

---

# Cairo Air Improvement Project (CAIP)

Report for the 2nd Quarter of Year 2003

April 1<sup>st</sup> through June 30<sup>th</sup> 2003

Year 6

Contractor:

Contract Number:

Contract Period of Performance:

Chemonics International Inc.

263-C-00-97-00090-00

May 11, 1997 through December 31, 2003

# TABLE OF CONTENTS

<b>Part One: Contractor's Report.....</b>	<b>3</b>
<b>A. Work Plan and Expected Results.....</b>	<b>3</b>
<b>B. Organization of the Report .....</b>	<b>3</b>
<b>C. Administrative Data Section .....</b>	<b>3</b>
<b>D. Component Narratives.....</b>	<b>4</b>
D.1. Summary of VET Component Performance .....	4
D.2. Summary of CNG Component Performance .....	6
D.3. Summary of LPA Component Performance .....	8
D.4. Summary of AQM Component Performance .....	9
D.5. Summary of PACP Component Performance.....	10
D.6. Summary of OM Component Performance .....	13

## Part One: Contractor's Report

The Cairo Air Improvement Project (CAIP) was initiated on May 11, 1997, by the United States Agency for International Development (USAID) Egypt Mission and is under the direction of USAID/Egypt's Office of Environment. This report covers tasks and activities conducted during the second quarter of Year 2003, the 6th year of the project, a period extending from April 1<sup>st</sup> through June 30<sup>th</sup>, 2003.

Please note that the work added to CAIP under EEPP (modification number nine) shall be reported on separately.

### A. Work Plan and Expected Results

The scope, anticipated results, and milestones are delineated in the original CAIP contract and subsequent amendments. With tasks identified in components' annual work plans, these constitute the expected outcomes for the project.

### B. Organization of the Report

Section D presents, for each component, the expected tasks and activities, accomplishments, current status and performance issues for the previous, current and next quarters.

### C. Administrative Data Section

Note: Does not include EEPP funds

Current Obligated Funding:	\$55,937,699
Total Contract Amount:	\$55,937,699
Expenditures for April 1 <sup>st</sup> through June 30 <sup>th</sup> , 2003:	\$1,118,561
Cumulative Expenditures to Date (06/30/03):	\$52,966,290
Remaining Unexpended Balance – Obligated Funds:	\$2,971,409
Remaining Unexpended Balance – Contract Total:	\$2,971,409

## D. Component Narratives

### D.1. Summary of VET Component Performance

VET Outstanding Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
PM #19: Inspection and Maintenance of Transit Buses (IMTB) program operational	Completed		
PM #20: Inspection and Maintenance of Transit Buses (IMTB) data analysis report completed			To be completed
PM #22: Shoubra Center Implementation Plan Complete			To be completed
PM #23: Shoubra Equipment Upgrades Installed and Training Completed			To be completed
PM #24: Shoubra Center Transferred to EEAA			

VET Tasks Status

Objectives and Tasks		Jan -Mar 2003	Apr - Jun 2003	Jul - Sep 2003
<b>1</b>	<b>TEST &amp; CERTIFY EMISSIONS OF VEHICLES</b>			
1.2	Task 1.2: Qaliubiya VET Program (Model Center converted to Technical Center, see 1.5)	• N/A	• N/A	• N/A
1.3	Task 1.3: Giza VET Program (Model Center cancelled per Steering Committee, see 2.1)	• N/A	• N/A	• N/A
1.4	Task 1.4: Cairo VET Program (Model Center cancelled per Steering Committee, see 2.1)	• N/A	• N/A	• N/A
1.5	Task 1.5: Technical Center	<ul style="list-style-type: none"> <li>Evaluated proposals for new testing equipment. Procurement on hold pending discussions with EEAA</li> </ul>	<ul style="list-style-type: none"> <li>Resolved with EEAA to purchase one piece of testing equipment</li> <li>Selected vendor and placed order for testing equipment</li> </ul>	<ul style="list-style-type: none"> <li>Receive and install testing equipment</li> <li>Finalize plans/schedule for turnover of Shoubra Center to EEAA</li> </ul>
<b>2</b>	<b>INCREASE FUEL EFFICIENCY THROUGH TUNE-UPS</b>			

