RURAL ELECTRIC ASSOCIATION (REA) DEVELOPMENT CLOSE-OUT REPORT

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1.0 Project Strategic Impact

In developing the electric energy sector in Afghanistan, USAID strategy requires that all implemented projects be directed at and contribute to developing a self-sustaining and secure electric energy supply. Primary to developing and maintaining electric supply in rural areas is the development of Rural Electric Associations REA). It is necessary to develop and implement institutional elements that will allow for the self-sustainability, development, and local control of, and community involvement and vesting in, technical developments that directly impact the respective community's livelihoods.

The REA development project provides the basic essentials necessary to establish a rural electrification program. The emergent REAs will require continued support, advisory services, and detailed technical assistance in order to master the complexities of electricity supply. Assistance will be required to ensure that the member association principals are well understood by and ingrained into the REA and community, enabling them to manage future growth and service shifts necessary for survival, growth, and prosperity.

The Rural Electric Association Development project originated as a response to a number of requirements. It provides a direct response to the area of stakeholder involvement in insuring a self-sustaining electric system. It also affects other activities such as continued technical and commercial training for utility staff, distribution system maintenance and effective metering and revenue collection. The REA structure also assists in the transition to market-based electricity structures. Lastly, the REA promotes democracy if the REA Board, which initially has to be appointed, is ultimately elected,

2.0 Project Description and Objectives:

2.1 Project Description:

The primary purpose of the REA Development project is to establish a mechanism to address rural electrification in Afghanistan. The Government of Afghanistan (GoA) and USAID recognize the need to provide essential electric services throughout the country. The REA mechanism has been proven to provide an essential first step to bringing critical electric services to rural communities in many countries. The REA project offers a comprehensive and decentralized approach to rural electricity supply through a "corporatized" model that will engage communities, increase efficient electricity supply awareness and promote local democracy building. The project is best described through the goals and strategic project objectives listed below.

2.2 Overview of Project Objectives:

The REA development project provides the basic essentials necessary to establish the rural electrification program. The project will provide emergent REAs with continued support, advisory services, and detailed technical assistance to master the complexities of electricity supply. Assistance will be provided to ensure that the association principals are well understood by and ingrained into the REA and community, enabling them to manage the association as necessary for survival and growth. The two primary project goals are:

A. Recommend a comprehensive rural electrification (RE) approach that avoids or overcomes many deficiencies often encountered when providing access to electricity. For example it is necessary to strike a balance between two

competing forces: the social ambivalence common to governmental electricity supply and the singular profits/rate-of-return focus of unregulated private electricity supply.

B. Design, demonstrate, and refine a sustainable and replicable organizational model to accomplish an RE approach that promotes democracy, engages communities, maximizes service provision and encourages economic growth and development.

Goal A: (Recommendation of a comprehensive rural electrification (RE) approach)

1) Formulate the required RE approach.
2) Map the primary RE implementation strategy.
3) Diagram a RE implementation and action plan.
4) Design the fundamental REA model.
5) Provide comments and recommendations on construction standards and methods, operational practices and procedures, and facilities requirements.
6) Resolve revenue metering standardization issues.
7) Compile and consolidate outcomes, findings, and recommendations in report form.

Goal B: (REA model design and implementation)

1) Introduce the basic REA model in Aybak (Tirin Kot and Qalat REA activities were suspended due to security concerns).
2) Establish the business entity and basic management and operations functions.
3) Develop baseline strategic plan.
4) Identify an Interim Board of Directors, institute provisions for regularized monthly and annual meetings, and establish formal nomination/election procedures.
5) Evaluate metering systems and recommend improvements in meters, practices and procedures; recommend methods to identify line-loss and improve revenues.
6) Institute cost-of-service based tariff structures based on solid economic modeling.
7) Develop a simplified “zero-base” financial forecast.
8) Identify training and development needs; implement initial training for staff and directors.
9) Establish and formalize the basic principals, practices, procedures, and benchmarks needed for electric operations, safety, financial integrity, and business protocols.
10) Implement standardized, monthly meter-reading and billing and collection practices and procedures along with theft and diversion enforcement.
11) Introduce economic development, productive-uses-of-electricity, and alternative livelihood concepts that promote community prosperity.
12) Provide the essential advisory services and technical assistance needed to launch the demonstration REAs.

In achieving USAID’s strategic goals, the Rural Electrification Association (REA) project aims to:

1) Design an effective Rural Electrification (RE) program outline for use in rural and provincial towns throughout the country. The program is to employ concepts of local, member management.

2) Map a strategy and plan-of-action to implement the RE program approach and identify key/required resources.

3) Design an element based approach for the electric association model that will be used to establish local REAs.

4) Put the basic REA model into practice in selected communities. Evaluate and refine model for replication.

5) Provide the essential advisory services and technical assistance needed to launch the initially implemented REAs.

2.3 Progress to Date:

As of the report date several objectives have been fully realized while work on achieving others continued. Progress achieved follows:

- The initial concepts for and a detailed assessment of requirements to more fully develop the Afghanistan REA Program has been prepared. (Please reference **Attachment 1: the REA Roadmap**).

- For Aybak, on-sight assessments of loads, facilities, and operating environments have been conducted. Much of the rural electrification program analysis is dependent upon and extends from these initial assessments.

- The evaluation of metering methods and strategies is complete. The REA project has made specific recommendations for revenue metering, electric system loading and line-loss recording.

- Recommendations on meter reading practices and procedures have been made and follow up is in-progress.

- An assessment of resource requirements to fully implement the REA Program was developed. (Please reference **Attachment 2: Draft REA Program Resource Plan**)

- Initial training classes on REA (1) structure and (2) management has been conducted in conjunction with the SARI/E. The class was held in February 2006, in Kabul, Afghanistan. Approximately 12 attendees participated in the two 6 day training sessions. Prepared course materials were provided both in English and in Dari and hard-copies and electronic copies were provided to all participants. (Please reference **Attachment 3: REA Course Outlines**).

- Basic training courses in computer applications are being provided in preparation for training in basic accounting and cost of service management.

- Basic lineman training has been provided as part of the overall effort to develop a functioning REA.

3.0 REA Implementation Task Orders:

In order to successfully build upon the achievements and initial program efforts and progress the Task Order given below should be taken upon by the new Contractor.

3.1 REA Development: Task Order 1

3.1. a Statement of work: The objectives for this activity are to continue the implementation of the development of the model Rural Electric Association (REA) in Aybak, Samangan Province, and to replicate the REA model in Qalat and Tirin Kot and other rural provincial areas. The US Government is a co-signer and supporter of the Afghan Compact. The Afghan Compact calls for the electrification of twenty-five (25) percent of the rural areas of Afghanistan by 2010. The REA Roadmap and the REA model initiated in Aybak can

provide a useful capacity building vehicle and organizing mechanism to promote rural electrification.

Initial efforts in developing a model REA have occurred in Aybak. However, much more work needs to be done to continue to educate and reinforce the benefits of an REA with the local population and REA Board of Commissioners. Local Associations which supply essential public services are fairly standard in Afghanistan. There greatest use has been in the water supply sector where association members share the burdens and costs for providing (1) fresh well water and/or (2) irrigation water for a portion or all of a community.

3.1. b Scope of work

Work under this task shall include the following:

1. Asses the status of the REA in Aybak.
2. Development of all requirements to fully implement an REA Program for Afghanistan
3. Determine additional follow-on training requirements to reinforce the value added by the REA approach.
4. Develop the training (technical, commercial and institutional) requirements to insure the REA provides the basis for a self-sustaining distribution system in Aybak.
5. Perform the required training and evaluate its effect. In this activity CCN training staff are expected to be developed and utilized.
6. Determine if the REA model has long term survivability within the cultural context of Afghanistan.
7. Develop basic Dari handbook materials on the value of REA's in assisting long-term rural electrification.
8. Work within the MEW to develop an awareness of and buy-in for the REA methodology in approaching rural electrification.

3.1. c Deliverables

Deliverables will include, but not be limited to:

1. Status Report on Aybak REA strengths and weaknesses
2. Plan of continued development for the model REA
3. Management Training Program in Dari
4. Technical Training Program in Dari
5. Plan for replication of REA Model
6. Training Quality Control Program (QCP)
7. Training Quality Assurance Program (QAP)
8. Monthly Progress Reports, including expenditure information

4.0 Issues to Consider:

- Communications made by all parties involved in Distribution System project startups needs to be well coordinated to avoid the creation of unrealistic expectations within a community.

- There is a need to address and overcome political difficulties in establishing the Association Board-of-Commissioners. The Governor and/or the Mayor of a city or town will perceive it to be within their authority to appoint the Board. The Board should come from civic neighborhood leaders inclusive of such people as the school principals. This will provide for a more effective response to community needs and will decrease continuing stress within the REA program.

- Advocate for and stress gender balancing and democracy building programs. The opposition to the inclusion of females, which has occurred in Aybak, was low-key but persistent. Regardless, there is a female Board member in Aybak.

- Refusal of local decision makers to be culturally inclusive appears to be a systemic problem that, if left unchecked, may adversely affect organizational integrity and community inclusiveness necessary to the success of the Association. For example the ethnic makeup of the Aybak, in the Northern Samangan region, is roughly 40% Tajik, 30% Uzbek, and 30% Hazara. However, the current board is almost exclusively Hazara.

- Initial training for the Aybak REA has already been completed. The course value and impact needs to be evaluated so the courses may be modified as necessary and replicated for other REAs. Also, follow-on training needs to occur in each area of identified need to insure that the management needs of the REA activity are reinforced.

- As ministerial and government entity support is necessary for the success and flourishing of the REA models across Afghanistan, it will be necessary to both involve and advise the Ministry of Energy and Water (MEW) in matters related to the creation and sustaining of REAs. An REA advocate, placed at the MEW, may best serve this goal.

- Expand REA knowledge bank housed at the Afghan Energy Information Center. Additionally, make this knowledge bank accessible online. Staff should be available to advise and consult on both the availability and content of the information stored in the knowledge bank.

- A local champion will better address and overcome social and cultural barriers and will hopefully solicit greater support and acceptance more rapidly than an expatriate, and thus help solidify and advance the initial RE efforts.

- Make certain that all RE advocates and advisors have a basic grasp of essential membership association concepts and business techniques, as well as an understanding of the need to move with deliberation and care as the project steps through the process of establishing the REA.

- Ensure that third parties, such as contractors and other non-participants are instructed not to make statements concerning the REA development. It is necessary to establish coordination and control of public communications, and to make sure all involved parties are made aware of the repercussions of making uninformed statements.

Attachment 1
THE REA ROADMAP

The REA Roadmap

A Strategic Approach to Rural Electrification in Afghanistan

Prepared for the
United States Agency for International Development
Afghanistan Energy Assistance Program

By
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March 31, 2006

1. SYNOPSIS

The REA *Roadmap: A strategic approach to rural electrification in Afghanistan*

The REA Roadmap offers an effective strategy for implementing rural electrification within Afghanistan. This strategy is based on establishing rural electric associations called *Rural Electric Associations* (REAs).

The overall goal of the REA program is to create an effective approach for remedying the energy shortfalls being experienced in rural Afghanistan and to establish a long-term, sustainable development program that has a positive impact on the quality-of-life of the target populations. The primary objective of the roadmap is to develop a mechanism to assist rural communities in addressing their lack of energy resources by providing broad-scale access to electricity.

This paper explains the need for the program, outlines an operational business model that can be used to implement it, and describes an action plan for implementation. As the title suggests, The *REA Road Map* develops a strategic approach to rural electrification in Afghanistan. This approach establishes locally-owned energy associations[1] in towns and communities and introduces broad-scale electricity supply as a means of remedying local energy shortfalls and as a catalyst for sustainable rural economic development.

The REA program will have a positive impact on a number of development priorities including: democracy building, increasing the role of women in society, encouraging economic prosperity, alternative livelihood development, and controlling environmental degradation. It will also impact transition issues of returning IDPs and refugees, as well as play a key role in the poppy eradication programs.

The (re)introduction of key infrastructure services, such as electricity supply, in post-conflict communities and towns can be an important transition step in Afghanistan's efforts to move from a "fragile state" to a stabilized, emergent society. The provision of electricity supply as an infrastructure service should be of primary goal[2]. The skillful introduction of reliable electricity supply into post-conflict communities will have immediate effects on security, economy, and the public perceptions of positive change.

The following plan provides the details and identifies key issues that must be addressed in establishing the REAs within Afghanistan. This report includes draft training outlines, a draft action plan, and identifies key issues that must be addressed. The attachments provide greater detail on specific subjects and examples of the types of standards and procedures that can be found within existing electric association programs.

It is important to remember that the keys to success will be transparency, cost effectiveness (something that to date has not been achieved in Afghanistan), and paradigm shifts in thinking about the role of electricity within development. To accomplish true sustainability will require inputs from rural electrification specialists with expertise in finance, management, engineering and operations of rural utilities. This is a unique field

[1] Energy associations in this document are called Electric Associa ions (EAs) and Rural Electric Associations (REAs), but the mission of hese energy associations will be to meet the energy needs of the community and like the U.S. EAs, hey may expand to supply other forms of energy.

[2] All o her services including telecommunications, water, sewer, and LNG supply require access of reliable *"regulated"* electricity.

not well understood by those outside of the rural electric sector. It takes years of experience to understand the nuances of working within the confines of sustainable RE programs including working with extremely limited revenue streams, member owners, and the need for streamlining engineering, construction, and operations functions. For example in the 21st century, the U.S. electric associations, while owning and operating more than 50% of the electric distribution lines, still have a connection rate of less than 6 meters per-mile of line; in contrast with more than 50 meters per mile of line for investor owned utilities, and over than 80 meters per mile for municipal systems. However, even with such limited revenue streams, these associations maintain reliability and cost effective service with impressive statistics including total annual outage rates of less than 2-hours per meter and end-of-line voltage regulation of plus/minus 8 volts. Similar results are achievable in the planned REAs, but not without - abandoning the status-quo of current RE programs, engaging competent international RE experts, an engaged RE focused GOA enabling body, and true community buy-in in each area to be served.

2. CORE FORMATION

Enabling Legislation

It is important that supportive enabling legislation be in place to secure the survival and promotion of the REAs and to ensure their sustainability and longevity. It has been demonstrated time and again that once the electric association movement begins, forces will come against it to halt or alter its advance. Attacks on the program will come from internal opposition in existing entities that will view the REAs as territorial threats, from outsiders that see lucrative commercial opportunity in "cherry-picking" the prime service areas, and from a myriad of dissenters with various points of views and agendas (such as those that will oppose the use of diesels without regard to the lack of alternatives, and from those looking to point out the inevitable faults and failures of government or donor sanctioned programs). Also the enabling legislation should guard against future attacks on the associations that become successful, again from those looking to revert from the associations service model to a commercial enterprise[3].

Enabling legislation will also safeguard against localized attempts to alter the structure or organizational model of the program. Uniformity is a key necessity in a successful program so working under a national mandate negates attempts at local manipulation.

Do it now

This legislation needs to be enacted at the very first opportunity. The probability of establishing solid foundational legislation will decrease almost parabolically with time.

"Later", can kill the program

The lack of solid enabling legislation established at the onset of the program, has proven fatal to established rural electric association program years after their implementation. This is evidenced by the fate of the electric association program in Bolivia. In an ironic twist of fate, legislation was passed on the last day of a session of the *Congreso Nacional* in the early 1990s that contained a single line that when hurriedly passed, effectively outlawed the electric association movement. Without enabling legislation in place to counter the move, there was no recourse to its being enacted.

With commercialization of the energy sector – specifically DABM looming on the horizon, rural electric systems will again be in jeopardy without the support of foundational enabling legislation. Without established legislated protection, the REAs will be equally vulnerable to intentional and unintentional injury during the introduction of competition into the government electricity supply. Without safeguards, well-intentioned advisors can wreak as much havoc on the program as opportunists; however in place legislation will buffer the program from unintentional consequences of poorly drafted laws and mandates, as well as unscrupulous attempts at manipulation.

Rural Electricity Regulatory Authority

To establish a solid REA program will require a regulatory agency developed specifically to address the myriad of needs of supply rural electricity. This should be established under the auspices of the MEW with specific mandates focusing on the RE sector. Placing the

[3] For example, in the Philippines where a strong electric association movement has been underway for more than 30 years, many of the more successful electric associations are under assault from foreign investors seeking to extract the more lucrative commercial centers that have matured within the association service areas. The primary approach is to try to change the laws governing the associations, which at first glance these assaults may appear to be the logical "next-step". However, this view fails to consider he original intent of the associations (i.e. provide electricity supply to the en ire service territory), and take into account how the loss of the more productive commercial areas, will impact he sustainability of the associations at large, and thwart attempts to fulfill the service territory mandate. Most associations still have not been able to penetrate he remote areas of heir service territory which involves serving isolated communities within he mountainous interior and along the rugged coastlines. Service into these areas will inevitably decrease the rate of return/km of line and number of meters/km as the construction is costly and most lines into these areas will not pay for themselves; whether served by grid extension or from isolated alternatives approaches.

regulatory agency under the control of the government utility has proven to be than effective. In numerous cases, including Ethiopia, and Cambodia, forward momentum in rural electrification takes place after the regulation and control for the RE sector have been removed from within the state electricity system.

The primary task of this regulatory body will be an arms-length governance and oversight. It should have franchising authority and establish REA service territories. Additionally, this agency should provide standards/templates to establish and implement the REA program. This should include standard templates for everything from applications to be used by communities to solicit service, and charting documents for the REAs; to formalized management documents such as monthly operating reports that will be used for monitoring and oversight; to standardized operations manuals for the associations that cover, construction, maintenance, metering reading, mapping, etc.

Step Away from Tradition

Success in rural electrification will only take place if traditional practices are evaluated and replaced based on their merits in making rural electrification a reality. This is an arduous but critical task necessary for success. It will be an arduous task because of deep-seated prejudices and established beliefs among country authorities and many expatriate experts. However, the evidence supporting this move is readily available. A quick glance at the overwhelming majority of effective rural electrification programs will show the validity of this approach. The *cut and paste* approach of using urban designs and standards in a new rural electrification program, though simplistic and easily acceptable within the sector, is ineffective. Weaknesses embedded within existing system approaches, which are either overlooked or compensated for by overbuilding in urban applications, are exacerbated and highly visible when applied to rural situations.

Implementing an effective and sustainable rural electricity program will require new paradigms in organizational structuring, system design and configuration, and construction methods. Based on empirical and statistical evidentiary data from current RE efforts in Afghanistan, it is easy to surmise that success in rural electrification will only take place after traditional approaches to powerline design and construction have been abandoned. Again, this will appear difficult; however the primary obstacle to overcome will be perception (both institutional and public). Once the new approaches have been implemented, the improvements in costs, operational effectiveness, and reliability will be proven. The time to make this transition is now, at the beginning of the reconstruction/building phase.

Problems plaguing the traditional construction and operation systems when newly constructed and implemented will become progressively worse as the system ages. Operational effectiveness will decrease at a rapid rate while energy losses increase due to transformers overloading and substandard secondary/service systems. Reliability decreases as safe guards are bypassed and the system overextended.

The past history supports this move away from tradition. There both tangible and intangible benefits from breaking with tradition. Tangible results include increased service reach, reliability, and quality. Intangible include perceptions within the community that a new- better approach is underway, and that the old systems –both physical and institutional will be eradicated and replaced.

