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**UKRAINE LOCAL ELECTRIC COMPANIES  
International Accounting Standards (Task A 1)  
Khmelnitsky Oblenergo**

**NIS Institutional Based Services Under the Energy  
Efficiency and Market Reform Project  
Contract No CCN-Q-00-93-00152-00**

**Ukraine Power Sector Reform  
Delivery Order No 18**

*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

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## EXECUTIVE SUMMARY

The Scope of Work for this project includes advising Local Electric Companies (LECs) in Ukraine on restatement of their accounts to International Accounting Standards (IAS) Specifically, Task III A (1) calls for

“Support in implementation of IAS, standardized reporting and controls as required by NERC)”

In line with the task, there is a specific deliverable in the LEC section

“1 Model Action Plan on limited IAS, standardized reporting and controls implementation, as required by NERC”

Khmelntsky is one of two Oblenergos for which a restatement of accounts to International Accounting Standards was made for this Delivery Order The comprehensive report in Appendix A explains the methodology employed to accomplish the restatement and presents very detailed financial statements for the consolidated enterprise and each of its operating entities, along with an analysis of the results

Khmelntsky Oblenergo maintains its accounts in accordance with Ukrainian accounting standards, as required for tax purposes and governmental reporting A “limited scope” IAS restatement of its accounts was performed This means that a formal audit of transactions was not conducted and that a valuation of plant and equipment and other assets was not performed A full restatement would have taken a considerably longer time and the cost would have been prohibitive The restatement performed was sufficient to determine the overall financial condition of the Oblenergo and its operating units Additional refinement would add little to the overall conclusions on operating performance and financial position An in-depth description of the existing Ukrainian accounting system and the methodology of the restatement is contained in Appendix 1 of the attached report

The restatement was performed by a team of accounting specialists which started by meeting with the senior management of the Oblenergo to understand its overall structure and operations In depth discussions were held with the Chief Accountant to understand the accounting processes and data flows Likewise, considerable time was spent with the Sales Department personnel to understand the recording of revenue and processing of cash and other forms of payment Sales and revenue data is initially recorded at the district offices and those procedures were observed Operating costs are accumulated at the divisional level so data gathering occurred there Obviously, the majority of time was spent at the headquarters in the offices of the Chief Accountant

Detailed information was obtained from sales and cost ledgers for the 2 PEMs which make up the electric distribution and supply portion of the business. The Combined Heat and Power (CHP) plant makes up the other significant portion of the entire business. It was important to treat the CHP separately for accounting and reporting purposes since it is not included in the privatization process and investors should be aware of its impact on the financial results. Another smaller subsidiary is involved in construction.

The source data was gathered at the various entities and then processed and analyzed by the team. It was important that the team be given full access to the financial records in order to make an accurate restatement. The Oblenergo was very cooperative in providing access to personnel and records at the various locations. Work space was provided by the Chief Accountant who made sure that the accounting staff promptly complied with data requests.

The Report in the Appendix contains the IAS restatement information for the consolidated company, the total electric operations, the CHP and the Construction subsidiary. Financial statements and an analysis of the results for each quarter of 1996 and 1997 and the first quarter of 1998 are contained therein.

The Oblenergo should continue the process of producing IAS restatements on a quarterly basis. The next logical step would be to acquire software and adopt practices which would allow it to maintain accounting information in accordance with IAS on an ongoing basis in addition to the mandatory Ukrainian standards.

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**APPENDIX A**

**Ukraine:  
Financial  
Restatement and  
Analysis of  
Khmehintsky  
Oblenergo**

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**September 10, 1998**

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# 1 EXECUTIVE SUMMARY

Khmelnitsky City, a strategic military area during the Soviet era is located on the border between Central and Western Ukraine. The city was originally established in a fertile agriculture region in the 14<sup>th</sup> century under the name of Proskuriv. Since that time the area has been under the control of the Russian Empire, Poland and, between 1917-1991 the former Soviet Union (FSU). In 1991 it became part of independent Ukraine. Proskuriv became the capital of the Oblast in the 1930's and was renamed Khmelnitsky in 1954. It continues as the capital of Khmelnitsky Oblast (province) today. It is interesting to note that the Khmelnitsky area is the birthplace of Mosche Dayan, Israeli Defense Minister during the 1967 Seven Day War with the United Arab Republic.

Khmelnitsky Oblast lies in the middle of a vast rural area traditionally based on agriculture and its related processing. However, in 1970's and 1980's the area embarked on an extensive industrialization and militarization program. The Cation Plant (one of the FSU's largest manufacturers of condensers), the UkrElectroApparat and the Novator (the later two producing electronic equipment) are examples of strategic industries added to the local economy. This expansion program, along with its supporting infrastructure, was the main force behind the expansion and development of the electric sector (which in prior years only served a less developed rural sector). Within the command economy the oblast started to both expand and upgrade its electricity supply and delivery network to meet the growing needs of the area. For example, the Khmelnitsky Nuclear Power Plant (NPP) was built and commissioned this period. Because of the strategic importance of the Air Force bases, missile launching sites and manufacturing plants that supported the military complex the city and surrounding areas were designated a "closed city" by the Soviet regime.

As mentioned above, the power industry of the Oblast received a strong impetus in December 1987 when the 1,000 MW Unit 1 of Khmelnitsky NPP was commissioned with three more units planned within the forthcoming ten years. However this expansion was abruptly halted with the collapse of the FSU. Since the military complex was the most integrated industrial sector within the Soviet command structure and most of the support came from Moscow, the collapse brought an abrupt end to monetary subsidies and other support. As a result, a rapid deterioration of the Soviet military industrial complex was initiated as newly nationalized republics struggled with independence, the inefficiencies carried over from the old command economy and the breakdown of the traditional All Union Supply Network. With its recently developed economic dependence on the military Khmelnitsky was more adversely affected by the collapse than other areas with a more diversified economic base. As a result of this collapse, the Khmelnitsky NPP units in progress were never completed and the construction that had begun lies unfinished due to lack of funds. Compounding the sudden elimination of the area's economic base, the military and associated industries, the local economy experienced additional economic shocks from the rapid rise to international prices of energy, monetary inflation and the continued practice of public

administration of the economy. The result (both for Ukraine and the area) was an economic and monetary collapse with resulting high unemployment that was (and continues to be) one of the worst cases in the FSU. For Khmel'nitsky, the longer term effects of the collapse were especially severe due to its recent expansion and ultimate dependence on the military and related industries that artificially supported its economic base.

The objective of this study is to have a realistic understanding of the actual sales, costs and cash flows that pass through the consolidated company Khmel'nitsky Oblenergo. The company itself consists of the following individual business units, two electric distribution companies (North and South PEM), a CHP plant and a small construction division. To accomplish this task four steps are required. First, the collection of basic accounting data from the company. Second, the development of a methodology (and computer model) that would systematically convert the basic data collected into Western financial statements. For Khmel'nitsky, this meant analyzing different reporting formats (a total of two) and developing a computer algorithm to utilize the different reporting formats to restate in a consistent manner. Third, the actual implementation of the methodology and computer algorithm on the data collected. Finally, the analysis of the individual units and the consolidation of the individual units into a financial statement of the entire company.

However, one would be naive to state that this conversion was totally precise in going from one system to another. Besides some small internal differences in the basic accounting of the two systems, the major factors preventing precise conversion to IAS financial statements would be the attempts at understating cash received or overstating costs (to lower the tax burden) and the lack of standard application of the Ukrainian accounting system. For each chief accountant, a unique application of the rules exists. Although some adjustments have been made to overcome this problem, these two factors represent unsystematic risk that can only be overcome by an expensive and time consuming audit. This was beyond the scope of this study and the objectives of the participants.

In basic economic principles, at some point the marginal cost of doing a task exceeds the marginal benefit derived from the cost. This applies to financial work as well. In the case of this restatement, a limited IAS conversion was performed because it was both cost effective and provided a reasonable estimate of the company's operating performance in a format western trained investors could understand. The main focus of this restatement was on the profitability of operations with particular emphasis on sales and operating costs. After all, if the company cannot be profitable from its operations, more refined (and expensive) restatement is an academic exercise and a waste of resources that could be more efficiently utilized in supporting improvement in the problem areas of operations. Based on the findings in the following report, Khmel'nitsky Oblenergo is such a case where the most beneficial and cost effective use of donor resources available to the recipient is supporting management on improving basic operations and not continued refinement of IAS financial statements.

A summary of the financial results from the restatement for the consolidated company is provided below. More detailed analysis of the consolidated company, the consolidation of the electric companies only and each individual unit of the consolidated company are provided

within the main body of the text of this report. For details of the methodology used to restate the financial statement into IAS, see Appendix One

## **Consolidated Company**

### **Company Analysis**

#### *Income Statement*

Table 3.1 is the consolidated income statement of the two most significant components for Khmelnytsky Oblenergo, electricity and heat. Mainly two trends exist for sales. The first is seasonal and the second is economic. The seasonal trend is mostly related to the production of the heat plant while the second trend is a product of both. Total sales for the first quarter of 1996, 1997 and 1998 are 41.5, 35.5 million UAH (14.5% decrease) and 37.4 million UAH (9.9% decrease from 1996). Both heat and electricity contribute to the decline. For 1996, electricity sales declined by 15.6% and heat sales increased by 1.2%. For 1997 the financial pattern is different. Heat sales declined by 44.6% while electricity sales increased by 9.8%. The reason for the decline and subsequent increase in electricity sales concerns the supply rationing that occurred in both 1996 and to a lesser extent in 1997. This constraint on the retail market was caused by a lack of energy available from the wholesale market because of shortages in energy and the lack of resources to purchase fuel. The large decrease in 1997 was caused by a fall by 50% of residential consumption.

As for operating expenses, the largest cost is purchased energy and the general trend and reasons for the trend are the same as for sales. The second largest cost is fuel. Although sales at first increased and then declined, fuel purchases only increased. Since it is a very old plant there may be declining efficiencies within the production of heat causing more fuel to be utilized per output of heat.

Operating costs are highly variable and range from 7 to 13 million UAH. The main reason for this variability is the heat division and its seasonal operation based on the production cycle of the sugar plant and the demand for hot water. Wages increased between the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 1996 for two reasons. During 1996 a change in accounting (tax) policy allowed the company to deduct wage bonuses. Prior to this the common practice was to deduct the expense after taxable profit was calculated.

Operating income for the period examined has experienced wide swings in profitability with no apparent pattern. The two profitable quarters are the first in 1996 and the third in 1997. For three quarters the company broke even and the rest of the time it lost money. Part of the variability is due to the heat plant. It operates at full capacity for only part of the year and closes the rest of the time. A second part of the variability comes from the random levels that the purchase and selling electricity tariffs are set. Based on the historical pattern established the absolute levels of each are arbitrary. To have gross margins actually decrease during the summer months when a greater percentage of the supply is generated using

cheaper nuclear power does make economic sense

The data shows that collections have exceeded sales since the beginning of the 1996. Although this may be a real possibility, it is the analyst's view that the realization coming in from consumers on a non cash basis may be overvalued to a large extent and the real value when viewed from liquidating costs of operations is much smaller.