Objectives and Tasks			Jan -Mar 2003	Apr - Jun 2003	Jul - Sep 2003
	2.1	Task 2.1: VET Program Implementation	<ul style="list-style-type: none"> <li>• Drafted and issued RFP for equipment for the national VET program (Phase 1, Giza and Qaliubiya). Selected vendor, issued subcontract</li> <li>• Began development of a communication strategy with the assistance of subcontractor SPAAC</li> </ul>	<ul style="list-style-type: none"> <li>• All emissions testing equipment for Giza and Qaliubiya received</li> <li>• Training held from April 6 – May 22 at the Shoubra Technical Center. A total of 147 engineers and operators were trained on the new VET equipment</li> <li>• A ceremony was held on April 10 to mark the end of training and to distribute certificates to the first group of trainees (engineers and operators)</li> <li>• Communication plan finalized and implemented through brochures, posters press events, interviews, etc.</li> <li>• Program launched successfully on June 1. Follow up support to EEAA and traffic departments provided by CAIP engineers and equipment subcontractor</li> <li>• Discussions held with traffic personnel and Cairo governorate officials to resolve start date for Cairo program</li> </ul>	<ul style="list-style-type: none"> <li>• Provide technical assistance to implement VET program in the Cairo Governorate, assuming that the governorate commits to starting program soon</li> <li>• It was previously decided that the Cairo VET equipment would be purchased outside of the CAIP contract, however, we anticipate further discussions regarding the responsibility for purchase of the Cairo VET equipment</li> <li>• Continued technical assistance to be provided to Giza and Qaliubiya</li> </ul>
	2.3	Task 2.3: Diesel Tune-up Program	<ul style="list-style-type: none"> <li>• IMTB diesel engine diagnostic analyzer training held. 14 engineers and 17 technicians trained</li> </ul>	<ul style="list-style-type: none"> <li>• IMTB diesel engine diagnostic analyzer training completed</li> <li>• Database and analysis prepared in support of final report</li> </ul>	<ul style="list-style-type: none"> <li>• Collect all relevant information for preparation of final IMTB report</li> </ul>

## D.2 Summary of CNG Component Performance

### CNG Outstanding Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan – Mar 2003	Apr - Jun 2003	Jul – Sep 2003
PM #6: Institutional development plan for standards and regulations completed			To be completed
PM #16: CTA CNG garage leak detection safety equipment operational			To be completed
PM #19: CMMS installed and operational at CTA and GCBC Garages			To be completed
PM #22: Egyptian Standards for CNG Cylinders/Tanks and Fuel Systems Issued			To be completed
PM #23: Complete and Begin Implementing a CNG Sustainability Plan			

