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Resource Management Systems Initiative

Energy IQC Task Order
USAID/Mexico

Statement of Work

DRAFT
July 17, 1998

I. Summary

This document encompasses a scope of work to implement the Resource Management Systems Initiative (RMSI), a three year program (FY99 to FY01) for USAID/Mexico. This program aims to further integrate energy efficiency and cleaner production (pollution prevention) efforts by building upon previous USAID/Mexico work with local partners in Mexico through mechanisms such as the Environmental Pollution Prevention Program (EP3), the Energy Efficiency Program (EEP) and Sustainable Cities Monterrey Program. Expanding upon past work, the RMSI will seek to demonstrate technologies at the pilot level, encourage policies to support these technologies and methodologies, and strengthen the institutional capacity of local partner organizations and others, leading to a wider adoption of viable technologies to promote climate change reduction, energy efficiency, and pollution prevention. The RMSI will support USAID/Mexico's Strategic Objective 2 (*Carbon Dioxide Emissions and Pollution Reduced*) and USAID's Global Climate Change Initiative.

II. Background

Resource management system (RMS) is a term used to describe a comprehensive approach to reducing the adverse environmental impacts of industrial processes and municipalities, including the emissions of greenhouse gases (GHG) that contribute to global climate change (GCC). Mexico ranks third among developing (non-Annex I) countries in GHG emissions, with its rate of increase among the highest in the world. By helping cities and industries in Mexico improve energy efficiency and prevent pollution, RMS activities can contribute directly to reducing the threat of GCC. Therefore, RMS directly supports USAID/Mexico's newly designed *Strategic Objective 2 (SO2): Carbon Dioxide Emissions and Pollution Reduced*. Given that Mexico is a key country under USAID's Global Climate Change Initiative, RMS also supports Global Climate Change Initiative results (Decreased Net Greenhouse Gas Emissions from the Energy Sector, Industry, and Urban Areas).

To reduce environmental impacts, the RMS approach integrates pollution prevention and energy efficiency efforts. RMS addresses pollution from a life cycle perspective that tracks resource use from source to disposal. Through the application of RMS audits, industrial and/or municipal processes, waste streams, and energy demands are broken down into discrete segments and analyzed for opportunities for increased energy efficiency, emissions reductions, recycling, minimized raw material use, etc. Implementing audit recommendations combines the resulting benefits of lower emissions and reduced pollution with cost savings through adoption of more efficient operating procedures and technologies. This approach reflects the spirit of Mexico's revised January 1997 General Law on Ecological Balance and Environmental Protection, whereby industries will be required to adopt integrated strategies for environmental management. Similarly, the energy efficiency aspect within RMS will reinforce the goals set within a memorandum of understanding signed between the Governments of the U.S. and Mexico recognizing the need for cooperation in the field of energy efficiency and the importance of energy efficiency technologies and programs.

The RMSI program promotes the concept of RMS as well as the adoption of RMS technologies and methodologies. RMS-related technologies and methodologies are key to conserving energy and natural resources and reducing pollution, including emissions of GHG. The various types of technologies and practices classified as RMS-related can include: energy efficiency technologies such as high efficiency motors, energy efficient lighting, or variable speed drives; process changes such as raw material substitutions or capital equipment installation; or environmentally beneficial operating practices such as energy and materials accounting, mass balances, environmental and/or energy management systems, or good housekeeping measures.

The integration of energy efficiency and pollution prevention activities under the RMSI program provides a context for building upon and expanding work previously done through the Environmental Pollution Prevention Program (EP3), the Energy Efficiency Program (EEP), and the Sustainable Cities Monterrey Program. Through these programs, USAID/Mexico has provided technical assistance, training, policy development, and institutional strengthening to promote pollution prevention and energy efficiency. Key programs have included demonstration projects in the maquiladora, electroplating, foundry, and chemical sectors and focused on specific strategies and/or technologies such as high efficiency motors, motor rewind programs, and programs to increase steam efficiency. In these projects, local consultants and plant staff were trained in RMS audit techniques and the identification of opportunities to increase energy efficiency, minimize pollution, and lower operating costs.

RMSI activities build on the existing partnerships with three primary in-country partners. These partners include: The National Energy Commission (CONAE), The Energy Savings Trust Fund (FIDE), and The Mexican Center for Cleaner Production (CMPL). Secondary partners will include the Technical and Professional Association for Energy Applications (ATPAE) and the

Mexican electric power research institute (IIE). USAID/Mexico will continue to encourage local project leadership, strengthen links and collaboration among these agencies, and capitalize on the synergy which exists among these partners to further integrate pollution prevention and energy efficiency programs and activities.

III. Statement of Objectives

The RMSI is comprised of three primary components, each directly related to the USAID/Mexico results format for *SO₂, Carbon Dioxide Emissions and Pollution Reduced*, and the underlying intermediate results. The components were designed to produce results that, when captured, provide the necessary input for the intermediate goal (still to be defined by USAID/Mexico) of adoption of RMS technologies and methodologies. Adoption is a gauge of the performance in supporting essential technical, institutional and policy frameworks required to achieve the highest level results of SO₂, decreased emissions and pollution, including GHGs.

- **Component 1: Demonstrate RMS technologies and methodologies at the pilot level.** This component relates directly to IR 2.1: Viability of RMS technologies demonstrated at the pilot level, and IR 2.5: Financing available for adoption of RMS technologies from the private sector, the GOM and other donors (apart from USAID).
- **Component 2: Develop policies that promote the adoption of RMS technologies and methodologies.** The policy component is related to IR 2.3: Selected policies in place that promote the use of RMS.
- **Component 3: Develop institutional capacity of partner institutions to promote RMS technologies and methodologies.** The institutional capacity building component provides results for IR 2.4: Improved Mexican institutional capacity for RMS.

IV. Work Requirements

This section describes in detail the activities and specific tasks that will be carried out under each of the three components.

Component 1: Demonstrate RMS Technologies and Methodologies at the Pilot Level

IR 2.1: Viability of RMS technologies demonstrated at the pilot level.

- ▶ **Indicator #4:** Number of kilowatt-hours of fossil fuel-based energy production averted by the use of energy efficiency technologies through USAID supported projects.
- ▶ **Indicator #5:** Economic benefit estimated from the installation of RMS technologies.

This Component supports IR 2.1 which seeks to demonstrate the viability of RMS technology at the pilot level. Supported by the policy development and institutional strengthening activities under Components 2 and 3, these pilots will lead to the wider adoption of RMS technologies and methodologies throughout the targeted industrial sectors. Included in this component are continued implementation support for selected projects done under EEP and EP3 including the steam efficiency, motor rewind, and chemical sector activities to achieve the planned results for FY99. In addition, new pilot projects will be developed with each of the three partner institutions that reflect the priorities of these institutions and USAID/Mexico. Pilot projects will target the industrial sector, at least one municipality, and support the development of the Tlalpan project, a new program to support Mexico's climate change activities. Where possible, these pilots will integrate energy efficiency and pollution prevention and create linkages between USAID/Mexico's partner organizations. Figure 1 illustrates the time line for the pilot activities envisioned under Activities 1.1 and 1.2. Additional activities that will be developed under this component support the design of larger scale projects to enable wider adoption of the proven RMS technologies and methodologies and leverage available financing for energy efficiency and cleaner production to further implementation in the targeted industries.