### *Balance Sheet*

Table 3.8 is the restated balance sheet for the company. Between the first and third quarter of 1996, gross fixed assets increased seven times due to a revaluation of assets. From the beginning of 1996 to the first quarter of 1998, current assets increased from 24.6 million to 39.6 million UAH. Almost all the increase is due to various types of receivables. Cash balances are small relative to other assets. The main reason is low cash collection rates and the transit account that absorbs most of the cash payments from electricity sales. The little cash the company does receive goes to meeting wages.

Equity had a large rise between the second and third quarters of 1996. This was due to an increase in Reserve Funds which is the corresponding account to the increase in fixed assets under the fixed asset revaluation mentioned above. The Reserve Fund was reclassified as Additional Capital at the beginning of 1997. Long term debt was zero for all of the period. As for current liabilities, the total balance doubled during the restatement period. Almost the entire increase in short term liabilities came from payables. Accounts payable increased from 24.4 million to 46.3 million UAH while wages payable increased from 9 to 2.3 million UAH.

### *Statement of Changes in Financial Position*

Table 3.11 examines the cash flow from all financial activities during the year. Net income for most quarters was negative because of poor collection from heat production and increasingly smaller operating margins in both electricity and heat. Other than the revaluation of assets, no adjustments from operating activities contributed significantly.

### **Conclusions**

In the final analysis it is difficult to isolate real company performance from the influence of overwhelming external environmental factors. These external factors include a general collapse of the national (and local) economy, hyperinflation from previous periods, higher cost of energy without control to pass the costs on to consumers (fixed purchase and selling tariffs under the prior tariff structure), poor cash collections along with a demonetization of the economy (increasing barter transactions), continued command economy

influence from the State sector increased competition from Independent Energy Suppliers and an antiquated, inefficient power delivery system Under these conditions the ability for a company to continue operating is a major achievement

However, some conclusions can be made First, the electricity portion of the business has the most promise Electricity losses are falling Even after discounting non-cash transactions the electric company manages to collect most of its sales Although variable the company manages to earn a profit (on an accrual basis) However this is limited because they lack the required control to pass on costs to the consumer The company is also taking very positive steps to become more efficient They are in the process of combining the operations of the two divisions (PEMs) into one unit

Although the company itself is trying very hard to improve their operations it faces a difficult situation because of the area and its economic condition The mass industrialization and militarization program from the 1970's has become an unsustainable situation considering the economic hardship the country is currently experiencing after the collapse of the FSU It is not possible that industrial production will continue at anywhere near the level as during the Soviet period With an infrastructure (and in fact city) built around this previous expansion the area will continue to suffer as it readjusts back to an agrarian economy with some light industry to support it

## 2. INTRODUCTION

### General Description

The objective of this study is to have a realistic understanding of the actual sales costs and cash flows that pass through the system of distributing electricity, heat and other related businesses that make up the consolidated company Khmelnytsky Oblenergo. The constraints to achieving this goal are directly related to Ukraine's integration within the FSU. First, the accounting system that has been carried over from the past was based on measuring production and actual cash flows for tax collection. Second, as with all FSU countries, the collapse of the FSU brought with it a new currency and inflation from attempts to support the infrastructure and social programs of the past. Finally, the breakup of the FSU caused a complete collapse of any systematic approach to collect and pay other parties beyond either cash transactions or barter.

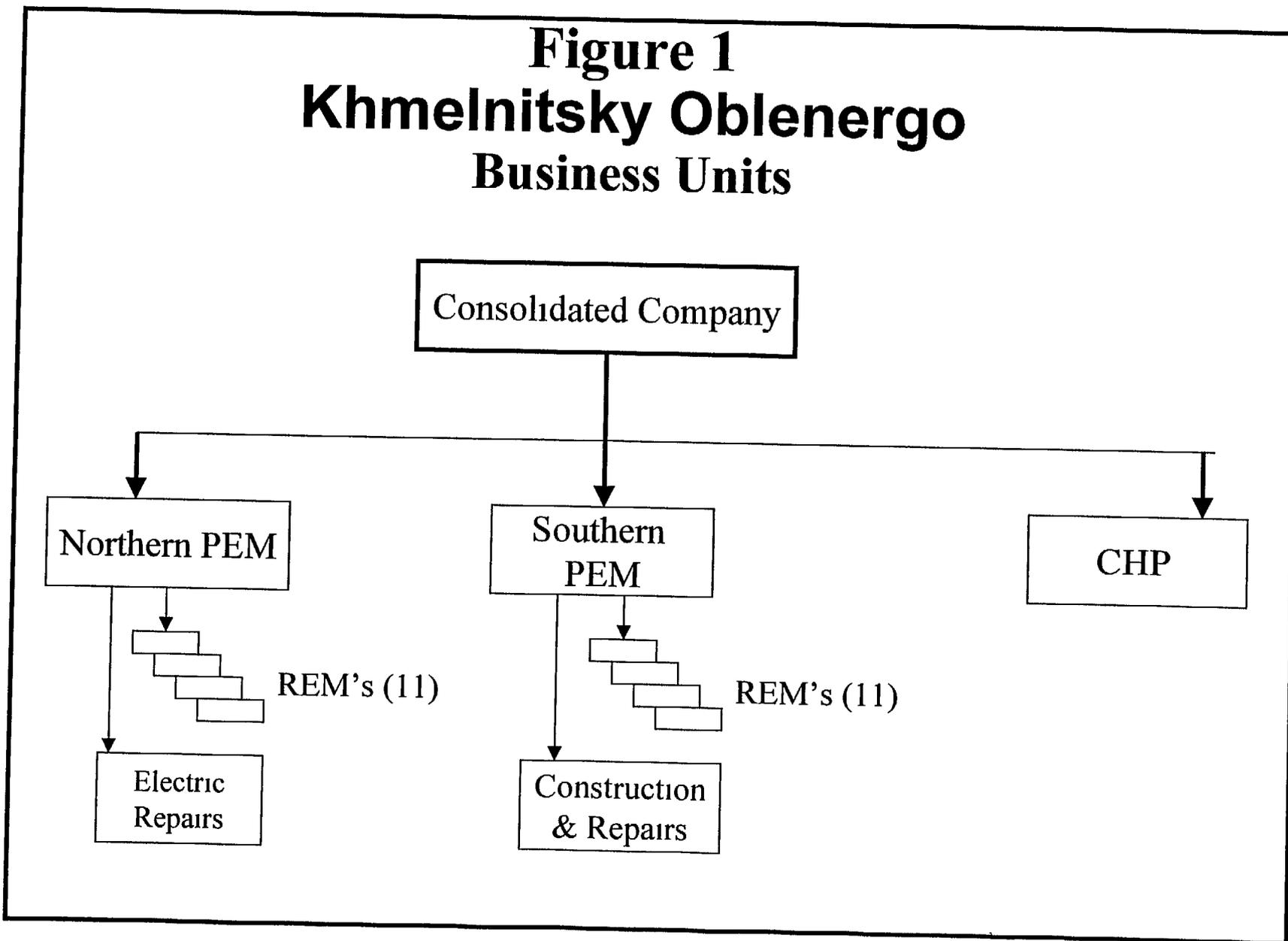
In addition to the constraints from the past system and current operating environment, the restatement was further complicated by the corporate structure of the company. Khmelnytsky Oblenergo is not just one company in a single business, but a consolidated business with several distinct operations. Figure 2.1 summarizes the corporate structure of the company and also provides a framework for the analysis of the entire company. Included within its business scope are two electricity distribution networks (North and South), a combined heat and power plant (CHP), and a construction materials unit. The analysis presented within this report will examine each of these companies as a separate unit (this includes a description of their business, restatement of their accounts and analysis of operating results), and then a consolidation of all business.

A methodology has been developed and implemented to overcome these obstacles<sup>1</sup>. An overview of the restatement methodology is pictured in Figure 2.2. The basis of its implementation is to directly collect the raw data from bookkeepers and accountants. This basic data includes the amount of the product delivered (sales), the cost associated with delivery, and the actual cash inflows and outflows. For the most part a cost was the same in both systems of accounting. It was mainly the system of summarizing these figures that differs under Socialists and International Accounting. After collection these figures would be then used as the raw material for re-stating the accounts using International Accounting Standards.

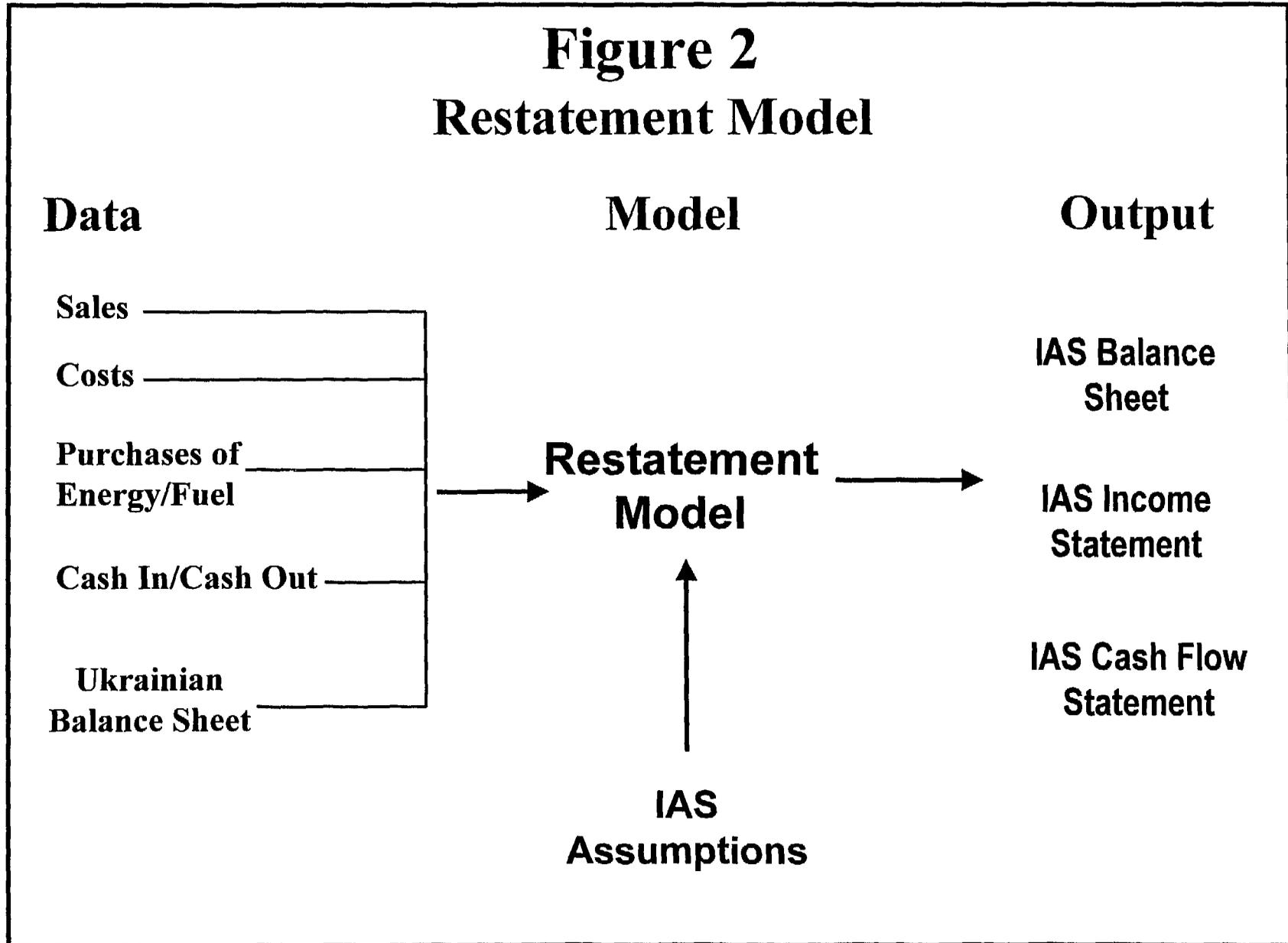
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Details are provided in appendix 1

**Figure 1**  
**Khmelnitsky Oblenergo**  
**Business Units**



**Figure 2**  
**Restatement Model**



However, one would be naive to state that this conversion was totally precise in going from one system to another. Besides some small internal differences in the basic accounting of the two systems, the major factors preventing accurate conversion to credible IAS financial statements would be the understating of cash received or overstating costs (to lower the tax burden) and the lack of standard application of the Ukrainian accounting system. For each chief accountant, a unique application of the rules existed. This was especially problematic in Khmelnytsk Oblenergo where two business units were examined and two different bookkeeping methods were used. This condition existed even though a standard set of reporting practices within the energy sector was supposed to be followed by each company. Although some adjustments have been made to overcome this problem, these two factors represent unsystematic risk that can only be overcome by an expensive and time-consuming audit. Especially considering the size and complexity of this business, this was beyond the scope of this study and the objectives of the participants.

