

PN ACF-807
102416

**UKRAINE LOCAL ELECTRIC COMPANY
(TASKS 5, 6, 7, 8 & 9)**

**NIS Institutional Based Services Under the Energy
Efficiency and Market Reform Project
Contract No CCN-0002-Q-00-3152-00**

Delivery Order No 10

Final Report

Prepared for

U S Agency for International Development
Bureau for Europe and NIS
Office of Environment, Energy and Urban Development
Energy and Infrastructure Division

Prepared by

Hagler Bailly
1530 Wilson Boulevard
Suite 400
Arlington, VA 22209-2406
(703) 351-0300

September, 1998

CONTENTS

Executive Summary	3
Corporate Development	8
Major Results	8
LV Network Support	10
Major Results	10
LEC Supply Business Support	12
Major Results	13
LEC Generation and Heat Business Support	15
Major Results	15
Provision of Equipment	17
Major Results	17
Summary	18
Appendix I -Chronological List of Deliverables	
Appendix II-Chronological List of Reference Materials	

EXECUTIVE SUMMARY

1 TASK DESCRIPTION

The work on this task was initiated under Delivery Order 10 of the Ukrainian Power Sector Reform Project. The scope of work covered in this report centered on the Local Electricity Companies (LECs), although many activities were, out of necessity, coordinated with many of the various entities in the Ukrainian Energy Sector, and the numerous advisory teams who assisted them.

2. BACKGROUND

In 1995, restructuring of the Ukrainian center began resulting in the creation of 27 Local Electric Companies throughout Ukraine, which are responsible for low voltage networks, local electricity supply, and operation of the smaller district heat/power plants.

The functions of each LEC are as follows:

- Low Voltage Network Business (LVNB) Operation of local Low Voltage Electricity Distribution Network, including meter reading. This excludes a number of small LV nets or "micronets", not owned by the LECs, which will be separately licensed.
- Local Electricity Supply Business (LSB) Supply of electricity to final customers, including tariff calculation, electricity purchase and sales, billing, and collection.
- Local Generation Business (LGB) Existing combined heat and power plants, and associated heat supply systems. These include those generation units not included in fossil fuel generation companies, in some cases very large units (such as the large heat sections in Kiev and Kharkov) became part of the LEC, in other cases a LEC may have no generation in its territory and thus, no licensed generation businesses.

The 27 companies were reorganized along geographic lines with one company for each Oblast and separate companies for the cities of Kiev and Sevastapol.

The Electricity Supply Board of Ireland (ESBI) acted as the generic LEC Advisor to all LECs and other consultants worked to provide similar services to different LECs.

All LEC Advisors were directed to offer training and advice to the LECs on their component businesses in their assigned areas

USAID, and its consultant Hagler Bailly, assumed responsibility for 12 of the LECs in the former Kiev, Vinnitsa, and Dnieper Regions

Specific tasks were assigned to the LEC Advisors as follows

- ***Corporate Development***
 - Corporate Development
 - Corporate Strategy

- ***Low Voltage Network Business Support***
 - Use of Network Charges
 - LV Network Investment Plan

- ***Supply Business Support***
 - Retail Tariff Formation
 - Supply Business Organization
 - Customer Relations

- ***Generation and Heat Business Support***
 - Contracts
 - Cost Analysis and Control
 - Heat Pricing

- ***Provision of Equipment***

In many of the above, the Generic Consultant was responsible for deliverables which were then provided to specific LEC Advisors for distribution to LECs. Each of the major tasks is more clearly defined and reported on in this report.

Initial assignments were made to provide a LEC Advisor to each of the three regions assigned to USAID and Hagler Bailly. A first priority was to establish working relationships with the management and staff at each of the LECs, to perform an assessment and determine their preparedness to proceed with the restructuring and reform. This was completed in the Fall of 1995, and the preliminary findings were that there was a high degree of technical competence, although the electricity system was old and in need of repair and replacement. The most significant challenge then, as now, was to increase collections from customers for the consumption of electricity. This would require drastic changes at all levels, including a commitment of support from government officials at both the national and local levels. Up to

this point in time, there had been no pressure on the LECs or the customers to pay their bills in their entirety, and on time

The Readiness Report was completed and delivered stating the findings of the LEC Advisors at 12 LECs

3. METHODOLOGY AND APPROACH

Since many of the initiatives which the Advisors were undertaking were either new or different to the LEC management, the Advisors conducted what can best be described as an educational campaign to provide background information on the restructuring efforts in Ukraine, share information on similar activities in Eastern and Central Europe and beyond, and demonstrate how the recommended changes would benefit the LECs in the long term. Due to the disparate styles of management at the 12 LECs, individual advisors crafted different approaches which were accepted by LEC managers. Many recommendations or changes were conveyed through seminars, work shops, study tours, or printed material provided to the LECs with personal follow-up.