This component is divided into four activities described below.

Activity 1.1. Design and Implement Pilot Projects to Demonstrate Viability of RMS Technologies and Methodologies.

An objective of USAID/Mexico is to demonstrate the viability of RMS technologies and methodologies to reduce pollution (both key greenhouse gases and other important pollutants) and conserve the natural resources that form the raw materials in the production process (e.g., energy and water). Over the past seven years, USAID/Mexico has developed a number of pilot projects that provide technical assistance through energy efficiency and pollution prevention

audits to targeted industrial sectors and for specific technologies. This has proven to be an effective way to work directly with targeted clients (such as industrial facilities and municipalities) to demonstrate the environmental and economic benefits of RMS technologies and methodologies. For each pilot, a work plan will be developed that includes the program design, the audit program, implementation support and other activities such as training and outreach that further the project objectives.

Task 1.1.1. Continue Support for Chemical Sector Cleaner Production Demonstration Project

Partner: CMPL

Year Implemented: FY99; Results Reported FY99

In conjunction with CMPL, USAID, through EP3, designed and implemented a cleaner production demonstration project in the chemical sector. With over 2000 chemical plants in Mexico, this sector is significant both in terms of overall economic contribution as well as pollution emissions. This demonstration project, carried out in partnership with the National Chemical Manufacturers Association of Mexico (ANIQ), focuses on four medium-sized chemical plants in the D.F., State of Mexico, and in Queretaro. The objectives of the project are to not only provide technical assistance to the plants to identify cleaner production (including energy efficiency) options but also to train plant staff and management in cleaner production methods. Initial findings of the audits suggest there are significant environmental and economic savings to be gained in each of the plants.

To further support the implementation of the identified measures for each of the participating plants and promote the wider adoption of cleaner production in the chemical sector, the actions under this task include:

- provide limited technical assistance to each of the participating plants to support implementation of the identified measures and gather environmental and economic information on the actual implementation of cleaner production measures based on the results framework
- prepare outreach material including a Cleaner Production Manual for the Chemical Sector which will form part of a series of guidebooks prepared by CMPL (with USAID/UNIDO support) and case studies to illustrate the benefits identified in each plant
- design a follow-on activity to conduct cleaner production activities in new plants; this will form part of the sustainability of CMPL to provide services at a cost to the industrial sector.

Task 1.1.2. Implement Motor Rewind Improvement Project on a Larger Scale

Partner: FIDE

Year Implemented: FY99; Results Reported FY00

The Motor Rewind Pilot Project carried out by FIDE with USAID collaboration between 1996 and 1998 demonstrated important energy savings potential due to the reduced efficiency losses when proper rewinding practices were used. The pilot phase identified the elements of a proper rewind, provided some initial training to a small group of rewind shops, and included a detailed motor testing phase to define and quantify efficiency improvements. In addition, a training course outline and some initial training materials were developed.

To obtain effective savings from rewind improvements, the results of the pilot program must be implemented on a broader scale. Training on procedures, information on and access to better equipment and technologies, and increased demand from end-users for quality rewinds will all contribute to a wider application of better motor repair procedures. Working with FIDE, specific actions under this task will include:

- support and outreach to a broader population of motor rewind shops, including dissemination of materials, training courses and information on new equipment
- develop and present several one- to two-day training sessions to be held in the shops, covering all aspects of motor repair improvement
- identify and prepare cost-benefit analysis of equipment and technology upgrades for the rewind shops; provide such information to shops; identify credit lines which might be used by shops to purchase such equipment
- work to develop an organization or association among rewind shops; work with outside organizations to promote self-certification
- work with industrial associations to encourage implementation of quality rewind specifications when sending motors out to repair.

It is expected that approximately 50-60 rewind shops on a national level will participate in the implementation of this task.

Task 1.1.3. Develop and Implement Flow Systems Pilot Project

Partner: FIDE

Year Implemented: FY 99/00; Results Reported FY00

Flow systems, including pumping, air distribution and compressed air account for an important proportion of industrial electricity consumption, covering compressors, fans, blowers, pumps and their control systems. Compressed air and pumping applications have been considered in a general way in the many FIDE audits performed over the years. Variable speed drives have been recommended as a result of these general audits, as well as a result of the motor systems pilot project carried out by FIDE with USAID collaboration. A more organized effort focused specifically on flow systems will increase the knowledge and capabilities of both consultants and plant managers to increase steam efficiency. A pilot project will focus on evaluation methodologies, equipment specifications and selection, and actual implementation of measures to determine the best ways to achieve broader savings in these two applications.

The pilot project will be based on the methodologies currently being developed by FIDE with USAID collaboration for analysis of compressed air and pumping systems, and include the following actions.

- adopt audit methodology incorporating FIDE work on pumping and compressed air system evaluations, development of variable speed drive evaluation procedure and information on fans and blowers
- select pilot group of 10-20 industries
- incorporate equipment manufacturers and vendors in the planning of the project
- set up of a financing mechanism, through FIDE's funds or through other sources to support implementation of measures
- carry out of pilot audits and evaluations
- analyze audit results and implementation results; conclusions and recommendations for more widespread applications of the evaluation procedures and product information developed over the course of the project.

Task 1.1.4. Develop and Implement Control Systems Pilot Project

Partner: CONAE

Year Implemented: FY00/01; Results Reported FY01

A new pilot project along the lines of the Steam Systems Pilot Project will be designed and implemented in collaboration with CONAE. The success of the Steam Systems Pilot Project carried out by CONAE in 1996-1998 with USAID collaboration can be characterized in several ways. It developed a simple and clear methodology for steam systems evaluation; it increased the

collaboration between CONAE and equipment suppliers; it achieved savings as a direct result of implementation of the audits carried out; and it provided a wealth of detailed equipment and energy consumption information which offers the basis for future program development and energy efficiency implementation.

The new pilot project will focus on one or more technologies which can be evaluated easily, replicated throughout industrial and commercial facilities, and implemented with relative ease to provide important energy efficiency improvements. Combustion control systems is an example of a technology which has the potential of achieving important energy savings, applied primarily to boilers, but also to process heaters and other fired equipment. Actions to be taken under this task include the following.

- select with CONAE of the best technology or group of technologies to focus on, given the results of the Steam Systems Pilot Project and CONAE's priorities with respect to its industrial and commercial clients
- develop an audit or evaluation methodology for the selected technology
- select pilot group of 10-20 industries
- incorporate equipment manufacturers and vendors in the planning of the project
- set up a financing mechanism, through FIDE's funds or through other sources to support implementation of measures
- carry out pilot audits and evaluations
- analyze audit results and implementation results; conclusions and recommendations for more widespread applications of the evaluation procedures and product information developed over the course of the project.

Task 1.1.5. Develop and Implement Cleaner Production/RMS Demonstration Project in Additional Industrial Sector

Partner: CMPL

Year Implemented: FY00/01; Results Reported FY01

Through EP3, USAID/Mexico has collaborated in the development of pilot activities with CMPL in various sectors including electroplating, foundry, and chemical sector. These pilot projects have been an important mechanism for CMPL to gain experience in cleaner production, demonstrate results, and develop cleaner production "champions" in the industrial sector. All of

the pilot projects conducted by CMPL have integrated cleaner production and energy efficiency into the audit process to illustrate a holistic approach to process/system optimization and hence effective resource management by the targeted facilities. In this task, USAID/Mexico will work with CMPL to define an additional sector to conduct an integrated pilot using the established UNIDO methodologies used by CMPL. Potential sectors include food processing, hotels, and sugar mills. Actions that will be completed under this task include:

- design pilot project (identify targeted sector and partner industrial association, train staff, select plants)
- carry out audits and support implementation of identified measures
- conduct outreach and dissemination activities including development of guidebooks, case studies, and seminars.