By working with the chief accountant, the bookkeeping staff, and the general ledger of the business units for 1996-1998, a thorough understanding of the individual methodologies was achieved at each subsidiary. All of the information was then incorporated into developing a computer algorithm that could systematically restate the company's financial operating position. After the data was collected and reviewed for accuracy, the computer model was run and the results were included within the text of this report.

### **General Background**

Khmelnytsky City is located on the border of Central and Western Ukraine and is the capital of Khmelnytsky Oblast (province). Traditionally an agriculture area, the city was originally established in the 14<sup>th</sup> century under the name of Proskuriv. Since that time, the area has been in the power of the Russian Empire, Poland, and between 1917-1991, the former Soviet Union (FSU). In 1991 it became part of independent Ukraine. Proskuriv became the capital of the Oblast in the 1930's, and it was renamed into its present name in 1954. The Oblast has a population of 1.5 million, with over 250,000 living in Khmelnytsky City itself.

Khmelnytsky Oblast lies in the middle of a vast rural area. Major commodities produced in the area include sugarbeets and sugar processing (for which the CHP sells most of its steam), dairy and beef along with its related fodder production, wheat, and a number of traditional villages involved with subsistence farming. Beginning in the 1970's, the Communists embarked on a massive industrialization and modernization program in the region. This program included building and operating a number of machine building and electronic industries within the province along with the construction and establishment of military bases and missile launching sites throughout the region. Along with the military and its related industry, a dramatic expansion of the power sector took place. This expansion was highlighted when in 1987 a 1,000 MW Unit of Khmelnytsky Nuclear Power Plant was commissioned. It was during this period, 1970-1990, when both the physical infrastructure and to a large extent the operating structure of the Oblast's power sector of today was

created. This structure was an integral part of the overall Communist model of the power sector which was the typical vertically integrated command economy where at the top was the main administrative monopoly (Minenergo) that made decisions and below it the functional units that implemented the decisions directed to them from above. In addition under this system, the decisions themselves were focused only on production (and meeting quotas) and did not regard price as a variable. Based on this above described structure the Ukrainians inherited (at its 1991 independence) an extremely energy intensive inefficient power industry with little ability to respond to world market forces. Without vast energy reserves to utilize this inefficiency would eventually bankrupt the economy.

For the first four years after independence, the sector was managed as it was during the Soviet period. However, one main difference existed. The price of energy had increased to world prices. To sustain itself the economy used both reserves and then credit to purchase energy. Soon both ran out, the economy collapsed and the sector was forced to embark on a massive market reform program. This began in 1995 for the power sector. In the process of restructuring, the former vertical monopolies were unbundled to form four fossil and two hydro power generation companies (Gencos), the state-owned Energoatom company which owns Ukraine's five nuclear power plants (NPP's), the National High Voltage Transmission Networks, and twenty seven local electricity distribution companies in each Oblast (Khmelnitsky Oblenergo is part of this network) that own and operate low voltage networks and distribute electricity to the customers. Concurrently, Gencos and Oblenergos became joint stock companies wherein the stock parcels are held by the Government of Ukraine independent businesses, and individuals. Along with Oblenergos, the low voltage supply segment of the electricity market also includes independent suppliers operating through Oblenergo owned networks.

Under the Ukrainian Electricity Law, both generators and suppliers of energy in Ukraine operate through the Wholesale Electricity Market (WEM, or Energomarket) under the Energomarket Members Agreement. The wholesale market activities are supervised by the Ministry of Energy of Ukraine (Minenergo) in terms of general policy-making and regulated by the independent National Electricity Regulatory Commission (NERC) that sets tariffs on electricity and provides licenses for the corresponding activities.

## Company

Khmelnitsky Oblenergo, one of the Ukraine's 27 joint stock energy-supplying companies, services Khmelnytskyi Oblast. It is the successor of former Vinnitsaenergo, a state-owned vertical monopoly that operated throughout Central Ukraine prior to the extensive market reform in the power sector commenced in 1995. Until that time, Vinnitsaenergo operated in Khmelnytskyi Oblast through two electricity distribution divisions (PEMs). One was located on the North (Northern PEM) and the second was responsible for service in the South (Southern PEM). Another major Vinnitsaenergo asset was a combined heat and power plant (CHP) located around 70 kilometers to the southwest of Khmelnytskyi Oblast's second largest city, Kamianets Podilskyi. In the course of the reform process, the three divisions went to the newly established Oblenergo to form its present structure (see Fig 1).

The Company's staff totals 3,165 employees. Its main business includes supplying electricity purchased from the Wholesale Electricity Market through the electric networks with voltages from 0.22-110 kV. In addition, the Oblenergo distributes heat produced at the CHP and local boiler stations and subsequently sold either directly or through the wholesale municipal heat distribution network, TeploKomunEnergo. The company also generates a small output of electricity at five different power stations with a total installed capacity of 8.4 MW. For these three major activities, Khmelnytskyi Oblenergo holds licenses from the NERC. Finally, a small construction and repairs exists within the structure of its Southern PEM.

Over the years of the market reform in the power sector, the local electric supply companies' monopoly has been eroded with the advent of the licensed independent energy suppliers allowed by the NERC to render their services nationwide to any willing customer. Normally, independent suppliers purchase electricity directly from generators and sell it to the customers for cash than under barter arrangements, thus taking away the solvent customers from the Oblenergos, diluting their client base and reducing their cash collection potential. Compounding the problem, independent suppliers enjoy the full profit margin on their operations while the Oblenergos only receive a transit fee from the Energomarket. This is typical to the entire energy supply sector of Ukraine including Khmelnytskyi Oblenergo.

### 3. CONSOLIDATED COMPANY

The consolidated company Khmelnitsky Oblenergo consists of three individual business units. These include the North PEM, South PEM, and CHP. The analysis will proceed as follows: the first section will focus on the general operation of the company for the period 1996-1998. The second section will examine the performance of the different divisions within the company. It should be noted for the reader that a more detailed discussion of electricity is located in Section 4 of this study.

#### *Income Statement*

Table 3.1 is the 1996-1998 quarterly restated income statement. Mainly, two trends exist for sales. The first is seasonal and the second is economic. The seasonal trend is related to the production of the heat plant. The second trend is economic. Total sales for the first quarter of 1996, 1997 and 1998 are 41.5, 35.5 million UAH (14.5% decrease) and 37.4 million UAH (9.9% decrease from 1996). Both heat and electricity sales are main reasons for the decline. For 1996, electricity sales declined by 15.6% and heat sales increased by 1.2%. For 1997 the financial pattern is different. Heat sales declined by 44.6% while electricity sales increased by 9.8%. The reason for the decline and subsequent increase in electricity sales concerns the supply rationing that occurred in both 1996 and to a lesser extent in 1997. This constraint on the retail electricity market was caused by a lack of energy available from generation. Heat sales decreased because consumption (or supply) dropped by 50%.

The next section in the income statement deals with operational expenses. Also of usefulness is Table 3.7, Financial Ratios. As for operating expenses, the largest cost is purchased energy and the general trend and reasons for the trend are the same as for electricity sales. The second largest cost is fuel. Although sales at first increased and then declined, fuel purchases only increased. Since it is a very old plant there may be declining efficiencies within the production of heat causing more fuel to be utilized per output of heat.

Operating costs are highly variable and range from 7 to 13 million UAH. The main reason for this variability is the heat division and its seasonal operation based on the production cycle of the sugar plant and the demand for hot water. Wages have increased between the 1<sup>st</sup> and 2<sup>d</sup> quarters of 1996 for two reasons. During 1996 a change in accounting (tax) policy allowed the company to deduct wage bonuses. Prior to this period the common practice was to deduct the expense after taxable profit was calculated. In addition, through 1996-1998 wages were increased as an adjustment to inflation.

**Table 3 1**  
**Consolidated Khmelnytsk Oblenergo**  
**Ukraine Energy Project**  
**Income Statement for the Period Ending**  
*(000 UAH)*

	4/1/96	7/1/96	10/1/96	1/1/97	4/1/97	7/1/97	10/1/97	1/1/98	1/4/98
<b>OPERATING INCOME</b>									
<b>Sales</b>									
Electricity	38 504	22 446	25 562	33 131	32 495	23 899	29 807	34 916	35 749
Heat	2 963	748	(244)	3 433	3 009	391	79	2 922	1 655
Interim Transfers	0	0	0	0	0	0	0	0	0
Other Revenues	0	0	0	0	0	0	0	0	0
<b>Total Sales</b>	<b>41 467</b>	<b>23 194</b>	<b>25 318</b>	<b>36 564</b>	<b>35 504</b>	<b>24 290</b>	<b>29 886</b>	<b>37 838</b>	<b>37 404</b>
<b>Operational Expenses</b>									
Purchased Electricity	(28 792)	(19 577)	(21 432)	(30 332)	(32 502)	(22 694)	(19 290)	(29 464)	(34 199)
Operating Expenses	(1 038)	(749)	(710)	(785)	(808)	(753)	(683)	(1 252)	(829)
Fuel and Raw Materials	(2 210)	(787)	(3)	(1 620)	(2 705)	(748)	0	(1 865)	(1 876)
Wages & Social Costs	(1 222)	(2 600)	(2 335)	(2 541)	(2 967)	(2 675)	(3 230)	(2 996)	(3 172)
<i>Total Operational Expenses</i>	<i>(33 262)</i>	<i>(23 713)</i>	<i>(24 480)</i>	<i>(35 277)</i>	<i>(38 982)</i>	<i>(26 870)</i>	<i>(23 203)</i>	<i>(35 578)</i>	<i>(40 076)</i>
Maintenance	(117)	(171)	(119)	(144)	(150)	(157)	(136)	(270)	(235)
Depreciation	(653)	(526)	(1 045)	(1 097)	(1 153)	(1 198)	(1 386)	(1 875)	(1 855)
<i>Total Operational Expenses</i>	<i>(770)</i>	<i>(697)</i>	<i>(1 164)</i>	<i>(1 241)</i>	<i>(1 303)</i>	<i>(1 355)</i>	<i>(1 522)</i>	<i>(2 145)</i>	<i>(2 091)</i>
<b>Operating Income</b>	<b>7 435</b>	<b>(1 215)</b>	<b>(326)</b>	<b>45</b>	<b>(4 781)</b>	<b>(3 936)</b>	<b>5 161</b>	<b>115</b>	<b>(4 763)</b>
<b>NON-OPERATING INCOME</b>									
Net Non Utility Operating Income	0	0	0	0	0	0	0	0	0
<b>Total Operating Income Before Taxes and Financial Costs</b>	<b>7 435</b>	<b>(1 215)</b>	<b>(326)</b>	<b>45</b>	<b>(4 781)</b>	<b>(3 936)</b>	<b>5 161</b>	<b>115</b>	<b>(4 763)</b>
<b>Taxes and Financial Costs</b>									
Interest on Long Term Debt	0	0	0	0	0	0	0	0	0
Unrealized Accounts Payable	0	0	0	0	0	0	0	0	0
Unrealized Accounts Receivable <sup>2</sup>	0	0	0	0	0	0	0	0	0
Taxes & Payments	(683)	(635)	(778)	(755)	(446)	(88)	(659)	(1 043)	(3 011)
<i>Total Taxes and Financial Costs</i>	<i>(683)</i>	<i>(635)</i>	<i>(778)</i>	<i>(755)</i>	<i>(446)</i>	<i>(88)</i>	<i>(659)</i>	<i>(1 043)</i>	<i>(3 011)</i>
<b>NET INCOME</b>	<b>6 751</b>	<b>(1 851)</b>	<b>(1 103)</b>	<b>(709)</b>	<b>(5 227)</b>	<b>(4 023)</b>	<b>4 503</b>	<b>(928)</b>	<b>(7 774)</b>

