

US Agency for International Development

Armenia Electric and Gas Sector Reform
Program - Task Order Completion Report

February 27, 2004

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1. INTRODUCTION

Task Order 824 of Contract LAG-I-00-98-00005-00 (Task Order) was initiated in July, 2001 and ended on January 30, 2004. The approximately \$6.4 million Task Order was designed to continue USAID support for a number of initiatives to reform Armenia's electricity and natural gas sectors. The objectives of the Task Order were to broadly support the evolution of the energy sector in a fashion designed to improve its economic sustainability, to work towards increasing the role of the private sector in the economy and to reduce the social consequences resulting from the transitional reform process. This report describes the results of the Task Order and provides suggestions for future activities.

Two subtasks were included in the Task Order, each of which is described below. Completion of these activities was the responsibility of PA Government Services Inc. (PA).

1.1 OVERVIEW OF THE TASK ORDER SUBTASKS

1.1.1 Subtask A: Legal, Regulatory and Electricity Market Reform

The objectives of this subtask, according to the Task Order, were “[t]o develop the necessary decrees, legislation and regulations in the electric and natural gas sectors to allow the creation and operation of separate power generation and natural gas supply, transmission, and distribution enterprises in the national electricity market; an effective Public Service Regulatory Commission (PSRC) to oversee their operation; to authorize the formation of and establish the structure of the Armenian electricity market; and to increase ownership of, and new investment by, strategic private investors in the Armenian electricity sector.”

Primary areas of activity included:

- Further development of the legal framework to enable power sector enterprises to become more fully commercialized.
- Continued assistance to the PSRC to ensure that the regulatory environment develops in a manner conducive to market reform and private sector participation in the sector. Critical priorities include assisting the PSRC with addressing the issues concerning the privatization of the distribution sector. Additionally, efforts should be focused on development of improved procedures, focusing on ways to encourage public involvement in the regulatory process.
- Effectively build on the work completed to date to achieve implementation of PA's recommended market structure.
- Support the development of a regional energy market through providing support for the quarterly working group meetings that include representatives from Armenia, Georgia and Azerbaijan (and occasionally Russia and Turkey).

1.1.2 Subtask B: Privatization, Commercialization and Investment Mobilization

The objective of this subtask, according to the Task Order, is “to continue to provide advisory services to support the privatization process, to attract investments to the Armenia power sector.”

1. Introduction

Primary areas of activity include:

- Assist to privatize or effect private management contracts for energy sector assets.
- Attract strategic investors to assist in rehabilitating and developing new generation capacity.
- Support the reorganization of ArmRusGasprom (ARG) and EINetArm (ENA).
- Support the reorganization of the Ministry of Energy (MoE).
- Support the commercialization and privatization of EnergoNaladka.

1.2 OVERVIEW OF THIS REPORT

This report describes the accomplishments achieved during the performance of the Task Order (Section 2) and demonstrates how the deliverable requirements were met (Section 3) and perhaps most importantly, provides a brief status of selected sector elements and recommendations for future technical assistance efforts (Section 4). A few final observations on the state of reform in Armenia and the challenges facing technical assistance are provided in Section 5.

2. ACCOMPLISHMENTS

Overall, the Task Order made substantial progress meeting or exceeding the objectives within each subtask. At the same time, there were delays in implementation due to counterpart issues, additional reform priorities that required response and changes in focus.

As a result of this Task Order, a number of accomplishments were reached. In some instances, the efforts undertaken during this Task Order have laid the groundwork for reforms to be realized in the future. The purpose of this section of the report is to describe the most significant accomplishments achieved organized according to particular reform related topic areas.