Task 1.1.6. Develop and Implement Municipal-Level Demonstration Project

Partner: CONAE

Year Implemented: FY00/01; Results Reported in FY01

The municipal energy sector offers significant untapped energy savings potential and represents a new sector of activities for USAID/Mexico. An assessment of potential energy savings in public lighting and water pumping is currently under way. The results of this assessment, along with detailed discussions with CONAE, which is leading the Mexican government's effort to improve municipal energy efficiency, will lead to the selection and design of a pilot project to test and demonstrate the implementation and financing of municipal energy projects.

The selection of one or more municipalities in which to carry out this pilot project will consider the following conditions: municipalities where the International Council for Local Environmental Initiatives (ICLEI) is carrying out complementary projects with USAID funding; municipalities interested in supporting such projects; municipalities in states where state energy commissions are functioning and are interested in participating; and municipalities where CONAE has local representation and interests. The pilot project should be designed to demonstrate the various ways in which diverse interests can work together to further energy efficiency results, to show how integral projects (those including local training and maintenance components) can ensure long-term sustainability, and to attract interest and support from international lending and financing institutions such as the World Bank and the GEF. Actions to be undertaken include the following.

- design the pilot project, selecting the technology and taking into account interests and capabilities of all possible stakeholders

- work with CONAE to implement the pilot project
- monitor, evaluate and disseminate project results, including coordination with international institutions possibly interested in proceeding with the next stage of implementation.

Task 1.1.7. Develop and Implement Supply Chain Pilot Project

Partner: CMPL

Year Implemented: FY01; Results Reported in FY02

Through its experience working in Mexico, CMPL and EP3 have recognized the difficulties in encouraging the adoption of cleaner production in small and medium sized plants. This is due to a reluctance to dedicate limited human and financial resources beyond their basic production activities. A potential vehicle for overcoming this barrier is to work with both suppliers and consumers of products along a particular supply chain to create linkages between product quality, cleaner production, and product marketability. This project could be developed in the car manufacturing industry which has developed an extensive supply chain in Mexico and has begun initiatives to work with their suppliers to improve product quality and environmental performance. It is envisioned that this project could be cost-shared by the automotive industry association or certain automotive companies. The actions under this task include:

- provide support to CMPL to design and market the pilot project to the automotive industry
- provide technical assistance and training to support the implementation of the project
- monitor and analyze project activities to evaluate achievements, disseminate results and develop recommended next steps.

Activity 1.2. Develop and Implement the Tlalpan Pilot Program Linking Climate Change Initiatives with Local Economic and Environmental Development Activities.

USAID/Mexico has been supporting Mexico's climate change activities including the development of a national GHG inventory and evaluating the potential for several energy and non-energy technologies to reduce GHG emissions. The National Institute for Ecology (INE) has identified the development of pilot projects as the next step in their climate change program. USAID/Mexico will support a collaborative effort to develop a regional climate change program in the Delegation of Tlalpan in the Southern part of Mexico City to tie climate change mitigation activities to local economic development priorities. This program will integrate "brown" projects

such as energy efficiency and pollution prevention projects in the industrial, commercial, and residential sectors and “green” projects such as forestry projects. These pilot projects will be linked through a Environmental Management System that will provide a framework for monitoring the overall climate change benefits, evaluating programs, and attracting both local and international financing to support on-going pilot activities and develop new projects. A key element of this project is community involvement and stakeholder participation. Pilot projects will also seek to involve the collaboration of USAID/Mexico’s partner organizations.

This program will consist of two interrelated components: 1) the establishment of the Environmental Management System framework and associated institutional mechanisms to carry out the program, and 2) the development and implementation of pilot projects. USAID/Mexico will support several pilot projects including one forestry project (funds provided under separate mechanism) and other RMS projects. These projects will be carried out by USAID/Mexico’s partner organizations and other relevant organizations such as Luz y Fuerza del Centro (the local electric utility), the Ministry of Environment of the Federal District, the Natural Resources Commission of the Federal District, the Ministry of Environment, and the Delegation of Tlalpan. Contractors will collaborate with National Autonomous University of Mexico’s (UNA) Institute of Engineering to develop and implement the project. Funding for UNA is provided under a separate mechanism.

Task 1.2.1. Design, Implement, and Manage Environmental Management System for Tlalpan Regional Project

Partner: Institute of Engineering, UNA

Year Implemented: FY99/00/01; Results Reported FY99/00/01

The design for this pilot program is based on the principles of Environmental Management Systems. EMS systems are increasingly being adopted in the private sector to improve environmental performance; similarly, the components of an EMS system which include establishing objectives, creating performance baselines, implementing programs to meet the performance objectives, and involving stakeholders, can be applied to municipalities. In the program, the EMS framework will be used to link pilot activities and capture the environmental and economic results -- in particular, GHG emissions reductions and increases in carbon sequestration -- resulting from these activities. In addition to the initial EMS design, this task will support the implementation of the Tlalpan program through a local coordinator and technical assistance for program management and implementation of the EMS. The actions envisioned for this task are:

- design the EMS project and pilot activities (including developing baseline data, establishing database, establishing local coordination and stakeholder participation mechanisms, and creating linkages with relevant institutions)

- establish and provide assistance to local program coordination including public outreach, participating institution coordination, database management, pilot activity management.
- establish linkages to outside financing to expand and augment pilot activities within Tlalpan program from both local and international sources; in particular, financing options through global climate change activities such as joint implementation and the Clean Development Mechanism will be explored.

Task 1.2.2. Design and Implement Cleaner Production and Energy Efficiency Project in Tlalpan Hospitals

Partners: CMPL, FIDE, CONAE

Year Implemented: FY99/00; Results Reported FY00/01

Due to the high concentration of hospitals in Tlalpan and the potential for cleaner production and energy efficiency in this sector, a pilot program in 4-5 hospitals is one of the proposed pilot activities for the Tlalpan program. In addition to energy efficiency, there is also the possibility of applying solar energy technologies to promote additional carbon dioxide emissions reductions. The UNIDO cleaner production audit methodology will be used to identify the opportunities for cleaner production and energy efficiency. It is envisioned that CMPL and CONAE will participate in this program. The energy and environmental benefits will be evaluated and linked to the EMS program. The actions included in this task are:

- program design in conjunction with CMPL and CONAE (including program methodology, responsibilities, partner hospital identification, staff training)
- conduct hospital audits focusing on cleaner production, energy efficiency, and renewable energy options
- work with FIDE to support implementation of identified measures
- monitor and evaluate project results.