Rural Electric Associations

Why Associations

Electric associations provide a natural buy-in for the community, as the local community is actively involved in the governance of the localized utility. Associations offer greater transparency than most organizational structures. A association's corporate mission is to increase member/owner affluence by providing reliable electricity as a resource for economic

development. It accomplishes this by concentrating on providing sustainable electric service to the most member/owners possible rather than focusing on high rates of revenue return. Associations often present the first opportunity to introduce democratic principles and put them into practice at the local level. Associations grow with the community and can easily modify and expand their missions to address other community needs.

The traditional approaches to rural electricity in developing countries have been through the centralized government electric agency or private commercial electricity suppliers. The recommended approach to rural electrification for Afghanistan is through electric associations called *Rural Electric Associations* (REAs).

REAs are not social programs

Historically, centralized government rural electrification programs have seldom been effective or efficient, and have more often than not failed altogether4. Most central government electricity RE approaches are ambivalent at best and tend to flip between the two extremes of: 1) viewing RE as an unsustainable social service where everyone gets electric service which requires tremendous subsidies; 2) viewing RE as a mandated nuisance not central to the prime responsibilities or function of the government utility. In each case the RE program is often a minor sector of the overall electric power supply scheme. RE access becomes a secondary issue often driven more by politics than need.

REAs are not highly profitable businesses

Commercial electricity suppliers view electricity as a commodity to be sold to produce revenue. The goal of the commercial approach is to achieve the maximum rate of return on investment. This has led to a widespread misconception that electrification of any type should be a commercial activity for private, for-profit enterprises. This approach effectively limits electricity expansion to the most lucrative market areas. Most private commercial electricity supply operations will not extend their systems beyond the point of maximum return.5 By their very nature, the focus of private commercial electricity suppliers is on accessing the best possible return-of-return-on-investments. Sole dependence on a commercial enterprise approach is incompatible with a large-scale rural electrification strategy. Even the most effectively implemented rural electrification approaches are not highly lucrative enterprises that produce high revenue margins. Dependence on large, centralized government or private commercial electricity suppliers usually leads to the use of subsidies provided to the supplier to encourage or entice expansion into rural areas.

REAs are service oriented non-profits

Effective expansion of the electric system into rural areas requires a corporate mission of serving as many people as possible without going broke in the process. This requires a paradigm shift in thinking about the role of electricity in development that includes a shift in thinking about the ownership of rural electricity systems. Successful associations often operate on margins of 10%, while commercial entities typically seek revenue returns of 40% or higher.

You still have to make a profit, but it is what you do with margins that counts:

A historical review of rural electrification successes suggests that the greatest impact is achieved when the emphasis is on local inputs and decentralized control. This requires de-emphasizing centralized utility ownership, control, and operations; whether government or

[4] In Afghanistan, less than 1% of the rural population has access to reliable electricity, some of the o her documented failures in gov't RE programs include Ethiopia, Cambodia, Nepal, and Malawi

[5] The rate of maximum return has traditionally been considered a return on investment of 10 years or less. In a recent survey of commercial enterprises conducted in Cambodia, the electric service was restricted by the largest power suppliers to a maximum rate of return of 7 years.

private commercial enterprise[6]. This is not to suggest that both have do not have a role to play, but each has a unique role in an effective rural electrification program. Private enterprise is often provides the best service as a generator/power supplier in the role of an IPP. The term Independent Power Producer (IPP) identifies private commercial electricity generators that can provide energy at wholesale to local distribution systems. This allows a synergy between the IPP and the locally owned electric system since the private entity has only one customer, the electric association, and the association has access to needed generation.

The ideal government position is usually as a regulator and empowering entity. As extensive rural electrification begins to take place franchises and licensing of the utilities provides protection for both the rural associations and private enterprise owners. Once an area is electrified, protection must be provided from those that would steal the few small profitable service areas of the association. If this protection is not provided, the associations ability to continue to extend electric service to people in more remote areas will be curtailed. The government's empowering ability comes through providing long-term, low interest, construction loans and origination grants[7].

Centralized electric systems tend to be overly bureaucratic, unwieldy, and expensive. Successful rural electrification requires extremely trim organizations with few organizational layers. These small locally owned organizations often create combined service groups and associations that are capable of providing many of the more complicated services and needs that they need, but are too small to afford alone. They may also form coalitions that offer the economies-of-scale for bulk purchases of energy, material and contracting services.

The following table, derived from Anderson (1999) provides a comparison of the relative advantages and disadvantages of large centralized commercial and locally owned electric systems in rural areas.

Table #2: "For and Against" Comparison of centralized and locally owned rural power supplies (Anderson. 1999)	
For	Against
Centralized Management (government or private commercial enterprises)	
Financial risk is on the utility	No stake in power supply, so lack of interest in maintaining it
Management capacity already exists	Operation & maintenance staff often brought in from outside community
Technical capacity already exists	Bureaucratic management
	Repairs take longer because they must be approved by central management
	Tariff collection expensive
	No load management
	Disputes between utility and community possible
Decentralized Management (community owned associations & associations)	
Interest in continual operation of scheme	Financial risk placed on community**
Load management possible	Technical training required*
Flex ble tariffs possible	Management training required*
Repairs made quickly	Outside assistance required for major repairs (costly)**
Less bureaucracy	Local disputes possible if management breaks down**
Local person employed as operator	
Local people provided labour, reducing initial capital required for scheme	* Issue directly addressed through REA project ** Mitigation options introduced through REA project

[6] The term "private commercial enterprise" is used in the text describes electric system ownership by commercial "for-profit" companies (including impromptu, small one-owner business, and investor owned systems) that sell of electricity as a commodity. Electric associations are also private enterprises where the people served are the owners. The difference is he corporate mission. Associations focus on providing electricity as a service and energy resource for its owners. This means maintaining a small profit margin while serving the most people possible

[7] Grants should only be provided to start he u ility and help build the initial infrastructure.

Use the most effective distribution approach possible

The proposed REA program focuses on a proven local-ownership model that is often overlooked by many development specialists, donor organizations, and development banks; community ownership through local cooperatives[8].

The program being developed will help to remedy community energy shortfalls by addressing the lack of access to electricity in communities in Afghanistan. The program strategy is to assist in developing and implementing the initial projects while transferring the skills and capabilities to the local population to effectively handle the new energy resource. The program includes a specific exit strategy that assures that the ultimate responsibility for the system remains with the local association.

Templates, Procedures, and Standards

The use of templates, standardized procedures, and conventional standards (*hereafter called templates*) will help simplify the work of establishing and operating the associations. Their use will help ensure uniformity of approach, maintain system integrity, and safeguard transparency. The use of fill in the blank templates, standardized procedures, and conventional standards help communities handle the complexities of operating and managing the electric associations. The use of templates simplifies data tracking and comparative benchmarking efforts which aids in monitoring and oversight.

Templates will cover a wide range of topics and issues (See Attachment A for page samples from bulletins used by U.S. electric associations) including forming the REA, as well as managerial and operational forms and templates that will cover almost every area of concern within the utility. Employing establish procedures helps to ensure equity of approach between the various REAs and standardizes their approach to members and business relationships while allowing the uniqueness of each organization to emerge.

The myriad of templates needed for the REAs will not have to be developed from scratch; a better approach is to modify templates being used in other electric associations. The process of selecting templates for modification should begin with a review of templates and standards that are being used in other countries[9] in similar situations. Be aware that in some cases, this will require locating the original editions of templates that have been replaced over the years with more sophisticated/complicated versions. This is due to the programs developing in the respective countries beyond the limitations of the original templates.

In many cases, the older versions and templates will have greater relevance on the start-up program in Afghanistan than newer versions. The job of evaluating should be handled by a specialist in rural electric system development to ensure appropriateness and select the best documents for the program. The RE specialist would then recommend the changes and modifications needed to customize the documents for use in Afghanistan.

The templates and procedures will cover situations and issues ranging from association formation applications to the board meeting procedures, rates and tariffs, construction and operations and monthly reporting requirements.

Keep Forms Simple & Comprehensive

It is important that the templates be easy to use and not technologically-heavy. In other words they need to be printable, fill-in-the-blank paper forms whenever possible. The forms and templates should be written in a dual-language format for ease of use by local people as well

[8] The term electric association is used throughout the text though these organiza ions are known by various names throughout the developing world including power societies, associations, and electric membership corpora ions

[9] Excellent electric association templates and standards are available from Bangladesh, Costa Rica, the Philippines, and the US.

as international sector parties. The use of this format will aid in providing uniformity across range of language and dialects used throughout the country. The forms should easy to understand by people unfamiliar with the electricity sector phraseology and electric utility technical terms.

Procedures should be of sufficient depth to adequately cover the issue or subject, and should include step-by-step instructions as well as cautions and hints. Procedures should cover establishing the REAs, management and board functions, business management, and utility operations.

Construction and Operational Standards should be provided that cover the full range of powerline construction activities, right-of-way requirements, and operational issues such as metering, system protection, and materials approved for use within the utility.

REA Organizational Templates & Procedures

Organizational templates and standard procedures should include all the documents needed for the initial startup of the REA and to establish the basic policies and procedures for the utility. Areas and topics to be covered should include[10]:

- Initial application to be submitted to Afghanistan Electricity Agency[11] (AfEA)
- Procedures outlining the promotional materials to be used to introduce the REA model into the local community

- Local REA Membership related applications and forms
- Membership form for joining the REA
- Membership certificates
- Guidelines and rights of members.
- Capital Credit certificates
- Equal opportunity guidelines and voting rights
- Annual meeting requirements and procedures

- Board of Director (BOD) related applications and forms
- Nomination forms
- Qualifying requirements
- BOD duties, requirements, and obligations
- Training and professional development guidelines and requirements
- Equal opportunity guidelines

- Association related applications and forms
- Association Charter
- Association policies, procedures, and guidelines
- Area coverage policy
- Equal opportunity guidelines and voting rights
- Annual meeting requirements and procedures
- Monthly BOD meeting requirement and procedures
- Membership guidelines
- Senior staffing requirements and guides
- Monthly reporting procedures

[10] This is not an exhaustive list, rather a illustrative list to show the range of areas to can and should be covered by standard templates and procedures

[11] The terms Afghanistan Electricity Agency & AfEA are used for illustration, and to distinguish the role of a rural electrification regulatory and control board.

Operational design templates

Operational templates should include forms and procedures for carrying out the various functions within the association including business and bookkeeping as well maintenance, construction, and member-service functions. An illustrative list includes:

- Business procedures
- Lines of authority
- Organizational structure
- Opening accounts
- Establishing ownership criteria
- Hours and days of operation
- Complaint records and actions
- Administrative procedures
- Contract administration

- Accounting/bookkeeping procedures
- Financial policies
- Standardized accounting practices
- Signature authority
- Internal audit procedures
- Business transaction procedures
- Recording keeping
- Exception reporting
- Continuing property records
- Standard list of record units
- Contract financial transaction and expenditure tracking
- Billing & Collection practices and procedures
- Form 7 data (See Attachment A)

- Construction,
- Construction Department policies and procedures
- Structure
- Lines of authority
- Construction parameters including wire and transformer sizing, pole specifications, and materials specifications, Design criteria
- Line construction policies
- Design and engineering forms (staking sheets)
- Material sheets(material call-sheets, material inventory used sheets)
- Approved lists of materials
- Approved practices and procedures for construction
- Construction Contracts
- Negotiations
- Labor & Materials
- Cost-Plus
- Inspection and acceptance
- Safety and System Security policies, practices, and procedures

- Maintenance,
- Maintenance records
- Maintenance practices and procedures covering a myriad operational issues (generators – to trucks – to streetlights)
- System Inspection practices and procedures
- Line loss remedies

- Damage repair and system restoration practices and procedures

- Member-Services Procedures
- Meter reading policies, and approved practices
- Right-of-way acquisition and maintenance
- Theft & Diversion Issues
- Member complaint Issues
- Community economic development activities, livelihood training, and productive uses of electricity

System designs and construction procedures

The use of standard design sheets will ensure safe, reliable, and cost effective construction. Well chosen and abided-by designs and procedures are critical to keeping costs to a minimum and optimize system expansion. Standardized system documents should include design standards, lists of acceptable materials, and written - construction, system switching, maintenance, and outage response procedures *(See Attachment A).*

3. SETTING UP THE LOCAL ASSOCIATIONS

STEPS IN ORGANIZING ELECTRIC ASSOCIATION

The following provides a brief outline of the activities that will be required to establish the REAs. This outline is for illustrative purposes only. The actual implementation will require the expertise of a team of electric association specialists to effectively establish the REAs.

PHASE I: INFORMATION DRIVE

1. Conduct preliminary talks with the local officials, then with the community leaders regarding the establishment of an electric association in the area, citing all the advantages and good points of an electric association system

2. Conduct public information drive regarding the association concepts and principles in general, and of electric associations in particular

PHASE II: CONSTITUTION OF THE BOARD

1. Coordinate with the local officials regarding nomination to the Interim Board of Directors (minimum of five, maximum of fifteen)

2. Finalize the composition of the Board of Directors

3. Issue pertinent appointment to each Member of the Board of Directors in writing

4. Administer oath of office to the Interim Board

5. The Interim Board will register the electric association with the proper government agency concerned, submitting the *Articles of Incorporation* and the *Association By-Laws*

6. The Board will formulate, among others, the criteria for hiring a General Manager (GM)

PHASE II: HIRING OF THE GENERAL MANAGER

1. From among the candidates, the Board of Directors will appoint an Acting General Manager. The GM will become *ex-officio* member of the Board (See Attachment B for Sample Job Descriptions)

2. The GM will hire skeletal force to constitute the management team of the electric association

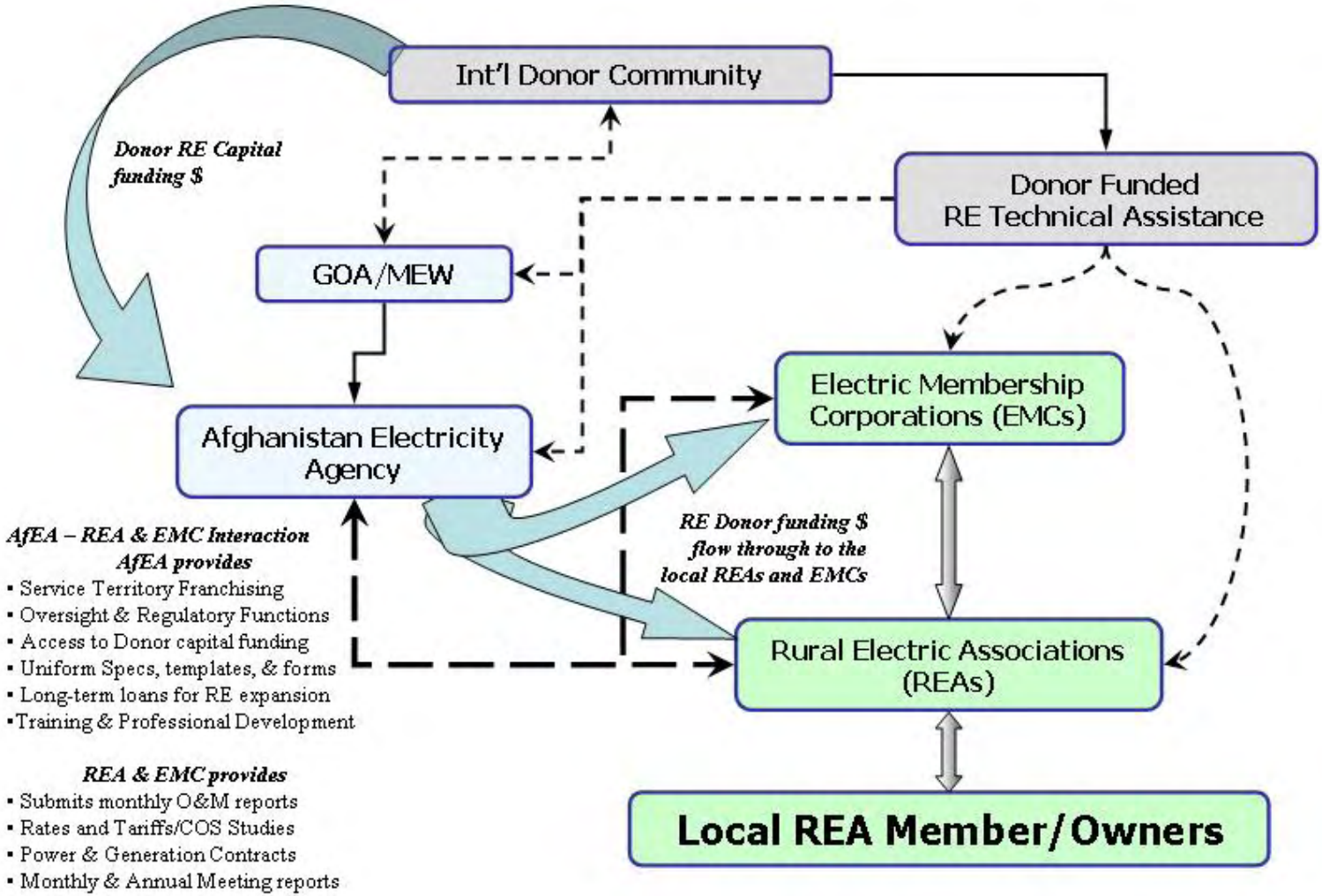
PHASE III: INSTITUTIONAL DEVELOPMENT

1. The Board of Directors, including the GM as *ex-officio* member of the Board, shall attend seminar on Association Management Course (CMC)

2. The electric association shall operate to provide electric service as coop

3. Meantime the employees will attend seminars on their respective functions

Afghanistan Rural Electrification Relationship Diagram #1
Organizational Interactions



4. CENTRAL TO SURVIVAL

The REAs will need to focus on a number of specific areas of concern and issues to be effective and survive. This seemingly random list has a common thread of being central to the survival and sustainability of the associations (REAs).

Membership – each REA member will pay the same membership fee – this should be approximately the equivalent of $5 (US). Each member is then assigned a member number and provided a membership certificate. An individual member may have a number of differing meters and pay for residential and commercial rates, but will retain only a singular membership.

- People and corporate entities, will be voting members
- Government entities and public service entities such as mosques will not be voting members.
- Capital credits from each year's profits will be calculated and assigned to each member based on their pro-rata use of electricity.
- Capital credits, though assigned on an annual basis, will be retained for periods of up to 10 years of more to be used as operating capital within the REA. This will help the association build and expand the system.

Establishing the regional **Electric Membership Corporations** (EMCs*).* It will be important that these organizations be established as soon as feasible. These organizations will be second tier associations that provide the economies-of-scale needed to support the individual REAs. The EMCs will be owned by the regional REAs and have a board of directors made up of BOD members form each of the local REAs. The revenue base for the EMCs will include funds provided through annual dues from the REAs, fees for service, and generation adders.

