

**TECHNICAL ASSISTANCE FOR  
RURAL POWER FOR POVERTY REDUCTION II PROGRAM**

**USAID Contract No. 388-C-00-02-00124-00**

**USAID Project No. 388-0287-06**

***RPPR II WORK PLAN YEAR #5***

**1 October 2006 through 30 September 2007**

**(Approved By USAID Mission)**

**Prepared By**

**NRECA INTERNATIONAL, LTD.**

**In Partnership With**

**RURAL ELECTRIFICATION BOARD OF BANGLADESH**

**And**

**USAID MISSION TO BANGLADESH**

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**WORKPLAN FOR YEAR #5**  
**October 1, 2006 to September 30, 2007**

**Technical Assistance for Rural Power For  
Poverty Reduction II Program**

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## I. RPPR II PROGRAM OVERVIEW

### General Description of RPPR II Program:

The objective of the RPPR II is to continue USAID's support of rural electrification in Bangladesh by concentrating on strengthening business operations and sector management so as to ensure institutional self-sufficiency and sustainability. Ultimately, the RPPR II will support USAID's overall objectives of poverty reduction in Bangladesh. The activities undertaken by REB and NRECA during this last year of the RPPR II program will be aimed at further strengthening management and technical capability of the a group of selected PBSs. These activities will promote credibility and viability among these entities so that GOB and MDB donor funding will continue to be available for infrastructure and ongoing technical assistance; and will assist in preparing the REB system for the changes in the Bangladesh electric industry.

### RPPR Mission Statement:

*"To reduce rural poverty by enhancing the capacity of the PBSs to provide efficient user-owned electric service for the benefit of the customers."*

### RPPR II Program Objectives:

The overall RPPR II Program will promote the sufficiency and sustainability of the RE Program as a means of ensuring that the gains made over the last twenty eight plus years will be continued with a reduced need for foreign assistance. Specifically the RPPR Program involves the completion of eight specific Tasks under four Program Activities that support the following four main objectives:

- **Planning and System Engineering:** This Activity involves the completion of two tasks, including extending the geographic information systems (GIS) to an additional seven PBSs beyond the four systems developed under RPPR; developing improved planning capabilities at REB and the consulting engineering firms serving two PBSs. These efforts will be led by a long term Engineering and Operations Advisor supported by two short-term specialists. The GIS Specialist will provide specific technical support for development of the GIS task. The Planning Specialists will provide training to the consulting engineers in advanced analysis techniques. The expertise developed from the work in these limited number of PBSs will be expanded to additional PBSs
- **Operations and Maintenance Program:** The focus of this Activity will include undertaking two tasks - strengthening preventive maintenance programs at two PBSs and working with the REB to institutionalize maintenance materials procurement and warehousing at REB and the PBSs. This Activity will be led by the Engineering and Operations Advisor and will be supported by two short-term specialists. The Maintenance Systems Specialist will provide specific guidance on execution and planning of substation equipment maintenance tasks with a review and updating of both REB/PRB Policy Instructions related to line and substation maintenance. The Materials Specialist will work with REB and the PBSs to streamline maintenance material acquisition and warehousing.
- **Strengthening Utility Performance:** This focus area will involve two tasks. NRECA will work to strengthen the REB training function and complete the computerization task begun under RPPR I. The effort will be guided and managed by the Team Leader. The Team Leader will be supported by two short term specialists with expertise in training and computerization. Because of the demands

on the Team Leader's time and the limited funding available to support the specialists, the bulk of the responsibility for execution of both the training support and computerization programs will fall to seasoned local professionals, all of whom are long term NRECA employees

- **Supplemental Tasks:** This focus area includes Tasks of a specific nature which have been requested by REB and which do not fall into any of the categories above. One task involved a review and updating of the engineering and construction standards in use at REB with an eye to adapting them both to changing times and to new requirements for such things as construction of primary line in densely populated urban areas taken over from BPDB. However, with the required budget reduction for RPPR II which occurred because of the reduced funding to the Bangladesh Mission, the scope of these Supplemental Tasks was modified. The modified scope resulted in focusing on the design of an upgraded PBS substation and documenting the process for renovating lines taken over from the BPDB and DESA. In addition, the need for a socio economic assessment of the impact on rural poverty of electrification has been recognized for some time, and this focus area will include the further institutionalization at REB of capability for evaluating such impacts. The standards review will be carried out by an Engineering Specialist under the supervision of the Engineering and Operations Advisor, while the socio economic assessment will be conducted by local professionals on NRECA's staff under the supervision of the Team Leader.

#### RPPR Program Elements:

- **Implementing Agency:** Rural Electrification Board
- **Duration:** Five Years: Sept 26, 2002 through September 30, 2007
- **Total Amount:** US\$ 9.69 million (Tk.56.2 crore)  
(Note: Reduced to \$8.94 million with Contract Modification executed in August 2006)
- **Donor Funding:** US Agency for International Development (USAID) - Contract

#### Program Implementation Strategy As "Partnership"

The design and development of the original RPPR I Program was through a "partnership" between the REB, USAID, and NRECA International, Ltd, and this partnership arrangement will continue in RPPR II. The design of the RPPR I Program was completed under a *Tripartite Agreement* between the partners. With the approval of the RPPR Program by the GOB and the execution of the *Strategic Objective Agreement (SOAG)* between the GOB's Economic Resource Division (ERD), the partners have entered into a *Trilateral Agreement* that provides direction for the implementation of the RPPR II Program. This Agreement outlines the various responsibilities of the respective partners.

#### Development of Annual Work Plan Year #5

Activities undertaken during Year #5 of RPPR II will continue to focus specifically on the initial RPPR II framework as it was developed with adjustments being made based on the accomplishments and progress achieved during Year #4. As outlined in this Annual Work Plan (AWP), the technical assistance being implemented for Year #5 will primarily focus on the continuation of the Activities and

supporting Tasks that continue from RPPR I or those which were initiated under RPPR II and continued up through Year #4. See Section II of Work Plan on page 5 for a summary of some of the major accomplishments from Year #4.

As of the date of preparation of this Work Plan, REB was still working with the Government of Bangladesh on the final formal approval of the Technical Assistance Project Proforma (TAPP) despite there having been preliminary approval several months ago. Various meetings have been held with the Ministry and Planning Commission including a review meeting with the Planning Commission and the Power Ministry. As has been done for previous Work Plans, the Work Plan for Year #5 is based on an assumption that the delay in the TAPP approval will not affect project activities.

As was noted in previous Work Plans, the consulting engineering firms are having significant focus of assistance in two project Tasks under Activity A (Engineering and Planning). As this work proceeds, it is assumed that REB will resolve any issues related to the compensation for the new services being provided to the PBSs by these firms and that such, these issues will not delay implementation of the RPPR II Project tasks. There have been some delays in resolving these issues and this has required some realignment within the NRECA budget in order to provide some additional resources to support these Tasks. The delays related to this issue are explained in more detail in the appropriate sections of the Work Plan. In the event that REB and the consulting engineers cannot resolve the matter of compensation in a reasonable timeframe, then project delays will likely ensue and some alternative financial arrangements will have to be discussed for these new services being provided to the PBSs by the participating firms.

As was noted in the previous Annual Work Plans, the two Tasks under Activity C deal with namely Strengthening Training Program and Procedures (C.1) and Enhancing Computerization in REB and PBSs (C.2) and both have involved the completion of assessments of needs for these two functional areas. Based on the findings of these two assessments, the ongoing support and subsequent activities in these two areas will be tailored to the results of these two individual needs assessments. As has been clarified previously, some specific sub-tasks that will likely emerge as work progresses to meet the identified needs included in the Needs Assessment and as such it is not possible at this time to reflect all of these sub-tasks in this current Work Plan.

Regarding computerizations, REB took formal decisions at the Board level to have NRECA design and develop an automated Customer Information System with work having been ongoing for several months. Various delays for different reasons (hardware procurement, decisions on local Vendors' involvements, etc.) have presented problems that are making proper implementation more difficult. See details outlined under Task C.2 (Computerization of REB and PBSs).

## II. MAJOR ACCOMPLISHMENTS UNDER ANNUAL WORKPLAN YR #4

### Program Activity A: Planning and System Engineering

#### *Task A.1: Service Territory Database.*

- All aspects of the GIS projects were completed for Tangail, Narsinghi I, and Nilphamari PBSs and formally submitted to REB.
- Continued to monitor the utilization of the E&O Records Update Process by the PBSs and consulting firms as a means of helping to ensure that changes in the distribution system are being recorded in the Electronic Record Card (ERC) database, which will be needed when the GIS databases are updated in the future.
- Conducted training sessions on the implementation of the "Electronic Record Card (ERC)" process and use of ERC software package for consulting firm personnel as well as "training of trainers" sessions for Technical Training personnel within REB's Training Directorate in order to proceed with further implementation at additional PBSs.
- Completed an update of the GIS database for Manikgonj PBS, which was initially developed as a pilot project under RPPR I. The GIS update of Manikgonj PBS was done to facilitate the updating of that PBS's Construction Work Plan, which was done two years ago under Task A.2.
- Continued with training at the NRECA office of consulting firm personnel on the use of GIS software packages (ArcView and Arc Info).
- Completed the training for the two engineers from PBS consulting firms who had started their program in Year #3 and had another person 80% trained by the end of year # 4.
- Developed two new PBS Guidelines, 100-62 and 100-63, for prequalification of GIS developers and GIS consultants. These guidelines were developed to assist in the institutionalization of the GIS process. Both proposed guidelines have been submitted to REB for review and approval.
- Developed a strategy for REB to proceed with their World Bank Project in conjunction with RPPR-II project.

#### *Task A.2: PBS Short and Medium Range Planning*

- Completed the 2007-2009 System Planning Study (Construction Work Plan) for Tangail PBS and conducted a presentation for top REB officials to further familiarize them and get their feedback. This forum was also used to discuss ideas on transitioning from the present Master Plan process to the much advantageous new planning process.
- Initiated work on updating the System Planning Study (Construction Work Plan) for Manikganj PBS, which is to be used as a hands on training exercise for the PBS consulting firm (ECBL) assigned to that PBS.
- Worked with REB on the development of a transition plan from REB's current practice of following Master Plan to the new System Planning Study approach (Construction Work Plan) as per Policy Instruction 100-23.
- Worked with REB to obtain necessary REB approvals and signatures required for execution of "Trilateral Agreements" between REB, NRECA and local electrical consultants related to the use of

the available MilSoft software packages by the local consultants and be trained to develop System Plans (Construction Work Plans).

