provide a bridge for a unified coordinated approach to emergency response planning and communication within the western

d. The sub-coordinating group in each area will comprise of the following members:

1. Government representatives :- mainly, police, traffic, medical, civil defense and local council.

2. Industry representatives : safety managers of major industries (in western area : petrole and chemical industry) and other high municipal services in the area.

3. Community representatives : area local authority, school representative, university or Academic centers representative

A representative of the Egyptian society Environment and Industry (E.S.E.I)
Hospital rep.

4. A leader for the ^{sub}coordinating group will be selected by the members of the group and should possess the capability of leading

The group's efforts throughout the entire APELL process.

The role of the sub-coordinating group.

- Coordinate emergency plans and procedures already available in the petroleum and chemical industries in the concerned area of Alex.
- Prepare an emergency response program for the western area of Alex.
- Report to a higher committee (Steering Committee) for approval and implementation of the program.

The Steering Committee :-

The steering committee will be formed from a top level members from the industry, government and community

1. Government :-

Alexandria governor or governor advisor on emergency plans in Alex

• member from the Egyptian Environmental Affairs Agency (E.E.A.A).

2. Industry

Chairman or plant manager of the major hazardous industries or services in Alexandria.

3. Community :-

• local council heads of each district in Alexandria

• The Egyptian Society of Environment and Industry

• Academic center representative.

4. The leaders of the sub-coordinating group

The Role of the Steering Committee

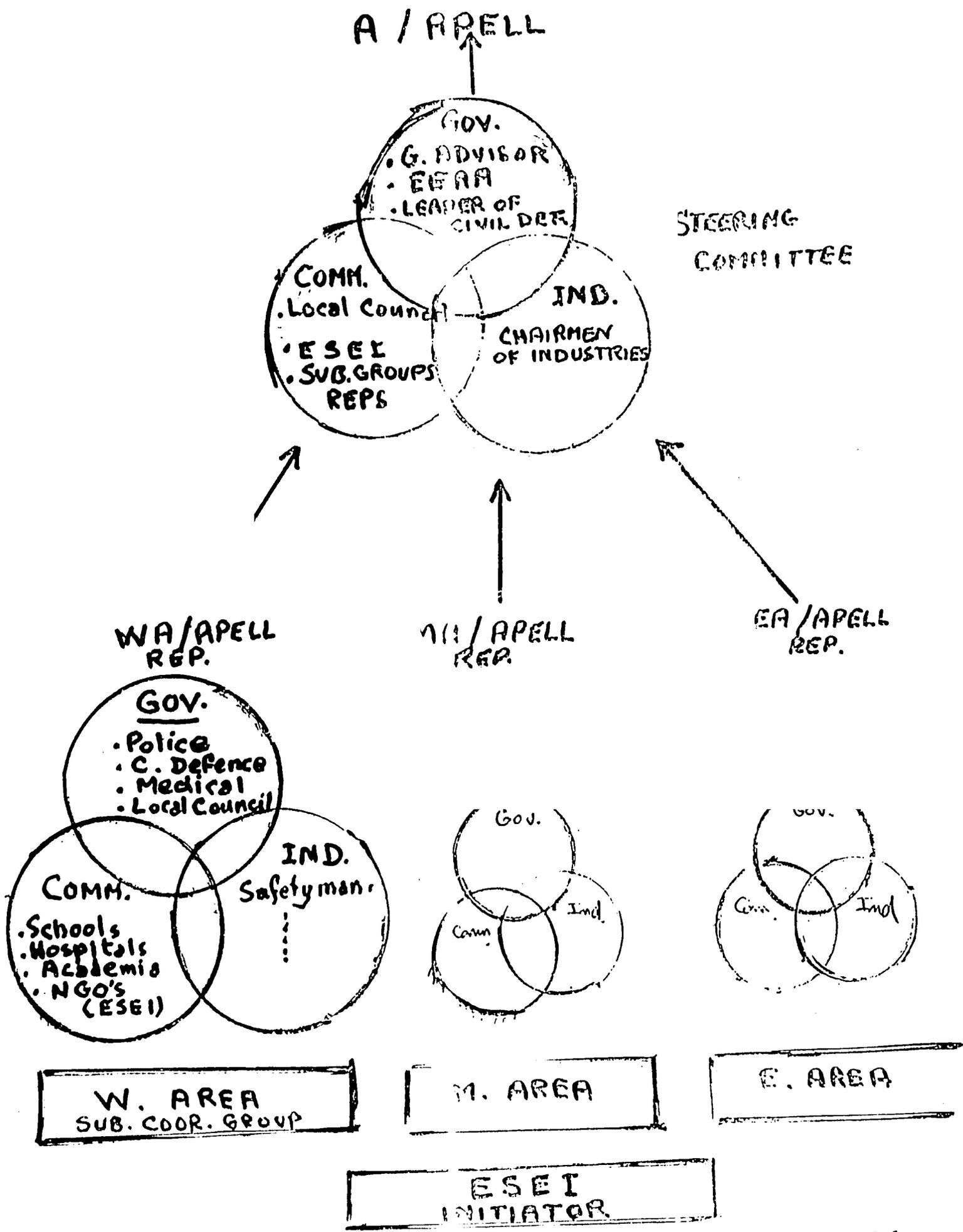
- To integrate the 3 areas APELL programs into one comprehensive plan for the city of