Task 1.2.3. Design and Implement Residential Energy Efficiency and Pollution Prevention Program in Tlalpan

Partners: FIDE, UNA

Year Implemented: FY99/00; Results Reported FY00

With a population of over 21 million inhabitants, the residential sector in Mexico consumes a significant amount of electric energy, LPG, and water. Involving the residential sector in energy and water efficiency programs will have implications for energy use, peak energy demand, and

emissions reductions. In this task, USAID/Mexico will support a pilot project in the Delegation of Tlalpan that will be linked with the larger EMS program. Efforts will be made to involve the local utility, Luz y Fuerza (a residential compact fluorescent program), and the Federal District water utility (promotion of water-saving devices) in project implementation. This task will include developing a baseline for residential energy and water consumption in a designated sample area and implementing a technical assistance and educational program. Possible options are to involve UNAM students in the data collection and educational activities, as well as taking advantage of FIDE's children's energy education materials and productions. The actions included in this task are:

- conduct surveys to determine energy and water use in a sample area to create baseline consumption values for Tlalpan
- design pilot project in conjunction with partner organizations and other key institutions (determine pilot site; technologies to be promoted; education and information campaigns)
- conduct audits and develop education campaign targeted at community
- identify and create linkages with incentive programs for energy and water efficient equipment (lighting, appliances, low-flow water systems)

Task 1.2.4. Design and Implement Small and Medium Sized Industry Pilot Project for Tlalpan

Partners: CMPL, Tlalpan Industry Associations

Year Implemented: FY00; Results Reported FY01

An additional activity that will be developed to support the Tlalpan program is a cleaner production and energy efficiency program with the industrial sector in Tlalpan. This region is not heavily industrialized; however, there are numerous small industries that contribute to the overall levels of contamination including carbon dioxide emissions. Involving the private sector in the Tlalpan program will be critical to their overall involvement and support of the EMS program. The focus of the pilot project will be determined in coordination with the local industry associations and the delegation officials. Linkages will be made to existing CMPL and other partner association programs. The actions included in this task are:

- design pilot project in conjunction with key partner organizations and institutions including the Tlalpan industry associations
- implement the pilot project and gather results.

Activity 1.3. Develop mechanisms for promoting wide-spread adoption of demonstrated RMS technologies and methodologies

The key to widespread adoption of RMS technologies and practices is the ability to make the transition from the pilot projects to broader implementation programs. In addition to well-designed and evaluated pilot activities, this requires an understanding of market conditions, including attitudes and habits of end-users, the availability of financing (whether from end-users or outside sources such as loans or utility funds), and capable and efficient delivery mechanisms to carry out the implementation.

The RMSI will work with its partner agencies in several areas: strengthen technical capabilities for RMS implementation through strengthening energy services companies (ASCUS); support in the design of large-scale programs based on pilot project results; and linking specific global climate change effects to the various programs to increase end-user awareness of climate change benefits.

Task 1.3.1. Support ESCO Development

Partners: FIDE and CONAE

Year Implemented: FY99; Results Reported in FY00

FIDE has a budget and a preliminary design for an ESCO development and promotion program, while CONAE has not yet designed such a program. This task will attempt to leverage existing resources and interest in FIDE and CONAE, link with interests of US and other ASCUS, and provide general guidance and support to program development in this area. Due to its low funding level, this task will also take advantage of other ESCO support programs such as those of G/ENV/EET and of other donors.

Task 1.3.2. Design Large-Scale Programs Based on Pilot Project Results

Partners: CONAE and FIDE

Year Implemented: FY99; Results Reported in FY00/01

Two of the most successful USAID/Mexico activities have been the Ilumex project, which originated from a USAID-financed feasibility study, and the FIDE-CFE-IDB incentives project, which evolved from several years of close collaboration between USAID and FIDE in DSM programs, specifically in high-efficiency motors. The purpose of this task is to attempt to leverage the experience of pilot programs with CONAE, FIDE and CMPL to design additional large-scale programs with significant funding from outside of the USAID program.

Each program would require specific and different actions to bring it to larger-scale implementation. The Mexico RMS program will consult with local counterparts to decide which

programs it can best support in this process. Examples of programs which, with USAID/Mexico support, might result in larger-scale programs include the following:

- steam systems efficiency: large scale implementation financed with World Bank (WB) or IDB funds
- motor rewind systems shop equipment improvement funds: WB or IDB; or possibly microenterprise development funds (the DCA mechanism)
- municipal energy efficiency implementation: GEF, WB, possibly in conjunction with funds from Mexican government, CFE
- chemical sector cleaner production: ESCO-type implementation in conjunction with ANIQ, the chemical sector industrial association
- electroplating: extension of support to large population of small industries with funding from INE, other environmental funds.

Task 1.3.3. Apply ESCO Model to Cleaner Production

Partner: CMPL

Year Implemented: FY99/00; Results Reported in FY00/01

The ESCO approach has been a successful model for increasing the adoption of energy efficiency in the industrial sector. USAID/Mexico has supported the development of the ESCO approach in Mexico to foster private sector participation in furthering its energy efficiency projects and is interested in expanding this model to include cleaner production programs. The objective is to leverage the demonstration projects completed to date and broaden the adoption of cleaner production in the industrial sector. This task would seek to develop CMPL as an ESCO for cleaner production in order to generate a source of income for CMPL and ensure its sustainability. As there are still institutional questions to resolve the viability of CMPL as an ESCO, given its affiliation with the National Polytechnic Institute (IPN), other alternatives for involving private sector companies will be explored. The chemical sector has potential for wider adoption and may be a good candidate for applying the ESCO model. Actions to be included in this task are:

- explore viability of creating an ESCO at CMPL and/or alternatively other private sector options
- design and develop ESCO model for key sector(s) (e.g., chemical sector); provide technical and financial modeling guidelines to ESCO.

- support a pilot ESCO project by cost-sharing the initial study, supporting the implementation work, or offering another type of support which would make the project sufficiently attractive to an ESCO.

Task 1.3.4. RMS Certification Program

Partners: ATPAE, FIDE, CONAE

Year Implemented: FY00; Results Reported FY01

One of the key elements in the success of the energy efficiency industry in the US has been the recognition of energy efficiency professionals through a certification program. This provides potential clients with additional confidence in the technical proposals and helps increase the likelihood of sales of services and equipment, and therefore, project implementation.

Although there have been discussions about certification programs among many institutions in Mexico, to date no Mexican agency has designed or adapted a certification system. This task will address this important issue and work both to certify an initial group of energy/RMS technicians/managers and leave in place a system to continue such certification in the future. The following actions will be taken:

- convene a working group among FIDE, CONAE and ATPAE to address the issue of certification and develop a plan of how to best use the USAID assistance
- propose using the US Association of Energy Engineers (AEE) Certified Energy Manager (CEM) program as a basis, translating and adapting it to Mexican conditions; develop arrangements with a lead agency in Mexico (possibly ATPAE, possibly Sello FIDE) to enter into a long-term relationship with AEE to continue ongoing certification activities
- work with Mexican agencies to design and promote the local version of the certification, and to begin including it in their regular promotional and technical literature
- support the first certification review course and examination
- monitor and follow up on the certified professionals resulting from the program.

Task 1.3.5. International Energy Verification and Monitoring Protocol Integration Program

Partners: CONAE, FIDE

Year Implemented: FY99/00/01; Results Reported FY00/01/02

The International Energy Verification and Monitoring Protocol (IEVMP) developed by the US DOE is becoming a standard for determining actual energy savings from implemented measures. Its use is key in ESCO-type contracts where payment hinges on the real savings obtained; thus its promulgation in Mexico is an important contribution to the development of a credible and sustainable ESCO market. CONAE has been involved in the development and dissemination of a Spanish version of this protocol in Mexico. However, its use in real projects has been limited to date.