- Conducted presentation on the System Planning Study developed for Tangail PBS to REB top officials. A similar presentation was conducted for Tangail PBS personnel along with local consultant, (KP) personnel.
- Developed a model "Development Project Proforma"(DPP) for Tangail PBS from the System Planning Study report as a means to determine whether the DPP process is readily adaptable to the newly prepared System Planning Study approach being introduced at the PBS and to assist with its implementation.

Note: The approach to funding the implementation of the elements included in this type of System Planning Study requires an alternate approach that is different from the Project Proformas (PPs) that are used for Gov't.-initiated projects as has been done with the RE Program since its inception.

### **Program Activity B: Operations and Maintenance Programs**

#### ***Task B.1: Preventive Maintenance Programs***

- Received REB approval of proposed revisions of the two main PBS maintenance guidelines – Policy Instruction 100-29: Substation Operation, Inspection and Maintenance Manual and Policy Instruction 100-30: Distribution Operation, Inspection and Maintenance Instructions.
- Brought Narayanganj PBs into the Pilot Maintenance Program due to Narsingdi PBS-1 being split into two PBSs, new one being Narayanganj, as most of the substations were transferred from Narsinghdi-1 to Narayanganj PBS when it was formed in mid 2005.
- Introduced step-by-step procedure and checklist for substation maintenance and briefed PBS personnel on using this checklist at Dhaka-1, Narsingdi-1, Narayanganj and Comilla-1.
- Provided advisory and oversight for the maintenance of the annual substation in the four pilot PBSs (Dhaka 1, Comilla 1, Narsinghdi 1 and Narayanganj).
- Conducted formal follow up and inspection of the substation maintenance work completed by the PBS personnel with REB personnel being involved in this process as a means of developing their capacity to provide this same type of oversight instead of their present role of direct supervision of this particular type of substation maintenance work.
- Conducted presentations and hands-on training on acceptance inspections for new substations at Dhaka-1, Narsingdi-1 and Comilla-1 PBSs. These sessions were attended by PBS personnel from Dhaka-1, Narsingdi-1, Narayanganj & Comilla-1 as well as REB personnel from Inspection & Testing, System Operations, Substation Construction Cell, and the Project Division offices.
- Conducted "hands-on" training for REB Savar Workshop technicians for improved methods of equipment troubleshooting, repair and handling of distribution system equipment including substation transformers, OCRs/ACRs, voltage regulators, as well as meter testing equipment.

#### ***Task B.2: Material Supply for O&M Program***

- Continued to provide significant assistance to REB and PBSs in the stocking and accounting for maintenance materials. This was done in support the substation maintenance work being done as part of Task B.1.

- Worked with REB and the PBSs to purchase adequate OMRR materials for the annual substation maintenance for the pilot PBSs (Dhaka 1, Comilla 1, Narsinghdi 1, and Narangan PBS), which as also being done in support the substation maintenance work being completed as part of Task B.1.
- Advised and assisted REB personnel in the Directorates of Material Planning, Specifications, and Standards (MPSS) and Procurement regarding planning for an adequate flow of OMRR materials, which special emphasis being given to those materials that must be procured through international tendering.
- Provided input to REB and PBS personnel regarding changes that will be required at the pilot PBSs to properly store the OMRR materials at REB and PBS facilities.
- Continued follow-up with REB regarding approval of revised PBS Policy Instruction 100-58 (OMRR Inventory Materials) in order to support its formal implementation.

### **Program Activity C: Strengthen Utility Performance**

#### ***Task C.1: Strengthen Training Program and Procedures***

- Curriculum development activities included finalization of the work on the design, development, pilot testing, finalization of curriculum materials (Trainer and Trainee Manuals), which was followed by implementation of the following training programs:
  - Operation, Maintenance and Repair of Transformer for Engineers (TO 230) – English.
  - Equipment Records Card (ERC) aimed at the concerned personnel of PBS who are associated with the maintenance and record keeping of electrical equipment (e.g. transformer, OCR, ACR, Voltage Regulator etc used in PBSs) – English
  - Training of Trainers (TOT) (IM 275)
- Upon the special request received from the Director, Training, REB, carried out the activities of developing curriculum outline, preparing training manual (Trainer and Trainee Manuals) based on that approved curriculum-outline, translating into Bangla and pilot testing of the following training programs:
  - Photovoltaic (PV)/Solar Home System (SHS) (TW 012) in Bangla aimed at the Technicians of the Renewable Energy Project of the REB.
- Submitted following draft training manuals which were developed based on the curriculum outline approved by REB.
  - Interpersonal Communication for REB/PBS Officers and Staff (IM 150, IM 151 and IM 152) - English & Bangla
  - Understanding Financial Reports (Form 550) for PBS staff and Board Directors (IF 335) - English & Bangla

(Note: NRECA continues to monitor REB's review of the curriculum materials and taking the next steps for pilot testing and finalizing the training manual.)
- Translated the following draft training manual into Bangla in preparation for pilot testing:
  - Interpersonal Communication for REB/PBS Officers and Staff (IM 150, IM 151 and IM 152) - English & Bangla

- Additional curriculum development activities included work on the design and development of approved Curriculum Outlines, with work on the development of the curriculum materials (Trainer and Trainee Manuals) currently in various stages for the following training programs
  - Material Accounting for Assistant Directors (Finance) and Accountants of REB (IF 520)
- Conducted a course on Training of Trainers (TOT) in early part of Year #4 for a special batch comprising officers of REB and PBS to enhance the trainers capabilities to effectively utilize the new training materials being developed and to improve their classroom delivery skills using a variety of training methods that are designed to stimulate active trainee participation.
- Finalized the report on the Training Needs Assessment (TNA) for officers and employees of REB and the PBSs, which includes the results of a job/task analysis as a means of identifying the training needs for all REB and PBS positions and which were confirmed through the participation of senior level officers of REB and the PBSs in three workshops conducted for the three broad functional areas of engineering, finance and management/administration.
- Conducted the 2<sup>nd</sup> and 3<sup>rd</sup> batches of the Workshop entitled "Enhancing Functional & Leadership Roles of GMs to Strengthen the PBSs in a Changing Environment", which included an opportunity for interactions between participants and the REB Chairman and Board Members.
- During the time period covered by the Annual Workplan for Year #4, a total of 6,948 persons participated in various types of training programs of varying durations delivered by REB, PBS and NRECA. The following table shows that of the total, there were female 1,493 participants:

Period	Organization	Male	Female	Total
October 2005 to September, 2006	REB/PBS	4,029	1,339	5,668
	NRECA	1,429	70	1,499
<b>Total</b>		<b>4,880</b>	<b>1,493</b>	<b>7,167</b>

(Note: The table above reflects only the formal sessions having a duration of 3 or more days as reported to USAID on a monthly basis. Numerous other informal training activities were conducted throughout the year, but are not reflected in the numbers shown above. This type of training relates to NRECA staff working with REB and PBS personnel with the implementation of various initiatives included under the RPPR II Program such as the GIS, computerization, substation maintenance, materials, and socio-economic data gathering system.)

- Provided support for the development of different communication materials associated with the RPPR II Program implementation and various aspects of Rural Electrification Program including one entitled "REB, PBSs, USAID and NRECA: Long-Term Partnership for Rural Electrification in Bangladesh" and "Rural Electrification: Changing Lives in Rural Bangladesh", both of which were used as part of the US Embassy sponsored America Week conducted in March 2006 in the city of Chittagong.
- Contributed in the development of a "communication toolkit" being developed for the Good Governance (Project name: The Shoshashoner Anneshonny - Bangla translation for "Zone of Good Governance"), which is an initiative that has been developed jointly by seven USAID-financed technical assistance projects with the overall objective of improving local governance by empowering local citizens and making them active partners in determining the use and allocation of resources in their areas.

- The outcome of the effort has been published as a draft Guide Book for the Facilitators in empowering the targeted beneficiaries and other stakeholders in the sessions aimed at raising awareness about good governance for the respective projects with an anticipation of having pilot tested in the coming months.

**Task C.2: Enhance Computerization in REB and PBSs**

- Continued with various tasks related to the implementation of Consumer Information System (CIS), which includes the customer billing in the PBSs assigned to NRECA with some of the following specific sub-tasks having been accomplished during this project year:
  - Completed various modifications to the CIS software package as determined by the pilot testing process and as required with changes coming from REB and from the Ministry on rates and other charges associated with the billing process.
  - Advised and assisted Mymensingh PBS 3 billing personnel regarding the completion of aging process in the headquarters and the starting of the billing process in Zonal Offices of Kishoreganj PBS. (Note: There was a prolonged delay in receiving the computing equipment in the Zonal Offices for the Kishoreganj PBS which resulted in numerous delays and seriously hampering the implementation of CIS in these Zonal Offices.
  - Completed the preparation of the "CIS User's Guide" required for the CIS package with copies being provided to the eight participating PBSs, as well as the concerned REB Directorates. Completed work on other required documentation including the "Administrative Guide", the "Implementation Guide" and the technical coding/commands required for modifying and updating the package.
  - Worked with REB in formalizing a plan to initiate the implementation of CIS in the eight PBSs (Mymensingh-2, Rangpur-1, Pabna-2, Barisal-1, Rajbari and Magura, Jamalpur and Brahmanbaria PBSs) with some of the main subtasks including
    - o Worked with REB in finalizing plans for the use of Vendor Implementation Teams (VITs) which were local IT firms previously selected by REB for assisting with the development of billing packages in various PBSs and to support the implementation of CIS with NRECA's initial implementation to take place in eight PBSs (Mymensingh-2, Rangpur-1, Pabna-2, Barisal-1, Rajbari and Magura, Jamalpur and Brahmanbaria PBSs).
    - o Developed an express version of CIS as a timesaver for faster data capturing because the procurement process of the computing equipment took much longer than expected and installed this module the eight selected PBSs.
    - o Organized several training programs for the Billing Assistants and other relevant PBS officials as well as for the concerned Vendor Implementation Team (VIT) members with the training programs focusing on the installation of CIS in the LAN environment of respective PBSs and the operation of CIS software package.
    - o Formally initiated the Billing process in six of the eight PBSs under the direction of the Vendor Implementation Teams (VITs) with bills being prepared using the new CIS package in most of the zonal offices by the end of Year #4. With delays occurring in the other two PBSs (Jamalpur and Brahmanbaria) due to hardware procurement problems.
    - o Prepared the soft-copy of the preprinted Bill Form format to all the PBSs selected for CIS implementation in order to ensure uniformity in the billing form and then provided

softcopies of the files to the respective PBSs for having the actual forms prepared for use with CIS.