i.e. Alex/APELI process.

Who is the initiator?

- a member of the steering committee, probably from the government (governor advisor, member of the E.E. A.A.) in cooperation with the chairman of the petroleum and chem. Industries -

In our opinion, the governor advisor is the suitable person to initiate and pursue the APPELL process activities



STARTING APELL PROCESS IN ALEX.

GROUP "B" REPORT

BUILDING COMMUNITY AWARENESS

The community most definitely has the right to know about risks and hazards it may be exposed to. Who should know, what should be known, when and how information is to be communicated to the public were questions that were thoroughly discussed by the group.

(1) The group suggests identifying 3 categories of who should know:

- a. General public
- b. Special interest Groups (SIGs) such as:
 - Civil Defence Volunteers
 - Police & Traffic Departments
 - NGOs
 - Social Service Groups
 - Education Centers
 - Hospitals
- c. Other industries in the vicinity of the plant

(2) What information should be availed includes:

- a. Hazards & risks from the plant to the community
- b. Hazards from materials during transport to or from the plant.
- c. Hazards from materials stored or disposed of outside the premises of the plants.
- d. Risks during usage of hazardous materials.

(3) In responding to when and how information should be communicated, the group recognizes that:

- a. General information should be communicated to the public through mass media (press, radio, T.V.) immediately, then

periodically as a continuous reminder in simple plain language that serves the purpose for the general public and in specially and carefully formulated manner to the special interest groups (SIGs).

- b. At the time of accidents, mass media could be used, if available, otherwise special communication methods such as direct telephone lines for SIGs, or loudspeakers mounted on moving vehicles for the general public, should be used.
- c. Detailed reports after accidents should be made public through media.

(4) In transmitting information to the general public, one should take into consideration the reaction of the public. In this respect it is realized that:

- a. The more awareness and preparedness created within the public, the less panic is liable to happen.
- b. The form in which the information is released should be formulated in such a fashion that would not create restlessness or panic.
- c. Methods should be devised with the help of authorities, local government representatives and NGOs in order to control the public in the event of having an accident.

Group C. Report

Topic: Preparing for Emergencies

Discussion points:

1. The need in Alexandria for an APELL program
2. The appropriateness of the APELL manual for Alexandria local conditions.
3. The institutional framework for establishing the "Coordinating group" as defined in the APELL manual.
4. How should the coordinating group involve industry and the community in joint Emergency Response (ER) planning?
5. How the Emergency Response (ER) plan could be maintained as a living entity?
6. Suggestions related to the development of ALEX. APELL?

Suggestions Came out of the Discussions:

1. The need in Alexandria for an APELL Program:
 - the need is realized by the industry, government and community.
 - the reasons for the perception of the "need" include:
 - past accidents
 - government responsibility
 - complexity of the community - industry interactions.
 - the emphasis of the importance of working on a "preventive" mode is increasingly developed within the industry and government.

Conclusion: there is a great need to develop and implement an APELL program

2. The appropriateness of the APELL manual
- the group has reviewed sec. 5 of the manual: Achieving preparedness for emergencies, and looked at the applicability of the methodology proposed in the local conditions. Detailed discussions concentrated on the ten-step approach to the APELL process for planning for emergency preparedness.
 - it has been found that the approach and methodology proposed is suitable for application in Alexandria with minor modifications.

Conclusions:

- to adopt the APELL manual in developing Alexandria APELL program
- to translate the APELL manual to Arabic

3. The institutional framework for establishing the

"Coordinating Group":
 the "coordinating group" functions should be defined in a way compatible to the local institutional framework.
 the possibility of modifying the existing "Operations room" established in the Governorate "Dirwan Am" should be considered in the early phases of developing Alex. APELL.

Conclusions:

The institutional framework of all the APELL program including the coordinating group is the most crucial step in the development of the program. The examination of successful models in other similar countries may help in the study of feasible alternatives.