2.1 LEGAL REFORM

Significant steps forward were made in the area of legal reforms. Several important laws were adopted and the regulatory body passed through several reorganization phases by increasing the scope of regulated activities. The major activities and accomplishments in this area include:

- PA, along with ARD participated in drafting the Water Code. The code was adopted by RoA National Assembly, signed by the President and became effective on June 4, 2002.
- PA provided draft Multi-Sector Regulatory Commission Law and made comments and recommendations on further development of the law. The MSRC Law was adopted by RoA National Assembly, signed by the president, and became effective on January 2004. The Energy Regulatory Commission (ERC) is now renamed to Public Service Regulatory Commission (PSRC) with expanded responsibilities in water and telecommunications.
- Along with the Multi-Sector Regulatory Commission Law a package of amendments and alterations to other laws: Water Code, Civil Servants Salary Law, Energy Law, were adopted by National Assembly, which was supported by PA's comments and recommendations.
- PA worked closely with MoE drafting team of the "Energy Efficiency Law". Comments and Recommendations were provided to all interested parties and accepted by the drafting team. The law is pending submission to the National Assembly.

2.2 REGULATORY AND POWER MARKET REFORM

PA came to agreement with Power System Operator that the Market Rules will be defined as the main principle documents that need to be reviewed and approved by the power sector entities, including the MoE, with the final approval of the Market Rules by the PSRC. Core documents, forming Market Rules were redrafted in response to a proposal by the generators and the distribution company to implement a direct contract market. Trading rules for the wholesale electric power market were drafted and presented to PSRC. Additionally, at the request of PSRC, PA provided detailed description of possible solutions to residual market balancing under a direct contract market operation.

PA drafted and submitted to the PSRC a resolution to adopt the Uniform System of Accounts (USOA) for the power sector along with the final USOA and related instructions. The USOA was discussed with and comments were distributed to all interested parties and a four-day

2. Accomplishments

seminar on the implementation of the Uniform System of Accounts (USOA) for all electric sector companies was conducted. Per PSRC's request PA attended hearing on the adoption of the USOA and provided necessary support to avoid the anticipated resistance from sector representatives. In addition to that the development of the accounting policy manual and instructions for the energy sector was initiated by PA.

Completed the Armenian Power Sector 2002 Least Cost Plan (LCP). Made a presentation of the LCP results to the PSRC, the MoE, energy sector representatives and the USAID assessment team as well as the US Mission in Armenia. Per MoE's request, a presentation was made to the donor community including EU, WB, IMF, UN, and embassies of UK and Italy. PA's 2002 LCP was used by EU's consultants in determining ANPP's replacement options, which issued a report identical to PA's assumptions, findings and recommendations.

PA actively participated in the development of National Heating Strategy and drafted the main document. In support to National Heating Strategy, conducted an analysis of rural and urban consumption of electricity and natural gas. It is also noteworthy to mention that 70% of the substance of the first draft of the National Energy Strategy was developed by PA, has been included in the Ministry of Energy's version of the document.

PA provided advisory and technical support to power market service organizations:

- Continued to work on improvement of Settlements Center (SC) performance, which was established along with Data Acquisition System introduction, implemented under TO 02.
 - A license on regulation of the SC Activities was approved by PSRC and assistance was provided to SC to enable them to better comply with the License Requirements.
 - A set of software packages was provided to the Settlement Center (SC) in order to improve management and financial accounting. Further training and assistance will be provided to the SC for implementation of the Chart of Accounts.
- The GoA approved the establishment of a single board of directors for transmission, settlement, and power system operation functions as a result of PA's proposal on IMF's conditionality.
- In the area of training the market service organizations, PA obtained public domain free software from Bonneville Power Administration, conducted training and assisted in planning and operating studies, such as power flow, stability and fault studies by transmission and dispatch groups in Armenia. The team who visited the U.S. to gain knowledge on how to use the program is now modeling existing electrical facilities using the program.

Completed an evaluation of the critical High Voltage Network to assure reliable and unconstrained delivery of least cost power. The main purpose of the study is to ensure that the output of the Vorotan HPPs cascade is delivered to the Armenian load center without interruptions. The other objective was to ensure power exchanges with Iran, which is important in order to bank excess generation during the summer season and delivered to Armenia without interruptions during winter months. The study provides justification for constructing a second line from Ararat-Eghegnadzor (Getap line).

2. Accomplishments

Developed financial rehabilitation plan for the Armenian power sector, historic overview of 1999-2001 financial performance of the sector and operating cash-flow projection for the financial rehabilitation plan, and submitted it to WB, MOE, MoF&E and PSRC. The GoA's Financial Rehabilitation Plan was ratified by the Government and is being implemented.