- Prepared the draft of the Implementation Plan of the CIS software deployment to be used by the Vendor Implementation Team members for use at these initial eight PBSs.
- Completed additional modification to the existing REB Payroll (designed and developed by NRECA) in order to incorporate the GOB's newly declared Pay Scale, and the related new rules.
- Reinitiated the task related to REB General Accounting starting with the voucher generation process for the Material Accounting sub-system that is currently under test in REB Accounting section.
- Completed the necessary modifications to the Statistical Database in order to accommodate the changes occurred due to the creation of three new PBSs (Narayanganj, Gazipur and Chittagong-3) in July 2006 and new requirements per the direction of the Ministry of Power with subsequent assistance being provided to the REB Rate Cell as they worked with the newly incorporated features.
- Continued to provide ongoing support to the REB Information and Communication Technology (ICT) Directorate after it's formation with various recommendations being presented to REB as to how to strengthened its capacity to oversee the RE Program's expanding computerization.

#### **Program Activity D: Supplemental Tasks**

##### ***Task D.1: Updating Engineering and Construction Standards***

- Continued to advise and assist REB's Material Planning, Standards, and Specifications (MPSS) Directorate, by providing comments on proposed changes to various material specifications with the objective being to strengthen the specifications to improve the quality of materials being purchased by REB and thus eliminating products being provided by inferior manufacturers.
- Prepared a series of detailed specifications on electronic meters, both single phase and three-phase types to be given consideration for adopting by REB Engineering personnel.
- Completed research on the various set of Standards currently available within REB to determine possible sources for procuring up to date versions being that the versions currently in use by REB are several years old with many outdated.
- Initiated planning for the preparation of the new design for upgraded 33/11 KV substations with increased capacity up to 20 MW.

##### ***Task D.2: Socio-Economic Impact Assessment***

- Completed the initial establishment of the socio-economic baseline database system in ten additional PBSs bringing the total number of participating PBSs to 28 which included work on the following:
  - Conducted a total of 36 one-day training sessions on the baseline data collection techniques and procedures (includes refresher and foundation programs) to 1037 participants (973 males and 64 females) of 14 PBSs with the participants including senior, mid and junior level staff.
  - Provided follow-up support to various PBSs for reviewing their performance and offering data entry training and general troubleshooting related to the automated data collection system including subtasks such things as data entry, data compilation, data file copying, etc.

- Reviewed and scrutinized the baseline data collected more than 6,500 new consumers from the four consumer categories during the FY 2005-06.
- Prepared a detailed report regarding quantitative and qualitative performance of the participating eighteen PBSs, which reflected the strengths and weaknesses of each individual PBS with respect to the data collected, as well as their individual progress in the establishment of the socio-economic baseline system.
- Completed a Socio-Economic Baseline Report for the data base of information for 2,018 new domestic consumers collected from the seventeen participating PBSs during FY 2005-06, which presented information on social and economic status of the households at the time of their having accesses to electricity from the RE Program.
- Continued with work related to the publication of a document which includes real-life cases about how 29 member/consumers from seventeen different PBSs have been utilizing electric power to bring positive change in their socio-economic status.
- Developed a concept paper which presented a preliminary assessment of the impact of having access to electricity for an average of 2.4 years by conducting a post-survey with data from 5,802 domestic consumers who had provided their baseline information from 2001.
- Advised and assisted REB's Socio-Economic Monitoring and Evaluation Cell (SEMEC) with respect to socio-economic related activities involving donors and the GOB, with particular involvement that includes providing input related to the baseline study being completed by the local firm under the World Bank project.
- Participated with the Asia Foundation as part of their USAID-funded "Leader Outreached Initiative (LOI) Program" and delivered another orientation program on the functions of the REB and the PBSs within the Bangladesh RE Program for 100 religious leaders (Imams)
- (Note: This activity is beyond the RPPR Program, but NRECA agreed to the request of USAID-Bangladesh to extend its occasional support for the implementation of the LOI Program and in doing so arrange for presentations on the RE Program to the participating Imams and also field visits to PBS offices. Imams).

### III. PROGRAM ACTIVITIES WITH TASKS

#### Focus on Project Yr. #5

#### Program Activity A: Planning and System Engineering

##### *Task A.1: Service Territory Database*

Advisor Assigned: Ray Thayer, Engineering and Operations Advisor  
Specialist Assigned: Daniel Waddle, GIS Specialist  
Local Professionals: A team of GIS Specialists led by A.T.M. Selim

The GIS work being done under this particular Task for RPPR II is the continuation of work that was begun under the pilot phase during RPPR I. During RPPR I, the GIS task served as a pilot demonstration of the use of GIS systems in Bangladesh and GIS data bases were developed for four PBSs.

For the RPPR-2 GIS Task, GIS projects have been completed at seven PBSs. These projects include developing data bases, and developing and printing maps. Further it included identifying potential line extension and densification projects and performing economic analysis of each potential project with details included in the Summary Report for the GIS project for each of the PBSs. The seven PBSs participating in the GIS project are Pubna-2, Natore-1, Dhaka-1, Mymensing-2, Narsingdi-1, Tangail and Nilphamari PBSs. In support of the GIS task a significant effort has been provided on the development of the Electronic Record Card (ERC) software which is an automated system to help maintain accurate records for equipment installed on the PBS distribution systems.

In order for the GIS to be an effective planning tool for the PBSs they must regularly update the databases to keep them relatively current. If the databases contain missing or inaccurate data, of course the reports generated from the databases will be inaccurate and thus not useful. In the interest of supporting of this GIS task, significant work was done on the development of an Electronic Record Card (ERC) system, which is an automated system for maintaining accurate records for equipment installed in a PBS distribution system. This work also provided for the development of a detailed data flow system to ensure that the regular changes to the system were being routinely incorporated into ERC database system and thus available for uploading into the GIS database. This entire recordkeeping process was detailed in the newly prepared Policy Instruction 100-59.

As part of institutionalization of the GIS Task, it is important that personnel from REB/PBS and the local consulting firms become familiar with their responsibilities in the updating process. Then they must develop the skills required to perform their responsibilities for the GIS database updating.

The GIS projects have now been completed at a total of 11 PBSs under both RPPR I and RPPR II. Unfortunately, however until this point in time, REB and the PBSs are not receiving the true benefit from these GIS databases. The main reason for this is because for various reasons REB encountered numerous delays in the process of purchasing the necessary hardware and software to support these GIS databases at the PBSs using the funding available under the World Bank project with the procurement and delivered of equipment only have been recently completed. Therefore, in order to have some institutionalization of this GIS capability within the RE Program, one of the major focuses for the GIS Task for Year #5 will be working with concerned REB, PBS and consulting firm personnel to make the GIS projects fully functional at Manikganj, Natore-1 and Tangail PBSs.

Another major focus for Year #5 will be the continuation of training and technology transfer on all areas related to functioning GIS databases at the PBSs. One area of training will be related to the fieldwork portion of GIS that will involve training local consulting firms how to update the existing GIS

databases. Throughout this process, REB personnel will be trained how to provide proper supervision and quality control of data during the field data gathering process, which for obvious reasons would also be relevant for the development of an initial GIS database for a PBS.

Specific sub-tasks to be addressed under Task A.1 during Year #5 include:

- 1) Continue to monitor the utilization of E&O Records Update and Data Flow Processes by Tangail and Manikganj PBSs and consulting firms using the ERC software. This monitoring is required in order to ensure that the continuous changes to the system are being recorded in the Electronic Record Card (ERC) database, which is utilized directly into the GIS Database.
- 2) Continue to provide training in the field data collection process for updating a GIS database with the first updating work to be done for the Tangail PBS GIS database which includes
  - Training REB personnel in the proper supervision of data collection and the quality control of data. This process would be the same required for any fieldwork being done for either updating a GIS database or developing the initial GIS database.
  - Training the PBS consulting firm personnel to perform the updating of the data which is contained in a GIS database.
- 3) Work with REB GIS Cell in monitoring the field work to be done by the respective PBS and their local consulting firm as they complete the updating sub-tasks that were originally initiated in three additional PBSs (Natore PBS 1, Pabna PBS 2, and Narsighdi PBS 1) as part of the training process and as an integral part of the institutionalization of this field work required for completing the GIS of a PBS distribution system.

As noted in the Annual Work Plan for Year #4, there are a number of specific "third-party actions" required in order for NRECA's successful implementation of this plan and these include the following:

- REB must do the following:
  - Prepare and execute contracts (or revise existing contracts) with the local consultants which provide for updating existing GIS databases.
  - Prepare and execute contracts with 1 or 2 firms that specialize in the development of GIS databases and have them proceed to develop GIS databases for those PBSs that presently do not have GIS databases.
  - Provide effective oversight of E&O records updating, and data flow processes according to 100-59.
  - Provide effective oversight of the GIS field data collection and quality control during GIS field surveys for GIS database updates.
  - Provide effective oversight of the overall GIS development process by the GIS development firms.
  - Ensure that appropriate trainee personnel from REB, PBS and consulting firms are provided for participation in the training sessions conducted by NRECA.
- REB and/or the PBSs must do the following:
  - Assure that arrangements are made so that the required GIS software is available to the local consultants.
  - Ensure that the local consultants get paid for GIS work performed and this includes both past and future work.

- PBS personnel and Retainer Engineers at the PBSs involved in the GIS updates must provide data and support in identifying what changes and additions have been made to their PBS distribution systems since the original GIS databases were developed.

Deliverables for Task A.1:

A report that documents the methodology used in the development of the pilot GIS systems to obtain landbase information, PBS electric distribution system attribute data, demographic data, and perform analysis to optimize investments in expansion and load intensification. The report will also describe and reference guidelines prepared for REB and consulting engineers which document the standard procedures to be used to develop GIS systems for additional PBSs, as well as that prepared to train users of the existing databases. The report will discuss the training activities undertaken to prepare REB, PBS staff and consulting engineers to use both the software and the developed databases, presenting evidence of the number and type of training activities undertaken and the number of participants from REB and /or the PBSs or consulting engineers. Submission by June 30, 2007

The Engineering and Operations Advisor, assisted by the GIS Specialist will be responsible for directing the completion of the various GIS subtasks. A team of local GIS professionals (LPSs) with periodic input from the GIS Specialist will be directly involved with personnel of the PBSs and local PBS consultants responsible for the implementation, monitoring and evaluation of the GIS sub-tasks.