Under this task, a number of implementation projects developed by FIDE, CONAE or private ASCUS will be selected for IEMVP support. The RMSI will provide a monitoring plan based on the IEMVP principles. This may be applied either to projects developed under RMSI or to projects developed by private consultants. An open call for projects may be made and, working with CONAE, the most interesting, replicable and/or demonstrable projects will be selected for support. It is estimated that the RMSI could support the development plan for up to 10 different projects. CONAE would take charge of the dissemination of the results.

Task 1.3.6. Promote Global Climate Change Information

Partners: FIDE, CONAE, CMPL

Year Implemented: FY99/00/01; Results Reported: FY00/01/02

While the Mexico national global climate change office in INE develops plans and programs for implementing CO₂ reduction and sequestration programs, energy users are hardly aware of climate change implications of their own actions. Given the likelihood of an eventual market for CO₂ emissions credits, it is important that end-users, especially industrial and commercial facilities know of the possible financial, political and promotional impacts of RMS programs which result in emissions reductions.

Under this task, RMSI would help develop and support an information campaign to these energy consumers implementing or considering the implementation of energy efficiency programs. This elements of this campaign will be designed with the counterpart Mexican agencies, but may include one or more of the following: a brochure describing the status of the main activities worldwide in global climate change-related emissions reductions; information on what industries in the US and other countries are doing and how emissions reductions are being reported; a valuation of emissions reduction credits, and a revised payback calculation; and a description of the promotional value of reducing emissions as part of developing an environmental corporate image. In addition, the RMSI will work with the Mexico national climate change office and the RMSI counterparts to develop innovative ways to deliver emissions credit information to end-users implementing RMS programs, as a precursor of emission reduction reporting programs. For example, in lieu of financing, FIDE might offer emissions credits to their clients.

Task 1.3.7. Support Linkages with RMS Technology Suppliers

Partners: CONAE, CMPL, FIDE

Year Implemented: FY99/00/01; Results Reported: FY00/01/02

Pilot activities in the motors, motor rewind and steam systems areas have underlined the importance of the participation of equipment vendors and suppliers in the success of the programs. In Mexico, where reliable technical specifications and information on high-efficiency equipment is difficult to find, the collaboration of vendors and suppliers is crucial. Although FIDE has been able to leverage equipment suppliers' interests into significant contributions to their programs, the broader programs of CONAE and CMPL have made it somewhat harder to focus on the best target vendors. In addition, there is still some concern about a government or independent agency aligning with certain business interests.

Through this task, RMSI will focus on a series of actions to improve access to equipment vendor information and support to the counterpart agencies as well as to energy users throughout the country. Among these actions will be the following:

- develop lists of equipment suppliers dealing with RMS technologies from US information
- assist counterpart agencies in requesting information in appropriate formats; support information access from US corporate marketing headquarters as necessary
- provide private-sector contacts with vendors, based on audits or surveys carried out during the pilot programs supported by the RMSI
- set up data bases of information, including websites where participating vendors can locate their technical specifications and continually updating them
- promote energy efficiency implementation programs among vendors; monitor the resultant participation to better understand ways to continue motivating their participation in project implementation activities and stocking of high efficiency equipment.

Activity 1.4. Promote Linkages with Financing for RMS Technologies and Methodologies

An important barrier to implementation of RMS technologies and methodologies is the lack of financing for cleaner production and energy efficiency technologies. Despite often attractive

periods of return on RMS technologies, many companies do not have the financial resources to make the necessary investments. In order to promote increased levels of implementation, an important objective is to create linkages with financing mechanisms that are available for energy and environmental programs. Some work in this area was done under the EEP and EP3 programs including a practice handbook on cleaner production financing options and financial software for evaluating energy efficiency technologies. The tasks under this activity will respond to IR 2.5 Financing Available for Adoption of RMS and Renewable Energy Technologies. As there is no indicator for this IR due to the fact that the existence and application of these funds is beyond the control of USAID/Mexico, the results of these activities will be incorporated into the indicators for other IRs, in particularly IR 2.1.

Task 1.4.1. Develop and Promote Financial Software for CP and EE

Partners: CONAE, CMPL

Years Implemented: FY99/00; Results Reported: FY00/01

Under EEP, a financial analysis software was developed with CONAE to evaluate financing options for energy efficiency projects. The software assists in the calculation of the value of energy savings based on changes in energy consumption levels of different parts of the facility and assists in the development of a cash flow analysis. To make this software readily available to end-users, additional outreach and training activities are required. In addition, USAID/Mexico is interested in expanding this software to include cleaner production. Actions under this task include:

- prepare a users manual for software and train CONAE staff to use the model
- assist CONAE in preparing the model to be made available on the Internet
- modify software to include cleaner production opportunities and train key individuals from CMPL and other institutions as needed.

Task 1.4.2. Promote Flow of Financial Resources to Support Implementation

Partners: FIDE, CONAE, CMPL

Year Implemented: FY00/01; Results Reported: FY01/02

While there are a few financial resources available from national and international sources to support direct implementation of cleaner production and energy efficiency, these funds are often not effectively used because of a lack of knowledge about the options (e.g., FIPREV, NAFIN, FIDE). In other cases, the financial agencies are not able to move the funds because the terms are not attractive to potential borrowers or because they do not have access to the potential clients. The objective of this task is to work with the partner organizations to create a bridge between the

industrial customers requiring financing for investments in cleaner production and energy efficiency and to help support the implementation of the options identified under the pilot projects. The involvement of RMSI may help to generate interest from other financial sources and provide additional confidence to potential investors.

Task 1.4.3. Support Efforts to Access Innovative Financing Mechanisms

Partners: FIDE, CONAE, CMPL

Years Implemented: FY99/00/01; Results Reported: FY00/01/02

There are a number of mechanisms that are being explored by USAID/Mexico to provide funding for investments in cleaner production and energy efficiency such as the USAID Development Credit Authority (DCA) and a development fund with Banamex. This task will provide support to USAID/Mexico in exploring the use of these mechanisms to leverage funding to support its programs.

Component 2. Develop Policies that Promote the Adoption of RMS Technologies and Methodologies

IR 2.3: Selected Policies in Place that Promote the Use of RMS and Renewable Energy Technologies

► **Indicator #7:** Percent of policy goals achieved

Note: Only the RMS policy goals will be developed and reported under this Statement of Work.

The broader adoption of RMS technologies and methodologies requires a policy framework that gives priority to cleaner production and energy efficiency. Currently, the Mexican environmental policy framework is based on command-and-control concepts which contain few incentives for companies to adopt cleaner production measures. During the last year of EP3, a cleaner production policy dialogue was started by CMPL with EP3's support to begin to educate policy makers about cleaner production and to identify the barriers to cleaner production within the country's environmental laws, regulations, and environmental programs. USAID/Mexico seeks to continue to support this dialogue in order to redirect national policies toward cleaner production. Similarly, a Energy Efficiency Law, drafted by CONAE, that would promote a clear and positive position in Mexico's energy policy towards efficiency has not yet been able to pass internal review. To the extent possible, USAID/Mexico seeks to support an policy strategy that

integrates environmental and energy policies and link the policy efforts of the partner organizations and of other donor agencies working on similar themes. RMSI will attempt to define policy goals on an annual basis with the different counterpart organizations, and regularly and collaboratively evaluate progress toward those goals.