<sup>1</sup> It is assumed that accounts payable 90 days or older are written off as income

<sup>2</sup> It is assumed that accounts receivable 90 days or older are written off bad debt expense

Operating income for the period examined has experienced wide swings in profitability with no apparent pattern. The two profitable quarters are the 1<sup>st</sup> 1996 and the third in 1997. For three quarters the company broke even and the rest of the time was unprofitable. Part of the variability is due to the heat plant. It operates at full capacity part of the year and shuts down the rest of the time. A second part of the variability comes from the random levels that the purchased and selling electricity tariffs are set. Based on the exhibited pattern the two levels are arbitrary. To have electricity gross margins actually increase during the summer months when a greater percentage of it is supplied through cheaper nuclear power does make economic sense. However, for the period examined the Oblenergo managed to approximately break even according to accrual profitability.

The data shows that collections have exceeded sales since the beginning of the 1996. Although this may be a real possibility, it is the analyst view that the realization coming in from consumers on a non cash basis is overvalued to a large extent and the real value when viewed from liquidating costs of operations is much smaller. As for accounts payable, the low gross margins from electricity and the lack of sufficient cash payments make it impossible to meet all the necessary costs and still maintain the equipment.

Table 3 2, Electricity Sales, outlines the monthly electricity sold (in MWH) average tariff (UAH per MWH) and revenues (000 UAH) by consumer group for the period 1996-1998 (1<sup>st</sup> quarter). Total electricity sold for 1996 was 1,939,631 MWH with an average tariff of 61.2 UAH per MWH. Total revenues for the same period were 119 million UAH. As for 1997, 1,875,839 MWH were sold at an average price of 65.3 UAH per MWH. This generated total revenues of 121.1 million UAH. The year to year decrease in MWH was 3.3% and the increase in revenues was 1.7%. The difference between production decreases and revenue increases was caused by the increase in the average tariff.

Table 3 3 is Heat Sales. The largest consumer for heat is classified as Other. In reality this is the retail distribution network TeploKomunEnergo. The CHP's heat market is the town of Kamianets Podilsky. As for steam, the largest consumer is a sugar processing plant. Industrial consumers however, is limited to three industrial plants located in the city.





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**Table 3 4**  
**Khmelntsk Oblenergo**  
**Ukraine Energy Project**  
**Indirect Income and Expenses**

Month	Indirect Income		Other Expenses	
	Other Outside Revenues	Internal Sales		
January (1996)	00	00	00	00
February	00	00	00	00
March	00	00	00	00
April	00	00	00	00
May	00	00	00	00
June	00	00	00	00
July	00	00	00	00
August	00	00	00	00
September	00	00	00	00
October	00	00	00	00
November	00	00	00	00
December	00	00	00	00
January (1997)	00	00	00	00
February	00	00	00	00
March	00	00	00	00
April	00	00	00	00
May	00	00	00	00
June	00	00	00	00
July	00	00	00	00
August	00	00	00	00
September	00	00	00	00
October	00	00	00	00
November	00	00	00	00
December	00	00	00	00
January (1998)	00	00	00	00
February	00	00	00	00
March	00	00	00	00

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**Table 3 5**  
**Electricity and Fuel Purchases**  
**Consolidated Khmelnitck Oblenergo**  
**Ukraine Energy Project**  
(000 HRs)

Month	Electricity Purchased			Fuel Purchased			Fuel Purchased		
	MWH Purchased	HRN Per MWH	Cost of Electricity	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel
January (1996)	288 378 0	37 9	10 918 0	3 122 0	272 9	852 0	1 136 0	181 3	206 0
February	362 011 0	26 6	9 615 6	2 668 0	280 4	748 0	2 165 0	186 6	404 0
March	267 431 0	30 9	8 258 0	2 860 0	151 7	434 0	388 0	157 2	61 0
April	210 781 0	39 3	8 284 0	1 759 0	150 1	264 0	180 0	155 6	28 0
May	151 644 0	38 9	5 898 0	0 0	0 0	0 0	0 0	0 0	0 0
June	135 539 0	39 8	5 395 0	0 0	0 0	0 0	0 0	0 0	0 0
July	142 445 0	44 6	6 356 0	0 0	0 0	0 0	0 0	0 0	0 0
August	153 149 0	44 4	6 805 0	20 0	150 0	3 0	0 0	0 0	0 0
September	176 148 0	47 0	8 270 9	62 0	148 4	9 2	0 0	0 0	0 0
October	197 427 0	46 4	9 155 3	2 214 0	148 6	329 0	1 838 0	208 9	384 0
November	208 723 0	48 3	10 074 5	4 112 0	152 0	625 0	1 310 0	208 4	273 0
December	248 862 0	44 6	11 101 8	5 467 0	151 3	827 0	1 169 0	208 7	244 0
January (1997)	268 149 0	46 1	12 359 0	6 249 0	152 5	953 0	771 0	198 4	153 0
February	220 093 0	45 2	9 958 0	3 549 0	148 8	528 0	0 0	0 0	0 0
March	222 696 0	45 7	10 185 0	2 836 0	149 9	425 0	0 0	0 0	0 0
April	205 283 0	46 0	9 446 0	2 161 0	149 5	323 0	0 0	0 0	0 0
May	148 957 0	46 8	6 969 0	0 0	0 0	0 0	0 0	0 0	0 0
June	134 999 0	46 5	6 279 0	0 0	0 0	0 0	0 0	0 0	0 0
July	124 511 0	46 9	5 842 0	0 0	0 0	0 0	0 0	0 0	0 0
August	139 414 0	45 0	6 267 0	0 0	0 0	0 0	0 0	0 0	0 0
September	159 025 0	45 2	7 181 0	293 0	153 6	45 0	0 0	0 0	0 0
October	197 024 0	45 1	8 884 0	4 423 0	154 6	684 0	800 0	203 8	163 0
November	210 666 0	45 2	9 528 0	5 893 0	156 3	921 0	176 0	295 5	52 0
December	223 820 0	49 4	11 052 0	4 838 0	155 8	754 0	133 0	308 3	41 0
January (1998)	223 820 0	49 4	11 052 0	4 342 0	131 7	572 0	0 0	0 0	0 0
February	207 598 0	52 0	10 788 0	3 739 0	136 1	509 0	0 0	0 0	0 0
March	219 357 0	56 3	12 359 0	3 937 0	127 0	500 0	0 0	0 0	0 0

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Tables 3.6  
 Consolidated Khmelntsk Oblenergo  
 Ukraine Energy Project  
 Main Production Costs

Month	Depreciation	Maintenance	Material	Fuel	Material	Spares	Lubricants	Agricultural Products	Hourly	Low-voltage	Depreciation (LV items)	Transport	Gross Expenses	Service Operations	Non-Investment Operations	Deferred Expenses
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January (1995)	130	20	9	52	0	25	0	0	0	0	0	0	0	0	0	0
February	30	76	6	7	0	27	0	0	0	0	0	0	0	0	0	0
March	35	2	1	7	0	5	0	0	0	0	12	0	0	0	0	0
April	170	2	3	1	0	34	0	0	0	0	9	0	0	0	0	0
May	152	4	6	0	0	6	0	0	0	0	0	0	0	0	0	0
June	52	59	7	74	0	4	0	0	0	0	3	0	0	0	0	0
July	37	3	3	74	0	3	0	0	0	0	11	0	0	0	0	0
August	338	1	8	9	0	5	0	0	0	1	11	0	0	0	0	0
September	336	28	5	77	0	27	0	0	0	0	3	0	0	0	0	0
October	370	25	15	7	0	15	0	0	0	1	19	0	0	0	0	0
November	200	31	8	77	0	0	0	0	0	0	2	0	0	0	0	0
December	355	3	4	94	0	24	0	0	0	0	0	0	0	0	0	0
January (1997)	399	34	10	0	0	0	0	0	0	0	32	0	0	0	0	0
February	323	3	0	57	0	5	0	0	0	0	21	0	0	0	0	0
March	340	9	2	55	0	30	0	0	0	1	31	0	0	0	0	0
April	33	7	13	78	0	22	0	0	0	2	17	0	0	0	0	0
May	38	22	11	63	0	33	0	0	0	0	20	0	0	0	0	0
June	376	23	5	70	0	21	0	0	0	1	28	0	0	0	0	0
July	372	22	8	65	0	25	0	0	0	2	7	0	0	0	0	0
August	390	8	18	5	0	15	0	0	0	0	3	0	0	0	0	0
September	353	8	19	78	0	9	0	0	0	0	15	0	0	0	0	0
October	605	36	18	75	0	32	0	0	0	2	26	0	0	0	0	0
November	598	34	17	99	0	27	0	0	0	1	20	0	0	0	0	0
December	594	70	69	82	0	32	0	0	0	2	34	0	0	0	0	0
January (1998)	605	38	2	39	0	33	0	1	0	0	1	22	0	0	0	0
February	330	91	27	3	0	23	0	0	0	1	2	0	0	0	0	0
March	583	39	20	57	0	2	0	0	0	1	29	0	0	0	0	0
Investment	Non-Operation	Expenses	Cash	Settlement	Other	Supplies	Non-benefit	Budget	Insurance	Salary	Cash	Debt	Interest	Interest	Debt	Other
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
January (1995)	0	0	0	0	0	137	35	42	108	25	3	4	61	3	0	0
February	0	0	3	0	0	121	39	3	119	327	17	36	70	4	0	0
March	0	0	4	0	0	4	200	99	303	15	36	90	4	0	0	0
April	0	0	3	0	0	117	115	90	564	6	22	5	0	0	0	0
May	0	0	3	0	0	71	82	175	73	4	40	0	50	0	0	0
June	0	0	3	0	0	33	23	273	37	12	39	57	3	0	0	0
July	0	0	2	0	0	55	157	98	77	1	29	70	2	0	0	0
August	0	0	2	0	0	39	212	95	194	0	55	1	3	0	0	0
September	0	0	2	0	0	85	85	111	259	13	3	18	2	0	0	0
October	0	0	3	0	0	65	197	28	2	13	5	2	3	0	0	0
November	0	0	6	0	0	104	39	85	237	3	39	3	3	0	0	1
December	0	0	2	0	0	2	13	33	277	2	35	9	3	0	0	1
January (1997)	0	0	5	0	0	3	119	8	266	227	10	35	20	3	0	0
February	0	0	8	0	0	64	1	8	27	731	14	64	0	2	0	0
March	0	0	3	0	0	92	95	78	252	709	5	1	0	0	0	2
April	0	0	0	0	0	94	7	94	297	723	15	3	3	0	0	0
May	0	0	0	0	0	68	216	100	777	287	2	5	3	0	0	0
June	0	0	5	0	0	15	3	9	330	302	10	40	0	0	0	0
July	0	0	5	0	0	90	3	5	61	8	73	0	2	0	0	2
August	0	0	0	0	0	3	90	85	2	778	9	5	0	0	0	1
September	0	0	8	0	0	72	132	83	270	779	2	3	0	5	0	0
October	0	0	6	0	0	5	94	76	250	63	76	4	0	0	0	0
November	0	0	3	0	0	3	397	0	2	0	3	97	5	0	0	5
December	0	0	8	0	0	290	8	18	783	8	38	2	0	0	0	0
January (1998)	0	0	0	0	0	25	185	831	270	755	0	1	0	0	0	0
February	0	0	0	0	0	5	194	715	278	80	7	39	0	0	0	5
March	0	0	0	0	0	38	2	8.2	278	778	5	52	0	0	0	5