- ◆ LTA -Engineering and Operations Advisor                      1.0 MM    Oct. 2006 - Sept. 2007 (PT)
- ◆ STS – GIS Specialist    1.5 MM    Oct. 2006 - Sept. 2007 (PT)
- ◆ LPS – GIS Specialists (4)    48.0 MM    Oct. 2006 - Sept. 2007 (FT)

**Task A.2:      PBS Short and Medium-Range Planning**

Advisor Assigned:                      Ray Thayer, Engineering and Operations Advisor  
 Specialist Assigned:                      Michael Smith, System Planning Specialist  
 Local Professional:                      Hasibur Rahman, Electric Utility Engineering Specialist

As noted in Year #4's Annual Work Plan, this reason for including this Task within the RPPR II Program was to provide an improved planning process for the ongoing development of the RE Program, and for the purpose of explaining this rationale, a portion of that narrative is repeated in this Work Plan.

The "Master Planning Process" presently used by REB is a holdover from the early days of the RE Program when the PBSs were originally being formed. This method has been an effective way to plan the original development of the PBS power distribution systems. However, as electric distribution utilities such as the PBSs mature, the adoption of a more comprehensive System Planning Study (Construction Work Plan (CWP)) method of planning for the PBSs is imperative. The CWP method of planning has numerous advantages over the Master Planning Process and as such, it is the preferred method because it does the following:

- Addresses all phases of the work needed to be done at a PBS, such as system expansions, densification projects, maintenance work needed, and also work required improving operational efficiencies of the PBS.

- Prioritizes all work needed on the PBS system during the planning period.
- Includes an economic analysis of each project, and determines how each project will impact the financial position of the PBS.
- Includes a technical loss analysis of each project to determine how each project will impact the technical losses of the PBS.
- Includes a load projection for the planning period involved (normally around 3 years).
- Identifies present and future capacity and power quality problems that will be encountered as the power distribution system is expanded to serve additional consumers.
- Identifies the best solution to each problem identified above, by taking into account economics, reliability, safety, and operational considerations.
- By utilizing a computer model of the PBS electric system, both existing and future problems are identified and solutions found prior to the problems occurring.

The point to be noted here is that the System Planning Study (Construction Work Plan) includes system improvement and O&M issues, as well new construction projects. Therefore the name "Construction Work Plan" has since been changed to "System Planning Study (SPS)", which can be considered more appropriate.

The present SPS, which was the CWP for Manikganj PBS that was initially developed under RPPR II, used data from GIS work that was completed as part of the GIS pilot study undertaken under RPPR I in 2002. This planning study is already in the process of being updated in order to account for changes that have occurred to their distribution system since 2002. In addition, adaptations have been identified that could be made to the existing SPS methodology in order to make the elements of the plan more compatible with the realities within the Bangladesh RE Program some of which have been identified during the completion of these planning tasks. These adaptations are in line with those included in the SPS that was developed for Tangail PBS during this past year. These adaptations also will be included in the updated SPS for Manikganj PBS.

One of the major focuses for the Planning Task for Year #5 for RPPR II will be on technology transfer to personnel of REB's SE&D and the RE consulting firms with regard to utilizing modern engineering tools and methods for development of System Planning Studies for the PBSs.

Specific sub-tasks to be addressed under Task A.2 during Year #5 include:

- 1) Complete the update of the SPS for Manikganj PBS (target is March 2007) and provide the assigned staff from the local PBS consulting firm (ECBL) with "hands-on" training during this updating process.
- 2) Complete the update of the SPS of Tangail PBS will be completed by August 2007 with the local PBS consulting firm (KP) will also receive "hands-on" training during this update process.
- 3) Install the Milsoft engineering software packages on the computers of the participating PBS consulting engineering firms and continue with the training on the WindMil feature of the Milsoft package, which will be used by the assigned personnel from the local consulting firms to do some of the actual work required for updating the SPS.
- 4) Prepare basic "Medium Range Plans" for the two pilot PBSs, namely Manikganj PBS and Tangail PBS which would include additional elements beyond the SPS's that will have been completed with updates and disseminate the contents of these plans to the concerned personnel from RFB, the PBSs and the local PBS consulting firms.

As also noted under Task A.1, there are a number of specific "third-party actions" required in order for

NRECA's successful implementation of this plan and these include the following:

- REB must to do the following:
  - Obtain formal REB Board approval for the proposed revisions to Policy 100-23, that covers system planning.
  - Consult with the local consultants in order to determine if adjusted compensation levels will be required for the local consultants that are involved in the SPS development for the PBSs and negotiate these compensation levels if adjustments are required.
- REB and the consulting firms KP Engineers and ECBL Engineers must do the following:
  - Execute a Trilateral Software Agreement, with NRECA as the third party that will allow for the utilization of the two licensed WindMil Software packages available through the RPPR II Program by these two consulting firms for staff training under this particular Task.
- Respective PBS and their local consulting firms must do the following:
  - Support the work associated with the updating of the SPS's for the each of the two PBS by supplying necessary data that is accurate and by supplying the necessary personnel for training when requested.
- REB and the PBSs must assure the local engineering consultants are paid in a timely manner for work done.

Deliverables for Task A.2:

- REB guidelines developed for short- and medium-range planning procedures. Submission by March 31, 2007
- Short- and medium-range plans developed for up to two PBSs through consulting engineering firms selected on the basis of the size and maturity of the PBSs they serve. Submission by July 31, 2007
- A report that documents technology transfer and training activities undertaken to prepare PBS staff and consulting engineers to use software tools and to prepare planning studies. The report will present evidence of the number and type of training activities undertaken and the number of participants from REB and/or the PBSs or consulting engineers. Submission by July 31, 2007

The Engineering and Operations (E&O) Advisor, assisted by the Local Professional (Electric Utility Engineering Specialist) will be responsible for implementation, monitoring and evaluation of this Task. The E&O Advisor with support from NRECA's local engineer will be directly involved in the development of the computer model of the PBS systems and updating the SPS for Manikganj and Tangail PBSs. The E&O Advisor and NRECA local engineer will also provide ongoing training to four local consultant personnel in the development of SPSs and utilization of WindMil Software. This training will be provided throughout the development of the SPS for each of these two PBSs. The ST Planning Specialist will be involved in the development of the medium-range plans for the two pilot PBSs.

- ◆ LTA -Engineering and Operations Advisor      8.0 MM      Oct. 2006 - Sept. 2007 (PT)
- ◆ STS – Planning Specialist                      3.0 MM      Oct. 2006 - Sept. 2007 (PT)

- ◆ LPS - Electric Utility Engg Specialist      10.0 MM      Oct. 2006 - Sept. 2007 (PT)

### **Program Activity B: Operations and Maintenance Programs**

#### ***Task B.1: Preventive Maintenance Programs***

Advisor Assigned:                      Ray Thayer, Engineering and Operations Advisor  
Specialist Assigned:                    E. D. Stanley, Maintenance Systems Specialist  
Local Professional:                    TBA, Maintenance Engineer

The focus of Year #5 for this Task will be to continue working on the various elements that will provide an enhanced preventative maintenance program within the PBS systems. This effort will continue to strive to enhance the PBS capacity to implement the basic functions of an effective maintenance program. This work will include continuing to institutionalize the improved work procedures associated with the proper maintenance of substations, and monthly substation inspections. This will include continuing to work with REB and PBS personnel regarding the importance of completing the paperwork properly and providing instructions and training on the procedures for properly filling out the paperwork associated with these tasks. The efforts described above are a continuation of the groundwork laid in Years 1, 2, 3 & 4.

One of the most challenging aspects of implementing the Tasks associated with this Preventive Maintenance Activity is that preventive maintenance is difficult to quantify in terms of visual benefits to REB and the PBSs. Unlike being able to easily quantify the new connections, kms of line constructed, villages energized, etc. improvements that stem from better maintenance practices are more difficult to quantify when the emphasis from the government is visually see the expansion of the system into more areas. Therefore it needs to be understood that getting REB and the PBSs to focus on the importance of maintenance remains as major challenge.

Previous experience indicates that these subjects need to be continually reinforced with both PBS personnel and REB personnel in order to achieve a degree of institutionalization of these practices. Given these circumstance and the funds available during the early part of Year #4, it was anticipated that an additional long term expatriate Maintenance Advisor would be available to focus entirely on Activity B. However the funding situation changed within the USAID Bangladesh Mission that required a reduction of \$750,000 from the RPPR II budget which meant there would be fewer resources available for this Task than what was previously expected. Therefore it will not be possible to achieve the degree of institutionalization that was previously envisioned prior to the notification of the budget reduction.

Despite the resulting modifications to the earlier plan that were required, this year's work effort will build on progress made in previous years at the PBSs that have participated in the maintenance tasks. In addition, there will be emphasis on instructing and providing some hands-on training in proper substation maintenance procedures to personnel from Tangail PBS as well as personnel from one to three other PBSs.

Specific sub-tasks to be addressed under Task B.1 during Year #5 include:

- 1) Coordinate the "hands-on" substation maintenance training to O&M personnel from additional PBSs. This will be done at each substation of those PBSs where annual maintenance work will be accomplished.
- 2) Conduct presentations for REB and PBS personnel related to substation construction inspection

and substation maintenance. There will be a focus on acceptance inspections for a new substation, routine substation inspection and procedures for substation maintenance.

There are a number of specific "third-party actions" required to allow NRECA's above plan to proceed and these include the following:

- The active commitment by REB is needed to follow up and monitor PBS substation maintenance work. This is definitely required in order to begin to properly "institutionalize" these new initiatives.
- Strong support from REB regarding the procurement of numerous "spare parts" that are needed for performing the substation maintenance and which are not presently being stocked.
- Once these spare parts are available in country, REB must support the timely distribution of these needed spare parts to the participating PBSs when they are needed.

The reduction in funding levels for RPPR II will unfortunately hamper the degree of institutionalization that was targeted for this particular Task. Without the addition of the long-term advisor to manage this task, the actual institutionalization will be considerably less. NRECA believes that with the limited funds remaining, the most impact will be gained by introducing the program to a couple of PBSs whose personnel are eager to learn new techniques and implement them.

NRECA's local professional working as the Maintenance Engineer was transferred to another position under the technical assistance component of the Rural Electrification Development Program (REDP) that is being funded by DFID through USAID. A qualified replacement is being sought at this time to assist with the Maintenance and Materials Tasks.