2.3 PRIVATIZATION AND COMMERCIALIZATION

One of the most important initiatives accomplished during this Task Order was the privatization of the electric distribution system. PA supported this process and continues to be the prime consultant for the electric distribution company, the Electric Networks of Armenia (ENA), CSJC. PA provided ENA with 1900 meters for loss reduction through MB&C system improvement. The advisory services to ENA has resulted in significant improvement in the electric sector financial performance in 2003:

- Decrease in non payments to distribution company from \$ 12.7mln. in 2002 to \$ 5.7 mln. in 2003;
- Decrease in electric sector financial losses by 33%;
- Potential Revenue of the Distribution Company, expressed in \$ terms, increased by 2.1%;
- Collections increased by 13.2%.

The most important impact of the generation privatization and commercialization activities is considered to be the law passed by GoA, which provided for privatization of Sevan-Hrazdan HPP Cascade and Hrazdan TPP.

- PA developed Generation Privatization Strategy for Armenia's thermal and hydro plants;
- Provided MoE with comments and recommendations regarding the law on generation privatization.

In the area of support to private energy companies PA provided advisory and technical support to ARG on commercialization issues of the company including initiatives on:

- Tariffs
- Customer Information Systems
- Expansion Plan for Natural Gas
- Financial Management and Accounting Systems
- Financial Model

3. REVIEW OF WORK PRODUCTS

Section III of the Task Order specified a number of specific deliverables to be completed as part of the contract. This section reviews each and indicates how the requirement was achieved

3.1 PROJECT MANAGEMENT REQUIREMENTS

Several deliverables were related to the overall management of the report. These included:

- **Task Order Work Plan:** The first work plan was completed in August 2001. This work plan was later modified and in December 2003 the final work plan for the Task Order was completed.
- **Quarterly Status Reports:** Quarterly reports were submitted for the last quarter of 2001 through the last quarter of 2003.
- **Task Order Completion Report:** This report is intended to meet the requirements of the Task Order Completion Report.

3.2 SUBTASK 1 – LEGAL, REGULATORY AND ELECTRICITY MARKET SUPPORT

The deliverables for this subtask and how each requirement was achieved are shown below:

- **Draft and final versions of legislation developed by the project team.** PA prepared a number of reports and activities to meet this requirement including:
 - Commented and made suggestions on the law on Energy Savings and Renewable Energy (April 2003).
 - Instrumental in drafting and passage of Armenian Water Code in 2002.
 - Provided recommendations and comments on the RoA's Amendments and Additions to the Water Code of the Republic of Armenia (September 2003).
 - Offered and provided assistance to Government efforts to initiate an improvement in the telecommunications sector including a review of contracts and service policies.
 - Set forth an agenda for the workings of a multi-sector regulatory commission and made suggestions regarding the establishment of such a commission in Armenia in its white paper "A Plan of Action for a MultiSector Regulatory Commission in Armenia" (January 2003)
- **Periodic legal reports to describe legislative developments of importance to the reform of the energy system and possible USAID response.** PA kept USAID and others in the donor community apprised of developments of reform efforts through various communication medium and offered comments and suggestions as noted above.
- **Draft and final licenses for the three market service organizations.** PA, in conjunction with the Public Service Regulatory Commission (formerly the Natural Monopolies Regulatory Commission) accomplished the following:

3. Review of Work Products

- Dispatch Center – Several drafts were submitted and discussed with the PSRC and its staff. The final draft of PA was completed and submitted on August 13, 2002.
- Settlements Center - Several drafts were submitted and discussed with the PSRC and its staff. The final draft of PA was submitted on August 20, 2002.
- Contracting Center - Several drafts were submitted and discussed with the PSRC Commission and its staff. The final draft of PA was submitted on August 20, 2002.