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**Table 3 7**  
**Consolidated Khmelnytsk Oblenergo**  
**Financial Ratios**

	4/1/96	7/1/96	10/1/96	1/1/97	4/1/97	7/1/97	10/1/97	1/1/98	1/4/98
<b>Short Term Liquidity</b>									
Current Ratio	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Collection Rate	66%	114%	157%	102%	99%	153%	112%	128%	103%
% Accounts Receivable Over 60 Day	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Accounts Payable Over 60 Day	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Capital Structure and Long Term Solvency</b>									
Debt to Equity	0.9	0.2	0.2	0.3	0.3	0.3	0.1	0.2	0.3
Debt to Total Assets	48%	20%	18%	21%	25%	22%	20%	20%	24%
Times Interest Earned (Cash)									
<b>Operating Performance Ratios</b>									
Average Ratio of Sales Tariff to Purchase Price (Electricity)	2.06	1.44	1.34	1.33	1.33	1.18	1.17	1.36	1.13
Operating Profit to Sales	17.9%	5.2%	1.3%	0.1%	13.3%	16.2%	17.3%	0.3%	12.7%
Net Unrealized Accounts to Sales	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net Income to Sales	16.3%	8.0%	-4.4%	1.9%	14.7%	16.6%	15.1%	2.3%	20.8%
<b>Asset Utilization</b>									
Sales to Current Assets (Annualized)	5.7	2.7	3.2	4.2	3.4	2.8	3.9	4.7	3.8
Sales to Net Utility Plant (Annualized)	4.3	0.6	0.6	0.9	0.9	0.6	0.7	0.9	0.9
Sales to Total Assets (Annualized)	2.4	0.5	0.5	0.7	0.7	0.5	0.6	0.8	0.7
<b>Common Size Income Statement (% of Total Sales)</b>									
Purchase Energy to Sales	69.4%	84.4%	84.7%	81.0%	91.5%	93.4%	64.5%	77.9%	91.4%
Operating and Maintenance to Sales	2.2%	2.5%	2.5%	1.8%	1.9%	2.5%	1.8%	2.6%	1.6%
Fuel to Sales	5.3%	3.4%	0.0%	4.4%	7.6%	3.1%	0.0%	4.9%	5.0%
Wages and Social Cost to Sales	2.9%	11.2%	9.2%	6.9%	8.4%	11.0%	10.8%	7.9%	8.5%
Depreciation to Sales	1.6%	2.3%	4.1%	3.0%	3.2%	4.9%	4.6%	5.0%	5.0%
Operating Income to Sales	17.9%	5.2%	1.3%	0.1%	13.3%	16.2%	17.3%	0.3%	12.7%
Net Income to Sales	16.3%	8.0%	-4.4%	1.9%	14.7%	16.6%	15.1%	2.3%	20.8%
<b>Common Size Balance Sheet (% of Total Assets)</b>									
Accounts Receivable	28.0%	13.2%	11.2%	12.3%	14.5%	11.2%	8.2%	8.5%	11.4%
Current Assets	41.3%	17.6%	16.3%	17.5%	20.1%	17.3%	15.6%	16.4%	19.1%
Net Fixed Assets	55.4%	81.2%	82.4%	81.2%	78.6%	81.3%	82.9%	82.1%	79.5%
Current Liabilities	47.8%	19.9%	18.0%	20.6%	24.9%	22.3%	20.1%	19.9%	24.2%
Long Term Liabilities	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Equity	12.2%	80.1%	82.0%	79.4%	75.1%	77.7%	79.9%	80.1%	75.8%

Table 3 4 is other income and internal transactions. This income mainly comes from the small construction unit and additional fees generated through electricity and heat sales.

Table 3 5 shows the monthly purchases for electricity and fuel. The CHP plant utilizes both natural gas and mazut. The pattern of purchases is the same as sales. For electricity it is higher in the winter months. For fuel, large purchases in the winter and declining to zero during the summer months. On a cost basis, the plant uses mostly natural gas with mazut as a secondary source.

The next table, 3 6 outlines the main production costs associated with the company. The format of the table follows the format used within the generally accepted practices found both within the power sector and in normal accounting for Ukraine. Within the table are all the basic accounts used to record costs of production. However, discussion of costs will be made within the context of the restated income statement and is presented here for informational purposes for the reader needing more detail.

#### *Balance Sheet*

Table 3 8 is the restated balance sheet for the company. Between the first and third quarter of 1996, gross fixed assets increased almost seven times due to a revaluation of assets. From the beginning of 1996 to the first quarter of 1998, current assets increased from 24 5 million to 39 6 million UAH. Almost all the increase is due to various types of receivables. Cash balances are small relative to other assets. The main reason is low cash collection rates and the transit account that absorbs most of the cash payments from electricity. The little cash the company does receive goes to meeting wages.

Equity had a large rise between the second and third quarters of 1996. This was due to an increase in Reserve Funds which is the corresponding account to the increase in fixed assets under the fixed asset revaluation mentioned above. The Reserve Fund was reclassified as Additional Capital at the beginning of 1997. Long term debt was zero for all of the period. As for current liabilities, the total balance doubled during the restatement period. Almost the entire increase in short term liabilities came from payables. Accounts payable increased from 24 4 million to 46 3 million while wages payable increased from 9 million to 2 3 million. The main reason behind these increases is the low cash collection rate.

#### *Statement of Changes in Financial Position*

Table 3 11 examines the cash flow from all financial activities during the year. Net income for most quarters was around zero. Although some improvement in electricity occurred, the improvements were offset by a decline in the financial performance of heat.

**Table 3.8**  
**Consolidated Khmelnytsky Oblenergo**  
**Ukraine Energy Project**  
**Balance Sheet as of**  
**(12/31/99)**

ASSETS	1/1/98	4/1/98	7/1/98	10/1/98	1/1/99	4/1/99	7/1/99	10/1/99	1/1/00	1/4/00
<i>Long Term Assets</i>										
Fixed Assets	48 558	48 875	318 713	317 219	321 160	321 218	322 731	322 810	323 283	328 875
Less Accumulated Depreciation	11 845	12 014	189 708	182 832	183 769	184 784	185 942	187 177	188 772	170 537
Net Fixed Assets	34 811	34 881	152 007	154 387	157 391	156 434	158 789	155 633	154 481	158 338
Assets Under Construction	2 557	3 948	5 149	5 080	3 892	5 084	5 588	6 154	6 308	6 887
Net Utility Plant	37 468	38 909	157 155	159 467	161 373	161 488	162 357	161 787	160 799	165 025
<i>Other Property and Investments</i>										
Non-Utility Property and Intangible	2 216	2 601	2 675	2 803	2 902	3 269	3 387	3 428	3 481	3 568
Less Accumulated Depreciation	78	328	308	375	364	526	580	597	613	639
Net Non-Utility Property and Intangibles	2 140	2 275	2 368	2 428	2 538	2 743	2 807	2 831	2 868	2 929
Long Term Financial Investments	0	0	0	0	0	2	2	0	2	2
Other Non-Current Assets	0	0	0	0	0	0	0	0	0	0
Total Other Property and Investments	2 140	2 275	2 368	2 428	2 538	2 745	2 808	2 831	2 870	2 931
<i>Current Assets</i>										
Cash and Short Term Investments	682	422	498	314	310	308	289	283	460	224
Accounts Receivable	17 891	19 628	25 559	21 748	24 481	29 702	22 362	16 022	16 578	23 708
Less Bad Debt Allowance	0	0	0	0	0	0	0	0	0	0
Net Receivable	17 891	19 628	25 559	21 748	24 481	29 702	22 362	16 022	16 578	23 708
Inventory	4 131	5 836	6 581	6 143	3 945	8 658	9 734	11 324	12 888	12 883
Government Employee and Other Receivables	2 081	1 787	1 151	1 311	2 377	2 574	2 109	2 808	2 132	2 807
Other Current Assets	18	1 202	205	15	3 647	9	9	11	9	8
Total Current Assets	24 581	28 955	34 004	31 531	34 740	41 250	34 483	30 459	32 145	38 608
<b>TOTAL ASSETS</b>	<b>64 169</b>	<b>70 039</b>	<b>193 525</b>	<b>193 426</b>	<b>198 851</b>	<b>205 491</b>	<b>199 649</b>	<b>195 077</b>	<b>195 814</b>	<b>207 564</b>
<b>CAPITALIZATION AND LIABILITIES</b>										
<i>Stockholder's Equity</i>										
Shareholders' Capital (Net)	34 501	34 501	34 501	34 501	33 838	33 838	33 838	33 838	33 838	33 838
Additional Capital	0	0	0	0	120 106	120 582	120 474	120 491	120 498	124 003
Reserve Funds	3 728	4 191	122 726	128 308	7 907	8 086	8 008	8 008	8 912	8 911
Retained Earnings	(2 152)	4 598	2 749	1 645	836	(4 281)	(8 315)	(3 812)	(4 740)	(12 514)
Unaudited Differences	(346)	(6 752)	(4 905)	(3 789)	(4 938)	(3 888)	224	(3 541)	(1 523)	3 132
Total Equity	35 731	36 540	155 071	158 885	157 649	154 307	155 029	155 784	156 783	157 250
Long Term Debt	0	0	0	0	0	0	0	0	0	0
Other Long Term Liability	0	0	0	0	0	0	0	0	0	0
Total Capitalization	35 731	36 540	155 071	158 885	157 649	154 307	155 029	155 784	156 783	157 250
<i>Current Liabilities</i>										
Short Term Debt	2 000	750	0	140	30	415	107	0	0	0
Accounts Payable	24 378	30 956	34 945	28 856	34 508	43 748	38 891	34 168	35 089	48 314
Less Bad Debt Allowance	0	0	0	0	0	0	0	0	0	0
Net Payables	24 378	30 956	34 945	28 856	34 508	43 748	38 891	34 168	35 089	48 314
Wages and Social Insurance Payable	971	378	1 270	2 507	3 260	3 612	3 762	3 129	2 504	2 289
Taxes and Non-Budget Payable	700	688	1 008	1 184	1 650	2 015	1 487	1 748	866	1 432
Government Employee and Other Payable	452	672	787	822	823	1 388	288	14	328	4
Advances from Customers	0	0	0	0	0	0	0	0	0	0
Other Current Liabilities	38	53	444	232	821	6	5	236	264	268
Total Current Liabilities	28 438	33 499	38 454	34 741	41 002	51 184	44 820	38 283	38 031	50 314
<b>TOTAL CAPITALIZATION AND LIABILITIES</b>	<b>64 169</b>	<b>70 039</b>	<b>193 525</b>	<b>193 426</b>	<b>198 851</b>	<b>205 491</b>	<b>199 649</b>	<b>195 077</b>	<b>195 814</b>	<b>207 564</b>