Key focus areas for these associations will include:

1. Power supply for the REAs
    a. The EMCs will furnish the generation/power supply for its member REAs.
    b. The member REAs in each region will then pay *blended rates* for power production.
        i. For example if there are six REAs in the regional EMC, then the cost of power production for all six will be levelized so that each of the REAs pay the same basic rate for power supply. This will keep the more remote REAs from shouldering extraordinary costs of power from isolated generation, and provide equity in power supply.
2. Legal representation and regulatory legislative monitoring
3. Training for technical workers
4. Emergency response
5. Major line construction
6. Bulk purchasing of materials
7. Providing contracting services
8. Engineering and specialists services (substation repair and maintenance- etc.)

Access to capital in the form of long-term low-interest loans
Rather than establishing subsidies the REAs should have access to long term financing at favorable rates that will allow growth and prosperity for the REA and its inhabitants.
This will be a function of the *Afghan Electricity Agency* (or other government rural electrification enabling agency).

Initial subsidies should be primarily be through provisions of capital construction. In other words provide the initial power lines, generators etc needed. Allow the REAs to include capital depreciation for the system to be included in its rate base so that it can repair and replace the lines as needed. This will usually be a 25 – 30 year depreciation period.

The only cash subsidy or direct capital grant should be seeding of the basic operating capital for the first no more than 6 months of anticipated operational expenses. This should allow the association ample time to become solvent and then operate with close to three-month revenue cushion. If the meter-reading, billing and collections programs are established correctly, revenue from electricity sales should be realized in about six weeks of inception with full revenue flows in the first three months.

Other funds including grants from donor organizations should be provided to the REAs in form of low interest loans with a 5 to 6 year repayment grace period. Interest will start accumulating after the first 36 months, with interest and principal payments beginning within the next 36 month period.

Benchmarks
Key ratios for the REAs will include TIER, Debt-service, line-loss, and general funds retained
Typical benchmarks for Time Interest Earnings Ratio (TIER) would be a level of approximately 2.25 or higher for 2 of 3 years of continuing operation
Typical benchmarks for debt-service should be greater than 1.5
Line-losses should be kept as low as possible with ceilings of no more than 15% for combined technical and non-technical losses
General fund levels should be a monthly basis of 6 or greater after the first 12 months of operation.

Meter reading
Meters will be read on a monthly basis with the basic routes established so that no more than 3 meter readers are required
The meter readers will record the current reading ONLY
The initial program is expected to be based on basic route books and hand-written entries
The belief that hand-recording creates extraordinary losses and mistakes is a fallacy. For small systems, trained reliable meter readers have a high degree of accuracy and their continuing presence lowers theft and diversion.

Billing and collections
Billing clerks will insert meter reading data on a daily basis with bill printing done on daily or cluster (2 or 3 day) basis. This will allow bills to be delivered on a daily or weekly basis.

- Daily billing will smooth out monthly revenue flows.

The initial billing will be a short-cycle billing that will include approximately 10days electric service and may include the cost of the membership dues. This will allow an initial infusion of capital from revenue and allow the association to shorten the time differential between readings, billing, and collections.

Payment discipline must be instilled at inception. Disconnections for non-payment must be handled in judicious and equitable manner. However, because this is a membership organization there needs to be mechanisms for handling hardship cases with empathy.

5. TRAINING THE KEY TO SUCCESS

Training is critical to establishing and maintaining a sustainable utility operation. It will be important to provide training for all levels of the organization including the Board of Directors, senior management staff, mid-level professionals, and technical trades. Training should be a long-term/continuing function that provides introductory training for new employees and capacity building for existing staff. The initial approach will be a three level series of programs.

Level One will be courses that introduce the association principles and develop the initial understanding of utility operations. These courses should be general enough for all new employees and board members alike to attend. Level Two will begin to develop the various skill sets of the required for the differing association positions, these courses will likely be

subdivided into large clusters such as outside workers, board members and senior staff, and office employees, etc. Level Three courses will be subject specific and focus on the individual positions such as accounting and bookkeeping, engineering, operations, and lineman training.

The following information provides a basic outline of the initial training programs that should be considered for the REA program.

Upon the establishment of a rural electric association/association in Afghanistan, it shall be institutionally necessary that training programs be set up for those people who will be involved in running the affairs of such electric association/association.

The training programs are envisioned to be undertaken in two major levels, *i.e.* one for the members of the Board of Directors, and another for the various Departmental Staff of the Association Management specifically the finance department, the technical department and the institutional department.

Workshop on REA Management for the Board of Directors (Course I)

Course I will focus on *Effective Governance and Management of Rural Electric Associations.* Participants of this course shall be the members of the Board of Directors, including the General Manager as *ex*-officio member. The various Department Heads may also be required to attend. Duration of this course shall be six (6) days. It shall be conducted in Kabul and the Resource Persons shall travel to Afghanistan.

The objective of this training is that at the end of the course, the participants shall have acquired knowledge on the following subject matters: *(a) Afghanistan Energy Assistance Program, (b) Framework of a Association, (c) Concepts, Principles, and Practices of an Electric Association/Association, (c) Organizational Structure of Rural Electric Association, (d) Board-Management Relations, (e) Legal Aspects Affecting Association Operations, (e) Policy-Making (f) Tariff.*

Electric Association Management for Board of Directors (Course I)
The program specific topics should include:

1. Overview of Afghanistan Energy Assistance Program
2. Framework of a Association, Its Concepts and Principles & Practices
3. Articles of Incorporation, By-Laws, Enabling Legal Framework & Governmental Policies & Relationships with Government Instrumentalities
4. Electric Association Model, Principles, Concepts & Practices of Community Participation in Rural Energy; Some Challenges Faced by Associations
5. Organizational Structure and Design of Rural Electric Association
   Operative Functions of the Board of Directors
   - President
   - Vice President
   - Secretary
   - Treasurer
   - Auditor
   - Business Managers
   - Members

   Roles & Functions of Management - Position Descriptions and roles of:
   - General Manager
   - Finance Manager
   - Technical Services Manager
   - Member Services Manager
   - Administrative Manager
   - Office Auditor

- Planning
- Organizing
- Directing
- Coordinating
- Controlling

Board-Management Relations
Policy-Making
Policy-Implementing

Managing Electric Association/Association
Mobilizing communities and start-up issues
Project management
(Preparation, implementation, monitoring & evaluation of REA projects)
Technical oversight
(operations & maintenance management, effective tools to reduce distribution loss)
Managing Accounts and finance
Human resource management
Planning & Holding Annual General Meetings
Managing stakeholders

Tariff & Commercial Relations
Tariff Structure
Rate-Fixing
Loans & Other Commercial Transactions

Customer Relations
Procedural Aspects of availing Electric Service
Rights & Responsibilities of Members
Duties & Obligations of Members

WORKSHOP: Case Study on Country Experience (Philippines/Bangladesh Experiences Covering Policy and Institutional Framework, Roles and Responsibility of Board/Management, Financial/Accounting Practices, Establishing Good Member Relations, Planning and Holding Successful Annual General Assembly Meeting, Performance Target Agreement, Appraisal and Improving Performance)

Electricity and Rural Development Linkages (Including Socio-Economic Impacts, Environmental Considerations Aspects and considerations, Energy Conservation Issues and Demand Side Management)

Issues and Challenges in Managing Electric Associations (Power-Use Development & Promotion, Employment Opportunities, Community Development)

PROGRAM EVALUATION

Draft Schedules for the Initial Training Programs for the REAs

Electric Association Management for Board of Directors (Course I)
The following outline provides a typical training sequence and the estimated time required to introduce the various subjects.

Topical Index	Number of Hours
1. Overview of Afghanistan Energy Assistance Program	1.5
2. Framework of a Association: Its Concepts and Principles & Practices	2.0
3. Articles of Incorporation, By-Laws, Enabling Legal Framework & Governmental Policies, & Relationships with Government Instrumentalities	2.0
4. Concepts, Principles & Practices of an Electric Association, Organizational Structure and Design, Community Participation, and Some Challenges Faced by Associations	3.0
5. Operative Functions of the Board of Directors President Vice President Secretary Treasurer Auditor Business Managers Members	2.0
Roles & Functions of Management General Manager Finance Manager Technical Services Manager Member Services Manager Administrative Manager Office Auditor	2.0
Planning Organizing Directing Coordinating Controlling	
7. Board-Management Relations	3.0
8. Managing Electric Association/Association Mobilizing Communities and Start-Up Issues Project Management (preparation, implementation, monitoring and evaluation of rural electric association projects) Technical Oversight (Operations and Maintenance Management, Effective Tools to Reduce Systems Loss, etc.) Managing Accounts and Finance Human Resource Management Planning & Holding Annual General Meetings Managing Stakeholders	3.5
9. Tariff & Commercial Relations Tariff Structure	3.0

Rate-Fixing
Loans & Other Commercial Transactions
Procedural Aspects of Availment of Electric Service
Rights & Responsibilities of Members
Duties & Obligations of Members

Electricity and Rural Development Linkages (Including Socio-Economic Impacts), Environmental Considerations Aspects and considerations, Energy Conservation Issues and Demand Side Management)	3.5
Issues and Challenges in Managing Electric Associations (Power-Use Development & Promotion, Employment Opportunities, Community Development)	3.5
WORKSHOP: Case Study on Country Experience (Philippines/Bangladesh Experiences Covering Policy and Institutional Framework, Roles and Responsibility of Board/Management, Financial/Accounting Practices, Establishing Good Member Relations, Planning and Holding Successful Annual General Assembly Meeting, Performance Target Agreement, Appraisal and Improving Performance)	7.0
REPORTING	2.0
14. EVALUATION	1.0
Total Number of Hours	39.0

E. Operating Details
Duration of this course shall be six (6) days. It shall be conducted in Kabul and the Resource Persons are experts on the subject matter who shall travel to Afghanistan. Training Methodology shall be lecture, workshop and open forum.

Management Functions of REAs for the Departments Heads (Course II)

A. Rationale
Electric Association operation involves four co-equal departments each headed by a department head, namely: *(1) Finance Manager, (2) Technical Services Manager, (3) Member Services Manager, (4) Administrative Manager.* Initially there shall be one training program to be participated in jointly by all various department heads. But as the manpower resource grows, it shall be necessary to train all employees of the association in due time along their respective departmental functions.

B. Participants
Participants of this course shall be all the department heads of the electric association. All other employees within the departments may be required to undertake this course as an orientation course.

C. Objectives
At the end of the training, the participants are expected mainly to have gained knowledge on the basic concepts and principles of an electric association. The concomitant objective is for the participants to acquire skills and right attitudes towards the performance of their functions and responsibilities. This is a six-day course and should be presented in Kabul.

Seminar on the Management Functions of Rural Electric Associations for the Departments Heads (Course II)
COURSE OUTLINE
Overview of Afghanistan Energy Assistance Program

Framework of a Association, Its Concepts and Principles & Practices

Articles of Incorporation, By-Laws, Enabling Legal Framework & Governmental Policies & Relationships with Government Instrumentalities

Organizational Structure and Design of Rural Electric Association

- Board of Directors
- General Manager
- Finance Manager
- Technical Services Manager
- Member Services Manager
- Administrative Manager
- Office Auditor

General Functions of Management

- Planning
- Organizing
- Directing
- Coordinating

Structural Functions of Electric Association/Association Management
Functions the Office of the General Manager
Duties & Responsibilities of the General Manager
Functions of the Finance Department
Duties & Responsibilities of the Finance Manager
Functions of the Technical Department
Duties & Responsibilities of the Technical Services Manager
Functions of the Member Services Department
Duties & Responsibilities of the Member Services Manager
Functions of the Administrative Department
Duties & Responsibilities of the Administrative Manager
Functions the Auditing Office
Duties & Responsibilities of Office Auditor

7. Inter-linkages of the Various Departments

Concepts, Principles & Practices of Management by Objectives (MBO)

Human Relations, transactional Analysis Approach

EVALUATION
The above training programs are specifically designed to institute knowledge, skills and attitudes in the minds of the people who will be involved in policy-making as well in the policy-implementing jobs in the Electric Association/Associations.

Management Functions of REAs for the Departments Heads (Course II)

D. Draft Course Content
The following outline provides a typical training sequence and the estimated time required to introduce the various subjects.

Topics	Number of Hours
Overview of Afghanistan Energy Assistance Program	1.5
2. Framework of an Electric Association: Its Concepts, Principles & Practices	2.0
Articles of Incorporation, By-Laws, Enabling Legal Framework, Governmental Policies & Relationships with Government Instrumentalities	1.5
Organizational Structure and Design of Rural Electric Association; Organic Functions, Duties and Responsibilities	7.0
Board of Directors Association Management	
General Manager Finance Manager Technical Services Manager Member Services Manager Administrative Manager	
General Functions of Management	7.0
Planning Organizing Directing Coordinating Controlling	
6. Inter-linkages of the Board and Management/Various Departments	3.0
Human Relations, Transactional Analysis Approach	2.0
EVALUATION	1.0
Total Number of Hours	25.0

E. Operating Details
Duration of this course shall be five (5) days. It shall be conducted in Kabul and the Resource Persons are experts on the subject matter who shall travel to Afghanistan. Training Methodology shall be lecture and open forum.

Existing Training Programs Evaluations and Recommendations

TRAINING DESCRIPTIONS

The following is a brief review and critique of the existing training programs by Jun Alferez, an electric association training and development expert.

1. Electric Association Management Orientation for the Board of Directors

A. Rationale

This will be an orientation course for Board of Directors (BOD) and potential Board members. The training will focus on effective governance and management of a rural electric association. This course is a necessary first step in developing a basic understanding of the functions and responsibilities of the board and the staff. It will clearly delineate the separation of roles of the BOD and management staff.

Participants

Participants shall be the members of the Board of Directors, including the General Manager as *ex*-officio member. In the future, it is expected that the course will be a requirement for newly elected Board members during their first term in office.

C. Objective

Objective is to develop a basic understanding of electric associations, and to impart knowledge on: (a) Afghanistan Rural Electrification Program, (b) Framework of a Association, (c) Concepts, Principles, and Practices of a Rural Electric Association, (d) Organizational Structure of Rural Electric Association, (e) Board-Management Relations, (f) Legal Aspects Affecting Association Operations, (g) Policy-Making (h) Tariff.

D. Expected Goal/Outcome

The primary goal of this training will be to initiate paradigm shifts from views of electricity supply as a social right or a commercial product to views of electricity supply as a catalyst for economic growth and social change that must be implemented in a sustainable and efficient manner.

E. Operating Details

Course duration of shall be 6 days. It shall be conducted in Kabul and the Resource Persons (trainers/instructors) will be experts on the subject matter who shall travel to Afghanistan. Training Methodology shall be lecture, workshop and open forum.

The qualifications for the Resource Persons will include:

Experienced training experts with degrees in Management, Engineering, Finance or Accountancy, etc.

Experience with electric association management and operations

2. Electric Association Management Functions for Association Staff / Departments Heads

A. Rationale
Electric Association operation involves four co-equal departments each headed by a department head, namely: *(1) Finance Manager, (2) Technical Services Manager, (3) Member Services Manager, (4) Administrative Manager.* This is one training program to be participated in jointly by all various department heads.

B. Participants
Participants of this course shall be all the department heads of the electric association. All other employees within the departments may be required to undertake this course as an orientation course.

C. Objective
The objective is to institute job knowledge, skills and attitudes of the people who will be involved in the day-to-day affairs of the Electric Association.

D. Expected Goal/Outcome
The expected outcome of this training shall be establishment and maintenance of a core of manpower contingent at the association level who will be in front line of electric service, equipped with knowledge skills and correct attitude in the execution of the job.

E. Operating Details
Course duration shall be 5 days. It shall be conducted in Kabul and the Resource Persons are experts on the subject matter who shall travel to Afghanistan. Training Methodology shall be lecture and open forum.

3. Other Training Programs
Other training activities are recommended to be conducted as follows:
Short-range (0 to 8 months): “Seminar-Orientation Workshop on Electric Association Management for the Board of Directors” and “Seminar on the Management Functions of Rural Electric Associations for the Departments Heads” (above-discussed);
Mid-range: (to be conducted as prerequisite for membership in accordance with the association by-laws or policy or bulletin) “Electric Association Membership Seminar for Applicants for Electric Service Connection”
Long-range (18 months onwards) continuing on the job training for employees of the electric association

The above training shall be undertaken under the auspices of the Members Services Department.

6. DRAFT ACTION PLAN

This draft REA program action plan targets towns, villages and rural centers where local distribution grids are appropriate. Key features of this *Action Plan* include (i) reduced cost of overheads through the introduction of new institutional arrangements, (ii) reduced cost of electricity distribution systems through the introduction of a mixed three phase - single phase system, (iii) an opportunistic approach to power supply with private sector participation and competition where possible, (iv) electricity tariffs set to cover all power generation, operation and maintenance, distribution system extension and depreciation costs, (v) provision of communications services in villages, and (vi) a focus on attracting new customers and encouraging the productive use of electricity through financing arrangements.

Ultimately, the basic institutional unit will be the Electric Membership Corporation (EMC) a member-owned, non-profit electric utility that is made up of a number of REAs within a reasonable geographic region (See Attachment F).

An Electric Membership Corporation serves a number of villages located near to one another. Individuals choosing to join the member-owned utility pay a small membership fee and become owners / shareholders in the member-owned utility. Membership will be on a voluntary basis. *Area Coverage Policies* will dictate that the REA provide members with access to electricity as quickly and cost-effectively as reasonably possible.

Members are obliged to pay the tariffs set by the utility, which cover the cost of power supply, and all the distribution system running and expansion costs including operation and maintenance costs and depreciation. Memberships begins at the local (sub-unit) level called Rural Electric Associations (REA) and includes representation in the next level of Electric Members Corporations (EMC), and ultimately in the National Electric Membership Corporation (NEMC). The service territory for each regional EMC will be comprised of at least one REA serving a major town and the surrounding area.

Tariffs paid by members of a REA should cover the cost of supplying power to their service territory. Tariffs in one REA may differ from another REA though they are located within the same Electric Membership Corporation if the cost of power supply differs. However a better approach will be to purchase the power at the EMC level and then ***utilize a blended cost of power rate*** for each REA within the EMC. This will stabilize power rates within a geographic area and increase the ability of more remote REAs to provide power at a reasonable cost.

Initially Electric Membership Corporations should receive technical support through the government *rural electric task force (RETF)* from the *Afghanistan Rural Electricity Agency* (AfREA). This group will assist in establishing the REAs. This will likely include managing and implementing the initial programs in each area. However it is envisioned that after the initial start-up phase of establishing the first cohort of Electric Membership Corporations, the government's role will limited to arm's-length oversight, advisory, and capitalization roles. The role of the task force will shift to the regional EMCs or the NEMC.

In keeping with the concept of member ownership and control – a key element of the program – the Electric Membership Corporations will form a National Association (probably with regional branches) to provide common services to all EMCs and the ultimately the REAs, again reducing overheads through economies of scale. The National Electric Membership Corporation (NEMC) will be a member-owned service company, the members being the individual Electric Membership Corporations. The governance of each will originate from the bottom-up with the members of each REA electing a board of directors (BOD); though the initial *Interim BOD* will be appointed. Each REA board of directors will elect representatives to serve on the EMC and NEMC boards (this should not be the same person). The REA general manager will be an alternate member of each board. This will increase the continuity of services offered and ensure the operational soundness of decisions at the EMC and NEMC.

Once the program is established and operational, Electric Membership Corporations will be supported at the national level by the *National Electric Membership Corporation Association*. The National Association (with Regional branches) will coordinate the member-owned electric utility program and provide technical services which are too costly for each Electric Membership Corporation to support individually.