The PSRC issued the corresponding licenses as follows:

- Dispatch Center – The PSRC issued its original license (#0030) to the national dispatch center under its Resolution No. 38 (December 29, 1999). The license was extended under Resolution No. 27 (December 6, 2000), and was then extended numerous times by Commission resolutions through October 2003.
 - Settlements Center – The PSRC issued a license to the Settlements Center in its Resolution No. 80 (November 20, 2002). The resolution and the license are included herein.
 - Contracting Center – No license has been issued to the Contracting Center. Due to its diminished role in the PSRC’s proposed market structure.
- **Up to four regulatory policy papers for the PSRC** . PA prepared the following reports to meet this requirement including:
 - **Sanction Enforcement Procedures** (March 2003) described the procedure of employing punitive measures/sanctions by the Public Service Regulatory Commission of the Republic of Armenia for infringement of the requirements of the Energy Law of the Republic of Armenia and the Law on Licensing of the Republic of Armenia, for violation of the legal acts of the Public Service Regulatory Commission of the Republic of Armenia, for non-compliance or inadequate compliance with or violation of the License provisions by the entities holding Licenses.
 - **Regulatory Consideration of Voice over Internet Protocol** (March 2003). This white paper clarified, posed options and offered recommendations to the GoA and **PSRC** in their effort to address regulatory issues surrounding telecommunications and data transfer services.
 - **Economic Regulatory Issues in the Armenian Water Supply and Wastewater Treatment Sectors** (January 2003) outlined a blueprint for the beginning of an urgent and vital course of action for maintaining satisfactory water delivery and wastewater treatment systems in Armenia.
 - **A Plan of Action for a MultiSector Regulatory Commission in Armenia** (February 2003) set forth an agenda for the workings of a multi-sector regulatory commission and made suggestions regarding the establishment of such a commission in Armenia.
 - **A draft and final Energy Efficiency Rate Financing Report.** PA’s *Energy Efficiency Rate Financing report* (May 2002) presented recommendations for the Government of Armenia to develop an action plan to meet some of the energy needs of the country through the implementation of cost-effective energy efficiency programs. These programs may help reduce the need for additional supply-side resources in the future.

3. Review of Work Products

- **A functioning web site for the PSRC available in both Armenian and English languages.** PA successfully established the official **PSRC** web site in April of 2003. the site can be viewed at www.RCNM.am.
- **Final adopted market rules.** PA presented its view on the current status of market reforms in the electricity sector of Armenia and proposed two possible wholesale electricity market models that would most meet the needs of the sector in its **“Memorandum on PA’s Recommendations on the Power Market Design”** (November 2003) including an obligatory power pool and a market based on direct contracts. However, the **PSRC** has not adopted a set of Market Rules.
- **Up to four Market Implementation Reports to describe progress made, obstacles and recommendations for USAID action, if any.** PA’s report entitled *Update of the Reforms and Restructuring of the Armenian Power Market* (July 2003) provided an update on the status of the reforms and restructuring of the Armenian power market and included recommendations on the most critical reforms and restructuring for the power sector in the next year or two.
- **Periodic regional market development reports.** The regional power market did not mature to a point of the development of significant activities. Prepared a short report that was sent to USAID after the two gatherings in Georgia.
- **A Least Cost Plan Report including ANPP Least Cost Replacement and private investment attraction strategy** (January 2003). This 2002 Least Cost Plan (LCP) updated the extensive efforts of the 2000 Least Cost Generation Plan (LCGP) performed by PA. The 2002 LCP focused on the retirement of the Armenian Nuclear Power Plant (ANPP), the potential replacements for the ANPP, and the actions needed to secure a long-term power supply for Armenia. The report assisted the Government of Armenia and donor agencies in determining viable solutions for an economic and sustainable program for supplying electric energy to the consumers of Armenia. The report particularly focused on the issues surrounding the ANPP such as the timing of its retirement, viable replacements and rate impacts, nuclear plant decommissioning methodologies, the collections of decommissioning funds, and the creation and maintenance of a decommissioning fund, alternative fuel supply, and indigenous energy resource development.
- **Power sector simulation model.** PA distributed and installed an updated power sector simulation model in July 2003 and provided continued support and updates to the model.
- **Tariff design for each new market operator, as well as two-part tariffs for distribution.** PA’s report, *Proposed Natural Gas Service Tariff Methodology for Armenia* (August 2003) described a proposed methodology for natural gas tariff design in Armenia and recommended the implementation of new customer classifications, each with its own tariff that is based on the cost of providing natural gas service.
- **Periodic reports on the financial performance of the Armenia power sector describing progress, issues, and recommendations for USAID action and Market Funds Reports.** PA prepared these reports on a quarterly basis, which presented a review of the performance of the electric power sector of Armenia.