Deliverables for Task B.1:

- Documented procedures for line inspection and maintenance. Substation maintenance procedure manuals already exist, but will be reviewed and changes made as necessary. Submitted in April 2004 --- Completed
- Report documenting the activities undertaken by the Contractor and the results of the maintenance program in the three PBSs selected for implementation. The report will include an evaluation of the initial status of preventive maintenance at the beginning of the project; an assessment of areas needing reinforcement; a description of the strategies developed by the Contractor to address the identified needs, including references to guidelines or other documentation developed for the use of REB and the PBSs; a record of training activities undertaken by the contractor for both REB and the PBSs; an evaluation of how well the program changes were received by REB; and recommendations for necessary enhancements or improvements to the program to improve effectiveness. Submission by March 31, 2007

The Engineering and Operations Advisor will have overall responsibility for execution of the Task and thus be responsible for the coordination, logistics, scheduling, and monitoring of all phases of the work under this Task. The short-term Maintenance Systems Specialist will be the primary individual responsible for the execution of this Task with respect to the annual substation maintenance activities, with support being provided by NRECA's Maintenance Engineer, when recruited.

- ◆ LTA -Engineering and Operations Advisor      1.0 MM      Oct. 2006 - Sept. 2007 (PT)

◆ STS - Maintenance Systems Specialist	3.0 MM	Oct. 2006 - Sept. 2007 (PT)
◆ LPS - Maintenance Engineer	9.0 MM	Oct. 2006 - Sept. 2007 (PT)
◆ LPS - Electric Utility Engg. Specialist	0.5 MM	Oct. 2006 - Sept. 2007 (PT)

**Task B.2: Material Supply for O&M Program**

Advisor Assigned: Ray Thayer, Engineering and Operations Advisor  
 Specialist Assigned: Craig Dickson, Materials Management Specialist  
 Local Professional: TBA, Maintenance Engineer

The REB/PBS Policy Instruction 100-58 dealing with OMR materials was reviewed during Year #3 &4 and a revision to this Policy was developed. A committee of REB officials has been assigned the task of revising this Policy Instruction. NRECA provided its proposed revision to this policy to this committee. One of the major issues addressed in this proposed revision (if adopted) is the PBSs will be allowed to utilize funds from their "Replacement Reserve" fund for procuring necessary maintenance materials. This should assist in expediting the approval process at REB for the purchase of this material; however the procedure for completing this process needed to be finalized and approved so that it can be implemented.

Year #5's activities will continue to include the development of the required framework to allow for the timely acquisition and efficient distribution of maintenance materials, which has shown some improvements compared to the situation at the beginning of RPPR II. The focus will include the provision for delegations of authority and responsibilities between REB and the participating PBSs with NRECA providing advice and assistance in order to establish these as models. As a result of testing the elements of this new framework, other PBSs will then be able to take lessons learned related to OMR materials for adoption in their PBSs.

During year # 5 NRECA will implement the maintenance materials procedures developed to date in at least two additional PBSs where the personnel have shown an interest and willingness to implement new procedures. To date, Tangail and Manikganj PBSs have been identified as additional participants in the Maintenance and Materials Tasks.

Providing the necessary inputs to complete the above tasks will also be a focus of effort for the STS Materials Specialist during Year #5.

Specific sub-tasks to be addressed under Task B.2 during Year #5 include:

- 1) Work with REB and the PBSs to effectively implement the procedures developed purchase, storage and accounting for adequate OMR materials. This will include the materials required for the annual substation maintenance for the pilot PBSs (Dhaka I, Comilla I, Narsinghdi I, and Narangan PBS.).
- 2) Continue providing input to REB and PBS personnel regarding changes that will be required at the pilot PBSs in order to secure proper warehousing of the OMR materials whether at REB and PBS facilities.

There are a number of specific "third-party actions" required to allow NRECA's above plan to proceed and these include the following:

- REB must approve and firmly support the implementation of procedures recommended by NRECA in the proposed revision of REB/PBS Policy Instruction 100-58 on OMR Material.
- REB must allow the participating PBSs to purchase locally available items in sufficient

quantities to effectively support the Maintenance Task B. 1.

- In the cases where REB will be involved in the actual tendering, it must tender, procure and distribute the items of maintenance material, supplies, tools and equipment that are required for proper substation maintenance.
- REB and pilot PBS must implement proper warehousing practices and material control procedures for the OMRR materials.

Deliverables for Task B.2:

A report documenting the activities undertaken by the Contractor and the results of the material supply program. The report will include an evaluation of the initial status of maintenance material supply and warehousing practices at the three pilot PBSs at the beginning of the project; an assessment of areas needing reinforcement; a description of the strategies developed by the Contractor to address the needs, including references to guidelines or other documentation developed for the use of REB and the PBSs; a record of training activities undertaken by the contractor for both REB and the PBSs; an evaluation of how well the program changes were received by REB; and recommendations for necessary enhancements or improvements to the program to improve effectiveness. Submission by March 31, 2007

The Engineering and Operations Advisor will have the overall responsibility for ensuring the work under this Task is completed. The scheduling, logistics and monitoring will be the responsibility of the local Maintenance Engineer (when recruited). The local Maintenance Engineer will have a very active role in directing progress related to this Task. The ST Material Specialist will be the individual assigned the responsibility of providing the necessary technical input regarding the subtasks associated with this particular Task.

◆ LTA -Engineering and Operations Advisor	1.0 MM	Oct 2006 - Sept. 2007 (PT)
◆ STS – Materials Specialist	1.5 MM	Oct 2006 - Sept. 2007 (PT)
◆ LPS - Maintenance Engineer	3.0 MM	Oct 2006 - Sept. 2007 (PT)
◆ LPS - Electric Utility Engg. Specialist	0.5 MM	Oct 2006 - Sept. 2007 (PT)

**Program Activity C: Strengthen Utility Performance**

***Task C.1: Strengthen Training Program and Procedures***

Advisor Assigned: James Ford, Team Leader  
 Specialist Assigned: Dr. Randall Dupont, Training Specialist  
 Local Professional: Bashir Ahmed, Director, Training and Curriculum Development

As has been the implementation process for the previous four years of RPPR II, NRECA's Training Team will continue to coordinate with the REB Training Directorate in supporting REB's to deliver high quality training programs that are effective to all types of RE Program personnel working within REB, PBSs, the PBS Consulting Firms, the PBS Auditing Firms, and the private sector Construction Contractors. The training that will be delivered will include previously identified programs as well as new programs that help to support RPPR II initiatives that have been introduced into the RE Program

and require further institutionalization that results from training additional personnel involved in these new initiatives.

As in past years of the RPPR II Program, Year # 5 will include the continuation of a number of the sub-tasks related to this Task. With REB finally having been successful in completing the process for obtaining GOB approval of the proposed Training Academy, efforts must be focused on beginning to address reality of this new facility becoming available in late 2008. The Training Needs Assessment, which had been drafted earlier is near finalization based on significant input received from REB and PBS personnel. The value of this Assessment becomes even more important as NRECA works with REB to develop preliminary strategies that will help facilitate preparations for the opening of this much needed Academy.

As the NRECA has been doing throughout Years 1 thru 4, significant efforts will continue in support of the development of high quality curriculum materials that are being used in the delivery of the training programs, which are part of the REB approved Curriculum Plan. As has been the ongoing practice, NRECA Training professionals will work closely with REB Training Directorate personnel and concerned officers to ensure that materials reflect the findings of the Training Needs Assessments and thus focus on improved job performance. Development activities will include preparation of curriculum materials in support of all types of programs including engineering/technical, management, and finance. The accomplishments thus far under this RPPR II Task are providing significant benefits towards strengthening the REB training program and procedures.

While this point has been noted in previous Work Plans, it is important to understand that there is tremendous stress on REB's capability to deliver the necessary training programs for personnel at REB and the PBSs. This relates to both basic training for those joining the program and for experienced personnel (those requiring advanced training). The rapid expansion of the RE Program has seen the total number of connected member/consumers increase from 4.36 million in October 2002 to 7.02 million through September 2006. This is a total increase of more than 2.76 connections or an average of over 690,000 per year which mean significant numbers of new employees have been employed by the 70 PBSs throughout the country. This translates into additional training that must be delivered to equipment PBS personnel with the necessary skills to perform effectively. The training of Directors serving on the PBS Boards also continues to stress the Directorates capabilities as new Directors are continually being elected and thus need the required training. The total number of Directors now exceeds 800. While the efforts of the Training Directorate are to be commended, the output from the REB training function still remains quite insufficient given amount of training that is required. Facilities are inadequate and the numbers of personnel involved with the delivery of training has not grown in accordance with the need to keep pace with the growth and demands of the RE Program. The need for having the proposed Training Academy constructed and put into operation as soon as possible is critically important as a means of addressing this issue. The Training Needs Assessment which is nearing completion and will be submitted to REB effectively highlights a number of these points. It again noted in this Work Plan that while, this RPPR II Program Task will assist in providing input on key issues related to the development of the institutional elements of the new Academy, this technical assistance program does not have adequate resources that would be required to properly accomplish this task. Addressing the institutional requirements of the Training Academy is becoming more immediate now that actual construction of the Training Academy will begin in the Fall of 2006.

Various sub-tasks identified for completion during Project Year # 5 include:

- 1) Continue with the established curriculum development process in support of the following curriculum development activities:
  - Complete the development of the curriculum materials (Trainer and Trainee Manuals) for the following training programs that were initiated during Year # 4:

- Operation, Maintenance and Repair of Transformer for Junior Engineers (TO 232).
  - Operation, Maintenance and Repair of Transformer for Lineman (TL 042).
  - Understanding Financial Reports (Form 550)
  - Material Accounting for Ass't Directors (Finance) & Accountants of REB (IF 520)
  - Interpersonal Communication for REB/PBS Officers & Staff (IM 150, IM 151, IM 152)
  - Controlling for REB/PBS Officers and Staff (IM 135, IM 165 and IM 190)
- Conduct the necessary analysis and prepare the Curriculum Outlines of the following training programs proceed with for developing the training materials (Trainer and Trainee Manuals) for the following programs:
- Lineman's Training Course for PBS Lineman - Part 1 (TL 010)
  - Lineman's Training Course for PBS Lineman - Part 2 (TL 010)
  - REB Financial Audit Procedure for REB DDs and ADs (IF 545)
  - REB Internal Audit Procedure REB DDs and ADs (IF 555)
  - Orientation to RE Program for PBS Directors
  - Interpreting PBS Financial Reports (Form 550)

(Note: Being that NRECA works in support of REB's Training Directorate, the order in which the materials are developed will be dependent on the direction received from REB and those finally developed may differ from those presented here if REB requests that selections change.)