The National Electric Membership Corporation Association, the individual EMCs and the local REAs are all non-government, member-owned organizations. The *Institutional Structure and Functions* of each institution (REA, EMC, & NEMC) should be formalized within the legislative/regulatory framework of the MEW and sanctioned by the local governing bodies – local governor.

The action plan for implementing the REAs will involve establishing a local distribution grid system within each community to be served by a REA. When possible, the power supply should be the least-cost generating source meeting the established reliability and performance standards. This means that the power supplier could be an Independent Power Provider (IPP) or DABM. Major construction and maintenance of the local distribution grids should be contracted through competitive bidding.

Private companies and DABM will be free to bid. Billing and collection will be the responsibility of a local REA. Operations employees will need to be trained in basic technical operations including damage repair and distribution O&M. To increase the level of operational effectiveness, a reliable communications link should be installed between the REA the EMC.

There are three distinct parts of the proposed scheme: power supply, distribution and consumption of electricity (Attachment F: Figure 1).

Power Supply

Due to the rigors of power supply in Afghanistan, the particular power supply application and location will need to be opportunistic, not technology-driven. The power supply source will be selected based on considerations of cost and performance. Competition between power suppliers should be encouraged and renewable energy alternatives utilized when opportunities exist. Possible sources of power supply include mini-hydro plants, hybrid solar/wind/diesel systems, extension from the main grid and *shield-wire* distribution. Regardless of the power source, all power supply options will have the following common features:

Cost-Of-Service (COS) tariffs should be utilized whenever possible with no subsidy for power supply. Subsidies should be considered only for a defined periods and should include exit strategy with time-activated ratchets that move the tariffs to full COS within a specified time.

COS rates will require that ALL people served pay for energy used. This may require that populations on the lower economical tiers may be bypassed initially. However it has been demonstrated that the economic benefits accompanying the introduction reliable electric service, initiates a backfill effect that eventually brings electricity into the homes of these lower tier groups.

The power producer will supply power to a bulk meter(s). The power producer will essentially serve a single client – the EMC {though initially the individual REAs may have to be the direct power purchaser). This creates opportunities for public-private partnerships and participation, and establishes an attractive situation for the power supplier as they will not incur the costs of billing and collection from many individual household customers with very low rates of energy consumption.

Distribution

The best approach to providing a subsidy is to provide grants (or low-interest loans) to cover the capital cost of the local distribution grid; however this should supplemented by contributions from the customers. Although contributions from the customers will likely be small compared to the full capital cost, this contribution is critical to foster local ownership and commitment. The electricity rates that customers pay will cover the unsubsidized cost of power supply, and all the distribution system running and expansion costs including operation and maintenance costs and depreciation.

Electricity Consumption

With regard to the customers the objective is to make revenues from power sales grow as fast as possible in order to strengthen the financial position of the member-owned electric utilities. To this end, there will be an effort to maximize the number of initial customers (i.e., members / shareholders), to help new customers join the Electric Membership Corporation and to encourage income-generating activities using electricity. It is anticipated that the project will include provisions to ensure that financing for connection fees is available, as well as financing and training to support small-business ventures using electricity.

Project Implementation

Project implementation will be the responsibility of the government's RE Task Force with assistance of local and foreign consultants and staff seconded from other organizations as necessary. Implementation will take place in two stages. In the first stage, three REAs will be established (with members from within the target towns). Selection of this first group will be based on several factors: strong interest from the villages involved, demonstrated demand and ability to pay for electricity, and the practical consideration of accessibility for supervision.

Once the first group of REAs within a region has been established the corresponding Electric Membership Corporation (EMC) should be established (simultaneously if possible with a core group or REAs); project finance will be the second stage of implementation and should include a number of EMCs (covering a broader geographic area than the first set) and the establishment of the National Electric Membership Corporation Association will be the next implementation step. In all cases, the benefits and responsibilities of participation will be clearly explained to villagers and participation will be on a voluntary, "take-it-or-leave-it" basis. In no instance will a village be required to participate. At the end of the initial project implementation, about 4 EMCs should be operational, the National Electric Membership Corporation (with regional offices) will be staffed and in a position to take over many of the core support options from the government RE task force.

Proposed Roles for DABM

Power Supplier

DABM's role as bulk power supplier will remain a critical element of the REA program, and provides an excellent opportunity for DABM to increase electricity sales with virtually no increase in overhead cost and no need for financing. This program will not compete for funds available within DABM for existing DABM grid extension plans.

Where the least cost source of power supply is grid extension or shield-wire distribution, DABM will install a bulk meter at a take-off point from a distribution or shield-wire line. From DABM's point of view there will be a single, bulk customer (i.e. an Electric Membership Corporation on behalf of a REA). DABM will not incur the costs of issuing bills and collecting payments from individual households and DABM's responsibility for providing power will end at the bulk meter. Distribution lines from the bulk meter to a village and within a village will be the responsibility of the REA and the Electric Membership Corporation.

Design, Construction, Operation and Maintenance Contractor for Local grid Systems

DABM may be allowed to compete with private sector companies for design, construction and O&M contracts. This will allow DABM's contracting unit to generate income without the need for DABM to finance the projects.

The proposed *Afghanistan-Rural Electric Association Program (AfREAP)* should include technical assistance to assist the REAs in mastering new techniques essential for reducing the cost of local distribution systems.

The basis for capital cost savings in the distribution grid systems is a change in the technical standards to permit the rate of investment to match the demand growth. The new standards would reduce the per capita capital cost of the distribution system (i.e., the cost of establishing the grid divided by the number of customers served) by more than a factor of 2 – from about US$ 1,200 to about US$500. This cost reduction can be achieved while maintaining or improving the quality of service compared with current standards.

The present standards specify a three-phase distribution design. The entire system must be built to serve even one customer, so that in areas with low population density the system is prohibitively expensive. This approach results in a high initial investment, with a long delay before the full capacity is utilized. The high capacity reserve means that very little management is required.

Recommended Approach

The recommended approach is to establish an **Afghanistan Electricity Agency** that would be dedicated to increasing electricity access within the Ministry of Energy & Water: the role of this host government institution will be fairly limited after the initial phase of establishing the program. The program concept intentionally minimizes the government institution's role in favor of the system of member-owned organizations to be developed during project implementation. A small RE task force would be established under the AEA that (initially using consultants or seconded personnel to assist during the program establishment phase) would be well-suited to carry out the Government's responsibilities.

Although DABM has technical expertise, the disadvantages associated with DABM hosting the program are significant. The conflict of interest problem would greatly complicate DABM's role, even if a "Chinese Wall" could be established between DABM as administrator and DABM as competitor. Perhaps the biggest drawback is that under DABM's administration, the program will inevitably be viewed as some form of DABM's business as usual. This could be a fatal flaw in a program which will rely heavily on community ownership, participation and choice - characteristics not currently associated with DABM electricity service.

It is our understanding that a *Rural Energy Development and Expansion Center* exists (assumed) in Ministry of Energy and Water. This organization was considered as a possible institutional host for the *Afghanistan-Rural Electric Association Program (AfREAP)*. However the focus of the Rural Energy Center is primarily on rural settings and that the scope of energy activities includes traditional fuels and mini/micro and small scale electricity generation suitable for individual households or small groups of residences. This is well outside of the scope of the AfREA program which focuses primarily rural towns where a local distribution grid would be more appropriate. This divergence would be problematic operationally and in public perception. Operationally, the skills and knowledge base for these two mandates are different. Linking them will be of marginal value and could lead to a mismatch of skills and needs. Perception of the program by participants from communities and the private sector is important. The proposed electrification access program differs significantly from the

conventional concept of “rural electrification”. A misunderstanding of the scope and focus of the program (by potential participants) could jeopardize the whole undertaking.

Institutions (Attachment F: figure 2)

Government

Afghanistan Electricity Agency (AfEA): electricity regulatory agency with jurisdiction over rural electrification.

Non-Government

Electric Membership Corporation (EMC): member-owned electric utility serving a number of towns, villages and the surrounding areas. The Electric Membership Corporation Board of Directors is elected by the members. Members are grouped into sub-units at the village level called REA Membership Organizations. This structure allows reduced overheads through grouping a number of villages into a single electric utility, while at the same time facilitating input and encouraging responsibility at the individual level.

Rural Electric Association (REA): a REA is comprised of a local community/town and the surrounding area that forms a service territory. Tariffs paid by members of a REA will be COS based that covers the cost of supplying power to their service territory. Membership is on a voluntary basis. Individuals and businesses within the service territory will pay a membership fee to join the REA. This will make each an equal share (1) member of the REA and the subsequent EMCs, which is obliged to provide members access to electricity as quickly and as cost-effectively as reasonably possible.

National Electric Membership Corporation (NEMC): National level service organization owned by all Electric Membership Corporations (EMCs) with a Board of Directors elected by Electric Membership Corporations. The National Electric Membership Corporation will have several specialized departments including:
Purchasing Department: Assists Electric Membership Corporations in making bulk purchases of equipment and materials.

Generation and Transmission Department: Assists Electric Membership Corporations in preparing, evaluating and implementing contracts with power suppliers.

Financing Department: Operates a financing program from which Electric Membership Corporations can borrow to finance new construction or repairs and maintenance.

Notes:

A) As the program grows these departments will evolve into separate, but closely linked, organizations.

B) The National Association of Electric Membership Corporations is owned and controlled by the individual Electric Membership Corporations. Therefore the National Association will only be established after the first cohort of Electric Membership Corporations has been established.

Government

Afghanistan Electricity Agency (AfEA)

The AfEA will be the governing and oversight agency for the REA program and will:

- Issue licenses to Electric Membership Corporations to operate as a utility, based on recommendations by the Afghanistan Electricity Access Program (government) and the National EMC Association (non-government).

- Issue licenses to private sector participants in power sector (e.g., power generators, design and construction contractors).
- Review and approve EMC tariffs and power supply contacts from generators.
- Issue broad technical standards.

Afghanistan Electricity Access Program (AfREAP)

Administrative

Channel funds (government or donor) designated for initial capital cost of local distribution systems to the National EMC Association, which administers the funds on behalf of new EMCs.

If financing for private power generation is found to be necessary, the Electricity Access Program would administer a revolving fund available to private sector for financing power generation capital costs. (This fund would lend at commercial rates but would be an alternative to commercial banks if the latter find isolated power generation too risky to finance).

Technical

- Establish specific technical standards for village / rural / privately-owned electrification distribution systems, in accordance with national standards issued by the Afghanistan Electricity Agency.
- Review applications from new EMCs on the basis of compliance with technical standards (review is submitted to the Afghanistan Electricity Agency with recommendation whether or not to issue a license).
- Periodic technical review of existing EMCs to ensure compliance with standards for electrification systems.
- Administer government and donor funds for technical assistance in establishing National EMC Association and the initial cohort of EMCs.
- Establish contacts with Regional and local governments to present the program concept, receive their suggestions and together identify candidates for the first cohort of EMCs (including technical and financial assessments).
- Engage consultants to prepare founding documents for EMCs.
- Ensure legal aspects of EMC existence and operation are reviewed and approved by MEW legal experts.
- Engage “outreach consultant” to prepare presentations, materials and process for introducing the project and signing up new villages.
- Access Donor capital to be used to infuse start-up capital into the REAs.
- Provide guidance on potential REA territories and EMC groupings based on information collected at the regional level.
- Assist in disseminating information about participation in the program.

Non-Government

Electric Membership Corporation (EMC)

The EMC will support consolidated accounting and billing functions for the REAs, periodically audit the billing and collection and ensure that each REA tariff is sufficient to maintain long-term financial viability. (The EMCs will themselves be audited periodically by an independent auditor).

- Contract with an Operation and Maintenance company to run the distribution systems for each REA.

- Contract with consultants to prepare feasibility and detailed engineering studies for new REAs or system extensions in existing Power Districts.
- Coordinate with Purchasing Department in National EMC Association for purchase of materials in bulk.
- Coordinate with Afghanistan Electricity Access Program and National EMC Financing
- Department to obtain financing for capital investments.
- Handle payments of EMC salaries, power supply costs, O&M contract costs, contracting fees, membership dues for the National EMC Association, any repayments of initial capital investment in distribution systems.
- Administer financing for, and possibly stock and sell, electricity-based capital goods (e.g., motors, pumps, refrigerators) if no other suitable source is available.
- Maintain on-going program to promote income-generating uses of electricity and training for small business creation (with the aim of increasing electricity demand and reducing unit price).

Rural Electric Associations (REA)

- Local member-owned electricity distribution system
- Elected representatives of the REA serve on the NEMC and EMC boards
- Billing and collection at the village level
- Basic technical operations and maintenance services
- Promotes local economic development

National Electric Membership Corporation (NEMC)

- Coordinate overall EMC program.
- Disseminate information about program to encourage new EMC applications.
- Administer outreach program to interested villages to inform them of the benefits, responsibilities and process for joining the program.
- Assist in the preparation of the application for the establishment of new EMCs and, on behalf of the applicant EMCs, submit application for licensing to the Afghanistan Electricity Agency (regulatory body) via the Electricity Access Program.
- Hire consultants to carry out environmental or social assessments where needed.
- Oversee existing EMCs including review of independent audits of EMCs.

NEMC Purchasing Department

- Bulk purchase of materials and equipment on behalf of EMCs.
- Warehouse materials.

Generation and Transmission Department

- Negotiate and engage in contracts with power generation and transmission companies on behalf of the EMCs.

Financing Department

- Long-term financial body for EMCs nationally. Grants made by Government and donors through the government organization Electricity Access Program are essentially grants to the national EMC system, as opposed to individual REA. Individual REAs could be required to repay part or all of the initial infrastructure investments (with grace periods and interest rates to be determined) to the Financing Department. This would establish a revolving fund which existing and new EMCs could access for new investments and/or upgrading and extension. This is important so that the member-owned, non-government institutions build up a financing source that is independent of the Government.
- Assess financial viability of proposals for extension of existing EMC networks.

- Once an application has been approved and funds from Electricity Access Program are committed, the Financing Department will open and operate a bank account on behalf of a new EMC during the construction phase.

Other Sector Players

Independent documentation organization, potentially an existing NGO or an academic institution

- Document process and problems during initial phase of establishing the program.
- Provide recommendations on how to improve the process.
- Document initial socio-economic situation in participating rural areas.
- Document changes occurring as a result of the availability of electricity both positive (e.g., better health care and education facilities, establishment of new businesses, increased income levels) and negative.
- Provide recommendations to increase the benefits and reduce the negative impacts.

DABM

- Bulk power supplier.
- Transmission system operator
- Competitor with private companies for design, construction and O&M contracts.

IPPs

- Private sector participants that provide electricity generation services to the REA, preferably through its EMC
- Creates a competitive environment in the local power supply.

Private Contractors

- Provide competitive engineering, design, construction and O&M services to the REA electricity sector.

7. ATTACHMENTS TO THE REA ROADMAP

Examples of Design, Policy, and Procedural Templates

Sample Position Descriptions

Training Program Outlines

Uniform System of Accounts

Institutional Structure Graphics

Attachment A: *(REA Roadmap)*

Examples of Design, Policy, & Procedures Templates

The next6 pages are photocopy lists of USREA Bulletins

Bulletin	Spec. Number	Issue Date	Title
2-1		08/69	Guiding Statement of RUS Policy Concerning its Relationship with Borrowers
20-3		07/56	Obtaining Adequate Right-of-Way and Submission of Title Evidence by RUS Electric Borrowers
		03/60	Supplement
		04/66	Supplement
		06/72	Supplement
		10/76	Supplement
20-5		05/72	Extensions of Payments of Principal Balances
20-8		07/63	Purchase of Real Estate by Electric Borrowers
20-9		09/82	Loan Payments and Statements
		09/88	Supplement
20-10		05/73	Identification System for Borrowers, Loan Applications, Loans & Related Items
		01/74	Revised Page 3
20-15		07/70	Equal Employment Opportunity in Construction Financed with RUS Loans
20-20		01/71	Deferment of Principal Repayments for Investment in Supplemental Lending Institutions
20-22		04/77	Guarantee of Loans for Bulk Power Supply Facilities
20-23		12/80	Section 12 Extensions for Energy Resources Conservation Loans
26-1		05/71	Budgetary Control & Advance of Electric Loan Funds
		11/72	Supplement
		05/73	Supplement
		10/79	Supplement
43-9		07/55	"Buy American" Requirement
50-3*	D-804	05/83	Specifications & Drawings for 12.5/7.2kV Line Construction
50-4*	D-801	11/86	Specifications and Drawings 34.5/19.9kV Distribution Line Construction
61-12		08/72	Guide for Narrow Profile and Armless Construction (Electric Distribution)
		07/73	Supplement
61-14		04/73	Determination of Fault Current at Service Entrance Equipment

Bulletin	Spec. Number	Issue Date	Title
61-16		08/83	Guide for Economic Evaluation of Distribution Transformers
62-5		07/76	Electrical Characteristics of RUS Alternating Current Transmission Line Designs
		08/79	Supplement
100-2		03/60	Minutes of the Meetings of Boards of Directors, Members or Stockholders
100-4		04/72	Financial Security of RUS Distribution Borrowers
		02/75	Supplement
100-5		06/62	Agreements for the Operation Management of Borrower's Systems
101-1		08/77	Constitution and Operations of the Board of Directors of a Power Supply Cooperative Borrower
101-4		11/75	Annual Meeting Guide for Rural Electric and Telephone Cooperatives
101-5		01/67	RUS Model Act Bylaws
		05/71	Revised Pages
		10/77	Supplement
102-1		03/64	Capital Credits - Consumer Benefits
		12/73	Supplement
		08/74	Appendix B
102-2		07/71	Waiver of Security Instrument Provisions Relating to Certain Retirements of Capital by Distribution Borrowers
103-2		12/80	Use and Approval of General Funds for Additions to Plant
103-5		09/71	Manager's Monthly Report to the Board of Directors - Power Supply Borrowers
103-8		06/58	Use of Consultants
103-9		10/77	5 Percent Treasury Certificates of Indebtedness - RUS Series and 2 Percent Treasury Bonds - RUS Series
105-1		01/72	Annual Work Programs and Budgets for Rural Electric Distribution Systems
105-2		03/57	Operating Budgets for Power-Type Borrowers
105-4		05/73	Financial Management
105-5		10/82	Financial Forecast - Electric Distribution Systems
105-6		01/61	Where's Your Electric Co-op Headed?
105-7		09/72	Long Range System and Financial Planning - Power Supply Borrowers
106-1		07/73	Reporting and Controlling Procedures for Rural Electric Distribution Systems
109-7		06/86	Expanding Manpower Resources Through Cooperative Education
111-3		04/78	Power Supply Surveys
111-4		03/72	Electric Wholesale Rates - Power Supply Borrowers
112-1		10/60	Handbook of Electric Retail Rates and Service Rules
112-2		04/71	Electric Retail Rates
112-4		01/69	Comparison of Electric Rates, Part 1
112-6		09/72	Large Power Rates and Contracts
112-8		08/62	Rates for Three-Phase Rural Service