Unrealized difference represents the unrecognition of the difference between the Ukrainian accounting system into International Accounting Standards

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**Table 3 9**  
**Consolidated Khmelntsk Oblenergo**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Receivable**  
*(000 HRs)*

Month	1 Total Revenues (000 UAH)	2 Realization Received (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write-Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write-Offs (000 UAH)
January (1996)	15 564	8 265	7 299						
February	14 353	12 097	9 555	0				7 299	7 299
March	11 550	7 006	11 550	2 548	0			9 555	9 555
April	8 481	8 349	8 481	5 749	0			14 098	14 098
May	7 355	8 466	7 355	5 764	0	0		14 230	14 230
June	7 360	9 624	7 360	3 495	0	0	0	13 119	13 119
July	7 900	11 831	6 924	0	0	0	0	10 855	10 855
August	8 671	17 023	(1 427)	0	0	0	0	6 924	6 924
September	8 750	10 903	(3 581)	0	0	0	0	(1 427)	(1 427)
October	11 289	13 312	(5 604)	0	0	0	0	(3 581)	(3 581)
November	11 608	11 866	(5 862)	0	0	0	0	(5 604)	(5 604)
December	13 671	12 284	(4 475)	0	0	0	0	(5 862)	(5 862)
January (1997)	12 622	10 975	(2 827)	0	0	0	0	(4 475)	(4 475)
February	11 428	12 159	(3 558)	0	0	0	0	(2 827)	(2 827)
March	11 464	11 982	(4 077)	0	0	0	0	(3 558)	(3 558)
April	9 142	13 584	(8 519)	0	0	0	0	(4 077)	(4 077)
May	7 986	12 264	(12 797)	0	0	0	0	(8 519)	(8 519)
June	7 174	11 277	(16 900)	0	0	0	0	(12 797)	(12 797)
July	9 454	10 669	(18 115)	0	0	0	0	(16 900)	(16 900)
August	9 497	12 353	(20 971)	0	0	0	0	(18 115)	(18 115)
September	10 966	10 473	(20 478)	0	0	0	0	(20 971)	(20 971)
October	11 800	13 596	(22 273)	0	0	0	0	(20 478)	(20 478)
November	12 952	14 367	(23 689)	0	0	0	0	(22 273)	(22 273)
December	13 103	20 355	(30 940)	0	0	0	0	(23 689)	(23 689)
January (1998)	12 505	13 122	(31 557)	0	0	0	0	(30 940)	(30 940)
February	13 008	12 440	(30 989)	0	0	0	0	(31 557)	(31 557)
March	11 905	12 991	(32 076)	0	0	0	0	(30 989)	(30 989)
								(32 076)	(32 076)

Sources (By Column)

- 1 Actual figures provided by company
- 2 Defined as total cash received plus NDC payments plus (minus) cash received minus (plus) NDC payments 75%. This reflection discounts cash transfers that are equivalent value that can be used to pay creditors
- 3 Column 1 Column 2
- 4-6 Assumed that money paid goes first to the oldest unpaid balance
- 7 All 90 days the debt is written off and treated as income to the firm
- 8 Sum of columns 3, 4, 5, and 6
- 9 Cumulative credits receivable without write-offs

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**Table 3 10**  
**Consolidated Khmelnytsk Oblenergo**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Payable**  
*(000 HRs)*

Month	1 Total Expenses (000 UAH)	2 Realization Paid (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write-Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write-Offs (000 UAH)
January (1996)	12 155	5 975	6 180					6 180	6 180
February	10 598	7 148	9 630	0				9 630	9 630
March	9 752	9 798	9 584	0	0			9 584	9 584
April	9 919	5 312	9 919	4 271	0	0		14 190	14 190
May	7 208	7 018	7 208	7 173	0	0	0	14 381	14 381
June	7 131	7 996	7 131	6 385	0	0	0	13 516	13 516
July	7 907	10 010	7 907	3 506	0	0	0	11 413	11 413
August	8 543	14 940	5 016	0	0	0	0	5 016	5 016
September	9 968	9 739	5 245	0	0	0	0	5 245	5 245
October	11 021	11 999	4 267	0	0	0	0	4 267	4 267
November	11 570	10 401	5 436	0	0	0	0	5 436	5 436
December	13 064	10 073	8 427	0	0	0	0	8 427	8 427
January (1997)	14 263	8 769	13 920	0	0	0	0	13 920	13 920
February	11 969	10 120	11 969	3 801	0	0	0	15 770	15 770
March	11 814	10 397	11 814	5 373	0	0	0	17 187	17 187
April	11 230	12 142	11 230	5 046	0	0	0	16 276	16 276
May	8 610	10 686	8 610	5 590	0	0	0	14 199	14 199
June	7 730	8 912	7 730	5 287	0	0	0	13 017	13 017
July	7 841	7 674	7 841	5 343	0	0	0	13 184	13 184
August	8 210	9 814	8 210	3 371	0	0	0	11 581	11 581
September	9 335	8 769	9 335	2 811	0	0	0	12 146	12 146
October	11 014	11 805	11 014	341	0	0	0	11 355	11 355
November	12 155	11 753	11 757	0	0	0	0	11 757	11 757
December	13 868	17 075	8 551	0	0	0	0	8 551	8 551
January (1998)	14 154	11 048	11 657	0	0	0	0	11 657	11 657
February	13 879	10 389	13 879	1 268	0	0	0	15 147	15 147
March	15 452	11 046	15 452	4 101	0	0	0	19 553	19 553

*Sources (By Column)*

- 1 Actual figures provided by company
- 2 Actual figures provided by company
- 3 Column 1 Column 2
- 4 6 Assumed that money paid goes first to the oldest unpaid balance
- 7 After 90 days the debt is written off and treated as income to the firm
- 8 Sum of columns 3 4 5 and 6
- 9 Cumulative accounts receivable without write-offs

**Table 3 11**  
**Consolidated Khmelnytsk Oblenergo**  
**Ukraine Energy Project**  
**Statement of Cash Flows for the Period Ending**  
*Ukraine Energy Project*

	4/1/96	7/1/96	10/1/96	1/1/97	4/1/97	7/1/97	10/1/97	1/1/98	4/1/98
<b>Cash Flow from Operating Activities</b>									
Net Income	6 751	(1 851)	(1 103)	(709)	(5 227)	(4 023)	4 503	(928)	(7 774)
<b>Adjustments to Reconcile Net Income to Net Cash Flow</b>									
Change in Accounts Receivable	(1 937)	(5 931)	3 811	(2 713)	(5 241)	7 340	6 340	(554)	(7 130)
Change in Other Short Term Assets	(2 697)	956	(1 522)	(500)	(1 270)	(613)	(2 292)	(965)	(569)
Change in Accounts Payable	6 580	3 989	(5 089)	4 652	9 240	(4 757)	(4 823)	901	11 245
Change in Other Short Term Liabilities	(269)	1 716	1 236	1 719	557	(1 499)	(397)	(1 163)	36
Depreciation Expense	619	154 675	(3 808)	926	1 177	1 212	1 252	1 611	1 791
<b>Net Cash Provided by Operating Activities</b>	<b>2 296</b>	<b>155 407</b>	<b>(5 372)</b>	<b>4 084</b>	<b>4 463</b>	<b>1 683</b>	<b>80</b>	<b>(170)</b>	<b>5 375</b>
<b>Cash Flow from Investment Activities</b>									
Completed Plant In Service	(319)	(271 838)	1 494	(3 941)	(56)	(1 515)	(79)	(453)	(5 612)
Change in Construction Work In Progress	(1 391)	(1 200)	68	1 098	(1 082)	(504)	(586)	(154)	(379)
Change in Nonutility Property and Intangibles	(385)	(74)	(128)	(99)	(369)	(118)	(39)	(55)	(87)
<b>Net Cash Provided by Investment Activities</b>	<b>(2 095)</b>	<b>(273 112)</b>	<b>1 434</b>	<b>(2 942)</b>	<b>(1 507)</b>	<b>(2 137)</b>	<b>(704)</b>	<b>(662)</b>	<b>(6 078)</b>
<b>Cash Flow from Financing Activities</b>									
Short Term Loans	1 250	750	(140)	110	(385)	308	107	0	0
Long Term Loans	0	0	0	0	0	0	0	0	0
Equity	463	118 535	3 612	812	635	834	17	(91)	3 586
<b>Net Cash Provided by Financing Activities</b>	<b>1 713</b>	<b>119 285</b>	<b>3 472</b>	<b>922</b>	<b>250</b>	<b>1 142</b>	<b>124</b>	<b>(91)</b>	<b>3 586</b>
<b>Unrealized Cash Differences <sup>1</sup></b>	<b>(6 406)</b>	<b>1 847</b>	<b>1 105</b>	<b>(1 139)</b>	<b>1 250</b>	<b>3 911</b>	<b>(3 765)</b>	<b>2 018</b>	<b>4 655</b>
<b>Net Change in Cash</b>	<b>2 260</b>	<b>1 576</b>	<b>(464)</b>	<b>216</b>	<b>(771)</b>	<b>576</b>	<b>238</b>	<b>167</b>	<b>(236)</b>

Note 1 This account measures the unrealized operating losses that exist within the financial statements differences in accounting systems and potential errors in bookkeeping due to lack of auditing

## 4. CONSOLIDATED ELECTRIC DISTRIBUTION

The Khmelnytsk Oblenergo consists of the two electricity PEMs North and South. The Northern PEM services the northern part of Khmelnytskyi Oblast. It consists of 11 district distribution networks (REM's) Bilohirsky, Volochysk, Izyaslav, Krasyliv, Letvchiv, Polonsky, Slavuta, Starokostyantyniv, Stara Syniava, Teophipol, and Shepetivka. Along with the REM's, its organization also includes a small scale electric equipment repairs shop in Medzhybizh. Its customer base is comprised of 221,234 customers. Within this group includes 218,674 urban and rural residential customers, 403 industrial entities (of which 46 are large industrial consumers (>750 MWH)), 1,616 non-industrial consumers and 495 agricultural entities. The largest industrial consumers include the Khmelnytsky NPP's Construction Company, Krasyliv Machine Building Plant, and the Shepetivka Meat Processing Factory. The PEM employs 1,086 persons.