(Note: As outlined in previous Work Plans, NRECA wishes to clarify that the curriculum development process being employed by NRECA follows accepted standards using within the training and development profession. The process includes: design of overall program based on task analysis with the development of Curriculum Outline; review and approval of Curriculum Outline concerned REB Curriculum Committee; development of materials; review and approval of materials by concerned REB Curriculum Committee; pilot testing of program materials; and finalizing curriculum materials. English to Bangla translation will also be completed as needed with determination made based on level of target populations for the respective programs. Curriculum materials include both Trainer and Trainee manuals along with necessary visuals (overhead transparencies, etc.)).

- 2) Advise and assist REB in the identification and development of the "institutional" components required for the new Training Academy that will be under construction.
- Organize relevant workshops with the concerned personnel to review the initial findings of the assessment with the focus being on the relevant institutional aspects of the Training Academy including such issues as organizational structure and setup, general administration (e.g. staffing pattern, staff development, program implementation (e.g., scheduling, annual outputs, etc.), trainee management, curriculum development (e.g., text materials, audio, video, computer assisted, internet, etc.), financial management (e.g. operational viability, budget, etc.).
  - Prepare strategies to address the institutional elements of the Training Academy and work with REB to select the most appropriate strategies to address the requirements.
  - Support REB efforts to prepare the relevant plans to achieve the selected strategies and initiate action to complete the required tasks in time for the completion of the physical facilities.
  - Based on decisions taken by REB, prepare relevant Policy Instructions that will be used to management the operation of the new Training Academy.

- 3) Continue to support the delivery of various training activities that are being implemented under RPPR II Tasks due to its importance on an as needed basis. Relevant activities include:
- Engineering & Operations Record Keeping System including the computerized Electronic Record Card (ERC) software;
  - GIS Users software – ARCVIEW;
  - Maintenance training for PBS line technicians;
  - Computer Training - Customer Information System (CIS), General Ledger, REB & PBS Payroll, REB & PBS Statistical Databases ;
  - Socio-Economic Data Gathering System
- (Note: A great deal of NRECA's efforts in terms of training is done informally and frequently done as on the job training and in many cases the number of personnel receiving the training is not recorded in a formal way.)
- 4) Complete the implementation of one US tour/consultation and one regional observation tour/consultation to occur in Year #5.
- Schedule and implement US Program (Early 2007) that coincides with NRECA's Annual Meeting scheduled for March 2007.
  - Schedule and implement a regional Program for implementation in Summer 2007.
- 5) Continue to support the development of different communication materials associated with the RPPR II Program and other aspects of the rural electrification program.
- (Note: NRECA Training Team has the expertise to prepare hardcopy and softcopy mechanicals in-house to meet commercial production requirements.)

Deliverables for Task C.1:

- The training needs assessment report will be prepared, formally approved by REB for implementation and submitted for use in developing the proposed Training Academy. Submission by December 31, 2006
- A final report will be submitted addressing the effectiveness of the RPPR II support to develop the REB Training Function. This report will reflect project initiatives and accomplishments (e.g., new training manuals prepared, new training programs delivered, REB/PBS personnel trained, new and/or revised training policies and procedures, and other relevant training related activities.) Submission by July 31, 2007

The Training Task will be under the direction of the Team Leader with the day-to-day coordination being managed by the Director Curriculum Development. Three Curriculum Developers (Engineering/Technical, Finance, and Management) provide the primary effort for the development of curriculum materials with support being provided by a System Analyst who works with training that is related to both finance and computers. The details regarding personnel directly associated with this Activity during this Program Year include:

- |  |         |                             |
|--|---------|-----------------------------|
| ◆ LTA - Team Leader                        | 5.0 MM  | Oct. 2006 - Sept. 2007 (PT) |
| ◆ LPS - Director of Curriculum Development | 12.0 MM | Oct. 2006 - Sept. 2007 (FT) |

◆ LPS - Curriculum Developers (3)	36.0 MM	Oct. 2006 - Sept. 2007 (FT)
◆ LPS - System Analyst - Finance (1)	12.0 MM	Oct. 2006 - Sept. 2007 (FT)
◆ LPS - Support Staff - Training (3)	36.0 MM	Oct. 2006 - Sept. 2007 (FT)
◆ STS - Training Specialist	2.5 MM	Nov 2006 - Sept. 2007 (PT)

**Task C. 2: Enhance Computerization in REB and PBSs**

Advisor Assigned: James Ford, Team Leader  
 Local Professional: Nurul Islam, Director Computer Systems Development  
 Specialist Assigned: Samuel West, Computerization Specialist

The Computerization activities outlined for Year #5 will continue with efforts in support of various initiatives that began under RPPR I and which have progressed significantly during Year #1, #2, #3 and #4 of RPPR II.

As this is the last year of the RPPR II program, Year #5 will turn to be a very critical year for the Computer Team members. Computer Team members, along with the assistance from REB's Information and Communication Technology (ICT) Directorate, will have to accomplish a significant amount of work related to finishing tasks for many of its software development packages. These packages mainly include the Consumer Information System (CIS), REB Payroll System, PBS Payroll System, REB Statistical Database, PBS Statistical Database and REB General Ledger module. The implementation of CIS in the selected eight PBSs that was initiated during Year #4 will be continued with support being provided throughout Year #5. The hands-on training for the Vendor Implementation Team (VIT) members will continue as part of the process of implementing the CIS software package in the PBSs. These VITs are locally active firms which will assume many of the responsibilities for the ongoing implementation of the CIS. In addition, one of the firms will be selected based on capabilities to handle the maintenance of the CIS software package once NRECA is no longer active in computer related activities.

It must be noted that some of these tasks related to the ongoing implementation of the CIS package could not be completed in Year #4 as previously planned and expected because of the prolonged delay in procuring the computer hardware and Oracle software in the eight PBSs selected for CIS implementation. Various reasons contributed to these delays all of which prevented NRECA from being able to proceed with its implementation scheme as previously agreed to. See the section under this Task that refers to "third-party actions" that are required in order for NRECA to successfully complete the work related to this Task.

The following specific sub-tasks are included in Yr #5 activities:

- 1) Continue with various task related to the implementation of the Consumer Information System (CIS).
  - Complete the implementation of this software package in the Zonal Offices of Kishoreganj PBS.  
 (Note: The completion of the implementation of CIS in these two Zonal Offices have been hampered and subsequently delayed due to the extended time required for the procurement of required Hardware and Software.)
  - Install CIS in the remaining two PBSs out of those eight PBSs selected for the purpose and provide hands-on training to the relevant VIT members as well as the end-users of the concerned PBSs.

(Note: Due to the delay in procuring and installing the required Hardware and Software CIS could not be implemented in Jamalpur and Brahmanbaria PBSs and their Zonal Offices)

- Complete the integration of the CIS package with the PBS Payroll and Statistical Database software packages so that data communication among these databases becomes automated. Once it is completed, there will be less need for manually entering some required data into CIS which are available in Payroll as well as in Statistical Database.
  - Proceed with the complete the conversion of Vendor developed Billing software packages to CIS. This activity is to be initiated by the second quarter of the 5<sup>th</sup> year with the assistance from REB ICT Directorate so that the vendor firms can continue the process as more PBSs convert over to the single CIS package.
  - Prepare/update all the relevant documents for the software packages mentioned above.
  - Secure the necessary decisions from REB in order to complete some of the remaining minor tasks for the CIS package that are associated with ones that introduced in the later part of Year #4. shed by the first quarter of the year and implement in the PBSs as well as in the respective Zonal Offices assigned to NRECA.
- 2) Complete the conversion of the previously developed REB General Ledger software package to Oracle RDBMS with the introduction of a number of minor functions related to the data capture for the preparation of the associated Journal Vouchers (e.g., Work Order data capture; Carrier Contractor data capture; Supplier Contractor data capture; and Maternal Accounting data capture).
  - 3) Complete the conversion of the REB Statistical Database to Oracle with a few minor features being added (PTA reporting being one of the items that must be accommodated in the existing system).
  - 4) Convert the previously developed REB Payroll to be converted to Oracle. installed in a LAN and integrate with REB General Ledger.
  - 5) Convert the PBS Payroll and Statistical Databases packages to Oracle and integrate these with the CIS package.

(Note: To implement these converted software packages and the relevant databases will require that each of the PBSs and the concerned REB Directorates have Oracle RDBMS installed and requisite Hardware, especially a Server that is capable of handling this database).

There are a number of specific "third-party actions", which are required to allow NRECA's above plan to proceed and these include the following:

- REB actively pursues the timely completion of the necessary procurement actions required at the participating PBSs in order for the hardware and software to be installed so that the CIS implementation can be accomplished in a timely fashion.
- REB must work closely with NRECA in order to take a decision on the VIT firm that will be selected and under contract to become the firm assigned the responsibility for maintaining the CIS package and other software packages in order for NRECA to have sufficient time to prepare the selected firm for this task.
- REB must take timely decisions that require modifications to the CIS package and other packages if appropriate in order for NRECA to complete changes and have sufficient time to work with the participating VITs involve with implementation and the one selected for software

maintenance.

- REB needs to proceed with the implementation of the "Institutional Development Project" that is funded by the IDA including the procurement and installation of the LAN for the REB Headquarters and the LANs for the balance of the PBSs which currently do not have this degree of computerization.
- REB must be proactive in the strengthening of the Information Computer Technology (ICT) Directorate in order to be prepared to handle the expanding role of IT within the overall RE Program with the ever increasing dependence on the management of information for decision-making and reporting to various Ministries within the government.

Deliverables for Task C.2:

- A report on the roll out of the computerization applications developed under RPPR-I to a total of twenty PBSs. The report will present evidence of the number and type of training activities undertaken and the number of participants from REB and/or the PBSs or consulting engineers. Submission by February 28, 2007
- A final report at end of the TA on development of new integrated applications at seven PBSs and a method outlining a provision of continuing in-country support. Submission by July 31, 2007

This Computerization Task for Project Year #5 will continue to rely significantly on the utilization of NRECA's Local Professionals who are specialists in the computer fields. The Team will receive its direction from the Team Leader and specific technical guidance from the expatriate Computerization Specialist who will provide input on various issues including assessment tasks and details of some of the software packages that are being developed. Details on personnel to be involved during this project year include:

◆ LTA - Team Leader	5.0 MM	Oct. 2006 - Sept. 2007 (PT)
◆ STS - Computerization Specialist	2.5 MM	Oct. 2006 - Sept. 2007 (PT)
◆ LPS - Director of Computer Systems	12 MM	Oct. 2006 - Sept. 2007 (FT)
◆ LPS - System Analysts (4)	48 MM	Oct. 2006 - Sept. 2007 (FT)
◆ LPS - Computer Training Specialist	12 MM	Oct. 2006 - Sept. 2007 (FT)

**Program Activity D: Supplemental Tasks**

***Task D.1: Updating Engineering and Construction Standards***

Advisor Assigned: Ray Thayer, Engineering & Operations Advisor  
 Specialist Assigned: James VanCoevering, Engineering Specialist  
 Local Professional: Hasibur Rahman, Elect. Utility Engg. Specialist

The overall objective of this Task was to review and revise the existing engineering, construction and procurement standards used by REB in light of the requirements for updating technology and responding to previously unanticipated requirements. However, the reduction in the RPPR II funding

level requires that the original Scope of Work for this Task be significantly reduced and consequently is somewhat limited in nature.