### CNG Tasks Status

Objectives and Tasks		Jan - Mar 2003	Apr - Jun 2003	Jul – Sep 2003
<b>1</b>	<b>SUSTAINABLE O&amp;M PROGRAM FOR CNG BUS FLEET</b>			
1.1	Supply 50 CNG buses	<ul style="list-style-type: none"> <li>Freightliner/TBB's warrantied fueling system inspection and repair campaign: 4 "initial phase" buses completed and remaining 46 buses underway. Meetings to fine-tune the campaign requirements continued</li> <li>Freightliner/TBB/Triangle's campaigns for HOS fan and front leaf spring at CTA and GCBC completed</li> <li>Training to enhance the Cummins/EIM On-going Support Plan completed. Training on Cummins engine and maintenance forms held. Seven engineers and 14 technicians trained</li> <li>Gas cylinder cleaning to be done in conjunction with Freightliner/TBB campaign underway</li> <li>Training on tubing preparation, fitting and installation held for CarGas and GasTec</li> </ul>	<ul style="list-style-type: none"> <li>Freightliner/TBB's warrantied fueling system inspection and repair campaign on the 46 remaining buses continued</li> <li>Gas cylinder cleaning done in conjunction with Freightliner/TBB campaign continued</li> <li>Based on conditions at the bus companies and positive results from US bus properties on performance of the next generation of Cummins engine (C+), discussed possible options with USAID for upgrading fleet engines</li> </ul>	<ul style="list-style-type: none"> <li>Remaining 22 buses under Freightliner/TBB's warrantied fueling system inspection and repair campaign to be completed on schedule determined by bus companies</li> <li>Gas cylinder cleaning done in conjunction with the Freightliner/TBB campaign to be completed</li> <li>HOS fan and front leaf spring replacement to be completed</li> <li>Cummins engine upgrade discussions to continue with USAID. Decision to be made</li> </ul>
1.2	Provide assistance in building CNG maintenance facilities at CTA and GCBC	<ul style="list-style-type: none"> <li>CMMS installation at GCBC continued</li> <li>CMMS training for GCBC network administrators continued</li> </ul>	<ul style="list-style-type: none"> <li>CMMS installation at GCBC continued</li> <li>CMMS training for GCBC network administrators completed</li> </ul>	<ul style="list-style-type: none"> <li>CMMS installation at GCBC to be completed</li> <li>CMMS training for GCBC network administrators to be completed</li> </ul>

Objectives and Tasks		Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003	
	1.3	Provide training and institutional support to CTA and GCBC	<ul style="list-style-type: none"> <li>Continued training, as needed, to enhance skills of technical and administrative personnel at CTA and GCBC garages</li> <li>Planning for Cummins/Allison engine training for engineers and technicians</li> </ul>	<ul style="list-style-type: none"> <li>Continued training, as needed, to enhance skills of technical and administrative personnel at CTA and GCBC</li> <li>Continued planning for Cummins/Allison training for engineers and technicians</li> </ul>	<ul style="list-style-type: none"> <li>Continue training, as needed, to enhance skills of technical and administrative staff at CTA and GCBC</li> </ul>
<b>2</b>	<b>ESTABLISH CNG SAFETY STANDARDS</b>				
	2.2	Develop CNG fueling system components standards	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>Completed</li> </ul>
	2.3	Develop CNG cylinder standards – completed and endorsed	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>Completed</li> </ul>
	2.4	Develop CNG fueling station standards	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>Completed</li> </ul>	<ul style="list-style-type: none"> <li>EOS Board to review and approve</li> <li>Develop Egyptian CNG Standards Implementation Plan</li> </ul>
<b>3</b>	<b>MASTER PLAN FOR LARGE-SCALE CONVERSION</b>				
	3.0	Develop a master plan for large-scale conversion of bus fleets to CNG fuel			<ul style="list-style-type: none"> <li>To be addressed in the context of the policy project (EEPP)</li> </ul>
<b>4</b>	<b>DEMONSTRATE 90% EMISSION REDUCTION</b>				
	4.1	Establish new emissions measurement laboratory (ML)	<ul style="list-style-type: none"> <li>Testing of diesel and CNG buses continued</li> <li>Development verification measures for IMTB program</li> </ul>	<ul style="list-style-type: none"> <li>Testing of diesel and CNG buses continued</li> <li>Development of verification measures for IMTB program continued</li> <li>Worked with OEM to tailor and upgrade software</li> </ul>	<ul style="list-style-type: none"> <li>Upgraded software to be installed</li> <li>Testing of diesel and CNG buses to be completed</li> </ul>
	4.1.11	Train ML personnel	<ul style="list-style-type: none"> <li>Final report on training completed</li> <li>Continued to enhance training, as needed</li> <li>Developed strategic plan for sustainable operation</li> </ul>	<ul style="list-style-type: none"> <li>Continued enhanced training, as needed</li> <li>Development of strategic plan for sustainable operation continued</li> </ul>	<ul style="list-style-type: none"> <li>Continue enhanced training, as needed for updated software</li> <li>Strategic plan for sustainable operation to be completed</li> </ul>
		Other Activities	<ul style="list-style-type: none"> <li>2003 work planning session held January 29-30.</li> </ul>	<ul style="list-style-type: none"> <li>2003 work plan finalized</li> </ul>	