Some of the original tasks were modified or scaled back as a result of changing requirements, and significant effort was expended to meet additional requests by USAID. The following is representative of those activities which required a shift in resources:

- A major effort was made to develop a cash collections improvement focusing on a small number of LECs in the late Summer of 1997. Most of the work was performed in L'viv (not one of Hagler Bailly's original 12 LECs) and Zaporizhia. This work involved collecting and analyzing data, studying collections organizations and techniques in those LECs, making recommendations for changes in responsibility for collections, determining which customers had the ability to pay cash, regularly monitoring collections statistics, and finally producing a report and offering a collections seminar to all 27 LECs to share the information and recommendations.
- There was no clearly defined system which showed the debts of customers by various category and how old these debts were. Advisors were directed by USAID to analyze LEC collections data to determine which class of customer owed how much, for how long, and what was old vs. new debt. This task was completed in the Spring of 1996.
- When it was decreed that CHPs would not be subject to privatization, even though ownership remained with the LECs, efforts were significantly reduced in this area, although much meaningful data had been collected, and reports

produced and distributed

- One of the most significant initiatives outside of the original scope of work was undertaken to ensure that the LECs were in compliance with the World Bank Loan Requirements. LEC Advisors met with all 12 LECs to review the methodology for calculating, filing, publishing, and implementing retail base tariffs. The Advisors also described the Subsidy Application process and filing requirements. Seminars and written materials were provided for this activity. Lastly, and most importantly, LEC Advisors communicated to the LECs that all policies and directives on collections must be strictly enforced.
- As part of this Delivery Order, an introduction to International Accounting Standards began, and LEC Advisors spent considerable amount of time coordinating participation by LEC personnel. This included facilitating and assisting in seminars, and distribution of accounting manuals.
- In August, 1996, USAID directed the LEC team to develop collections monitoring software which would identify and age delinquent accounts. This was completed in early 1997, and the resulting recommendations and software were delivered to the 12 LECs and subsequently to all 27 LECs.
- When the concept of Promissory Notes was introduced into Energy Sector financial transactions and problems arose, USAID directed Hagler Bailly to review, analyze, and issue a report. This was accomplished in the Spring, 1997.

4 SUMMARY OF RESULTS

All of the tasks detailed in Delivery Order 10, were completed along with the additional assignments given by USAID. All reports and recommendations were shared and distributed to all 12 LECs and in many cases to all 27 LECs. Because of the ever changing policies and directives from various agencies, many of the recommendations have not been completely implemented.

5 RECOMMENDED FUTURE ACTION

Continued follow up with the LECs and the development of a system or mechanisms to monitor compliance and progress is necessary. The Government of Ukraine must support the LECs unequivocally, at both the national and local levels. This is particularly important in the area of collections. If LECs are to succeed as privatized companies, realistic, cost-based tariffs

must be implemented, without regard to political consequences

The LECs must use the information and system recommendations they have received, and continue to advance, rather than reverting back to the old ways. Continued exposure and information sharing with other successful companies would be beneficial.

LEC TASK 5: CORPORATE DEVELOPMENT

SCOPE OF WORK

CORPORATE DEVELOPMENT

LEC Advisors assisted with the separation of LEC organizations from the former Energos and supported a structure of an organization run by a Board of Directors. Organizational structures consistent with market requirements were developed with assistance from Advisors, along with staffing plans, job descriptions, and human resource development capabilities. Advisors assisted in developing corporate training seminars and cooperated with the Generation Advisors to share resources and materials on common organization, management and other relevant activities.

CORPORATE STRATEGY AND PLANNING

Advisors worked with the LECs to provide the basic tools of corporate strategic development, provided seminars and materials to introduce the strategy concepts to a working group with representatives from each LEC.

Provided limited guidance to individual LECs on strategy and planning, provided assistance, such as seminars, for the development of planning and budgeting capability. Advisors provided advice, materials, and other resources to assist with development of financial analysis and business forecasting capabilities, and helped to establish a corporate communications and public relations capability.

MAJOR RESULTS

Initial activities under this task were to distribute a detailed explanation of the restructuring and reform activities in the Ukrainian Power Sector. Written materials were delivered and explained to all LEC managements during the Fall of 1995.

A Model Organizational Development Plan developed by the Generic Advisor was delivered to all 12 Hagler Bailly LECs. Draft Job Descriptions were also prepared and delivered to the LECs.

The LEC readiness Report was prepared and a copy given to all LECs in the Fall of 1995.

Training seminars were conducted by ESBI, and attended by Hagler Bailly Advisors for all 12 LECs. Subject matter included Organizational Development, an introduction to International Accounting Standards, and a Cost and Control Methodology.