Bulletin	Spec. Number	Issue Date	Title
115-1		12/72	Sales of Capital Assets by Electric Borrowers
115-2		11/72	Merger and Consolidation of Electric Distribution Borrowers
115-3		02/58	Removal or Relocation of Electric Facilities Resulting from the Exercise of Rights by Governmental Agencies
160-1		01/68	Engineering and Operations Manual for Rural Electric System
160-2		04/82	Mechanical Design Manual for Overhead Distribution Lines
		03/86	Pen and Ink Changes
161-1		03/72	Interruption Reporting and Service Continuity Standards for Electric Distribution Systems
161-3		07/75	Inspection and Maintenance of Distribution Lines
169-1		12/72	The Application of Shunt Capacitors to the Rural Electric System
		01/75	Supplement
		07/78	Supplement
169-4		11/70	Voltage Levels on Rural Distribution Systems
169-27		01/73	Voltage Regulator Application on Rural Distribution Systems
180-2		06/72	Manual for Preservation of Borrowers' Records (Electric)
180-4		09/57	Borrowers' Loan Budget Subsidiary Records
180-6		04/71	Selection of Depositories for Funds of RUS Borrowers
181-2		05/68	Standard List of Retirement Units
		07/74	Pen and Ink Changes
182-1		01/65	Evaluation and Enforcement of Internal Control of Borrowers' Enterprises
183-1		10/77	Depreciation Rates and Procedures
184-3		09/61	Guide for Establishing Continuing Property Record
		12/68	Pen and Ink Changes
1700-51		09/92	Electric Program Coordinating Committee
1710B-1		02/98	Guide to Federal Financing Bank Loans Guaranteed by RUS
1710C-1		02/97	Temporary Processing Procedures for Insured Electric Loans

103-9	10/77	5 Percent Treasury Certificates of Indebtedness - RUS Series and 2 Percent Treasury Bonds - RUS Series
105-1	01/72	Annual Work Programs and Budgets for Rural Electric Distribution Systems
105-2	03/57	Operating Budgets for Power-Type Borrowers
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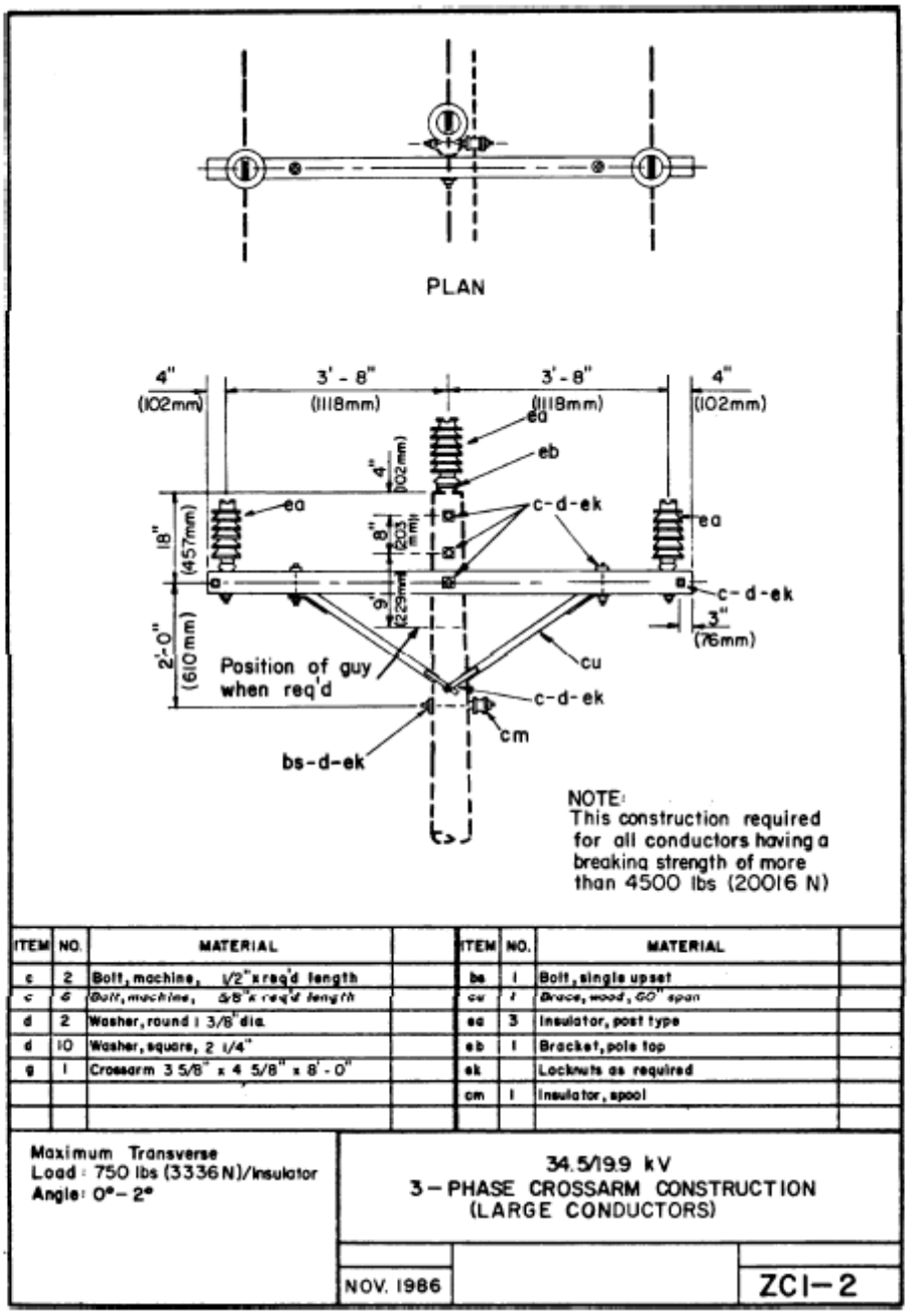
112-1	10/60	Handbook of Electric Retail Rates and Service Rules
112-2	04/71	Electric Retail Rates
112-4	01/69	Comparison of Electric Rates, Part 1
112-6	09/72	Large Power Rates and Contracts
112-8	08/62	Rates for Three-Phase Rural Service

1717B-2	12/93	Guide For Preparing Financial and Statistical Reports For Electric Distribution Borrowers
1717B-3	12/93	Guide For Preparing Financial and Statistical Reports For Power Supply Borrowers and Electric Distribution Borrowers with Generating Facilities
1724D-101A	05/95	Electric System Long-Range Planning Guide
1724D-101B	04/93	System Planning Guide, Construction Work Plans
1724D-103	07/93	System Planning Guide, System Mapping Guide
1724D-104	02/98	An Engineering Economics Computer Workbook Procedure
1724E-200*	09/92	Design Manual for High Voltage Transmission Lines
1724E-202	02/93	An Overview of Transmission System Studies

Bulletin	Spec. Number	Issue Date	Title
1724E-203		12/94	Guide for Upgrading RUS Transmission Lines
1724E-204		06/97	Guide Specifications for Steele Single Pole and H-Frame Structures
1724E-205		08/95	Design Guide: Embedment Depths for Concert and Steel Poles
1724E-206		12/97	Guide Specification for Spun, Prestressed Concrete Poles and Concrete Pole Structures
1724E-216		07/00	Guide Specification for Standard Class Spun, Prestressed Concrete Transmission Poles
1724E-300*		06/78	Design Guide for Rural Substations (CD only)
1724E-301		12/97	Guide for Evaluation of Large Power Transformer Losses
1724E-302		04/93	Design Guide for Oil Spill Prevention and Control at Substations
1724E-400		08/95	Guide to Presentation of Building Plans and Specifications
1726-601		05/96	Electric System Construction Policies and Procedures - Interpretations
1726A-125		09/93	Joint Use Agreement with CATV Companies
1726C-115		09/98	Checking Sag in Conductor by the Return Wave Method
1728F-700*	DT-5C	09/93	RUS Specification for Wood Poles, Stubs and Anchor Logs
1728F-800		12/98	Assembly Unit Numbers and Standard Format
1728F-803*+	D-803	12/98	Specifications and Drawings for 24.9/14.4 kV Line Construction
1728F-806	D-806	06/00	Specifications and Drawings for Underground Electric Distribution

1728F-810#+	T-805A	03/98	Electric Transmission Specifications & Drawings, 34.5kV through 69kV
1728F-811#+	T-805B	03/98	Electric Transmission Specifications & Drawings, 115kV through 230kV
1728H-701*	DT-5B	09/93	RUS Specifications for Wood Crossarms (Solid and Laminated) Transmission Timbers and Pole Keys
1728H-702*	DT-19	09/93	RUS Specification for Quality Control and Inspection of Timber Products
1730-1		01/98	Electric System Operation and Maintenance(O&M)
1730B-121		04/96	Pole Inspection and Maintenance
1767B-1#		10/97	Uniform System of Accounts - Electric
1767B-2		01/94	Work Order Procedure (Electric)
1767B-3		12/94	Preparation and Use of the RUS Form 254, Construction Inventory
1790-1		01/00	Nondiscrimination Among Beneficiaries of RUS Programs
1792C-1		07/93	Seismic Safety of New Building Construction
1794A-600		12/98	Guide for Preparing a Borrower's Environmental Report for Categorically Excluded Projects
1794A-601		12/98	Guide for Preparing a Borrower's Environmental Report for Environmental Assessment Projects



ITEM	NO.	MATERIAL		ITEM	NO.	MATERIAL	
c	2	Bolt, machine, 1/2" x req'd length		be	1	Bolt, single upset	
c	6	Bolt, machine, 5/8" x req'd length		cu	1	Brace, wood, 60" span	
d	2	Washer, round 1 3/8" dia.		ea	3	Insulator, post type	
d	10	Washer, square, 2 1/4"		eb	1	Bracket, pole top	
g	1	Crossarm 3 5/8" x 4 5/8" x 8'-0"		ek		Locknuts as required	
				cm	1	Insulator, spool	

Maximum Transverse Load: 750 lbs (3336 N)/Insulator
Angle: 0°–2°

34.5/19.9 kV
3–PHASE CROSSARM CONSTRUCTION
(LARGE CONDUCTORS)

NOV. 1986

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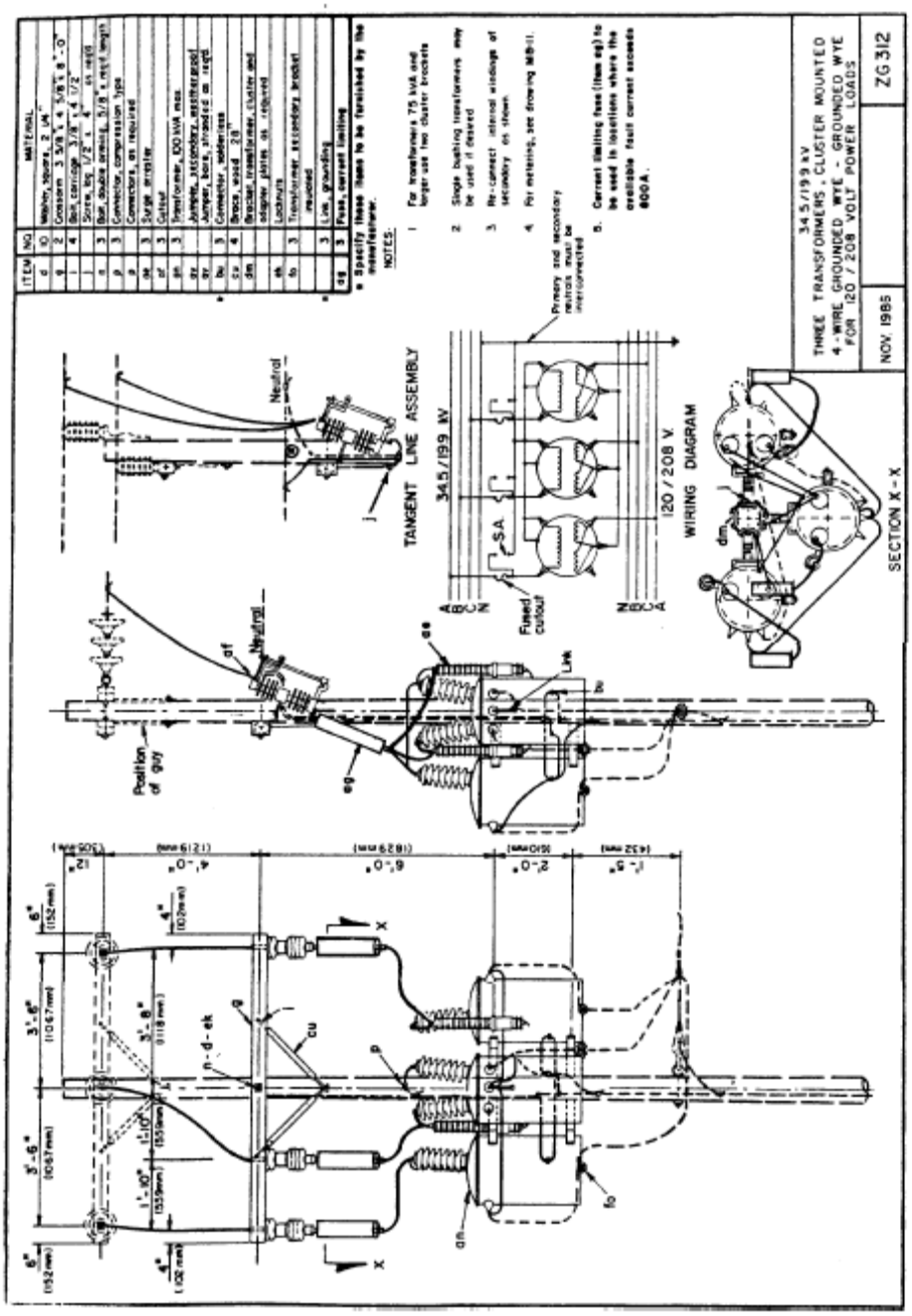
345/199 kV
THREE TRANSFORMERS, CLUSTER MOUNTED
4-WIRE GROUNDED WYE - GROUNDED WYE
FOR 120/208 VOLT POWER LOADS
NOV 1985
ZG 312
TANGENT LINE ASSEMBLY
WIRING DIAGRAM
SECTION X-X
Neutral
Position of guy
Fused cutout
Link
SA
NOTES:

The following three pages comprise REA BULLETIN 100-2

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration

March 7, 1960

REVISION OF REA BULLETIN 100-2

Attached is a copy of revised REA Bulletin 100-2, "Minutes of the Meetings of Boards of Directors, Members or Stockholders."

The revision is intended to state and clarify the instances in which distribution and power-type borrowers should submit copies of the minutes of board of directors or member meetings. Particular references are made to certain actions pertaining to the handling of margins and capital, and the amending of articles of incorporation.

This revision should replace REA Bulletin 100-2, dated September 11, 1956, in your files.

Attachment

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration

March 7, 1960

REA BULLETIN 100-2

SUBJECT: Minutes of the Meetings of Boards of Directors, Members or Stockholders

I. Purpose: To stress the responsibility of borrowers for keeping adequate minutes, and to provide the basis for the submission of minutes or excerpts from minutes in designated circumstances.

II. Responsibility of Borrowers: The keeping of appropriate official records of corporate actions taken at meetings of the board of directors, or of the members, is important to each borrower. Adequate minutes are basic historical records of the organization. They provide a written record of the authority for actions taken by officials pursuant to decisions reached by the directors and members. Inadequate minutes not only make an incomplete record, but they unnecessarily expose borrower officials to charges of having acted without proper authority and invite questioning of the legality and propriety of corporate actions.

III. Submission of Minutes to REA:

A. Borrowers are to furnish two certified copies of the minutes of any board of directors or member meetings when:

1. Bylaw provisions or policy concerning the handling of margins and capital are established or amended.

2. Action is taken with respect to any general patronage dividends or retirement of capital, or general cancellation or abatement of charges for electric energy.

3. Action is taken with respect to amending the articles of incorporation.

B. Borrowers are not required to furnish minutes of meetings other than as set except that REA reserves the right to particular borrowers or groups of borr properly certified copies of minutes c from minutes of meetings, of either bc directors or members or both, with res either particular actions or for speci of time.

IV. Requests for REA Approval: When the minut resolutions requesting REA approval as req visions of loan or security documents, or a timely request for such approval should by letter or telegram. Certified copies o resolutions should also be furnished when

This Bulletin supersedes REA Bulletin 100-2, dat 1956, and all other material in conflict with it

Adm

Index:

The following three pages comprise REA BULLETIN 112-1

United States
Department of
Agriculture

Rural Electrification
Administration

REA Bulletin 112-1

Handbook of Electric Retail Rates and Service Rules

CONTENTS

OCTOBER 1960

Reviewed and Approved for Reprint – November 1988

INTRODUCTION

This new edition of REA Bulletin 112-1 contains revisions which reflect new developments since publication of the previous edition in 1953.

Retail rates of REA borrowers should, in general, meet the following tests:

1. Rate schedules should be simple in order that they may be readily understood by the consumer.

2. Rates should reflect as nearly as possible an equitable allocation of the cost of service among all consumers. Furthermore, receipts from the sale of power by cooperative borrowers should reflect an equitable basis for the allocation of operating margins, both as between large and small users in the same rate classification and as among consumers in different rate classifications.

3. Rates for the same classification of service should usually be uniform throughout the entire area served.

The "Electric Rates" section of this handbook is intended to assist REA borrowers in meeting their objectives and the tests indicated above. The "Service Rules" section is a composite of information furnished REA by many borrowers and is intended to assist REA borrowers in the application of uniform regulations under which consumers will receive equitable treatment. Where unusual problems arise, REA will be glad to assist borrowers in arriving at a reasonable and proper solution.

Where the borrower is subject to Federal, State, or other governmental regulation, the requirements of such agencies govern.

Attachment B: *(REA Roadmap)*

Sample Position Descriptions

GENERAL MANAGER
Afghanistan Rural Electric Associations (REAs)

Objectives
Strive to ensure that all consumers within service area desiring electric service are provided a safe, ample and reliable supply of electricity at the lowest cost consistent with the highest standards of service and sound business practices.
To develop an organization and staff it with personnel qualified to effectively and efficiently manage the Rural Electric Association (REA) in accordance with the objectives and policies established by the Board of Trustees.

To inform, advise, assist and make timely, well defined recommendations to the Board of Trustees that will ensure a strong physical and financial system, and a customer-friendly organization. Specifically, to recommend to the Board short- and long-term financial and operating goals; capital plans and budgets; annual plans and budgets; and strategies, plans, programs, and policies.

To serve as the REA's principal spokesperson, representative, and negotiator, and to establish positive relationships with the customer-owners, individual employees, union, TVA, lending institutions, industry associations, legislative bodies, community leaders, civic and community organizations, governmental agencies and regulatory authorities, the media and the general public in order to garner support for the REA. To participate in and provide support to efforts which contribute to our area's economic/industrial development and a higher quality of life for customer-owners.
Direct the day-to-day operation of the REA, including the deployment and utilization of the Association's financial, physical, technical and human resources in the most efficient and effective manner. To see that association business transactions and operations are carried out in compliance with industry and environmental standards, and all applicable state and federal laws and regulations.

Essential Responsibilities and Authorities
Within the limits of policies and budgets adopted by the Board of Trustees and legal requirements, the General Manager has responsibility and authority to do the following, excepting those items marked by an asterisk. For those items marked by an asterisk, the General Manager is accountable for obtaining the Board of Trustees' approval prior to implementation.