CNG Performance Problems and Corrective Action

Problem	Corrective Action
Cummins engine upgrade decision is outstanding and is critical in light of the CAIP contract end date	Further discussions with USAID will lead to a decision during the next quarter

### D.3. Summary of LPA Component Performance

#### LPA Outstanding Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan – Mar 2003	Apr - Jun 2003	Jul – Sep 2003
PM #16: Awadallah Smelter Inaugurated			

#### LPA Tasks Status

Objectives and Tasks		Jan - Mar 2003	Apr - Jun 2003	Jul – Sep 2003
<b>1</b>	<b>AWADALLAH SMELTER</b>			
1.6	Monitor construction of new large smelter plants	<ul style="list-style-type: none"> <li>Inauguration of the new smelter was postponed pending connection of the electricity</li> </ul>	<ul style="list-style-type: none"> <li>Electrical connection completed and facilities are operational</li> <li>Dialog with smelter owner indicates reluctance to conduct a formal inauguration</li> </ul>	<ul style="list-style-type: none"> <li>Finalize approach to smelter wrap up</li> </ul>
1.7	Technology solution training for relevant Awadallah employees (Activity completed in 2002)			

#### LPA Performance Problems and Corrective Action

Problem	Corrective Action
Awadallah smelter owner reluctant to participate in inauguration	CAIP to discuss with EEAA, USAID, and the governorate, the most effective way to close out the activity

#### D.4. Summary of AQM Component Performance

##### AQM Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
PM # 15: Final Source Attribution Study Submitted			To be completed
PM # 16: Implement Dispersion Modeling for Point and Area Sources			To be completed
PM # 19: Lead Emissions Trend Report for Year 2001 Produced with CAIP Oversight			To be completed
PM# 20: Complete Transfer of AQM Network to EEAA		Completed	
PM# 21: Complete Transfer of LEI and SAS Equipment and Software to EEAA		Completed	

##### AQM Tasks Status

Objectives and Tasks		Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
1.1	Ambient PM & Pb Monitoring	<ul style="list-style-type: none"> <li>Received new equipment to upgrade and revitalize the existing network</li> </ul>	<ul style="list-style-type: none"> <li>Calibrated AirMetrics samplers. Worked with EEAA to facilitate installation at the 20 designated monitoring sites</li> <li>EEAA has delayed receipt of the new equipment due to space issues then annual inventory</li> </ul>	<ul style="list-style-type: none"> <li>Installation of samplers at the 20 monitoring sites to begin after EEAA July inventory period</li> <li>Prepare for new AQM Network inauguration</li> </ul>
1.2	Baseline Source Attribution Study (SAS)	<ul style="list-style-type: none"> <li>Completed the Chemical Mass Balance (CMB) modeling after the arrival of the chemical analysis results for inorganic and PAHs from DRI</li> <li>Prepared draft SAS reports, including appendices and executive summary for the Minister, EEAA CEO, USAID and other officials</li> <li>Selected participants from EEAA to take part in final SAS training to be provided by DRI</li> </ul>	<ul style="list-style-type: none"> <li>Revised draft SAS report including clarifications from DRI</li> <li>Training on hold due to inability of trainers to travel</li> </ul>	<ul style="list-style-type: none"> <li>Resolve final training solution</li> <li>Finalize SAS report</li> <li>Present SAS findings to USAID/EEAA and other officials</li> </ul>
1.3	Lead Emission Inventory		<ul style="list-style-type: none"> <li>Complete 2000/2001 LEI Trend Report (EEAA/CAIP team)</li> <li>Complete source testing at new lead smelter. Completed measurements of lead concentration in the work place</li> </ul>	<ul style="list-style-type: none"> <li>Submit 2000/2001 LEI Trend Report</li> </ul>
1.6	Hand Over Plan for AQM Network accepted by EEAA	<ul style="list-style-type: none"> <li>Prepared the final Report of Transfer for the AQM Network to EEAA</li> </ul>	<ul style="list-style-type: none"> <li>Submitted the final Report of Transfer for the AQM network to EEAA</li> </ul>	
1.7	Complete Transfer of SAS & LEI Equipment and Software to EEAA	<ul style="list-style-type: none"> <li>Prepared the final Report for Transfer of SAS and LEI Equipment to EEAA</li> </ul>	<ul style="list-style-type: none"> <li>Submitted the final Report for Transfer of SAS and LEI Equipment to EEAA</li> </ul>	