Principles of Corporate Governance were introduced through seminars and manuals, and LEC Advisors met with the LECs to encourage them to begin the process of creating Boards of Directors and Management Councils

Coordinated study tours to Poland and the United States for representatives of the LECs Managers were given exposure to organizational design, corporate communications, public relations, decision making techniques, the role of the Regulatory Agencies, Collections procedures, and Meter Reading Technology

A Financial Forecasting model was produced and distributed to all LECs

Several seminars and follow up meetings were held to provide training on Financial Management Systems Accounting manuals from other NIS countries were distributed in order that the transitional changes could be started in Ukraine

Advisors worked with LEC managers to demonstrate the effectiveness of cross functional decision making and participative management in order to depart from the traditional structure

TASK 6: LV NETWORK SUPPORT

SCOPE OF WORK

The Advisors assisted working groups of LVNB LEC personnel to develop and adapt existing mechanisms for evaluating the LVNB One LV Business at each LEC was selected as a model, and all findings and recommendations were transferred to other units within the LEC

USE-OF-NETWORK CHARGES

LEC Advisors worked with each LEC to develop coherent, acceptable procedures for determining Use-of-Network charges based on the general guidelines developed by the generic advisor LECs were given guidance in establishing a system for calculating the actual network charges, and the first set of charges that were filed with NARC Assistance was provided in the LEC/NARC negotiations process

LV NETWORK INVESTMENT PLAN

Advisors worked with the LECs to develop analysis of LV network refurbishment and expansion needs based on the principles developed by the generic advisor Forecasting and data gathering techniques to produce the initial investment plan were developed Advisors assisted in identifying and transferring integrated resource planning capability and modeling software and hardware

MAJOR RESULTS

A report was issued and distributed to the 12 LECs on Cost Allocation, and a methodology was produced on calculating Local Transmission Tariffs

Seminars were offered at which the Use-of-Network charges were reviewed and explained The linkage between accurate tariff calculations and cost allocations was discussed

A manual detailing Low Voltage Network Investment Planning was delivered with explanation to all 12 LECs

A temporary tariff methodology was developed and distributed to the 12 LECs

An automated spreadsheet and software for assistance in tariff calculations was developed and provided

An organization chart was developed and distributed which showed the significant differences

between the supply and network aspects of the LECs. Managers were advised that it would become increasingly important to separate costs along organizational and functional lines in order to properly allocate costs.

The Study Tours to Poland and the United States provided an opportunity to demonstrate how the Network business is separated from the supply business.

TASK 3: LEC SUPPLY BUSINESS SUPPORT

SCOPE OF WORK

Consulting to the supply end of the LEC business involved three separate but strongly related tasks. Tariff formation was the most visible and immediately necessary, but the concomitant organizational issues that facilitate billing, customer relationships and nonpayment problems were extremely important.

The Advisors assisted a working group of LEC Supply Business personnel to develop and adapt existing mechanisms to support the supply function or business. One Supply Business at each LEC was selected as a model, and this working group facilitated the transfer to other LEC Supply Businesses.

RETAIL TARIFF FORMATION

Advisors worked with the LECs to ensure that their needs were being addressed effectively in their licenses, and that the mechanism for forming tariffs by customer class was clear. (The revenue which the LEC is allowed to collect through retail tariffs is determined by its license. The actual tariffs by customer class were initially determined for all LECs in a region as a group, due to metering constraints.)

Working individually and collectively with the LECs, Advisors calculated initial retail tariffs and assisted in their review by NARC. Tariff calculation tools were transferred as needed, and work was done to develop methods using illustrative data, since actual tariffs were calculated monthly in arrears on actual EnergoMarket prices.

SUPPLY BUSINESS ORGANIZATION

Advisors provided models and assisted with design and implementation of key operating management and planning systems. Worked with the LECs on key commercial tasks by providing advice, seminars, written materials, and other assistance to address and develop billing and collecting the payments of all customers, least cost planning, Demand Side Management, and EnergoMarket billing. Assisted in the development of a system to address nonpayment problems, and advised LEC management on procedures for assuring the efficiency of these processes.

CUSTOMER RELATIONS

Advised the LECs on customer relationships, including relations with local consumer councils. Assisted in the design and implementation of a customer service organization and program by

providing a model organization plan and program

MAJOR RESULTS

Provided a Retail Tariff Calculation Report, and provided tools for all 12 LECs to perform their own calculations

Offered seminars given by the Hagler Bailly NARC Team to assist the LECs in calculating their tariffs, and made resources available to review filings before they went for NARC review

Assisted in license filings and ensured that filings were complete, accurate, and in an acceptable format

Completed an evaluation of cash flow in the system and the adequacy of financial reporting techniques and controls

Supported development of policies and organizational structures to implement Collections Order 86. This order was intended to improve collections by taking more aggressive credit action and eliminating alternate forms of payment

Provided seminars and materials to explain comprehensively how the market funds procedures worked and what impact it had on the LECs