In most cases, the original design and construction standards which are still being used by REB and the PBSs for ongoing expansion into the rural areas remain adequate and do not really require changes or modifications based on the current needs. Therefore, due to the reduced funding levels due to the budget cuts, the full review of these standards will not be completed as originally planned.

The transfer of BPDB and DESA areas to REB has created a need for having construction standards that in many areas are urban-type environments as opposed to rural environments more prevalent in the REB system. The efforts by REB and consulting firms more recently have correctly focused on reuse of as much of the existing system as possible in order to reduce costs as opposed to removing the taken over system completely. The work completed in the development of the new Policy Instruction 100-61, which addressed rehabilitation of taken over lines and substations indicates that appropriate methods are being utilized to rehabilitate facilities in an effective manner. If the existing system was completely removed and all new construction was being undertaken, the need to have formal construction standards developed for these areas would be more urgent. Also, in nearly all cases the takeover areas much of the PDB construction work did not adhere to proper standards that would be expected under normal utility practice. As a result, it is difficult to provide standard modification designs for selected structures that can be used for rehabilitating the existing structures since what is found in the field are frequently nonstandard and thus require each situation be handled on a case-by-case basis.

Due to the continued growth of loads within a number of PBS, a standard design for a substation having a capacity greater than the normal 10 MVA REB rural substation is a need that cannot be ignored so dealing with the engineering requirements for PBS substation design will be the primary focus of this Task under the reduced Scope of Work.

During Year #5 of RPPR II, this Task will be limited to the following subtasks:

- 1) Prepare a new engineering design for an enhanced capacity PBS substation that will meet the needs of the larger PBSs which now have load growth that require increased capacity in their substations.
- 2) Prepare an engineering design for the expansion of existing REB 10 MVA substations to 20-25 MVA. This standard expansion design will be done in such a manner as to be applicable to as many of the existing substations as practical.

Deliverables for Task D.1:

A report documenting the results of the review of the existing renovation of takeover areas and identifying those items which were revised or added as part of the formal policy that is developed. The report will reference the revised standards documents, design drawings, equipment and materials lists supplied to REB for the new upgraded substations and will include discussions of rationale for changes made. The report will also present evidence of the number and type of training activities undertaken and the number of participants from REB and/or the PBSs or consulting engineers. Submission by July 31, 2007

The Engineering and Operations Advisor will be responsible for coordination, logistics, scheduling, and monitoring of the subtasks involved with the Task. The Engineering Specialist will be the primary individual responsible for the execution of the detailed sub-tasks and activities associated with this Task. Support will be provided by either of NRECA's local engineering professionals as needed.

- |  |        |                             |
|--|--------|-----------------------------|
| ◆ LTA - Engineering and Operations Advisor | 1.0 MM | Oct. 2006- Sept. 2007 (PT)  |
| ◆ STS - Engineering Specialist             | 1.5 MM | Oct. 2006 - Sept. 2007 (PT) |
| ◆ LPS - Electric Utility Engg. Specialist  | 1.0 MM | Oct. 2006 - Sept. 2007 (PT) |

**Task D.2: Socio-Economic Impact Assessment**

Advisor Assigned:	James Ford, Team Leader
Local Professional:	Kamal Dey, Socio Economist
Local Professional:	Rasheduzzaman Khan, Data Management Administrator

For Year #5, the overall focus of the Task will be to continue with the institutionalization of the Socio-Economic Baseline Database System(SEBDS) in the participating PBSs. This system was originally developed during RPPR I by which the PBSs can gather relevant socio-economic data that will be incorporated into a database that can be used to measure the impact of the RE program and provide useful information to REB, the PBSs, GOB and members of the donor community. Over these project years, additional PBSs have begun implementing this data collection system with ten new PBSs having been added during Year #4 bringing the total number of participating PBSs to 28, which is equivalent to 40% of the PBSs. This effort will include completing subtasks related to assisting with the development of REB's Socio-Economic Monitoring & Evaluation Cell(SEMEC). This work will also include continued efforts to disseminate relevant socio-economic impact information that has been obtained during both Years #1 to 4 of RPPR II and the years of RPPR I.

As background, it should be noted that the SEBDS was designed to provide a methodology that would ensure the collection and preservation of data from an average of approximately 80 new connection holders of four consumer categories in each month from the 28 participating PBSs. Based on field-testing and input from the PBSs, a statistically valid minimum sample size was incorporated into the system to minimize the workload of the PBSs, while still maintaining the provision for having the system statistically valid. Impact of electricity is significant, diversified and indirect. Data collection tools mostly considered the directly associated variables with the RE Program and avoided gathering data for most of the indirect issues, which also helps minimize the burden of data collection for the PBS enumerators who have other regular jobs. During RPPR I, the system was established in the 8 "model" PBSs on a pilot basis, and efforts to strengthen the capacity of these PBSs has continued into RPPR II. Initial work on the deployment of the system is extended to more twenty PBSs and this effort was started during Year #1 under RPPR II and will continue in Year #5.

The ongoing sub-tasks that are planned for during Year #5 are in line with what has been done during Yr. #4 as the institutionalization continues and are as follows:

- 1) Continue to assist with strengthening the overall capacity of the Socio-Economic Monitoring and Evaluation Cell (SEMEC) staff regarding efforts to institutionalize the function of socio-economic monitoring and impact evaluation within the RE Program. (Ongoing thru 09/07).
  - Based the draft that was previously prepared, finalize the new Policy Instruction related to the function of this Cell and which outlines the implementation of various socio-economic

- monitoring activities, including the ongoing implementation of the Baseline Database System and support its formal approval by REB.
- Continue involvement of SEMEC personnel in establishment of the SEBDS activities at PBSs and provide technical assistance and training as needed to strengthen the Cell's overall capacity to successfully perform the duties assigned to the Cell.
  - Assist with the Cell's establishment of an automated system that includes installation of software for preservation and data management/analysis, including providing the required orientation/training of the relevant personnel on use of the software for data preservation/compilation and data analysis using the SPSS software package.
- 2) Continue to advise and assist SEMEC/REB with activities related to the IDA and DFID financed projects' both of which have socio-economic components that include monitoring the work of the assigned consulting firm in terms of its activities and their implementation. (Ongoing thru 9/07)
  - 3) Continue with ongoing implementation of the Socio-economic Baseline Database (SBDB) system in the twenty eight PBSs (having 81 Zonal offices) through providing continuous supervision and troubleshooting supports as needed in order to institutionalization of the Baseline data collection and Data preservation system at PBS level. (Ongoing thru 9/07)
    - Continue with intensive follow up and necessary assistances to the PBS management in establishment of the SBDB, particularly in enhancing management and operation system for uplifting performance in implementation of the Baseline data collection and Data preservation systems in the various offices of the participating PBSs.
  - 4) Work with SEMEC in the ongoing development and management of the SEBDS database that continues to expand with more information being collected by all the participating PBSs which has been occurring in both RPPR I and RPPR II. (Ongoing thru 09/07)
  - 5) Implement the necessary training programs for the concerned PBS staff to support the institutionalization of the data collection system in the participating PBSs as follows:
    - A minimum of ten foundation training programs (one-day duration) on data entry and preservation procedures for about 50 staff of 10 participating PBSs. (Ongoing thru 06/07)
    - A maximum of ten refresher training programs (one-day duration) on data collection procedures and techniques in the participating old 18 PBSs for 6 700 staff (including lineman, line technicians, wiring inspectors, billing supervisor, data entry operator, DGM, AGM-MS, AGM-COM, PUC, MSC, Junior Engineer, etc.). (Note: Refer to sub-task #6 above) (Ongoing thru 06/07)
  - 6) Work jointly with SEMEC in the preparation of a report on PBS performance in baseline data collected during July 2005 to June 2006 and disseminate finding to involved PBSs and REB management. (09/06 - 12/06).

(Note: The findings will help create a basis for scheduling of "refresher training" programs to be delivered to the enumerators (Member Services and COM Department staff) in the poorly performing PBSs as describe under sub-task #6.)
  - 7) Prepare a report on Baseline Information of the Domestic Consumers connected as new members by 18 participating PBSs during the period July 2005 to June 2006, which can then be used to evaluate data quality being reported from the PBSs and also to know the living status of households prior to their getting access to electricity. (09/06 thru 12/06).

- 8) Prepare a report that provides documentation on 29 cases related to PBS members within the RE Program which were collected in different PBSs and in different consumer classes during last two years. (09/06 thru 2/07).
- 9) Prepare an impact assessment study report which reflects the impact of electricity on poverty reduction and which will include completing the following sub-tasks:
  - Continue implementation of post-data collection from the domestic consumers (5,802) having access to electricity during F/Y 2001 – 2004 by 18 PBSs (09/06 thru 2/07);
  - Work jointly with SEMEC in the analysis of the available data
  - Prepare a report on impact of electricity on the domestic consumers will ensure the use of the baseline data collected during last five years. (01/07 thru 05/07).
- 10) Prepare a report as a summary of the progress made under this socio-economic Task which can be incorporated into the End of Project Report for RPPR II. (09/07).
- 11) Under the USAID-funded project “Leaders Outreached Initiative (LOI) Program” being implemented by the Asia Foundation in association with the Islamic Foundation of Bangladesh, conduct two orientation programs on the RE Program for 200 outreached religious leaders (100 participants in each session), if the Project continues. (01/07 – 05/07).