GROUP "E" REPORT

SITING OF INDUSTRY AND THE BUFFER ZONE

The group discussed the problem of encroachment of houses on the industrial sites which create a real hazard on the health of the people. The group felt that there is a need for:

1. Performing a survey to collect data about hazardous materials and wastes, then mapping the results to define risk areas.
2. Enforcement of the law of preventing buildings around industrial plants within the risk areas.
3. Implementation of the master plan for the city of Alexandria for the year 2005. The industrial zones are identified in this plan. Some of the industries, located within densely populated areas, have to be moved outside them. Funds should be availed for this process. Industries that are to be removed, according to the plan, should obviously not be expanded or rehabilitated. A central emergency committee, with highly technical membership, should be in charge of dealing with accidents and emergencies taking place in any of the industrial centers of Alexandria (such as Abukeir, Seuof, Nozha, Moharram Bey, Mex, ... etc.).
4. Taking care, in the industrial zone itself, not to place stores of chemicals that can react together, next to each other.
5. Not to give licenses to build houses around industrial establishments, or to industries with hazardous materials, except when a buffer zone exists around them.
6. Discouragement of hazardous industries from remaining in

- 8 - Ministry of Foreign Affairs
- 9 - office of licencing
- 10 - Ministry of Education
- 11 - Ministry of Social Affairs

Criteria of Identification and Evaluation for a priority list for all local hazards has to be prepared in order to help in the process of identification for hazardous sources through the following:

- 1 - The use of C.A.M.E.O. program.
- 2 - Threshold reporting quantity should be established based on the local and international laws

A committee is already there for civil defence action having the facility of the Emergency room under the direction of authority in Alexandria governor. This committee will have to coordinate with the APPELL committee in order to give it the proper power of execution.

The APPELL - H.I.E. Committee should involve the following representatives:

- 1 - The Civil Defence
- 2 - Ministry of Industry
- 3 - Ministry of Labor
- 4 - Academia
- 5 - EEAA
- 6 - NGO's
- 7 - representatives of Major Chemical Industry

Group D Report

Hazard Identification and Evaluation (HIE)

H.I.E is directed towards preparing an action plan for the HIE All over Alexandria Governorate to prepare ourselves for emergencies before they take place.

This can be achieved through:

- 1) A list of all hazardous facilities (industrial and non-industrial) present in Alexandria.
- 2) An inventory for all hazardous materials used in the facility.
- 3) A hazard evaluation and vulnerability assessment for each material at each place during storage, handling, processing and disposal.
- 4) Identification of all transportation routes and shippers with vulnerability analysis and hazard evaluation for each route.
- 5) Identification of the vulnerable population, the different exposure scenarios to allocate the most affected groups.

Local level hazards in Alexandria can be identified through collection of information from the following sources:

1. Ministry of Industry and affiliated companies.
2. Port Authorities.
3. Civil Defence.
4. Academic Centres.
5. Ministry of Agriculture.
6. Ministry of Health.
7. Ministry of Environment and Natural Resources.

6. Suggestions related to the Development of Alexandria APELL

The following "action sequence" is suggested to develop Alex. APELL:

- i. a project paper has to be developed by a small expert committee from the members of the Industry and Environment Society. This concept paper should present the objectives, project components, main participants, responsibilities, time frames, financial needs to develop the Alex. APELL.
- ii. the project paper has to be discussed by the representatives of the local industry, government, EEAA, Community representatives.
- iii. UNEP may be approached to provide technical assistance to develop TOR for the selection of a specialized firm to assist in the Alex APELL. The TOR has to emphasize the participatory approach in development of the final product.
- iv. funding possible sources include:
 - Local industry
 - Local government
 - EEAA
 - ministry of industry
 - donor agencies.
- v. when funding is secured, the development of Alex. APELL can start. At the same time the required institutional development work may be initiated.

4. Industry and Community involvement

- evaluation of risks and hazards within each plant is the responsibility of the industry (step 2)
- review of the emergency plan is a joint responsibility among the industry, government experts and community (through some community representation like the popular council ch. in Alexandria).
- educating the communities close to the industry and the general community (step 10) is the responsibility of the industry and government according to a well studied plan developed jointly by the Industry - Government - Community leaders.

Conclusion:

- the involvement of the industry in Alexandria is very feasible in the APELL development stage.
- the involvement of the community should be limited in the APELL development to the community leaders.
- the involvement of the community in the implementation stage should be done based on a well studied plan.

5. Emergency Plan as a living entity

step 9 in the manual: Establish procedures for periodic testing, review and updating of the plan, gives an idea about the system by which the plan could be maintained as a living entity.

Conclusion:

The Alexandria APELL should include a whole range of testing methods to be enforced on a periodic basis.