In addition to the deliverable requirements shown above, a number of other work products and activities were completed as part of this subtask. These included:

3. Review of Work Products

- **Update of the Reforms and Restructuring of the Armenian Power Market** (June 2003). This report provided the status of the reforms and restructuring and provided recommendations on the most critical reforms and restructuring for the power sector in the next year or two.
- **Natural Gas Supply and Transportation Options for Armenia** (May 2003). The purpose of this report was to evaluate all possible options for securing a reliable supply and transportation of the natural gas for Armenia and provided recommendations on an optimum option for Armenia, in line with national security issues.
- **Draft and final tariff methodologies and tariffs, where approved, for three market service organizations.** PA, in conjunction with the PSRC, accomplished the following:

Draft Tariff Methodologies Submitted by PA to the PSRC:

- Dispatch Center – Several drafts were submitted and discussed with the PSRC and its staff. The final draft of PA, dated August 14, 2002 is included herein.
- Settlements Center - Several drafts were submitted and discussed with the PSRC and its staff. The final draft of PA, dated August 20, 2002 is included herein.
- Contracting Center - Several drafts were submitted and discussed with the PSRC and its staff. The final draft of PA, dated August 20, 2002 is included herein.

The PSRC approved the following tariffs:

- Dispatch Center – The PSRC approved a tariff for the National Dispatch Center in its Resolution No. 53 A (July 31, 2002);
 - Settlements Center – The PSRC approved a tariff for the Settlements Center in its Resolution No. 81 (November 20, 2002).
 - Contracting Center – No tariff has been approved for the Contracting Center.
- **Model License for Licensed Activity in the Field of Telecommunications** (October 2003). This draft document provided a model for writing licenses for most types of telecommunications operators. It included the elements required for most applications and can be edited to remove those items that may not be needed for a particular situation.
 - **Memorandum on PA's Recommendations on the Power Market Design** (November 2003). This memorandum presented PA's view on the current status of market reforms in electricity sector of Armenia and proposed two possible wholesale electricity market models that would most meet the needs of the sector, namely, an obligatory power pool and a market based on direct contracts.

3. Review of Work Products

3.3 SUBTASK B: PRIVATIZATION, COMMERCIALIZATION AND INVESTMENT MOBILIZATION

The deliverable requirements for this subtask, as well as how they were met, are described below.

- ***Draft management contracts for those enterprises not successfully privatized.*** PA's *Draft Management Contract for Market Operator Functions* (November 2003) offered a draft contract for the management of the Power System Operation, the High Voltage Network and the Settlements Center.
- ***Privatization support materials such as draft tender documents.*** PA was instrumental in providing support for the privatization process, which occurred in November 2001 and produced drafts and support materials for the documents used in the privatization process.
- ***A public outreach and communication plan.*** Was presented by PA's *Public Outreach and Communication Plan for the Armenian Electric Power Sector* (August 2002). This plan presented recommendations for a public relations campaign and a public outreach program to address the public needs regarding the changes in the electric power sector, particularly with the privatization or management contract arrangements for the Distribution Company. The report also contained a brief assessment of the progress of the utility services (electricity, heat, water, communication) reforms in the Republic of Armenia and the social issues related to the utility services. Specific recommendations were included on the issues to be communicated to the public to educate them on the privatization process and the desired means through which public outreach can take place.
- ***A privatization checklist, updated periodically, indicating those steps necessary to advance the privatization process.*** As noted above, PA was instrumental in providing support for the privatization process, which occurred in November 2001 and produced drafts and support materials for the documents used in the privatization process. PA also provided periodic sector update reports to all donors electronically.
- ***The draft and final reorganization report for the MoE.*** A reorganization plan for the MoE, a deliverable in the Task Order's original work plan was later viewed as untimely and postponed for action at a later date by the CTO.
- ***A functioning internet web site for the PSRC and MoE available in both Armenian and English languages.*** PA successfully established the official PSRC web site in April of 2003. The site can be viewed at www.RCNM.am. PA established the MoE www.minenergy.am web site in January 2002.
- ***The Energy Sector Asset Management Strategy Report.*** (December 2002) examined each major asset in the power system and determined the preferred way to attract improved management and investment for these enterprises. The report provided PA's recommendations regarding a strategy and terms for the privatization of the thermal and hydropower enterprises in Armenia.
- ***Recommendations on revision of the licensing and permitting framework for hydro generation development projects.*** PA made recommendations on revisions and licensing and permitting for hydro generation development projects in its efforts on the creation of a Renewable Energy Revolving Fund, and during the development of Water Code.