Recognizing that implementation of RMS projects is more than ever in the hands of the private sector and subject to market forces, the RMSI plans to work with its counterparts to support the overall policy of market transformation, which implies that the market for equipment and technologies is transformed into one where higher efficiency models are readily available, known and marketed. Efforts to work towards market transformation for RMS technologies must be a key element of the policy agenda of the different counterpart institutions.

Activity 2.1. Support Development of Policy Framework for Cleaner Production, Energy Efficiency, and Climate Change by National and State-Level Agencies/Commissions

Through its partner organizations, USAID/Mexico will support the development of a transparent and favorable policy framework for cleaner production and energy efficiency, where possible integrating the two and building links among organizations. Each year, a policy agenda will be developed with each partner organization and specific activities will be carried out to support the implementation of the policy agenda.

Task 2.1.1. Develop Policy Agendas

Partners: FIDE, CONAE, CMPL

Year Implemented: FY99/00/01; Results Reported FY99/00/01

The indicator for IR 2.3 is the percent of policy goals achieved each year. In order to evaluate results, it is necessary to establish in conjunction with each partner organization a policy agenda which describes and prioritizes activities and desired accomplishments for the year. Each agency's agenda will reflect its objectives and the current state of policy development with respect to either energy efficiency or cleaner production. Policy goals may include educating policy makers in energy efficiency and cleaner production, convening stakeholders to discuss policy options, conducting targeted policy studies to determine barriers to cleaner production and energy efficiency, analyzing experiences of other countries in similar policy areas, or supporting the development and promotion of draft policies. In collaboration with the counterpart agencies, policy goals will be established at the beginning of each fiscal year through collaboration with USAID and the success in achieving those goals will be evaluated at the end of each fiscal years.

Task 2.1.2. Provide Review and Input to Development of Energy Efficiency Law

Partner: CONAE

Year Implemented: FY99; Results Reported FY99

A likely policy goal for CONAE during FY99 is to push forward the draft Energy Efficiency Law. Disagreements among the members of CONAE have stalled the progress of the draft legislation. USAID/Mexico will support interventions in the process, as appropriate, to break down the road-blocks and initiate new discussions. Actions included in this task are:

- review with CONAE staff the status and latest developments on the preliminary versions of the law drafted over the last several years
- bring experiences of legislation and its results from other countries and evaluate possible options in the context of Mexico
- organize high-level discussions on draft legislation and provide guidance, credibility and strategic input.

Task 2.1.3. Develop and Support Policies to Promote Cogeneration

Partner: CONAE

Years Implemented: FY99/00; Results Reported FY99/00

Cogeneration projects, although promising in Mexico in the early 1990s, suffered due to lack of interest by the national utility, a difficult permitting process, and the 1994 peso devaluation which lowered real energy prices and increased interest rates. A renewed optimism regarding cogeneration has emerged in the country, and several projects have been approved. Natural gas is now available almost throughout the country. Nevertheless, developers remain extremely cautious, and important questions regarding approvals, interconnection and tariffs are still unclear. The energy efficiency and climate change benefits of cogeneration are of interest to RMSI, and as a result the initiative will propose to include collaboration with CONAE from among the following actions:

- update and review studies of cogeneration potential, especially checking and reviewing various assumptions regarding interest rates, price increases, inflation and buyback rates
- analyze climate change benefits of cogeneration investments
- focus on key sectors such as sugar, providing more detailed analysis of cogeneration options, investment costs

- bring to bear experiences in cogeneration promotion in other countries
- provide information on distributed generation technologies, policies, barriers and experiences
- design a pilot program on distributed generation in a particular region or area where this technology might find a confluence of interests of different stakeholders.

Task 2.1.4. Continue Cleaner Production Policy Dialogue with Policy Working Group

Partner: CMPL

Years Implemented: FY99/00/01; Results Reported FY99/00/01

CMPL, with the support of EP3 and Erasmus University (supported by UNIDO), began a policy dialogue with key stakeholders. During FY98, a policy workshop and a follow-up meeting were held with representatives from governmental agencies, Congress, universities, NGOs, and industry to develop a common language for cleaner production, develop policy options for cleaner production and identify actions for each of the representative groups. A follow-up meeting was held with high level Ministry representatives to report on the findings of the workshop and receive additional input. This work will form the basis of establishing an ongoing policy working group to promote policy initiatives at many levels. This task will be supported jointly by USAID/Mexico and UNIDO and will be complemented by Task 2.1.5. Actions to be completed include:

- convene policy workgroup on regular basis and support policy dialogue
- document progress and evolution of discussions, and recommend concrete goals to guide the group.

Task 2.1.5. Prepare Policy Documents to Support Adoption of Cleaner Production Policies and Financial Incentives

Partner: CMPL

Years Implemented: FY99/00/01; Results Reported in FY99/00/01

USAID/Mexico seeks to support a series of policy studies to support the policy dialogue and assist in moving forward the integration of cleaner production into national and state policies and programs. Under EP3, a preliminary study is being prepared to identify the obstacles to cleaner production in the current policy framework. This policy diagnostic will be the basis for the next policy workgroup meeting. Additional targeted studies will be identified by the policy workgroup to conduct more in-depth analysis for policies and program. This will also include

further work on financial and economic incentives for cleaner production such as applying fiscal incentives that are currently only available for pollution control equipment to RMS technologies.

- identify, design, and execute in-depth policy studies
- provide legal/technical support in the development of concrete policy proposals.

Task 2.1.6. Support Integration of Institutions' Activities under RMS

Partners: CMPL, FIDE, CONAE

Years Implemented: FY99/00/01; Results Reported in FY99/00/01

RMSI is predicated on the supposition that electrical and thermal energy efficiency, water conservation, pollution prevention and waste minimization are related activities, and that their integration provides economies of scale and scope in audit and implementation work. While this may work on a theoretical level, or on a practical level with a certain client, RMSI recognizes that its counterpart institutions have individual histories and particular responsibilities that will limit the extent to which activities can be integrated. Nevertheless, RMSI considers this issue of sufficient importance to warrant an ongoing dialogue among the different institutions, both under the RMS technologies flag as well as under climate change. In addition, RMSI can achieve certain economies of assistance, transferring advances in financing, ASCUS, project implementation, evaluation and other activities among the different institutions, or taking advantage of an expert in one area to work with more than one institution. Finally, RMSI will organize semi-annual meetings of representatives of the counterpart agencies to discuss activities under the initiative, evaluate possible greater collaboration among agencies on certain tasks, develop ideas for a broader leveraging of resources (lessons learned from an activity with one counterpart may be timely and invaluable for another) and obtain feedback on the initiative.

Activity 2.2. Support and Evaluate Market Transformation for RMS Technologies and Methodologies

As stated above, market transformation is a key concept which should underlie many of the policies promoted by the RMSI partner institutions. Taking advantage of market forces rather than attempting to control and over-regulate will likely make RMS-related programs more successful and sustainable in the long run. Institutions promoting RMS implementation must recognize that the main capital flows are from private rather than public sources, and thus depend purely on the market. To harness these market forces, however, requires a solid understanding of how the market systems work, where things stand and how different programs can be effective. The studies and evaluations listed below are a beginning attempt to expose the RMSI partners to this better understanding of technology markets.