To strive for ever higher standards of service and economical service through progressive management and the utilization of state-of-the-art equipment and techniques. To see that customer-owners are consistently served in a timely manner and treated with the utmost fairness, respect and courtesy.

Identifies growth opportunities for the REA and recommends short- and long-term financial and operating goals to the Board of Trustees for approval.

Develops and makes recommendations to the Board of Trustees regarding changes to the REA's strategic plans, all policies, and programs. Maintains familiarity with all customer service policies. Provides interpretation, when in question, initiates or oversees required action. Ensures that customer complaints involving the REA are fully investigated and promptly resolved.

Oversees management staff in the evaluation and improvement of procedures and processes used in the day-to-day operation of the REA. Sees that work is planned and executed to ensure the highest possible customer satisfaction and the highest productivity at the least expense. Makes recommendations to the Board of Trustees for approval regarding the selection of contractors and negotiated contracts.

Develops recommendations concerning long-range energy/load management strategies and programs and submits for Board approval. Monitors and takes corrective action to bring plan into compliance as required. Organizes and maintains a power use program to assist customer-owners in the efficient use of electricity.

Is responsible for developing long range marketing strategies and programs. Monitors the results of these programs and takes corrective action as required. Personally promotes and encourages others within the organization to actively promote electricity and all REA programs.

Is responsible for developing long range industrial and commercial energy service strategies. Monitors and takes corrective action to bring plan into compliance as required.

Develops a positive, supportive and productive relationship with area Chambers of Commerce and other groups that contribute to economic and industrial development. Presents opportunities for the REA to assist in securing funds for new and existing industry for Board consideration and approval.

Establishes a communications program that educates customer-owners on issues facing the REA. Promotes a positive image, and builds understanding of and support for the association.

Delivers the General Manager's Report to members at the Annual Meeting and assists otherwise as needed.

Is responsible for the planning of the REA's election and annual meetings to verify that they are carried out as approved by the Board of Trustees and in accordance with the Bylaws.

Leads the REA and its personnel to adhere to all applicable rules and regulations, including all safety rules. Verifies and takes corrective action to keep the REA's facilities in a neat, safe and orderly manner. Authorizes transportation fleet purchases in accordance with approved budget guidelines. Assures that the motor vehicle fleet is maintained in a safe and economical manner.

Periodically studies, with the help of management staff, the condition of and needs of the REA's physical equipment and facilities. Once needs are determined, submits recommendations for approval to the Board of Trustees regarding facilities construction or acquisition. Ensures efficiency, quality and cost effectiveness in the design, construction, operation, and maintenance of the association's facilities.

Sees that short-range and long-range engineering studies are done, plans are prepared, and system improvements are performed. Sees that service interruption reports are analyzed and that changes to design are made when information indicates a need.

Sees that system load growth is studied and that plans are developed and executed to ensure an adequate wholesale power supply.

Sees that an effective and efficient right-of-way and pole inspection program is administered to ensure a high level of system reliability.

Sees that work orders and the unit cost of construction conform to engineering standards. Sees that major construction and a sampling of minor construction are inspected for conformance to plans.

Develops and recommends to the Board of Trustees short- and long-term capital plans and budgets, and annual operating plans and supporting budgets for approval.*

Determines need and submits for approval recommendations to the Board of Trustees regarding changes in rates and changes to the rate structure.* Sees that fiscal budget is developed and tracked. Determines, with the help of management staff, operating cash requirements for present and future needs. Oversees development of the annual capital additions budget and operations and maintenance budget based on current conditions and load growth; and oversees development of the annual revenue budget.

Makes recommendations to the Board of Trustees for borrowing and debt arrangements.

Approves operating and capital expenditures within established budgetary limits.

Develops the REA's accounting and financial plans and programs and oversees the REA's financial affairs to ensure that financial resources are available to meet operating requirements and growth and service objectives. Sees that all financial policies and procedures are reviewed and monitored to ensure that the REA's assets are properly utilized.

Sees that a system of internal control is developed, that its results are evaluated, and that needed corrective action is taken. Sees that internal controls, financial policies, rates, margins and financial ratios are adequate to maintain a solid financial position, and to provide timely and accurate reporting to the Board of Trustees. Sees that outside auditor's recommendations are implemented promptly.

To structure the organization of the REA and articulate the role and accountabilities of each organizational unit. To develop association personnel and see that they are provided a fair and competitive compensation package commensurate with job responsibilities and experience. To see that personnel are treated with the utmost fairness, respect and courtesy, and provided good, safe working conditions, the opportunity to develop, and according to qualifications and availability, the opportunity to advance. To demonstrate by example and encourage in all employees a good work ethic, a desire to provide exceptional service, and a REA spirit of teamwork. To see that programs are administered to strengthen employee morale, employee-customer relations, employee-management relations, and employee health and productivity.

Studies the REA's strategic plans, personnel policies, and programs and, when needed, develops recommendations for changes and submits them to the Board of Trustees for approval. Maintains familiarity with all personnel policies. Provides interpretation when in question, initiates or oversees required action.

Ensures the development and efficient utilization of the association's human resources. Reviews periodically, with the help of management staff, manpower requirements, activities, and organizational structure, and submits recommendations to the Board of Trustees for approval organization structural changes, staffing requirements, and other human resource plans necessary to carry out the short-term and long-term objectives of the REA.

Interviews, selects, appoints, develops, promotes, and terminates employment of management team (direct reports). Motivates direct reports toward achievement of assigned accountabilities. Reviews and approves/disapproves recommendations by the Director of Human Resources and Communications and department directors for all appointments and terminations of employment, as well as disciplinary actions for employees within the department directors' respective departments.

Sees that position descriptions are prepared and periodically reviewed and revised as needed for all positions within the organization. Personally reviews and approves revisions for direct reports' position descriptions.

Sees that the association wage and salary plan/structure is reviewed and, submits recommendations to the Board of Trustees for approval.

Makes recommendations subject to the Board of Trustees' approval for the General Manager's appraisal, and method of compensation. Determines and implements wage and salary adjustments for direct reports when needed within budget limitations. Reviews and approves/disapproves recommendations made by department directors for wage and salary adjustments for non-bargaining unit employees within their respective departments within budget limitations.

Stays abreast of compensation package issues and trends to ensure that pay and benefits are in line per position and are competitive. Makes recommendations to the Board of Trustees for approval of needed changes.

Serves as the association's chief spokesperson in contract negotiations and submits contract recommendations to the Board of Trustees for approval.

Counsels periodically with direct reports regarding performance to reinforce good performance, assist in improving poor performance, and encourage employee career development. Sees that department directors do the same with their respective employees.

Encourages and supports continuous learning among all employees. Personally participates in workshops, seminars and other educational programs to improve knowledge and ability. Sees that direct reports are thoroughly trained to meet the requirements of their positions. Sees that direct reports do the same with their respective employees.

Sees that a communications program is administered that educates employees on issues facing the REA, promotes a positive image, and builds understanding of and support for the REA.

Meets with all direct reports as often as is needed, but at least annually to explain the association's intolerance of harassment and all harassment policies. Encourages employees to use the grievance procedure if they feel they have been harassed, and to report any related problems to the Dir. of Human Resources and Communications or to the General Manager. Emphasizes to employees that the REA prohibits harassment based on race, creed, color, religion, sex (including pregnancy), national origin, age, disability, or veteran status. Sees that no employee is retaliated against for filing a grievance or complaint alleging harassment or for participating in an investigation. In addition to the policies mentioned previously, meets with all department employees as often as is needed, but at least annually to explain policies and issues such as - Confidentiality of Personnel Files and Employee Privacy Rights; Driver Qualifications; Salary scales; Solicitation of Employees and Distribution of Literature; and Safety & Occupational Health. Sees that department directors do the same.

Approves vacation, sick leave and overtime for direct reports. Reviews and signs time sheets. Monitors attendance and overtime records to identify problems and takes corrective action as needed. Sees that department directors do the same.
Approves travel and other expenses for direct reports. Sees that department directors do the same.

Monitors work being accomplished by direct reports through monthly reports, time sheets and personal observation to ensure customer satisfaction and helpfulness to other REA personnel. Sees that department directors do the same.
Monitors and evaluates overtime hours for all direct reports personnel. Sees that corrective action is taken as necessary. Approves time sheets for direct reports. Sees that department directors do the same.

Directs the activities of the REA and delegates appropriate responsibilities and authorities, but with full recognition that the General Manager may not be relieved of the overall

responsibilities, nor any portion of the accountability; makes certain that all responsibilities, authorities, and relationships are understood and accepted.

Understands that these delegations are all subject to established policies, procedures, and other specific limitations of the REA.

To actively participate in and contribute time and effort to national, state, and local organizations wherever there is opportunity to further the interest of the REA.

To interpret policy and functions as the REA's chief spokesperson, representative, and negotiator with customer-owners, individual employees, union, TVA, regulatory authorities, the media, lending institutions, industry associations, and legislative bodies.

To oversee, guide, direct, or approve all negotiations and agreements with outside suppliers and other parties.

Coordinates or oversees coordination, review and approval of activities of all outside consultants and counsels.

Coordinates or oversees coordination of litigation or other activities related to potential litigation in which the REA may become involved.

Relationships
Internal
Board of Trustees: To inform, advise, and make recommendations to and receive directives from.

Department Directors: To provide information to and receive information from. To work with in carrying out the day-to-day operation of the REA. To collaborate with in the formulation of and improvement of REA processes and procedures and in the formulation of policies and other recommendations to be presented to the Board of Trustees.

All REA Employees: To lead and motivate in the delivery of exceptional service (product service and customer service). To encourage the exchange of ideas for improving service; to listen to and learn from.

External
Customer-Owners: To provide exceptional service to, to market programs and products to, to educate and inform, as well as to listen and learn from.

Media: To provide information and assistance to in an effort to gain public confidence in and support for the REA.

Public Officials: To cooperate with and, whenever possible, assists with information and other requests.

IPPs: To coordinate contracts and power delivery services. Monitor and maintain relationships to ensure effective and reliable power supply.

EMC: To coordinate with in the delivery of services, programs and information. To work with in the lobbying for causes in the interest of customer-owners. To coordinate with in training of employees, and to work with in the administration of employee benefit plans. To coordinate with in lobbying efforts, training, and other areas of mutual interest. To consult with, and provide and receive information on rates, contracts, power supply and other mutual interests.

AfREA: To coordinate work order process, financial forecasts, work plans, long-range system studies and BERs.

Public: To respond to casual questions or inquiries. To in all ways project a positive and professional image of the REA and its personnel.

Other Utilities: To work with as needed regarding the resolution of shared issues, concerns, or problems.

Consultants: To review projects and other matters pertaining to REA operations and engineering.

State and Federal Agencies: To provide information and reports concerning employment, taxes, plant costs and the sale of electricity.

Auditor: To provide information for audit purposes. To give and receive information relating to accounting and internal control policies. To confer with concerning audit recommendations and their implementation.

Attorneys: To consult with regarding legal issues.

Education
A four-year degree in engineering, business or a related field from an accredited college.

Experience
Ten years experience in progressively responsible positions, with a minimum of five years supervisory experience at the senior management level. * A portion of the education requirement may be substituted for a portion of the experience requirement.

Job Knowledge
Must understand the relationship between a Board of Trustees and the General Manager, and between the REA and its customer-owners. Must have an understanding of electrical distribution system, and substation and transmission system design and operation. Must have excellent communication skills, proven leadership ability and a strong commitment to teamwork and the association principles. Should have a good knowledge of management principles, including planning and organization, budgeting, and supervision. Should have a good understanding of the REA's policies, procedures and rates. Should have a knowledge of employment law, marketing, and accounting.

Abilities and Skills
Physical: Position requires occasional lifting/carrying and pushing/pulling of weights up to 20 pounds. Must have the ability to operate or have the ability to learn how to operate various types of general office equipment including a computer, printer, telephone, facsimile machine, copier machine, and shredder. Must have the ability to operate an automobile, two-way radio, and calculator (scientific and financial).
Mental: Position requires math skills used in simple arithmetic; fractions, decimals and percentages; algebra; geometry; and measurement. Position requires the language skills used in forms comprehension; reading comprehension; technical reading comprehension; forms completion; report preparation; and writing (composition).

Position requires an ability to communicate professionally and effectively orally and in writing. Position requires the analytical/perceptual skills of planning and organizing; analyzing; estimating; monitoring; troubleshooting; and innovation.

Position requires the technical skills needed in the use of machines and equipment; diagrams and blueprint reading, graph and table preparation and/or reading; and computer literacy. Position requires the interpersonal skills needed to motivate, train and evaluate employees to obtain high productivity and morale. Must have the ability to maintain confidentiality for highly sensitive information relative to the association's plans, activities, records, and reports. Must be able to effectively work with others on a one-to-one basis; and to effectively work in or with groups.

Working Conditions

Work is primarily inside with temperatures moderated by a heating and/or cooling system and some exposure to noise normally not exceeding that of standard office equipment. Position involves occasional exposure to mechanical hazards and work at heights of no more than 10 feet. Position requires travel, overtime, weekend and night work and 24-hour call-out (exempt position requiring non-traditional hours).

Assistant General Manager - Operations
Afghanistan REA

POSITION PURPOSE: To manage the electric service reliability of the REA

Responsibilities and Duties:
Serve as Acting General Manager as designated by the General Manager or according to Board Policy.

Coordinate development of the Operations Division Annual Work Plan and Budget consistent with association's strategic plan in consultation with the General Manager.

Manage the activities of the four departments within the Operations Division and accountable for operating within the annual budget in order to accomplish the annual work plan of the Operations Division.

Evaluate and define areas of responsibilities and strategies of the Operations Division including the development of new programs within the work plan and budget in consultation with the General Manager.

As senior management staff member, assist and recommend new association initiatives and possible changes in all divisions.

Personally make presentations to Board Committees and the Board of Directors as requested by the General Manager.

Provide for employee development and safety in the Operations Division. Reviews selection of persons to fill vacancies in the Operations Division and responsible for selection of department manager positions within the Operations Division in consultation with and upon approval of the General Manager.

Prepare proposals for special loads and negotiates agreements with other utilities as appropriate in consultation with the General Manager.

Personally makes presentations to committees and boards, and represents the General Manager on subcommittees as assigned. Relate directly to member systems for the purpose of fostering an open and constructive relationship.

Licenses and Certificates:
Valid Driver's License

Uniform:
None

Minimum Qualifications:
Bachelor of Science Degree in engineering with at least five years of progressively responsible work in the rural electric industry or a related field. Registration as a professional engineer is desirable.

Physical Qualifications:
Requires frequent sitting and occasional standing, walking, and climbing stairs. Requires good communication skills including speaking, hearing, and vision capabilities.

Work environment is generally a climate controlled office with adequate lighting and low noise levels.

Periodic travel by automobile or airplane is necessary.

REPORTS TO: General Manager

DIRECTLY SUPERVISES: Operations and engineering staff of 4 to 6

Attachment C: (REA Roadmap)

Training Program Outlines

Electric Association Management for the Board of Directors (Course I)

Draft Program Schedule

The following provides a typical training schedule for the training course.

Day 1	
8:00 - 9:00 AM	REGISTRATION
9:00 - 10:00	OPENING PROGRAM
10:00 - 10:30	COFFEE/TEA BREAK
10:30 - 12:00 N	Overview of Afghanistan Energy Assistance Program
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 3:00	Framework of a Association: Its Concepts, Principles & Practices
3:00 - 3:30	COFFEE/TEA BREAK
3:30 - 5:00	Articles of Incorporation, By-Laws, Enabling Legal Framework & Governmental Policies, & Relationships with Government
Day 2	
8:30 - 12:00 N	Concepts, Principles & Practices of an Electric Association, Organizational Structure & Design, Community Participation , & Some Challenges Faced by Associations
(10:00- 10:30	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 3:00	Operative Functions of the Board
3:00 - 3:30	COFFEE/TEA BREAK
3:30 - 5:30	Roles and Functions of Management
Day 3	
8:30 - 12:00 N	Board-Management Relations
(10:00 - 10:30	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 5:00	Managing Electric Association
(3:00 - 3:30	COFFEE/TEA BREAK)
Day 4	
8:30 - 12:00 N	Tariff & Commercial Relations
(10:00 - 10:30	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 5:00	Electricity and Rural Development Linkages (Including Socio-Economic Impacts), Environmental Considerations Aspects and Considerations, Energy Conservation Issues and Demand Side Management)
(3:00 - 3:30	COFFEE/TEA)
Day 5	
8:30 - 12:00 N	Issues and Challenges in Managing Electric Associations (Power-Use Development & Promotion, Employment Opportunities, Community Development)
(10:00 - 10:30	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 5:00	WORKSHOP: Case Study on Country Experience (Philippines/Bangladesh Experiences Covering Policy and Institutional Framework, Roles and Responsibility of Board/Management, Financial/Accounting Practices, Establishing Good Member Relations, Planning and Holding Successful Annual General Assembly Meeting, Performance Target Agreement, Appraisal and Improving Performance)
(3:00 - 3:30	COFFEE/TEA BREAK)
Day 6	
8:00 - 12:00 N	WORKSHOP, *cont.*
(10:00 - 10:30	COFFEE/TEA BREAK)

12:00 - 1:00 PM	LUNCH BREAK
1:00 - 3:00	REPORTING
3:00 - 4:00	EVALUATION
(3:00 -	COFEE/TEA)
4:00	CLOSING PROGRAM

Electric Association Management Functions for Association Staff (Course II)
Draft Program Schedule
The following provides a typical training schedule for the training course.

Day 1	
8:00 - 9:00 AM	REGISTRATION
9:00 - 10:00	OPENING PROGRAM
10:00 - 10:30	COFFEE/TEA BREAK
10:30 - 12:00 N	Overview of Afghanistan Energy Assistance Program
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 3:00	Framework of a Association: Its Concepts, Principles & Practices
3:00 - 3:30	COFFEE/TEA BREAK
3:30 - 5:00	Articles of Incorporation, By-Laws, Enabling Legal Framework & Governmental Policies, & Relationships with Government
Day 2	
8:00 - 5:00 PM	Organizational Structure and Design of Rural Electric Association; Organic Functions, Duties and Responsibilities Board of Directors Association Management General Manager Finance Manager Technical Services Manager Member Services Manager Administrative Manager
(10:00	COFFEE/TEA BREAK)
(12:00 - 1:00 PM	LUNCH BREAK)
(3:00 - 3:30	COFFEE/TEA BREAK)
Day 3	
8:00 - 5:00 PM	General Functions of Management Planning Organizing Directing Coordinating Controlling
(10:00	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
(3:00 - 3:30	COFFEE/TEA BREAK)
Day 4	
8:30 - 12:00 N	Inter-linkages of the Board and Management/Various Departments
(10:00 - 10:30	COFFEE/TEA BREAK)
12:00 - 1:00 PM	LUNCH BREAK
1:00 - 3:00	Human Relations, Transactional Analysis Approach
3:00 - 3:30	COFFE/TEA BREAK
3:30 - 4:00	EVALUATION
4:00	CLOSING PROGRAM

DRAFT Announcement for a training program

1 March 1, 2006

Seminar Title: EFFECTIVE GOVERNANCE & MANAGEMENT OF RURAL ELECTRICITY ASSOCIATIONS
Date : Feb 25 – March 2, 2006
Venue : Kabul, Afghanistan

****

1. The seminar was attended by about 12 participants; Resource Persons came from India.

2. Salient matters discussed in seminar:

institutional aspects of structure and management/operation of Rural Electricity Associations; concern of the participants as to *who would assist them organize the electric association in Aybok;* the issue was not addressed by the resource persons because they said the issue was not within their scope of concern;

3. Recommendation:

Let AEAI handle the organization and future seminars pertaining the institutional build-up of a pioneer electric association in Aybok.