The Southern PEM services the southern part of Khmelnytskyi Oblast and the City of Khmelnytskyi itself. It consists of 11 REM's Vinkivci, Gorodok, Derazhnya, Dunayivci, Kamianets Podilsky, Kamianets Podilsky City, Khmelnytsky, Khmelnytsky City, Nova Ushcha, Chemerovetsky, and Yarmolinetsky. Along with these local networks a construction and repairs division in Stara Syniava is included. At present, Oblenergo management is for transforming this division into a separate entity. Its customer base is comprised of 326,631 customers. Included in this total are 308,970 urban and rural residential customers, 2,975 industrial entities (of which 484 are large industrial consumers (>750 MWH)), 9,769 non-industrial consumers, and 4,432 agricultural entities. The largest industrial consumers include the major electronic equipment plants in Khmelnytskyi City (UkrElectroApparat, Novator, and Cation) as well as a cement factory in Kamianets Podilsky. The PEM employs 1,811 persons with 113 of these people working in the Stara Syniava Construction and Repairs Division.

Table 4.1 is the consolidated income statement for the electricity distribution divisions of Khmelnytsk. Supporting tables include 4.2 (Sales of Electricity), 4.3 (Other Income and Expenses), 4.4 (Electricity / Fuel Purchased), 4.5 (Main Production Costs), 4.7 (Aging of Accounts Receivable) and 4.8 (Aging of Accounts Payable).

Table 4.1 is the 1996-1998 quarterly restated income statement. Beginning with sales, two types of trends exist. The first is seasonal and the second is economic. The seasonal trend shows a peak in consumption in the first quarter of each year with a decline in usage in both the second and third quarters (due to warmer weather). In the fourth quarter, a sharp rise in revenues occurred due to colder weather and increase usage to heat homes, businesses, factories, and government buildings.

The second trend is economic. Beginning with the first quarter of both 1996 and 1997, a quarter by quarter comparison shows that first quarter electricity sales for 1997 is lower than 1996 by 15.6%. The following year same period sales increased by 9.8%.

**Table 4 1**  
**Khmelnitck Oblenergo**  
**Ukraine Energy Project**  
**Income Statement for the Period Ending**  
*(000 UAH)*

	1/4/96	1/7/96	1/10/96	1/1/97	1/4/97	1/7/97	1/10/97	1/1/98	1/4/98
<b>OPERATING INCOME</b>									
<b>Sales</b>									
Electricity	38 504	22 446	25 562	33 131	32 495	23 899	29 807	34 916	35 749
Heat	0	0	0	0	0	0	0	0	0
Internal Transfers	0	0	0	0	0	0	0	0	0
Other Revenues	0	0	0	0	0	0	0	0	0
<b>Total Sales</b>	38 504	22 446	25 562	33 131	32 495	23 899	29 807	34 916	35 749
<b>Operational Expenses</b>									
Purchased Electricity	(28 792)	(19 577)	(21 432)	(30 332)	(32 502)	(22 694)	(19 290)	(29 464)	(34 199)
Operating Expenses	(981)	(716)	(670)	(740)	(765)	(726)	(644)	(1 226)	(742)
Fuel and Raw Materials	0	0	0	0	0	0	0	0	0
Wages & Social Costs	(1 148)	(2 493)	(2 223)	(2 398)	(2 808)	(2 553)	(3 121)	(2 870)	(3 017)
<i>Total Operating Expenses</i>	(30 921)	(22 786)	(24 325)	(33 470)	(36 075)	(25 973)	(23 055)	(33 561)	(37 958)
Maintenance	(117)	(171)	(119)	(144)	(106)	(139)	(114)	(237)	(235)
Depreciation	(639)	(513)	(1 018)	(1 062)	(1 117)	(1 162)	(1 328)	(1 815)	(1 801)
<i>Total Operational Expenses</i>	(756)	(684)	(1 137)	(1 206)	(1 223)	(1 301)	(1 442)	(2 052)	(2 036)
<b>Operating Income</b>	6 826	(1 024)	100	(1 545)	(4 803)	(3 376)	5 310	(697)	(4 245)
<b>NON-OPERATING INCOME</b>									
Net Non Utility Operating Income	0	0	0	0	0	0	0	0	0
<b>Total Operating Income Before Taxes and Financial Costs</b>	6 826	(1 024)	100	(1 545)	(4 803)	(3 376)	5 310	(697)	(4 245)
<b>Taxes and Financial Costs</b>									
Interest on Long Term Debt	0	0	0	0	0	0	0	0	0
Unrealized Accounts Receivable	0	0	0	0	0	0	0	0	0
Unrealized Accounts Payable <sup>2</sup>	0	0	0	0	0	0	0	0	0
Taxes & Payments	(668)	(622)	(764)	(738)	(374)	(81)	(642)	(846)	(2 922)
<i>Total Taxes and Financial Costs</i>	(668)	(622)	(764)	(738)	(374)	(81)	(642)	(846)	(2 922)
<b>NET INCOME</b>	6 158	(1 646)	(665)	(2 283)	(5 177)	(3 456)	4 669	(1 542)	(7 168)

<sup>1</sup> It is assumed that accounts receivable 90 days or older are written off as bad debt expense

<sup>2</sup> It is assumed that accounts payable 90 days or older are written off and treated as income

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Although some of the pattern may be associated with the general economic condition of the area, the majority of the pattern is explained by a constraint in power supply from the wholesale market. Since the quarter being analyzed is the winter period, demand is at its peak. Generation during this period could not meet demand because of fuel constraints. This shortage in generation was passed on through the wholesale market to distribution throughout the country and was especially acute in 1996. The conditions in 1997 were improved (as demonstrated by the increase in sales), but still constrained the company's ability to meet demand.

The next section in the income statement deals with operational expenses. Also of usefulness is Table 4.6 Financial Ratios. In particular, the section referring to the common size income statement will yield important insights to the analysis. The largest cost for distribution is purchased energy. For 1996 and 1997 the ratio of energy costs to sales<sup>2</sup> are 84.3% and 86.0% respectively for each of the two years. Two variables determine this ratio, overall losses within the distribution system and the purchase and selling tariffs. Increased losses would cause the ratio to deteriorate (higher). A larger difference between the selling and purchasing tariff of electricity would cause it to improve (lower). From 1996 to 1997 electricity system's losses decreased from 21% to 15%. Both the absolute level and direction of the losses are positive factors.

Although the absolute levels of the ratio of energy costs to sales remain constant, the trend during the period (1996-1997) was not. From the beginning to the end of 1996, the ratio increased from 74.8% to 91.6%. As for 1997, the level began once again at the high level it ended 1996 with, 100.0% and then declined back to 84.4%. This unusual pattern does not match the normal seasonal pattern of high ratios during the winter months with a decline as warmer weather develops and can be best explained by cross subsidization within the tariff structure rather than any underlying economic trends.

Wages are the second largest cost. Labor costs increased from 7.5% of sales to 9.5% between 1996 and 1997 because of changes in accounting procedures. Prior to this period, bonuses were accounted for after calculation of profit. During 1996 the law changed so that they could be included as a wage expense.

After wages, the next largest cost is operating expenses. This category includes materials, spare parts, fuel (other than for generation), small investment and servicing costs. Combined with maintenance (which is very small), expenditures are very erratic throughout the year. However, in both years the total average 2.3% of sales per year. At this low level,

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This is a very important ratio that is the best indicator of eventual profitability. It simply measures how much money is left over to pay all other costs. Normally, an electric distribution company would require a ratio of .80 or lower to meet its expenses other than electricity. A ratio of .80 translates into 20% of sales to meet all other operating expenses and investment.

the equipment is not being sufficiently maintained to operate in an efficient manner. Depreciation remains a very small but increasing component. First its low level is due to current tax law that allows for only very small annual deductions as an expense. The reason for the increasing trend is new equipment is being purchased at a much higher cost than during Soviet times. Therefore the higher cost results in higher depreciation expense.

Table 4.2, Electricity Sales, outlines the monthly electricity sold (in MWH) average tariff (UAH per MWH) and revenues (000 UAH) by consumer group for the period 1996-1998 (1<sup>st</sup> quarter). Total electricity sold for 1996 was 1,939,631 MWH with an average tariff of 61.2 UAH per MWH. Total revenues for the same period were 119 million UAH. As for 1997, 1,875,839 MWH were sold at an average price of 65.3 UAH per MWH. This generated total revenues of 121.1 million UAH. The year to year decrease in MWH was 3.3% and the increase in revenues was 1.7%. The difference between production and revenue increases was caused by the increase in the average tariff.

A more important comparison is period by period. Since information is available for three years on the 1<sup>st</sup> quarter, this will be the period examined. Total electricity sold (in MWH) for the 1<sup>st</sup> quarter (1996-1998) was 588,217, 535,255 and 510,596 per month respectively. The trend in sales during this period follows the trend of the four largest consumers, industrial, agriculture, residential city and residential. From 1996 to 1998 total electricity that passed through the system fell by a total of 13%. Although the four main consumers ranged in decreased consumption from 13-40%, the total decrease was not as large because of a nearly 12 times increase in transmission through the system to other areas.

Table 4.3 shows the monthly purchases for electricity from the main grid. Since this represents the most significant cost, it is shown in greater detail by the inclusion of this table. As with sales, period by period analysis will be used with the period being 1<sup>st</sup> quarter. Total purchases in MWH for each quarter are as follows, 917,820 (1996), 710,938 (1997) and 650,775 (1998). Calculated losses attributable to distribution average over 18%. This level



is extremely high when compared to the 6.2% loss rate within the U S Rural Electric System<sup>3</sup>

The next table, 4.4, outlines the main production costs associated with the company. The format of the table follows the format used within the generally accepted practices found both within the power sector and in normal accounting for Ukraine. Within the table are all the basic accounts used to record costs of production. However, discussion of costs have been made within the context of the restated income statement.

The final two tables, 4.6 and 4.7, are an aggregate aging of accounts receivable and payable. The realization received was reported by the company in the form of cash and non-cash basis. From about July 1996 the amount taken into the company exceeds sales on a monthly basis. In some cases by a large amount. Two reasons exist for this imbalance. The first is the collection of overdue accounts. The second reason is overvaluation of the value of goods either in barter or offset transactions. The answer to this question would be extremely difficult to determine without a detailed analysis of the transactions of the past two years. This analysis is beyond the scope of the project.