Task 2.2.1. Market Research Surveys on Baseline Equipment Penetrations

Partners: FIDE; CONAE

Year Implemented: FY99; Results Reported FY99

Market research, once mainly the domain of salespersons, must also become an important part of strategy and policy development and decision-making of institutions promoting equipment available (or not yet available) on the market. In addition, market research can provide key baseline information to better measure the effectiveness of a program, the objective of which might be to maximize the implementation of an RMS measure or the use of an RMS technology. This task will encompass the following actions:

- define with partner agencies the technologies of most interest in achieving market transformation, and those in which promotion or implementation programs are planned or ongoing (compact fluorescent lamps, electronic ballasts, exhaust gas analyzers, etc.)
- define a representative region or sample in which to carry out the survey work
- select a method of carrying out the survey work (interviews with vendors, “mystery shopper” approaches)
- implement the survey and analyze the results.

It is estimated that 3-5 such surveys will be conducted for different or related equipment. RMSI will work with its partners to optimize the application of these surveys.

Task 2.2.2. Conduct Survey of CP Technology Suppliers/Consultants

Partner: CMPL

Year Implemented: FY01; Results Reported FY01

This task will serve to develop a data base for CMPL of RMS technology suppliers, consultants and implemented projects focused on pollution prevention. This data will provide CMPL and other agencies working in pollution prevention both a baseline for its activities and a resource list. Working with CMPL, RMSI will carry out the following activities:

- define the scope of the surveys, based on the planned uses of the information gathered; identify the technologies to be included and considered
- carry out the surveys and analyze the results; provide in a data base format
- recommend ways in which the information can continue to be updated.

Task 2.2.3. Host Study Tour to Observe Market Transformation Programs and Activities in the United States

Partners: FIDE, CONAE, CMPL

Year Implemented: FY00; Results Reported FY00

Market transformation activities are taking place throughout the United States, supported by utilities and state regulatory commissions. Some of these programs have a history of several years, others are in the beginning stages. Contact with a variety of these programs will allow staff of counterpart agencies to obtain a broader perspective, put their own activities into context, learn valuable lessons, and make contacts which they can continue to cultivate as colleagues over time. A group of several representatives of the local partner agencies, and including a RMSI staff person, can take advantage of such a study tour to share experiences and develop a rapport which may result to be invaluable in the collaboration among institutions in Mexico.

While the study tour can focus on market transformation in general, different tours can cover different specific topics: particular technologies; types of programs; financing and funding aspects; etc. Depending on the availability of training program funds, up to four different study tours of 5-7 persons can be designed and implemented under this activity of RMSI.

Task 2.2.4. Post Project Survey and Evaluation Work

Partners: FIDE, CONAE, CMPL

Year Implemented: FY01; Results Reported FY01

While general program evaluation activities are supported as part of institutional capacity building in Component 3 below, this task covers specific evaluations based on market research in the context of market transformation. The surveys will likely be linked to the initial market research activities carried out near the beginning of the RMSI work which were followed by programs aimed at transforming the market. A series of follow-up surveys will ascertain the extent to which market transformation has taken place, and the extent to which the program(s) supported by RMSI and/or counterpart institutions influenced that change.

Implementation of the survey work will be consistent with the actions described in Task 2.2.1 above, with the regions and technologies already defined. It is estimated that 3-5 such surveys can be implemented. RMSI will work with the counterpart agencies to complete the analysis of the survey data and present the findings, conclusions and recommendations.

Component 3. Develop Institutional Capacity of Partner Institutions to Promote RMS Programs and Methodologies

IR 2.3: Improved Mexican institutional capacity for RMS and renewable energy technologies.

► **Indicator #8:** Number of Mexican institutions with adequate capacity in RMS and renewable energy technologies.

Long-term sustainability of successful RMS implementation, achievement of the transformation of the markets for RMS technologies in Mexico, and contribution to climate change-related policies and implementation all depend largely on the capabilities developed by the local institutions. In addition to the collaborative programs described in the previous components, an important objective of the RMSI will be to continue strengthening these capabilities, working with the institutions to help fill gaps, meet specific urgent needs, train staff, build confidence, improve image and promote success stories. Capacity of these institutions will be evaluated jointly by the institutions and USAID/Mexico on an annual basis in five key areas: leadership, programs, human resources, financial resources and communications.

This component is divided into two main activities: the first represents the general support actions to strengthen each institution, while the second focuses specifically on strengthening their evaluation capabilities. The latter activity must play a key role in the development of a successful institution in several ways. It represents both the confidence and ability of an institution to stand up to the scrutiny of independent evaluations of its programs and the acceptance of the practice of carrying out honest evaluations in order to learn how to better implement programs.

Activity 3.1 Develop and Carry Out an Annual Institutional Strengthening Program for Each Partner Institution

Activities which will serve to strengthen the partner institutions will be developed collaboratively between each institution and USAID/Mexico through the RMSI. A separate task for each institution will allow the tailoring necessary to meet the particular needs and priorities of each entity.

Task 3.1.1. Institutional Strengthening Activities for CMPL

Partner: CMPL

Years Implemented: FY99,00,01; Results Reported FY00,01

Examples of actions which will be developed and agreed upon specifically with CMPL are listed below. These may be determined in an annual work plan or may result from specific requests or opportunities with need for immediate response throughout the year.

- Identification of specific staff training needs
- Provision of short training for specific individuals (leadership, staff training)
- Development of databases; support and assistance of data base maintenance
- Design of outreach strategies
- Identification of international conferences, seminars, exchange programs, study tours
- Quick-response technical assistance
- Conference support (speakers, workshop organization)
- Business planning assistance; support for annual work plan development
- Program development and strategic planning

Task 3.1.2. Institutional Strengthening Activities for CONAE

Partner: CONAE

Years Implemented: FY99,00,01; Results Reported FY00,01

Examples of actions which will be developed and agreed upon specifically with CONAE are listed below. These may be determined in an annual work plan or may result from specific requests or opportunities with need for immediate response throughout the year.

- Identification of specific staff training needs
- Development of databases; support and assistance of data base maintenance
- Design of outreach strategies, support for website development and upgrading
- Identification of international conferences, seminars, exchange programs, study tours
- Quick-response technical assistance
- Conference support (speakers, workshop organization)
- Business planning assistance, market entry support
- Support for annual work plan development
- Program development and strategic planning
- Preparation of scopes of work for new program activities

Task 3.1.3. Institutional Strengthening Activities for FIDE

Partner: FIDE

Years Implemented: FY99,00,01; Results Reported FY00,01

Examples of actions which will be developed and agreed upon specifically with FIDE are listed below. These may be determined in an annual work plan or may result from specific requests or opportunities with need for immediate response throughout the year.

- Identification of specific staff training needs
- Technical guidance and advice on programmatic issues (e.g., CFE-IDB program)
- Development of databases; support and assistance of data base maintenance
- Information on latest US activities and trends in the field
- Identification of international conferences, seminars, exchange programs, study tours
- Quick-response technical assistance
- Conference support (speakers, workshop organization)
- Business planning assistance; support for annual work plan development
- Program development and strategic planning

Task 3.1.4. Institutional Support for ATPAE

Partner: ATPAE

Years Implemented: FY99,00,01; Results Reported FY00,01

Under RMSI, USAID/Mexico plans to continue support for ATPAE's training and promotion activities. These include participation in certain training courses and in the annual energy efficiency conference held in Mexico City, where USAID has traditionally supported US speakers in the areas of new technologies, international experiences and global climate change activities.