Prepared a report on the impact of Promissory Notes on the industry's cash position

Restructured Protocol which included all aspects of debts from customers to LECs, to NDC, to GENCOs, with the goal of improving the sector's financial position, decreasing accounts payable, and accounts receivable of all enterprises

Participated in a seminar for LEC managers on Organizational Development, tariffs, subsidy certificates, and collections procedures

Developed collections software, conducted a seminar, provided written materials, and distributed software to 12 LECs

Conducted financial training seminars which included International Accounting Standards planning and budgeting techniques, reporting and auditing methodologies

Undertook and completed extensive cash collections improvement at two LECs, and shared results at a seminar where other NIS and outside companies discussed their experiences

Developed monitoring tools for monthly collections reports and for analyzing the major problem areas by customer classification

TASK 8: LEC GENERATION AND HEAT BUSINESS SUPPORT

SCOPE OF WORK

Provided support (including advice and seminars) for planning and operation of the electricity and heat generation businesses including such items as fuel procurement practices, EnergoMarket bidding, evaluation of investment options in rehabilitation, procedures for compliance with licenses. Rendered support for strengthening the capability of these businesses to carry out commercial transactions with outside parties including EnergoMarket and heat customers.

CONTRACTS

Provided assistance on contracts, including advice on negotiating specific agreements for heat and electricity generating stations, including fuel purchase agreements and heat sale agreements.

COST ANALYSIS AND CONTROL

Provided advice and assistance to LECs in implementing cost analysis techniques and methods of control, including, if appropriate, allocation of costs between heat and electricity production.

HEAT SYSTEM

Assisted with the development and implementation of heat tariff methodology and calculations (based in part on generic advisor's outputs) to set pricing arrangements for heat supply. Assisted with the negotiation of heat prices with NARC and/or local government as required and in the development of a customer service program.

MAJOR RESULTS

This task was done only partially since the CHPs were separated from the privatization activities of the LECs. However, some meaningful activities took place:

- Provided a seminar and manuals for Cost Analysis, Control Methodologies and Heat Pricing for LEC owned CHPs
- Distributed the L'viv Scientific Research Institute methodology developed for Kiev regarding methods for heat generation cost and pricing
- Distributed a recommendation for fuel purchasing and alternatives to the LECs

- Distributed proposed methodology for the allocation of costs for CHPs in determining tariffs for the supply of heat and electricity
- CHPs over 20 MW were required to bid into the market. Many LECs had smaller units and the Advisors met with the LECs to ensure that there was no confusion about the rules.
- During the Study Tour to the United States, LEC managers learned how Independent Power Producers and co-generators bid into the markets, how contracts were negotiated, and what operating requirements were imposed.

TASK 9: PROVISION OF EQUIPMENT

SCOPE OF WORK

Based on organizational/operational requirements identified in previous tasks, LEC Advisors defined equipment needs to initiate upgrade of key management and/or operational system(s) Procured and assured installation of selected equipment based on selection criteria and priorities established in consultation with LECs and USAID

MAJOR RESULTS

LEC Advisors conducted an assessment of the LEC computing capabilities, developed a strategy for providing computing assistance, prepared a comprehensive computer request to deliver equipment to be used to support collections activities

Collected, evaluated, and submitted bid proposals to USAID Office of Procurement for computer hardware purchase approval Provided responses to all technical questions of IRM evaluation team

Computing equipment (servers, desk tops, modems, fax machines, and other miscellaneous equipment) was delivered to the LECs in the Summer of 1998 The emphasis is now placed on improving collections at the LECs

SUMMARY

The work performed by the LEC Advisors and the experiences made available to the 12 LECs and their personnel should benefit the LECs and the entire Ukrainian Energy Sector in the long run. Managers were given a great deal of exposure to state of the art utility management styles and systems, along with the requisite training required to perform and successfully compete in this new environment.

While the process was somewhat slow in the beginning, LEC Advisors established effective working relationships with the LECs, and once a level of confidence and trust was reached progress and cooperation improved rapidly. While it is always difficult to quantify such things, LEC managers began to seek information and recommendations from the LEC Advisors, rather than from some of their traditional sources.

Significant problems still face the LECs and the entire Energy Sector, and many of these challenges must be resolved internally, but the business and management training provided to the LECs will be most helpful as they proceed. Many other local issues were addressed during the performance of this Delivery Order, and LEC management has expressed its appreciation for these services. Indeed, USAID, and Hagler Bailly have been complimented and thanked for their cooperation, assistance, and support.

As in any evolving or changing industry, the LECs will face many new hurdles, but armed with new techniques and approaches to problem solving, they should be well able to cope with them.

APPENDIX I
CHRONOLOGICAL LIST OF DELIVERABLES

APPENDIX II

**CHRONOLOGICAL LIST OF
REFERENCE MATERIALS**