Deliverables for Task D.2:

Report evaluating impact of rural electrification on rural poverty reduction. This report will also reflect project initiatives and accomplishments (e.g., training programs provided to participating PBSs, numbers of REB/PBS personnel trained, implementation manuals prepared and/or revised, new policies or procedures related to socio-economic assessment activities, and other relevant socio-economic information). Submission by June 30, 2007

The Socio-Economist (LPS) will be the primary local professional responsible for this Task. NRECA’s Team Leader with 1 MM of effort will provide general guidance and oversight for this Task throughout the life of the RPPR II Program. Another local professional who will function as the data management administrator will also support this Task. All of these LPS personnel are currently scheduled to work full-time on this activity through the end of Year #5. Personnel to be involved during this project year include:

- |  |         |                             |
|--|---------|-----------------------------|
| • LTA - Team Leader                    | 0.5 MM  | Oct. 2003 - Sept. 2004 (PT) |
| • LPS - Socio-Economist                | 12.0 MM | Oct. 2003 - Sept. 2004 (FT) |
| • LPS – Data Management Administrator. | 12.0 MM | Oct. 2003 - Sept. 2004 (FT) |

**IV. WORK PLAN EXHIBITS**

**A. Staffing Plan**

This presents a summary of the personnel assigned to the RPPR II Program during Year #5.

**B. Implementation Schedule**

The Work Plan presents Program activities and subtasks for Year #5 of the five-year program. The implementation Schedules have been developed using *Microsoft Project* in order to monitor progress and modify as necessary. These are also used in the Quarterly Reports.

**C. Budget Information**

The Budget Information is presented as projected expenditures for Year #5 funded for USG FY 2006-07, covering the Program period of 10/01/06 through 9/30/07.

Note: This budget reflects the \$750,000 reduction in the RPPR II budget ceiling amount which was required due to the reduction in the Mission's overall budget and per the Contract Modification that was executed in August 2006.

**EXHIBIT - A**

**STAFFING PLAN**

**Focus on Year #5**

**RPPR II Work Plan - Year #5 (Oct 2006 to Sept 2007)**  
**Staffing Plan – MMs By Activity**

	Admin	Act 1	Act 2	Act 3	Act 4	Total
<b>NRECA Staff</b>						
Ford – Team Leader	2.0			10.0		12.0
Thayer-Engineering and Operations Advisor		9.0	2.0		1.0	12.0
Waddle – ST GIS Specialist		1.5				1.5
Vancouvering – ST Engineering Specialist		0.5			1.0	1.5
<b>Local Office Professionals (Program Staff)</b>						
Trng: Director Curriculum Development				12.0		12.0
Trng: Curr Dev Specialist - Management				12.0		12.0
Trng: Curr Dev Specialist - Finance				12.0		12.0
Trng: Curr Dev Specialist - Engg/Tech				12.0		12.0
Trng: Computer Trng Specialist				12.0		12.0
Trng: Support - Data Entry A				12.0		12.0
Trng: Support - Data Entry B				12.0		12.0
Trng: Support - Computer Graphics				12.0		12.0
Electric Utility Engineering Specialist		12.0				12.0
Maintenance Engineer			12.0			12.0
GIS Specialist - A		12.0				12.0
GIS Specialist - B		12.0				12.0
GIS Specialist - C		12.0				12.0
GIS Specialist - D		12.0				12.0
Director Computer Development				12.0		12.0
Computer System Analyst - A				12.0		12.0
Computer System Analyst - B				12.0		12.0
Computer System Analyst - C				12.0		12.0
Computer System Analyst - D				12.0		12.0
System Analyst (Finance)				12.0		
Socio-Economist					12.0	12.0
Data Management Administrator - Soc.Econ					12.0	12.0

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<b>Local Office - Project Admin/Support Staff</b>	<b>12.0</b>				<b>12.0</b>
Office Manager/Administrator	12.0				12.0
Controller	12.0				12.0
Accountant	12.0				12.0
Logistics Officer	12.0				12.0
Office Support/Data Entry	12.0				12.0
Drivers (10)	120.0				120.0
Office (2) Chowkidhars (4)	72.0				72.0
Staff House Cook/Bearer (1)	12.0				12.0
<b>Consultants</b>					
Smith - Planning Specialist		2.0			3.0
Dickson - Material Specialist			1.5		1.5
Stanley - Maintenance Systems Specialist				3.0	3.0
Dupont - Training Specialist				2.5	2.5
West - Computerization Specialist				3.0	3.0

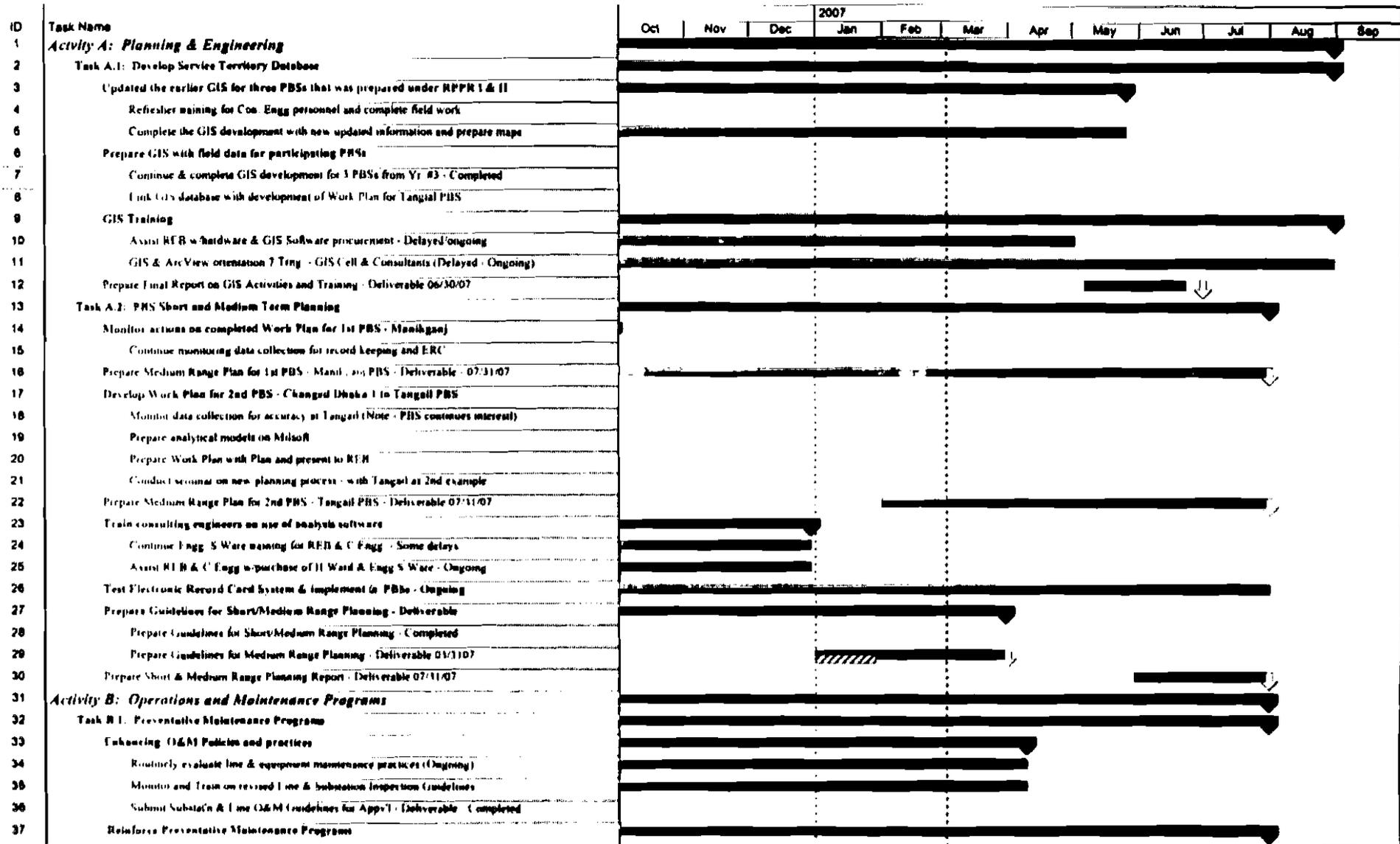
Note: Based on information received from the NRECA office in Arlington there was potential that Sam West would be changed from a consultant to NRECA to a part-time regular employee due to his involvement with the RPPR II Program as well as other projects in other countries. If this does occur, his time would be utilized as an employee versus that of a consultant.

**EXHIBIT - B**

**IMPLEMENTATION SCHEDULE**

**Focus on Year #5**

# RPPR II Fifth Year Workplan and Implementation Schedule



RPPR II Work Plan  
Year 05  
10/06 to 09/07





# RPPR II Fifth Year Workplan and Implementation Schedule

Task Name	2007	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
76 <b>Activity D: Optional Programs</b>	[Gantt bar spanning Jan to Sep]									
77 Task D.1: Engineering and Construction Standards	[Gantt bar spanning Jan to Sep]									
78 Advise and Assist with REB/PBS Engg Questions As Needed - Ongoing	[Gantt bar spanning Jan to Sep]									
79 Finalize policy on dist'n design & construction standards for PDS Takeover Areas - Completed	[Gantt bar spanning Jan to Sep]									
80 Work with REB in preparation of new specs for electronic meters - Completed	[Gantt bar spanning Jan to Sep]									
81 Prepare new design for enhanced capacity PBS Substation	[Gantt bar spanning Jan to Sep]									
82 Prepare Report on Renovation & Takeover Policy Revisions - Deliverable 07/31/07	[Gantt bar spanning Jan to Sep]									
83 Task D.2: Socio Economic Impact Assessment	[Gantt bar spanning Jan to Sep]									
84 Develop baseline data collection at PBSs	[Gantt bar spanning Jan to Sep]									
85 Continue to support baseline data collection at 8 model PBSs - Ongoing	[Gantt bar spanning Jan to Sep]									
86 Continue baseline data collection system at 9 new PBSs - Ongoing	[Gantt bar spanning Jan to Sep]									
87 Continue baseline data collection system at 10 new PBSs - Ongoing	[Gantt bar spanning Jan to Sep]									
88 Strengthen monitoring and web-based analytic capability at REB	[Gantt bar spanning Jan to Sep]									
89 Work with Socio-Economic Monitoring Cell at REB - Ongoing	[Gantt bar spanning Jan to Sep]									
90 Conduct Study to measure impact of RE on Poverty Reduction	[Gantt bar spanning Jan to Sep]									
91 Initiate planning for conducting Study to measure impact of RE on poverty	[Gantt bar spanning Jan to Sep]									
92 Prepare Report impact of RE on Poverty - Deliverable 06/30/07	[Gantt bar spanning Jan to Sep]									

Task: [ ] Milestone: [ ]

Start: [ ] Summary: [ ]

Progress: [ ] Project Summary: [ ]

Interval Tests: [ ]

External Milestone: [ ]

Deadline: [ ]

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