Activity 3.2. Support Capacity of Partner Organizations to Carry Out Detailed Program Evaluations

One of the clearest areas in which the local partners need strengthening is the field of program evaluation. FIDE has only begun program evaluation work in the last 18 months, and is still far from treating it as an integral activity; CONAE is just starting work on its first program evaluation; and CMPL has done essentially no program evaluation work. Good evaluation practices are critical to the proper evolution of programs, as they provide feedback on program success and allow integration of lessons learned into new program development. Evaluation results provide the basis for obtaining additional funds, prioritizing spending on different types of activities and providing credible results for public dissemination. In addition, such evaluation practices provide results which feed in to the USAID results framework. The tasks under this

activity will serve to enhance the capabilities of the counterpart institutions through support in evaluation of their particular programs.

Task 3.2.1. Program Evaluation Support for CMPL

Partner: CMPL

Years Implemented: FY99,00,01; Results Reported FY00,01

Evaluation support with CMPL will focus on several actions over the 3-year period of the RMSI:

- develop an evaluation plan, prioritizing practical evaluation activities which can be jointly implemented by CMPL and the RMSI
- carry out process evaluations of completed CMPL projects, especially activities in the electroplating and foundry sectors addressing questions such as: effectiveness of different audit methodologies used; results of applying different levels of technical support; relative costs of the different methodologies
- carry out impact evaluations of the same CMPL projects, estimating investments made, level of pollution prevention, monetary savings, cost-benefit for the program
- use results of the evaluations as an input to the design of a larger-scale program in the electroplating and/or foundry sectors; include evaluation as an integral part of the program activities
- design and carry out evaluations of additional programs as time and resources permit.

Task 3.2.2. Program Evaluation Support for CONAE

Partner: CONAE

Years Implemented: FY99,00,01; Results Reported FY00,01

The first program evaluation carried out jointly by CONAE and USAID/Mexico will focus on the steam systems pilot project and will be completed by the end of September 1998. This first evaluation activity will be used as a basis for additional evaluation support actions as follows:

- use lessons learned from steam systems evaluation to provide input to the development of an overall program evaluation plan for CONAE
- design and carry out process and impact evaluations of one additional CONAE program

- include an evaluation task as an integral component of one or more new project designs that CONAE is preparing.

Task 3.2.3. Program Evaluation Support for FIDE

Partner: FIDE

Years Implemented: FY99,00,01; Results Reported FY00,01

FIDE has performed a nationwide evaluation of energy-saving habits of up to 1500 end-users on a bi-annual basis for the last 6 years. More recently, in collaboration with USAID/Mexico, FIDE has added a persistence component to the evaluation carried out in 1997. Also under this collaboration, an initial study on the persistence of savings of FIDE programs over the years has been carried out. Finally, 3 city-wide lighting program evaluations are to be completed by September 1998 in another collaborative effort between FIDE and USAID/Mexico.

Among the actions contemplated to be undertaken in order to strengthen FIDE's evaluation capabilities are the following:

- refine the FIDE persistence-of-savings study to increase the sample size and obtain a more reliable base of information for analysis
- assist in the integration of program evaluation activities in FIDE's different sectoral programs, including industrial, commercial and municipal sector activities
- support the development of data tracking systems in order to develop and maintain a reliable information base of clients, measures applied and results achieved
- provide guidance in specifying logging equipment which FIDE can purchase and apply in their impact evaluation activities.
- develop evaluation activities to provide FIDE better information on the cost-benefit of their different project activities, as input into the long-range strategic planning processes of FIDE.

Task 3.2.4. Support for Evaluation Capabilities at IIE

Partner: IIE

Year Implemented: FY99; Results Reported FY99,00,01

The Mexican electric power research institute, Instituto de Investigaciones Eléctricas (IIE), is, among other capabilities, the repository of load research information, technology and capability in Mexico. IIE contributions to the design and evaluation of the FIDE and CFE energy saving

programs were facilitated through the purchase of the EPRI DSManager software, the covering of license fees and technical support for 3 years, the provision of initial training and the opportunity to apply this software to a variety of projects and develop experience for the IIE staff. IIE used this software to help design the high-efficiency motors component of the current FIDE-CFE-IDB incentive program, as well as to design and evaluate the change to daylight savings time coordinated by FIDE for all of Mexico beginning in the fall of 1996.

To maintain the design and evaluation capabilities of IIE and ensure availability of the model to Mexican agencies and local projects, RMSI will provide IIE with DSManager's new Windows 95 version known as RetailManager, renewing the license which has now expired, providing continued technical support and access to upgrades in the model, and allowing IIE to take advantage of the next generation software for continued design and analysis of electric energy efficiency and demand reduction programs.

V. Monitoring Activities and Reporting Requirements

Task 1. Develop Annual Work Plans

Annual work plans will be developed for each of the three Components and submitted 30 days prior to the beginning of each fiscal year, for comment and approval by USAID. For the first year, the annual work plan will be submitted within 6 weeks of the contract start date. Work plans will specify objectives, activities, reporting requirements, planned deliverables and approximate due dates, estimated travel, and levels of effort; each work plan will be accompanied by a budget.

As part of the work plan preparation during the first year, the contractor will prepare draft memoranda of understanding (MOU) between USAID and the partner organizations. These MOU will be submitted no later than the first year work plan.

Individual work plans will be developed for each task prior to initiation, subject to comment and approval by USAID. These task work plans will include more specific details about actions, personnel, travel, budget, and deliverables.

Each task work plan should define deliverables, including final reports for significant tasks. Draft task final reports will be submitted within one month of completion of the task to USAID for review and comments. Each final task report will be issued two weeks after receiving comments from USAID. Copies of all final reports will be submitted in accordance with CDIE requirements. Two copies of each report will be sent to CDIE/DI, Ronald Reagan Building, Washington, DC 20523.

Monthly status reports will outline progress across all activities to date on the annual work plan. Items to be reported are activities and travel completed during that month and expected new and continuing activities for the subsequent quarter, indicating any problems encountered, and proposing remedial actions as appropriate. A budget update will also be provided.

Task 2. Performance Monitoring and Reporting

Efforts will include the development and/or refinement of elements within the Performance Monitoring Plan (PMP) outlining the results framework for USAID/Mexico's SO2. An initial task will be the review and evaluation of the current IR framework and associated indicators, and provide support in their refinement in accordance with the needs of USAID/Mexico.

Data collection and evaluation schemes will be developed for each relevant indicator in the PMP; contractors will work with local counterparts to design and implement data collection and monitoring procedures, enabling partners to capture the results of their efforts. For example, surveys and collaborative reviews of partner organizations will be designed to determine the policy agenda and institutional strengths and weaknesses and further monitor progress within the policy adoption and institutional strengthening areas.

Monitoring and data collection will continue throughout each year to gather the results from relevant indicators in the PMP. Performance Monitoring Reports (PMRs) will be submitted summarizing the progress of major activities in relation to the PMP. PMRs will be submitted annually, and no more than 60 days after the end of the fiscal year. Results are to be accumulated at the end of each fiscal year, and submitted in the annual report to USAID/Mexico in preparation for USAID/Mexico's R4 process. Independent verification of the data and data source reliability will be incorporated into the data collection plans.