3. Review of Work Products

- **An Update on the Current Condition and Repair of the Arpa–Sevan Diversion Tunnel** (September 2003) provided and updated a report on the condition and rehabilitation needs of this facility.
- **A draft and final Natural Gas System Rehabilitation and Expansion Report.** PA worked extensively with ARG in its efforts to develop and expansion plan. ARG's expansion plan was developed and a copy was provided to PA.
- **Metering, Billing and Collections Evaluation Report** (May 2003) summarized the results and current status of the Metering, Billing and Collections system developed by USAID through PA Consulting.
- **ARG Overview of Commercial Operations of Gas Distribution Offices** (November 2003) provided a brief overview of the current status of the commercial operations of the retail distribution offices of ARG CJSC including the gasification, metering, and billing and collection operations.
- **Reorganization Plan and Business Plans for Three Market Service Organizations** (December 3, 2003). This report discussed the reorganization and business plans along with draft licenses and tariff methodologies for the three market service organizations. These documents were presented and discussed with Armenergo and the Natural Monopolies Regulatory Commission in 2001 and 2002. These activities resulted in the establishment and licensing of the three market service organizations as outlined above.
- **Implementation of financial management software at Settlement Center.** PA successfully installed accounting software in the Settlement Center enabling that function to develop its management reporting capabilities. Additionally, PA initiated assistance to the financial management reporting capabilities of the Power System Operation.
- **Hrazdan 5 Completion Report.** PA addressed the issues regarding the completion of Hrazdan 5 in its 2002 Least Cost Plan.

In addition to the deliverable requirements shown above, other work products and activities were completed as part of this subtask regarding the Renewable Energy Revolving Fund (RERF). These initial RERF Key Documents included:

- *Draft of Renewable Energy Resource Fund Founders Decision* (January 2004)
- *Draft of Renewable Energy Resource Fund Founders Agreement* (January 2004)
- *Draft of Renewable Energy Resource Fund Charter* (January 2004)

4. STATUS AND RECOMMENDATIONS FOR SELECTED ACTIVITY AREAS

This section contains a status and recommendations of selected components of the energy sector as required in the Task Order's December 2003 work plan. PA addresses solutions to many of the proposed needs in its recent response to USAID's RFP 111-04-002.

4.1 POWER MARKET STRUCTURE AND REORGANIZATION OF ARMENERGO

According to information received during recent meetings with PSRC advisors, the PSRC is poised to approve its work plan for the first quarter of 2004. This plan will not include Market Rules for the power market of the near future. Nor will the plan include development of a document that would describe the new wholesale market design for Armenia. Rather, the PSRC has reportedly reached consensus agreement that the market should be based on direct contracts between generators and the distribution company, Electric Networks of Armenia, and exporters.

PA urges the continuation of efforts to improve independent governance, enhance professionalism and transparency in operations and financial transactions and to that end recommends providing assistance to three state-owned entities – Settlements Center (SC), Power System Operation (PSO) and ArmTrans. The adequacy of governance of SC, PSO and ArmTrans should be related to the market structure, since the market design and governance determine to a large extent the organization and governance of the market service providers. At the moment, it is not clear whether the power market will eventually be governed through the Power Market Members Union or by other means. If the latter, then the governance of the SC, the PSO, and ArmTrans will be responsible for safeguarding the transparency of decision-making in the market.