Other matter:

Another seminar, on Financial Operations, is due to be conducted on March 4-8, 2006.

Attachment D: ***(REA Roadmap)***

Uniform System of Accounts

The following has been copied form USDA RUS Bulletin1767B-1. These have been provided to illustrate the recommended standard accounting system for the REAs.

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Utilities Service
BULLETIN 1767B-1
SUBJECT: Uniform System of Accounts - Electric
TO: All Electric Borrowers
RUS Electric Staff
Borrower Accounting Division
EFFECTIVE DATE: September 5, 1997
EXPIRATION DATE: Date of change in 7 CFR Part 1767 by rulemaking
OFFICE OF PRIMARY INTEREST: Technical Accounting and Auditing Staff, Borrower Accounting Division

PURPOSE: This bulletin sets forth, in a more user-friendly format, the RUS Uniform System of Accounts (USoA) and accounting interpretations for electric borrowers. This bulletin is a reprint of already codified policies and procedures found in 7 CFR Part 1767, Accounting Requirements for RUS Electric Borrowers, revised as of August 6, 1997. This bulletin is for use by borrowers, consultants, and other interested parties.
Every effort has been made to ensure the accuracy of this document. However, in case of discrepancies, the regulations at 7 CFR Part 1767, 62 FR 42284, published August 6, 1997, are the authorized sources.

Administrator Date

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108.8 Retirement Work in Progress

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123.23 Other Investments in Associated Organizations
123.3 Investment in Associated Organizations – Federal Economic Development Loans
123.4 Investment in Associated Organizations - Non-Federal Economic Development Loans
124 Other Investments
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124.2 Other Investments - Non-Federal Economic Development Loans
125 Sinking Funds
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131.1 Cash - General
131.12 Cash - General - Economic Development Loan Funds
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Excerpts for Pages 25 – 27 of Bulletin1767B-1

§ 1767.15 GENERAL INSTRUCTIONS:
(a) Records.
(1) Each utility shall keep its books of account, and all other books, records, and memoranda which support the entries in such books of account so as to be able to furnish readily full information as to any item included in any account.
(2) Each entry shall be supported by such detailed information as will permit ready identification, analysis, and verification of all facts relevant thereto.
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(3) The books and records referred to herein include not only accounting records in a limited technical sense, but all other records, such as minute books, stock books, reports, correspondence, memoranda, etc., which may be useful in developing the history of or facts regarding any transaction.
(4) No utility shall destroy any such books or records unless the destruction thereof is permitted by the rules and regulations of RUS in 7 CFR chapter XVII.
(5) In addition to the prescribed accounts, clearing accounts, temporary or experimental accounts, and subdivisions of any accounts, may be kept, provided the integrity of the prescribed accounts is not impaired.
(6) All amounts included in the accounts prescribed herein for electric plant and operating expenses shall be just and reasonable and any payments or accruals by the utility in excess of just and reasonable charges shall be included in Account 426.5, Other Deductions.
(7) The arrangement or sequence of the accounts prescribed herein shall not be controlling as to the arrangement or sequence in report forms which may be prescribed by RUS.
(b) Numbering system.
(1) The account numbering plan used herein consists of a system of three-digit whole numbers as follows:

100-199 Assets and other debits.
200-299 Liabilities and other credits.
300-399 Plant accounts.
400-432, 434-435 Income accounts.
433, 436-439 Retained earnings accounts.
440-459 Revenue accounts.
500-599 Production, transmission, and distribution expenses.
900-949 Customer accounts, customer service and informational, sales, and general and administrative expenses.
(2) In certain instances, numbers have been skipped in order to allow for possible later expansion or to permit better coordination with the numbering system for other utility departments.
(3) The numbers prefixed to account titles are to be considered as parts of the titles.
(i) Each utility, however, may adopt, for its own purposes, a different system of account numbers provided that the numbers herein prescribed shall appear in the descriptive headings of the ledger accounts and in the various sources of original entry.
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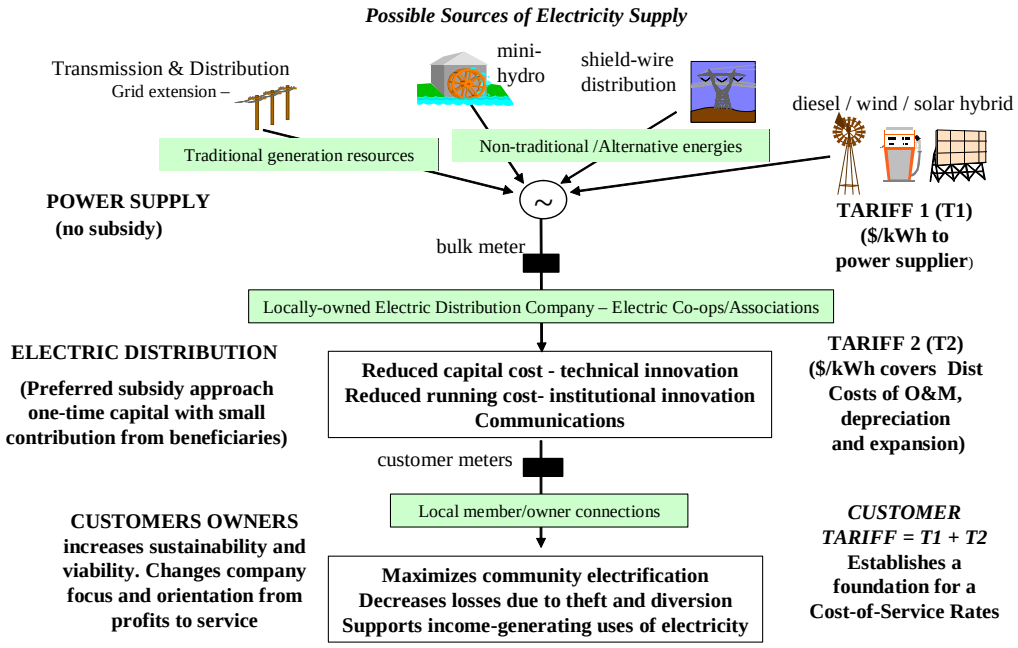
(ii) If a utility uses a different group of account numbers and it is not practicable to show the prescribed account numbers in the various sources of original entry, such reference to the prescribed account numbers may be omitted from the various sources of original entry.
(iii) Each utility using different account numbers for its own purposes shall keep readily available, a list of such account numbers which it uses and a reconciliation of such account numbers with the account numbers provided herein.
(iv) The utility's records shall be so kept as to permit ready analysis by prescribed accounts (by direct reference to sources of original entry to the extent practicable) and to permit preparation of financial and operating statements directly from such records at the end of each accounting period according to
the prescribed accounts.
(c) Accounting period.
(1) Each utility shall keep its books on a monthly basis so that for each month, all transactions applicable thereto, as nearly as may be ascertained, shall be entered in the books of the utility.
(2) Amounts applicable or assignable to specific utility departments shall be so segregated monthly.
(3) Each utility shall close its books at the end of each fiscal year unless otherwise authorized by RUS.
(d) **Submission of questions**. To maintain uniformity

Attachment E: (REA Roadmap)

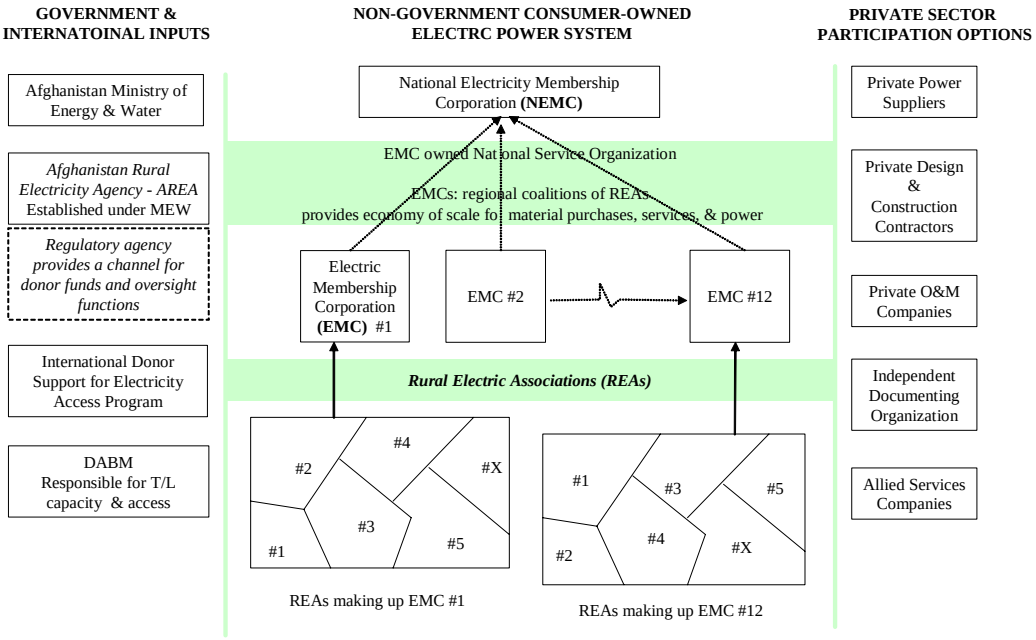
Institutional Structure Graphics

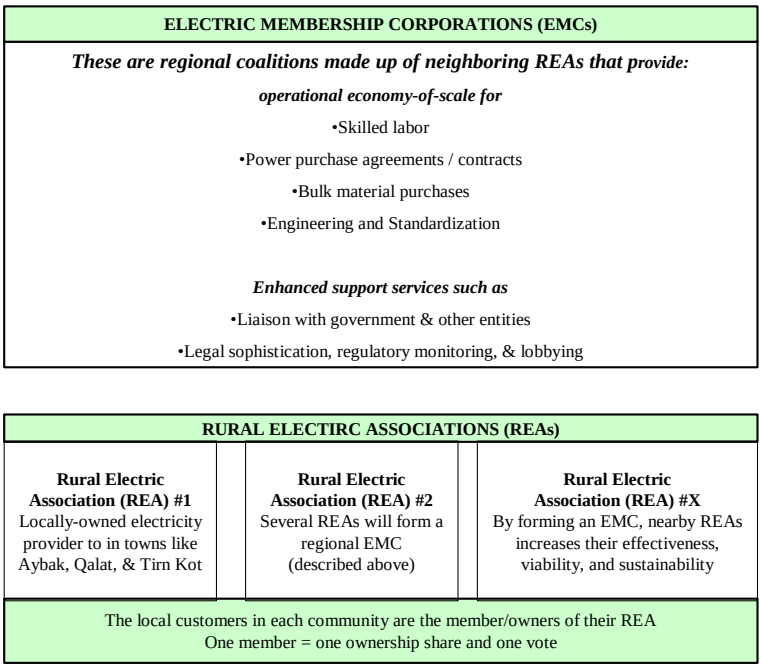
Figure 1

CONCEPT FOR INCREASING ELECTRICITY ACCESS IN RURAL AREAS



PROTENTIAL INSTITUTIONAL STRUCTURE FOR ELECTRIFICATION ACCESS





Needed to Increase Rural Electricity Access

Some of the many issues and actions to be taken include:

- A phased approach (long-term program)
- Favorable enabling regulatory legislation
- A SOW and program work plan
- An *Action-Plan* for each REA
- Training and professional development
- Public participation and buy-in at the start
- Quick start to construction

Essential for REA Success: 1

Independence and Autonomy

- From National Utility Organization
- From political and social influence & pressure

Pragmatic Business Methodology

- Established margins and TIERs maintained
- Full Cost-Of-Service recovery in tariffs
- Not a social support program
- Electric service ONLY to those that can & will pay

Transparency

- Needed to build trust & loyalty
- Inhibits corruption & opportunities for malfeasance

Essential for REA Success: 2

Active Democratic Process

- Vital to instilling community ownership
- Open and fair election of Board of Directors (BoD)
- One member one vote for every board seat
- Open and equitable BoD candidate nomination process

Training and Professional Development

- Continuous training and skills development for staff
- BoD - required training and development

REAs

Facilitate Community Economic Development

- Allows community/member affluence building
- Vital to REA sustainability and viability
- Alternate livelihoods & productive-uses-of-electricity
- Micro-credit facility for members

Enabling Mechanism for Other Services

- Medical facilities
- Water and sewer systems
- LP and HP Gas facilities
- ITT / telecom systems

ATTACHMENT 2
REA Program Resource Plan

Program Resource Plan

Project:	**Afghanistan - Rural Electric Association Development (Af-REAP)**
Program Name:	USAID / Afghanistan Energy Assistance Program
Organization:	Advanced Engineering Associates International (AEAI)
Critical Outcome:	Develop a strategic approach to Rural Electrification and implement in three communities.

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1. Executive Summary

The *Afghanistan-Rural Electric Association Program (Af-REAP)* - project resource plan identifies the human resources required to complete the primary project and affiliated tasks. It specifies the positional skills needed as well as identifies the essential tools and equipment needed.

The two primary projects associated with the Af-REAP:

1. Afghanistan Rural Electric Association Development
2. Establishing Rural Electric Associations in three towns – Aybak, Qalat, and Tirin Kot

This plan identifies both short-term and long-term manning resources needed in the program. It also graphically illustrates project relationships, teaming, and organizational structuring.

This project resource plan focuses on *Level One Implementation* including direct program management, supervision, and critical implementation positions. *Level One Implementation* includes Cooperating Country Nationals (CCN), U.S. Nationals (USN), and Third Country Nationals (TCN). However it does not include the support/security staff, administrative staff, or ancillary infrastructure staff (drivers, guards, cooks, housekeepers etc) needed in the program.

Level One Implementation (LOI) includes four groups -

- PM1 - program management and administration
- PM2 - long-term USN & TCN advisors
- PM3 - short-term USN & TCN
- PM4 identifies CCN positions

The full *Level One Implementation* compliment is 47 positions (USN, CCN, TCN) inclusive, varying Levels-Of-Effort (LOE)

2. Rationale

The Af-REAP ***Project Resource Plan (PRP)*** establishes the human resources needed to accomplish the program tasks and activities. It lists skill-sets required by various team members and may also include requisite non-labor resources (tools, equipment, and procedures) of note.

The Afghanistan Rural Electric Association Program (Af-REAP) has two (2) primary objectives/projects.

1. **Rural Electric Association Development:**
   This is a macro-level project that develops and implements a sustainable electric association system within the country.

2. **Rural Electric Association Implementation:**
   This is a site specific implementation project that establishes an electric association (association) in the three provincial towns of *Aybak, Qalat*, and *Tirin Kot.*

This PRP identifies both short-term positions as well as long-term resources needed.

- Short-term programs are based on a project life of 4.5months (ending March 31, 06)
- Long-term positions are based on a three-year implementation plan

3.0 AF-REAP Resource Plan

The AF-REAP Resource Plan details the resources needed. This in not an exhaustive list identifying only the more critical resources needed to implement the program.

3.1 The Project Team – Level One Implementation

The PRP narrative focuses on *Level One Implementation* positions which are those required to directly manage, administer, and control program implementation tasks and activities.

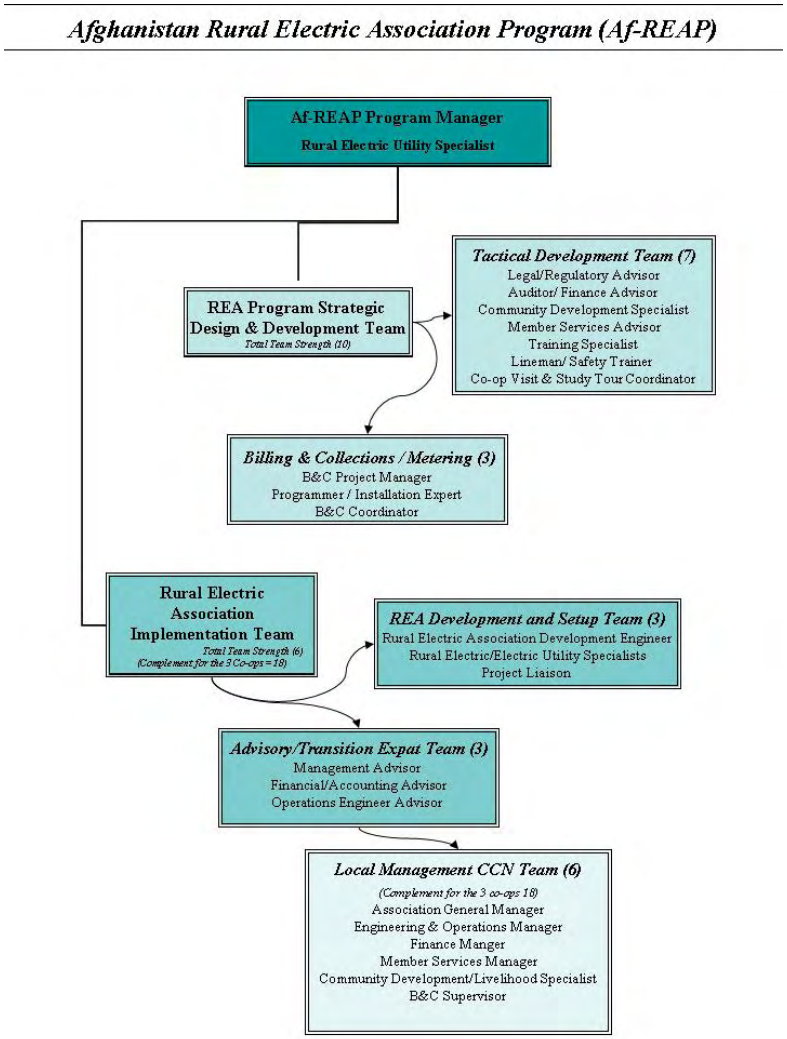
The initial manpower resource requirements for level two and three implementation will be inserted in the Appendix as they are identified.

Level One Implementation includes Cooperating Country Nationals (CCN), U.S. Nationals (USN), and Third Country Nationals (TCN). Level One includes the labor resources needed to implement the program, but it does not include the support/security staff, administrative staff, or ancillary infrastructure staff (drivers, guards, cooks, housekeepers etc).

Level One Implementation (LOI) includes four primary resource groups

- PM1 – program management and administration
- PM2 – long-term advisors (expat & TCN), project specialists and professionals
- PM3 - short-term expats & TCN advisory, professional, and oversight positions
- PM4 identifies CCN requirements in the various activities

3.2 Af-REAP Projects and Teaming Tree-Diagram/Positions and Skills



The following tables identify the resources needed to accomplish the various program tasks and activities. Table #1 identifies the positions needed to establish the REA strategic design

and also the tactical development team that will be needed to establish local capabilities and capacities within the three association-based Rural Electric Associations (REAs).