D.5. Summary of PACP Department Performance

PACP Outstanding Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
PM # 15: Mini-campaigns conducted for the Shoubra VET model center operations		On hold, pending review of milestones	
PM # 17: Documentaries for CAIP initiatives completed and accepted by EEAA and USAID		On hold, pending review of milestones	
PM # 19: Publicize campaign covering the results of IMTB program with CTA and GCBC to the Egyptian private sector		On hold, pending review of milestones	
PM # 20: Air Quality Communication Strategy Completed		On hold, pending review of milestones	
PM # 21: PA Transfer Plan Completed		On hold, pending review of milestones	
PM # 22: PA Equipment/Material Transfer Completed		On hold, pending review of milestones	

PACP Tasks Status

Objectives and Tasks		Jan - Mar 2002	Apr - Jun 2003	Jul - Sep 2003	
<b>1</b>	<b>WRAP UP OF CAIP ACTIVITIES WHILE INCREASING PUBLIC AWARENESS ON AIR QUALITY ISSUES</b>				
	1.1	Design campaign to publicize project results to policy makers, other stakeholders and general public	<ul style="list-style-type: none"> <li>No activity due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>No activity due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>See discussion under problems and corrective action below</li> </ul>
	1.2	Package/Disseminate Air Quality Monitoring data	<ul style="list-style-type: none"> <li>No activity on monograph due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>No activity on monograph due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>See discussion under problems and corrective action below</li> </ul>
<b>2</b>					
	2.1	Support Vehicle Emission Tune up & Maintenance in the Transit System	<ul style="list-style-type: none"> <li>Continued work on IMTB monograph</li> </ul>	<ul style="list-style-type: none"> <li>No activity on monograph due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>See discussion under problems and corrective action below</li> </ul>