Based on the present status of the reform of both of these organizations, PA recommends a review of the charter documents of the PSO, Settlement Centers, and ArmTrans with a special focus on the composition of the Board of Directors, its authorities, operation process and rules of decision making. PA also recommends the development and advocacy for appropriate amendments to the charter documents, regulations and laws as needed.

Additionally, PA recommends the continuation of promoting financial transparency in the market's operations to develop and adopt the target market design and appropriate market rules to support the operation of the market. The market rules should provide detailed guidelines for the participants in the following areas:

- *Operation procedures* to govern the system operation and dispatch under adopted market design; this will require a review of the existing procedures and assist the PSO in establishing new operating procedures. The procedures will set transparent limits to the PSO's intervention into the commercial relations between the trading parties, clearly describe the rules of interaction between lower and higher dispatch levels and establishes dispute resolution process;
- *Trading arrangements, settlement and funds administration procedures* to support market transactions;
- *Final metering procedures* for the Settlement Center, including wholesale metering and recommended retail metering procedures that would best fit the wholesale process to

4. Status and Recommendations for Selected Activity Areas

ensure smooth development of a nation-wide Automated Meter Reading system and future market opening for large consumers; and,

- *Internal data processing procedures and dispute resolution process.*

Implementation of the power market should be completed by the development of a complete set of contracts between market participants and service providers. Further improvement in the overall system of tariffs in the power sector will be needed to provide for economic and technical efficiency of operations under any new market rules. In view of the PSRC's current position on the market, PA recommends the continuation of assistance to the PSRC and also to the MoE to resolve these matters.

4.2 MULTI-UTILITY PUBLIC UTILITIES REGULATORY COMMISSION

The status of the PSRC is that of a regulatory body whose role is expanding to include substantial water and telecommunications responsibilities. However, the Commission still needs to establish itself as being both an effective protector of the public and a strong force for more efficient operation of the sectors that it regulates. In particular, its enforcement regime, the transparency of its processes and its ability to establish and adhere to priorities that reflect urgent Armenian national interests are areas that can benefit from focused attention and strong leadership. PA recommends the continuation of assistance to the Commission, as well as with representatives of the public and with energy sector firms, to establish Armenian regulation as both the guarantor of the financial viability of the energy sector and the responsive defender of the interests of consumers of monopoly utility services.

PA has assisted the Commission in the development of licenses, tariff methodologies, regulatory procedures, normative acts and licensee performance standards. We recommend the continuation of these efforts by assisting the commission to conduct hearings in a transparent fashion, publish its administrative hearing procedures, promote public participation and input, and fully document its decision-making. PA also recommends extending limited commodity support to the PSRC with the procurement and implementation of a Document Imaging and Management System, including hardware, software, database, etc. DIMS will store/retrieve and manage access to all internal commission data and documents (proceeding from hearings, minutes of meetings, staff reports, etc) as well as all licensees' data/documents (reports, filings, correspondence, etc)

Given that the Armenian commission has historically been quite active within USAID's/NARUC's ERRA, we also recommend that financial assistance be provided to allow two staff members to attend each of the ERRA events, twice annually.

The PSRC has recently issued a resolution and adopted a Uniform System of Accounts (USOA) for the power sector (electricity and heat) recommended by PA. PA recommends the continuation of PSRC staff training in this area to ensure their understanding of USOA. We also recommend further assistance be provided to the commission in the revision of all licensee reporting forms to render them consistent with USOA.

There are also several legal issues affecting the PSRC's jurisdiction that should be addressed in order to improve the operation of energy enterprises and improve the sustainability of the power sector. Most of these are aimed at improving enforcement rather than the substance of the laws themselves. Among these are: legislation to make theft of electricity a crime; legislation to make encroachment into a utility's right-of-way an illegal act with punitive and compensatory damage; legislation to amend the registration of servitudes

4. Status and Recommendations for Selected Activity Areas

(The Law On the Property Rights Registration and the Civil Code); legislation on energy supply contract termination (Civil Code procedures); legislation and subsequent regulatory acts on the establishment of a Renewable Energy and Energy Efficiency Fund; and rules for energy supply and use. PA also recommends assistance with the advocacy of these issues.