Table #1: Rural Electric Association Program Strategic Design and Development:
Broad Based Rural Electrification Strategy

Resource Type	Resource Deliverable/Objective	Duration (Short-term (ST), Long-Term (LT) Project Life (PL), Three Year Program (3YP))	LOE (*months*)	Resource	Estimated Cost/mth	# Positions	Location (Aybak(A), Kabul(K), Kandahar (Ka). Qalat(Q), Tirin Kot(T)
AF-REAP Program Manager (PM1)	Program guidance and administration	PL	4+	Expat	TBD	1	K
This is the tactical development team that will assist in establishing sustainable Rural Electric Association							
These positions will work on the REA implementation strategy and with each of three project sites							
Legal/Regulatory Advisor (PM3)	Asses/Establish cooperative - *friendly* regulatory environment	ST	1.5	TCN	TBD	1	K
Auditor/Financial Advisor (PM3)	Establish Business Financial Procedures & Structure at each new REA & Capabilities Transfer	ST	4+	TCN	TBD	1	K
Community Development Specialist (PM3)	Assess local community economic development &livelihood practices & establish procedures - Skills Transfer	ST	4	TCN	TBD	1	K
Member Services Advisor (PM3)	Establish Assoc & Community Relationship - Capabilities Transfer	ST	4	TCN	TBD	1	K
Training Specialist (PM3)	Evaluate training needs and Establish Sustainable training and skills transfer system	ST	1.5	Expat/TCN	TBD	1	K
Lineman Trainer (PM3)	Evaluate lineman training program and implement initial lineman training at each new REA – *train the trainer*	ST	3	TCN	TBD	1	K
Site-Visit Coordinator (PM3)	Facilitate visits for the initial association BoC & key staff	ST	2	Contractor	$1,500	1	External
Billing & Collections (B&C) Project Manager (PM3)	Establish the Assoc B&C system at each new REA	PL	4+	Expat	TBD	1	K
B&C Programmer (PM3)	Set up Billing Software & Beta Test at each REA	PL	4+	TCN	TBD	1	K
B&C Coordinator (PM3)	Maintains the integrity of the B&C system at each REA	PL	4+	Expat/TCN	TBD	1	K

Required Positions/Skills (Continued)

Table #2 details the positions, skill requirements, and LOE needed to establish cooperative-based Rural Electric Associations (REAs) in Aybak, Qalat, and Tirin Kot. The table is broken into sections that delineate a)the short-term expertise needed to set up the cooperatives and establish their operations.; b) the long-term advisory positions needed to in the three-year advisory/management development tasks; c) the CCN management level positions needed run the organization.

Table #3: Rural Electricity Association Implementation Projects:
Site Specific Rural Electric Association Development in Aybak, Qalat, and Tirin Kot:

Resource Type	Resource Deliverable/Objective	Duration Short-term (ST), Long-Term (LT) Project Life (PL), Three Year Program (3YP)	LOE Months(M)	Resource	Estimated Cost/mth	# Positions	Location Aybak(A), Kabul(K), Kandahar (Ka). Qalat(Q), Tirin Kot(T)
AF-REAP Program Manager	Guidance/Administration leading to Program success	PL	- -	Expat	TBD	-	K
This is the team needed to setup the cooperative association business and electric system operations at each of the 3 projects							
Rural Electric Association Development Engineer (PM3)	Establish the organizational structures and business systems of the new co-op association,	ST	4+	Expat/TCN	TBD	3	A, Q, T
Rural Electric / Electric Utility Specialist (PM3)	Operational Assessments and establish electric system operations for the new co-op	ST	4+	Expat/TCN	TBD	3	A, Q, T
Project Liaison (PM3)	Facilitate communications & positive community interaction	ST	4+	CCN	$300	3	A, Q, T
This is the long-term advisory team needed to for institutional capacity building and establishing operational sustainability							
Assoc Manager / Business Advisor (PM2)	Establish Assoc Business Structure Capabilities Transfer – capacity building	3YP	36	TCN	TBD	3	A, Q, T
Assoc Financial / Accounting Advisor (PM2)	Establish Assoc financial structures and procedures – capacity building	3YP	36	TCN	TBD	3	A, Q, T
Operations Engineer Advisor (PM2)	Establish Utility Operation – capacity building	3YP	36	TCN	TBD	3	A, Q, T
This is Local Professional/Management staff to be trained by the advisors and that will retain control after advisory team exit ***These positions will be filled during the initial stages of the cooperative association operation***							
Association General Manager (PM4)	Manage Assoc Business	Continuing	36+	CCN	TBD	3	A, Q, T
Engineering & Operations Manager (PM4)	Maintain Assoc operational sustainability and reliability	Continuing	36 +	CCN	TBD	3	A, Q, T
Finance Manager (PM4)	Maintain Assoc financial integrity	Continuing	36 +	CCN	TBD	3	A, Q, T
Member Services Manager (PM4)	Manage Assoc member activities	Continuing	36 +	CCN	TBD	3	A, Q, T
Community Development / Livelihood Specialist (PM4)	Increase Assoc viability thru community affluence	Continuing	36 +	CCN	TBD	3	A, Q, T
(B&C) Supervisor (PM4)	Maintain accurate Association B&C program	Continuing	36 +	CCN	TBD	3	A, Q, T

3.3 Staffing Plan

The following chart identifies positions required. This chart will fluctuate over the life of the program and resources may be reallocated to meet the changing program needs.

Location / Position	Kabul	Aybak	Qalat	Tirin Kot	Other
AF-REAP Program Manager		—	—	—	—
Short-Term Tactical Development Team – Establishes REA Strategic Approach					
Legal/Regulatory Advisor		—	—	—	—
Auditor/Financial Advisor		—	—	—	—
Community Development Specialist		—	—	—	—
Member Services Manager		—	—	—	—
Training Specialist		—	—	—	—
Lineman Trainer		—	—	—	—
Site-Visit Coordinator		—	—	—	—
Billing & Collections (B&C) Project Manager		—	—	—	—
B&C Programmer		—	—	—	—
B&C Coordinator		—	—	—	—
Short-Term REA Implementation Team					
Rural Electric Association Development Engineer	—	—			
Rural Electric / Electric Utility Specialist	—	—			
Project Liaison	—	—			
Long-Term Advisory Team					
Assoc Management Advisor	—	—			
Assoc Financial / Accounting Advisor	—	—			
Operations Engineering Advisor	—	—			
Local Rural Electric Association - Professional/Management Staff (Afghan Nationals)					
Association General Manager	—	—			
Engineering & Operations Manager	—	—			
Finance Manager	—	—			
Member Services Manager	—	—			
Community Development / Livelihood Specialist	—	—			
(B&C) Supervisor	—	—			

3.4 Non-labor Resources

There are number of resources that will be required by the positions listed including computers, digital cameras, phones, and GPS systems. There are several software programs that will be needed such as MS WORD, Project, and Excel. It is expected that a number of the SHORT-TERM positions can be expected to provide their own electric equipment.

Resource Type	Cell Phone	Laptop Computer	Desktop Computer	Digital Camera	GPS System
Legal/Regulatory Advisor	X	X			
Auditor/Financial Advisor	X	X			
Community Development Specialist	X	X			
Member Services Manager	X	X			
Training Specialist	X	X		X	
Lineman Trainer	X	X		X	X
Billing & Collections (B&C) Project Manager	X	X			
B&C Programmer	X	X		X	X
B&C Coordinator	X	X		X	X
Rural Electric Association Development Engineer	X	X		X	X
Rural Electric / Electric Utility Specialist	X	X		X	X
Project Liaison	X	X		X	X
Site-Visit Coordinator					
Assoc Management Advisor	X	X		X	
Assoc Financial / Accounting Advisor	X	X			
Operations Engineering Advisor	X	X		X	X
Association General Manager	X		X		
Engineering & Operations Manager	X		X		
Finance Manager	X		X		
Member Services Manager	X		X		
Community Development / Livelihood Specialist	X		X		
(B&C) Supervisor	X		X		

4.0 Appendix A: Position Descriptions

4.1 Rural Electric Association Development Engineer

Position Purpose:

This position will assist in developing the locally owned electric association. This is a part of the Afghanistan Energy Assistance Program (AEAP), a program under USAID/OIEE Afghanistan.

This position is under the overall direction of the COP and under the technical direction of the *Program Manager*.

Position Focus and Function:
The primary focus of this position will be assist with establishing a new electricity distribution organization within rural towns that will be known as the Rural Electrification Association. The REA will be a locally managed electricity association that will be responsible for the electricity supply and distribution within the town and eventually to the more rural populations of the province.

A secondary focus area will be to assist the DABM Manger as the on-site advisorrepresentative which will include assisting with establishing/monitoring the electricity designs and standards, verifying materials delivered meet/exceed approved specifications, ensuring designs approved and being utilized, and provide comments and recommendations of to the DABM Design Engineer. The position will also maintain an ARMS-LENGTH approach to monitoring and observation of construction activities, schedules, issues, and obstacles that could adversely impact the project. With any problems or issues noted first to the Design Engineer and then brought to the attention of the Program Manager and/or the COP as warranted.

Responsibilities and Duties:

The position will:

1. Conduct assessments of the existing electric system and make recommendations on inclusion of employees, facilities, and the like into the newly formed electric association
    - Assess the existing electric operations facilities including offices, storage yards and warehouses
        - Make recommendations on their use and suitability for the new co-operative
        - Develop plans and options for consideration pertaining to repair, remodeling, or replacement
    - Assess any available electrical equipment and operational apparatus
        - Make recommendations on their use and suitability for the new association,
        - Develop plans and options for consideration pertaining to repair, remodeling, or replacement

2. Work with the local governing bodies, DABM representatives, and community leaders to develop and recommend
    - candidates to serve on the interim Board-of-Directors
    - identify candidates for various management posts within the newly formed association
        - However note that the final recommendations on selection for these interim positions will be made by the Program Manager with input from representatives from MEW, signoff and guidance COP, and final approval of USAID

3. Work closely with DABM to ensure a smooth transition from the DABM managed electric system to the new locally managed Association electric system
    - Build a strong working relationship with local utility officials that can help facilitate the transition
    - Identify any issues and obstacles to be addressed and relay these to the program manager

- Work with/through DABM to facilitate parallel activities that must accompany any electricity construction program including,
  - Developing a “switch-over” schedule for swapping the interior electricity connections from the old service entrance cables to the newly installed ones
  - Engaging local consumers being connected to the new/rebuilt electric system into the new association

4. Initiate capacity building activities within the new power association and community including
   - candidates for BOD,
   - management positions
   - skilled worker positions within the REA
   - local electrical workers/electricians

5. Identify potential *Productive-Uses-of-Electricity* and livelihood activities that can be improved or engaged with access to electricity
   - Complete a rapid assessment and make preliminary recommendations to the association,

6. Assist the *DABM Distribution Design Engineer* as the on-site advisor
   - assist with establishing/monitoring the design and materials approval
   - verify materials delivered meet/exceed approved specifications
   - ensure designs constructed are to approved designs
   - provide comments and recommendations – to the DABM Distribution Design Engineer

7. Additional responsibilities, tasks, and assignments will be provided by the APTEP Program Manager through a forthcoming project action-plan.

4.2 Rural Electric / Electric Utility Specialist

Position Purpose:

This position will assist in developing the local electric association. The REA project is part of the Afghanistan Energy Assistance Program (AEAP) undertaken as part of the USAID/OIEE Afghanistan Energy Assistance Program.

This position is under the overall direction of the COP and under the technical direction of the REA Program Manager.

Position Focus and Function:
The primary focus of this position will be assist with establishing a new electricity distribution organization under a Rural Electric Association (REA) structure. The REA will be a association managed electricity system that will be responsible for the electricity supply and distribution within rural towns and eventually to the more rural populations sections of a province.

A secondary focus area will be to assist the DABM Distribution Design Engineer as the on-site advisor which will include assisting with establishing/monitoring the electricity designs and standards, verifying materials delivered meet/exceed approved specifications, ensuring designs approved and being utilized, and providing comments and recommendations to the DABM Design Engineer. The position will also maintain an arms length approach to monitoring and observation of construction activities, schedules, issues, and obstacles that could adversely impact the project. With any problems or issues noted first to the DABM Design Engineer and then brought to the attention of the REA Program Manager and/or the COP as warranted.

Responsibilities and Duties:

The position will:

8. Conduct assessments of the existing electric system and making recommendations on inclusion of employees, facilities, and the like into the newly formed electric cooperative
    - Assess the existing electric operations facilities including offices, storage yards and warehouses
        - Make recommendations on their use and suitability for the new co-operative
        - Develop plans and options for consideration pertaining to repair, remodeling, or replacement
    - Assess any available electrical equipment and operational apparatus
        - Make recommendations on their use and suitability for the new co-operative
            - Develop plans and options for consideration pertaining to repair, remodeling, or replacement

9. Work with the local governing bodies, DABM representatives, and community leaders to develop and recommend
    - candidates to serve on the interim Board-of-Directors
    - identify candidates for various management posts within the newly formed cooperative
        - However note that the final recommendations on selection for these interim positions will be made by the Program Manager with input from representatives from MEW and final approval of USAID

10. Work closely with DABM to ensure a smooth transition from the DABM regionally manged electric system to the new locally managed Association electric system
    - Build a strong working relationship with local utility officials that can help facilitate the transition
    - Identify any issues and obstacles to be addressed and relay these to the program manager

- Work with/through DABM to facilitate parallel activities that must accompany the electricity construction program including,
  - Developing a “switch-over” schedule for swapping the interior electricity connections from the old service entrance cables to the newly installed ones.
  - Engaging local consumers being connected to the new/rebuilt electric system into the new cooperative association

11. Initiate capacity building activities with within the new power association and community including
    - candidates for BOD,
    - management positions
    - skilled worker positions within the REA
    - local electrical workers/electricians

12. Identify potential Productive-Uses-of-Electricity and livelihood activities that can be improved or engaged with access to electricity
    - Complete a rapid assessment and make preliminary recommendations

13. Assist the DABM Distribution Design Engineer as the on-site owners representative
    - assist with establishing/monitoring the design and materials approval
    - verify materials delivered meet/exceed approved specifications
    - ensure designs constructed are to approved designs
    -
14. Additional responsibilities, tasks, and assignments will be provided by the REA Program Manager through a project action-plan.

ATTACHMENT 3
REA TRAINING COURSE OUTLINES

A. Training courses for rural electric associations (REAs) in Afghanistan

The training would be provided at two levels:
1. Board of Commissioners (BoC) or Committee Members level, and
2. Accounting and Finance staff

Both the courses would be conducted in Afghanistan with resource persons traveling to Kabul.

Course 1:

Course theme: **Effective Governance and Management of Rural Energy Associations**
Target group: Board of Commissioners (BoC) / Committee Members level
Duration: Six days

1. Association models, principles & concept of community participation in rural energy, some challenges faced by associations

2. Enabling framework: Legal, policy, institutional, financing mechanisms

3. Organization structure and design of REA & its role and functions

4. Managing associations:
    a. Mobilizing communities and start-up issues
    b. Project management
    (preparation, implementation, monitoring and evaluation of rural electric association projects)
    c. Technical oversight
    (Operations and Maintenance management, effective tools to reduce distribution loss, etc.)
    d. Managing Accounts and finance
    e. Human resource management
    f. Planning & Holding Annual General Meetings
    g. Managing stakeholders

5. Tariff and commercial aspects
(Commercial viability & end-user tariff structure and rate making)

6. Establishing good member relationships (member service clients and member education programs)

7. Performance Management of associations
(Controlling as Function of Management, key performance areas, key indicators, developing standards, performance monitoring tools – development and use of management information system, conducting a management audit)

8. Case study from the Region
(Bangladesh experience covering policy and institutional framework, roles and responsibility of Board, financial and accounting practices, establishing good member relations, planning and holding successful annual general body meeting, performance target agreement, appraisal and improving board performance)

9. Electricity and Rural Development Linkages, including Socio-economic Impacts
(Social, Environmental aspects and considerations, energy conservation issues and demand side management)

10. Issues and challenges in managing associations; and way forward
    (Promotion of end-use in rural electric sector, prospects of generating local employment through community electrification)

Course 2:

Course theme: ***Finance and Accounting for Rural Energy Associations***
Target group: Finance and Accounting staff of Rural Electricity associations
Duration: Six days

1. An Overview of Association functioning and management
    a. Formation & Financing of association
       Association operation as a non-profit
    b. Relationship with stakeholders
    c. Functional areas in Rural Electric Associations
    (Technical operations, Human resource management, commercial aspects)

2. Basic Accounting
    a. Accounting principles, conventions and concepts
    b. Book keeping
    c. Balance sheet, Profit and loss account, preparation of financial statements
    d. Revenue recognition and measurement
    e. Record keeping of assets, fixed asset and depreciation accounting
    f. Inventory accounting, pricing and valuation

3. Financial aspects and Funds management
    a. Budgeting
    b. Capital fund-raising
    c. Share floating, etc.
    d. Maintenance funds
    e. Monthly Reporting

4. Tariff and Rate Making
    (commercial viability & end-user tariff structure and rate making)

5. Revenue accounting and Effective tools to increase revenue
    a. Metering billing and collection
    b. Billing pattern
    c. Cash management
    d. Incentives and Penalties

6. Performance Management and Financial Controls

NOTE: Weight of modules to be placed on management issues for Commissioners and accounting issues for staff.

B. Participants

B. 1. The following participated in week 1 training course as outlined above.

List of Rural Electric Association Commissioners: Aybak

S/N	Name	F/Name	Resident	Remarks
1	Farahuddin	M.Ommer	AYBAK	Confirmed
2	Hanifa Aminpur	M.Salih	AYBAK	Confirmed

3	Salahuddin	Qiyamuddin	AYBAK	~~Confirmed~~
4	Rozatullah	Abdul.Wahid	AYBAK	Confirmed
5	M.Esmail	Ebrahim	AYBAK	Confirmed
6	Hamraqul	M.Ali	AYBAK	Confirmed
7	Sharafuddin	Ghulam.Ahmed	AYBAK	Confirmed
8	Mulla.Husyn.	Abdul.Hamid	AYBAK	Confirmed
9	Shukoor	Jora qul	AYBAK	Confirmed

B.2 the following participated in week 2 training as outlined above.

LIST OF PARTICIPANTS
2nd Week Seminar

Participants 1 -11 are local to Kabul
Participants 12-15 are from Aybak

Kabul Team:

1. HARIS FARHAD, IT Specialist
2. ABDUL BASIR, System Data Collection
3. AHMAD SHEBLI, IT Specialist
4. SAYED HAROON, Data Collection
5. ABDUL RAHIM, Chief Meter Reader
6. HAFIZHULLAH STANIZAI, Meter Reading Team
7. MOHAMMAD BASIR SAIF, Data Collection
8. ACMAL MONIB, Data Collection
9. OBAIDULLAH BAHA, Data Collection
10. EMRAN ZEWARY, Project Specialist
11. ATIQ BESMIL, Billing & Collection Specialist

Aybak Team:

12. ABDUL GHAFFAR, NGO Expert UN, NGO, GOAL, BFRAC
13. ZABIJOLLAH, Accounts Officer & Assistant, AEAI
14. B URHADIN, DABM Accounts Dept.
15. NADIR, DABM Accounts Dept.