Objectives and Tasks		Jan - Mar 2002	Apr – Jun 2003	Jul – Sep 2003	
	Promote New National VET Program	<ul style="list-style-type: none"> <li>• VET program communication strategy and implementation plan finalized</li> <li>• Obtained agreement from MOE and MOI on approach</li> <li>• Brochure, posters and fact sheets developed and circulated for review</li> <li>• Launched effort to identify and educate maintenance workshops around Cairo</li> <li>• Engaged firm to create and modify TV spots</li> <li>• Began outreach for broadcast and print media coverage</li> <li>• Introduced communications module for traffic department trainees</li> </ul>	<ul style="list-style-type: none"> <li>• VET roundtable discussion for reporters at al-Ahram Regional Press Institute held on April 21, 2003, aimed at discussing the VET program and its implementation with newspaper reporters</li> <li>• VET seminar for Radio and Television Union held May 5, 2003, aimed at introducing the VET program to several stakeholders</li> <li>• Meeting with local car dealers held on May 14, 2003, in order to acquaint car dealers and maintenance service providers with the VET program and their role in it</li> <li>• NGO meeting at Shoubra El Kheima Local Council held on May 20, 2003 to discuss the VET program</li> <li>• Meeting with local fleet operators held on May 21, 2003, in order to acquaint car dealers and maintenance service providers with the VET program and their role in it</li> <li>• New VET logo developed. Motorcycle pamphlet, brochures, posters, banners and badges distributed</li> <li>• 850 fact sheets distributed to maintenance workshops</li> <li>• Posters distributed to Giza and Qaliubiya Traffic Departments and maintenance workshops</li> </ul>	<ul style="list-style-type: none"> <li>• PA commitment to Giza and Qaliubiya completed in the previous quarter.</li> <li>• Exact start date for Cairo program and exact PA needs to be determined</li> </ul>	
<b>3</b>	<b>PROMOTE USE OF CNG IN THE TRANSIT SYSTEM</b>				
	3.2	Promote the Vehicle Emission & Performance Testing Center	<ul style="list-style-type: none"> <li>• No activity due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>• No activity due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize VEPTC documentary</li> </ul>
<b>4</b>	<b>SUPPORT THE INTRODUCTION OF NEW TECHNOLOGY TO LEAD SMELTERS</b>				
	4.1	Spread awareness of new technology	<ul style="list-style-type: none"> <li>• Began planning for Awadallah smelter inauguration. Work put on hold when it became clear that inauguration would be delayed</li> </ul>	<ul style="list-style-type: none"> <li>• No activity due to work on high priority national VET program launch</li> </ul>	<ul style="list-style-type: none"> <li>• See discussion under problems and corrective action below</li> </ul>
<b>6</b>	<b>OTHER</b>				
	6.1	General support to the CAIP stakeholders			<ul style="list-style-type: none"> <li>• See discussion under problems and corrective action below</li> </ul>

PA Performance Problems and Corrective Action

Problem	Corrective Action
<p>Activities under the PA component, as originally defined for CAIP, have largely been completed as agreed by USAID and EEAA. CAIP will continue to support the remaining work noted above, including the new VET program and expected communication strategy under EEPP.</p> <p>There are several outstanding issues as noted above, including the KAP study, and several milestones. Final resolution of these issues is needed.</p>	<p>Discussions to take place with USAID during the coming quarter.</p>

## D.6 Summary of OM Performance

### OM Outstanding Milestones Status

Milestone(s)	Milestone Approval Status		
	Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
PM #14e: Annual Inventory Report (Year 5)	Completed		
PM #19e: Quarterly report submitted for year 5	Completed		
PM #23: Final Project Completion Report Submitted			
PM #24: Inventory Transfer Plan Completed			To be completed
PM #25: Final Workshop for Project Completed			

### OM Tasks Status

Objectives and Tasks	Jan - Mar 2003	Apr - Jun 2003	Jul - Sep 2003
Work Planning	<ul style="list-style-type: none"> <li>2003 work plans developed by each component</li> </ul>		
Finalize direction of CAIP activities		<ul style="list-style-type: none"> <li>Modification nine added EEPP policy work to CAIP</li> </ul>	
Overall training	<ul style="list-style-type: none"> <li>English language training for CAIP counterparts continued at AUC</li> <li>Microsoft Certified System Engineers courses completed. 8 trainees from GCBC CTA, Qaliubiya Governorate and EEAA participating</li> <li>EEPP Air Quality Strategy and Lead Smelter Remediation OST held December 31 – January 26</li> </ul>	<ul style="list-style-type: none"> <li>English language training for CAIP counterparts continued at AUC</li> <li>Reevaluated timing of OST for Early Warning System staff in order to enhance skills in air quality forecasting, in light of current world events</li> <li>Excel and Power Point training for participants from CTA, GCBC and EEAA</li> </ul>	<ul style="list-style-type: none"> <li>English language training for CAIP counterparts to be continued at AUC</li> <li>Finalize approach for Early Warning System OST</li> </ul>
CAIP closeout/transition	<ul style="list-style-type: none"> <li>Sustainability discussions continued through active components</li> <li>Two project vehicles transferred to EEAA</li> </ul>		<ul style="list-style-type: none"> <li>Develop and obtain USAID approval of closeout plan</li> </ul>