PA also recommends the proposal of amendments to the Legislation on Regulation of Natural Monopolies that would convert the PSRC into a self-financed organization (rather than an entity financed from the state budget), thus reducing to some extent the opportunity for political interference in the regulatory process. This can be introduced as part of the package of laws on regulation of telecom and water, expected to be submitted to the National Assembly in the nearest future.

4.3 ENERGY SECTOR COMMERCIALIZATION

PA recommends the continuation of its extensive technical assistance to EInetArm (ENA) in order to buttress its success. If ENA fails commercially, a serious degradation in the sector's performance is likely. Thus, PA recommends providing commercialization related assistance to ENA. The first step in this process is to create a document that reflects the level of technical assistance, as well as commitments, to be agreed to by ENA.

PA also believes that upgrading the gas distribution network is essential for successful implementation of a heating strategy for Armenia. We therefore recommend that all options for gas transportation and supply to Armenia be considered and through a coordinated effort an alternative gas supply and transportation option for Armenia should be planned for implementation prior to the retirement of the ANPP. The PA team further recommends that technical assistance continue to be provided to ARG

4.4 RENEWABLE ENERGY REVOLVING FUND

Recently, during individual discussions and a meeting in Yerevan with the key donor agencies, the concept of the Renewable Energy Revolving Fund (RERF) as proposed by PA prepared under the USAID program in February 2002 was accepted. The path for the development of the RERF was defined and the likely roles of the participants were defined on a preliminary basis. The support of USAID will be essential to act as the future administrative developer of the fund, working with the founders to provide organizational, legal and administrative start up, staff the RERF and provide support as needed in its early stages.

The funding for the RERF will likely come from a combination of loans and grants from the EBRD and World Bank organizations, with possible additional funding from the Diaspora and EU programs. The capital and legal structure is partially defined, but must be further researched and molded to conform to the needs of the funding participants. KfW is also working on a fund of a similar nature but different structure that possibly could be combined in to the RERF effort, if timing and coordination allow.

There remain some reforms in the power sector that will be necessary to allow the RERF to move forward. These are primarily in tariff setting issues; license procedure modification and other associated regulatory changes. These changes are necessary, but relatively small, compared to the overall progress in reform by the Government of Armenia in recent years.

PA recommends continued support for this initiative in order to have the RERF functioning and funded as soon as possible.

5. CLOSING

As one of the nations of the former Soviet Union, Armenia has had its share of serious dislocation in its energy sector due to the loss of former trading arrangements and interconnection, aggravated by economic and civil unrest following the assassinations of top government officials including the prime minister in October 1999 and turbulent, nontransparent elections in February 2003.

Against the backdrop of these obstacles, the Government was successful in its efforts to privatize its electric distribution systems in the power sector during the course of this Task Order. The challenge now is to consolidate sector reform and restructuring and improving the efficiency of resource use in the energy sector. This objective is based on the sector's continuing need for improved transparency and commercial motivation in governance in order to reduce the opportunities for corruption and to improve the quality of public services delivered to customers. Moreover it is motivated by the clear need to manage and use Armenia's energy resources with greater efficiency and in an environmentally sustainable way. Improving economic efficiency and sustainable resource management in energy will provide essential building blocks required to ensure a sound foundation for sustainable economic growth and to improve the quality of life for all Armenians.

A required element critical to realizing more efficient and environmentally sound management of energy resources is improved governance of the institutions that provide services using these resources. A more transparent, commercially-motivated and effectively regulated management of energy services will seek to identify and implement actions that reduce waste, manage demand growth, and increase supply, all of which will improve the quality of service delivered to customers and help to increase Armenia's energy security. Making the management of this sector more competitive and open will dramatically reduce the opportunities to run down its valuable assets and divert substantial financial resource flows to non-productive ends. To increase Armenia's energy security it is crucial to promote more efficient energy use in ways that are both environmentally sound and increase economic growth, and to move ahead in developing the country's substantial renewable energy resources, in order to be able to take full advantage of these new technologies as their costs continue to fall.