**Table 4 3**  
**Electricity and Fuel Purchases**  
**Khmelnitsk Oblenergo**  
**Ukraine Energy Project**  
*(000 HRs)*

Month	Electricity Purchased			Fuel Purchased			Fuel Purchased		
	MWH Purchased	HRN Per MWH	Cost of Electricity	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel
January (1996)	288 378	37 86	10 918	0	0	0	0	0	0
February	362 011	26 56	9 616	0	0	0	0	0	0
March	267 431	30 88	8 258	0	0	0	0	0	0
April	210 781	39 30	8 284	0	0	0	0	0	0
May	151 644	38 89	5 898	0	0	0	0	0	0
June	135 539	39 80	5 395	0	0	0	0	0	0
July	142 445	44 62	6 356	0	0	0	0	0	0
August	153 149	44 43	6 805	0	0	0	0	0	0
September	176 148	46 95	8 271	0	0	0	0	0	0
October	197 427	46 37	9 155	0	0	0	0	0	0
November	208 723	48 27	10 075	0	0	0	0	0	0
December	248 862	44 61	11 102	0	0	0	0	0	0
January (1997)	268 149	46 09	12 359	0	0	0	0	0	0
February	220 093	45 24	9 958	0	0	0	0	0	0
March	222 696	45 73	10 185	0	0	0	0	0	0
April	205 283	46 01	9 446	0	0	0	0	0	0
May	148 957	46 79	6 969	0	0	0	0	0	0
June	134 999	46 51	6 279	0	0	0	0	0	0
July	124 511	46 92	5 842	0	0	0	0	0	0
August	139 414	44 95	6 267	0	0	0	0	0	0
September	159 025	45 16	7 181	0	0	0	0	0	0
October	197 024	45 09	8 884	0	0	0	0	0	0
November	210 666	45 23	9 528	0	0	0	0	0	0
December	223 820	49 38	11 052	0	0	0	0	0	0
January (1998)	223 820	49 38	11 052	0	0	0	0	0	0
February	207 598	51 97	10 788	0	0	0	0	0	0
March	219 357	56 34	12 359	0	0	0	0	0	0

Tables 4.4  
 Khmelnytsk Oblenergo  
 Ukraine Energy Project  
 Main Production Costs

Month	D p e c i a l i 2	M a i t 3	M a i l i 6	F i l 6	C l u c i l M a i l i 7	S p P a r t 6	L i t o c k 9	A g i h P o d u c t 10	O t h e r 11	L w i I t e m 12	D p e c i t i I L V I t e m 13	T p o r t C l i 16	G E p e 18	S r v i c g O p a t i o n 20	N o n - I n v e n t O p e r t i 20	D f e d E p e 31
J n e r y (1996)	126	201	7	62	0	25	0	0	0	0	11	0	0	0	0	0
F b r u a r y	126	176	3	71	0	27	0	0	0	1	17	0	0	0	0	0
M a r c h	348	24	8	71	0	15	0	0	0	1	12	0	0	0	0	0
A p r i l	160	24	3	71	0	34	0	0	0	0	9	0	0	0	0	0
M a y	140	41	3	74	0	8	0	0	0	0	8	0	0	0	0	0
J u n e	148	59	5	76	0	6	0	0	0	0	34	0	0	0	0	0
J u l y	330	43	1	74	0	3	0	0	0	0	6	0	0	0	0	0
A u g u s t	320	14	8	79	0	5	0	0	0	1	10	0	0	0	0	0
S e p t e m b e r	329	28	4	77	0	27	0	0	0	1	12	0	0	0	0	0
O c t o b e r	367	25	12	71	0	16	0	0	0	0	19	0	0	0	0	0
N o v e m b e r	282	31	8	77	0	14	0	0	0	1	21	0	0	0	0	0
D e c e m b e r	355	33	13	64	0	24	0	0	0	3	16	0	0	0	0	0
J n e r y (1997)	354	22	4	44	0	10	0	0	0	1	32	0	0	0	0	0
F b r u a r y	361	14	7	87	0	15	0	0	0	1	21	0	0	0	0	0
M a r c h	316	16	1	55	0	30	0	0	0	1	31	0	0	0	0	0
A p r i l	361	16	7	78	0	22	0	0	0	2	17	0	0	0	0	0
M a y	372	14	6	63	0	53	0	0	0	0	20	0	0	0	0	0
J u n e	364	14	10	70	0	21	0	0	0	1	28	0	0	0	0	0
J u l y	305	13	13	65	0	25	0	0	0	2	17	0	0	0	0	0
A u g u s t	363	7	13	54	0	15	0	0	0	1	31	0	0	0	0	0
S e p t e m b e r	534	36	16	78	0	19	0	0	0	1	16	0	0	0	0	0
O c t o b e r	565	45	25	75	0	32	0	0	0	2	26	0	0	0	0	0
N o v e m b e r	578	44	13	68	0	27	0	0	0	1	20	0	0	0	0	0
D e c e m b e r	574	56	58	63	0	32	0	0	0	2	34	0	0	0	0	0
J n e r y (1998)	595	36	13	59	0	33	0	1	0	1	21	0	0	0	0	0
F b r u a r y	579	61	22	54	0	23	0	0	0	1	20	0	0	0	0	0
M a r c h	566	39	17	57	0	12	0	0	0	1	26	0	0	0	0	0

	I n t e m t 33	N o n - I n v e n t E p e n s a 43	C o s t 60	S e t t l e m e n t A c c o u n t 61	O t h e r A c c o u n t 66	S e p a r a t e S p e c i a l 69	N o n - I n v e n t P a y m e n t 88	I n v e n t P a y m e n t 68	I n v e n t P a y m e n t 88	B a l a n c e B e g i n n i n g 70	C h a n g e A d d i t i o n 71	D e b t C o n t r a c t 76	I t e m S e t t l e m e n t 78	I n v e n t S e t t l e m e n t 79	D e b t F o r e i g n 88	O t h e r
J n e r y (1996)	0	0	4	125	134	36	93	242	13	43	61	2	0	0	0	0
F b r u a r y	0	0	3	117	155	48	106	312	17	36	70	4	0	0	0	0
M a r c h	0	0	4	111	199	95	107	288	16	36	90	4	0	0	0	0
A p r i l	0	0	5	99	115	66	244	661	16	22	8	4	0	0	0	0
M a y	0	0	3	61	114	78	166	449	14	40	0	50	0	0	0	0
J u n e	0	0	3	136	53	94	265	706	12	38	57	3	0	0	0	0
J u l y	0	0	2	45	157	94	183	454	14	29	70	2	0	0	0	0
A u g u s t	0	0	2	54	232	91	188	506	10	54	104	3	0	0	0	0
S e p t e m b e r	0	0	2	66	85	106	245	662	12	42	88	2	0	0	0	0
O c t o b e r	0	0	3	105	166	122	205	807	13	44	21	3	0	0	0	1
N o v e m b e r	0	0	4	94	136	80	244	365	13	37	3	3	0	0	0	1
D e c e m b e r	0	0	6	101	133	99	264	714	12	33	46	3	0	0	0	1
J n e r y (1997)	0	0	5	139	114	69	249	695	10	55	20	3	0	0	0	17
F b r u a r y	0	0	6	152	122	67	257	696	14	64	0	2	0	0	0	1
M a r c h	0	0	3	85	87	84	247	673	15	41	4	6	0	0	0	2
A p r i l	0	0	4	93	4	89	253	886	15	37	15	3	0	0	0	4
M a y	0	0	4	79	199	96	278	743	12	57	-4	3	0	0	0	0
J u n e	0	0	5	126	12	66	320	713	10	40	0	3	0	0	0	1
J u l y	0	0	5	57	107	61	291	786	11	73	0	2	0	0	0	2
A u g u s t	0	0	6	56	151	85	271	756	9	45	0	1	0	0	0	1
S e p t e m b e r	0	0	6	66	129	80	268	750	12	37	10	5	0	0	0	1
O c t o b e r	0	0	6	90	115	82	239	673	14	44	10	3	0	0	0	5
N o v e m b e r	0	0	6	168	311	93	226	705	12	34	95	5	0	0	0	47
D e c e m b e r	0	0	8	135	165	81	269	757	1	56	219	4	0	0	0	85
J n e r y (1998)	0	0	6	111	106	82	255	726	11	43	0	1	0	0	0	61
F b r u a r y	0	0	5	114	194	747	739	739	7	36	0	5	0	0	0	6
M a r c h	0	0	7	116	172	80	288	75	6	46	0	4	0	0	0	61

Source: UNDP, 1998

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Table 4 5  
 Khmeiminsk Oblenrgo  
 Financial Ratios

14/96	1/10/96	1/1/97	1/4/97	1/7/97	1/10/97	1/1/98	14/98
<b>Short Term Liquidity</b>							
67%	117%	154%	107%	105%	150%	110%	103%
0%	0%	0%	0%	0%	0%	0%	0%
0%	6%	0%	0%	0%	11%	4%	7%
<b>Capital Structure and Long Term Solvency</b>							
Debt Equity							
Debt to Equity							
Total Equity							
<b>Operating Performance Ratios</b>							
Assets to Equity							
06	144	134	133	131	138	157	133
177%	46%	0%	47%	148%	141%	178%	119%
00%	00%	00%	00%	00%	00%	00%	00%
160%	73%	26%	69%	159%	145%	157%	44%
<b>Asset Utilization</b>							
SIC (Annualized)							
SIC (Annualized)							
SIC (Annualized)							
<b>Common Size Income Statement (% of Total Sales)</b>							
748%	872%	83%	916%	1000%	950%	647%	844%
22%	24%	22%	18%	20%	25%	18%	28%
00%	00%	00%	00%	00%	00%	00%	00%
30%	111%	87%	72%	86%	107%	105%	84%
17%	23%	40%	32%	34%	49%	49%	50%
177%	46%	0%	47%	148%	141%	178%	119%
160%	73%	26%	69%	159%	145%	157%	44%
<b>Common Size Balance Sheet (% of Total Assets)</b>							
A R M							
C L M							
N F D A I							
L E T L H I							
E q y							

**Table 4 6**  
**Khmelnitck Oblenergo**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Receivable**  
*(000 HRs)*

Month	1 Total Revenues (000 UAH)	2 Realization Received (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write Offs (000 UAH)
January (1996)	14 432	7 982	6 449					6 449	6 449
February	13 398	11 909	7 938	0				7 938	7 938
March	10 674	5 812	10 674	2 127	0			12 800	12 800
April	8 043	8 348	8 043	4 452	0	0		12 495	12 495
May	7 043	8 337	7 043	4 158	0	0	0	11 201	11 201
June	7 360	9 519	7 360	1 682	0	0	0	9 042	9 042
July	7 900	11 718	5 224	0	0	0	0	5 224	5 224
August	8 670	16 998	(3 104)	0	0	0	0	(3 104)	(3 104)
September	8 992	10 773	(4 885)	0	0	0	0	(4 885)	(4 885)
October	10 456	11 971	(6 400)	0	0	0	0	(6 400)	(6 400)
November	10 351	11 213	(7 262)	0	0	0	0	(7 262)	(7 262)
December	12 324	12 130	(7 069)	0	0	0	0	(7 069)	(7 069)
January (1997)	11 047	10 795	(6 816)	0	0	0	0	(6 816)	(6 816)
February	10 554	11 776	(8 038)	0	0	0	0	(8 038)	(8 038)
March	10 895	11 615	(8 759)	0	0	0	0	(8 759)	(8 759)
April	8 750	12 857	(12 866)	0	0	0	0	(12 866)	(12 866)
May	7 983	12 054	(16 937)	0	0	0	0	(16 937)	(16 937)
June	7 166	10 850	(20 661)	0	0	0	0	(20 661)	(20 661)
July	9 451	10 331	(21 541)	0	0	0	0	(21 541)	(21 541)
August	9 495	12 220	(24 267)	0	0	0	0	(24 267)	(24 267)
September	10 861	10 326	(23 732)	0	0	0	0	(23 732)	(23 732)
October	10 943	12 799	(25 588)	0	0	0	0	(25 588)	(25 588)
November	11 727	13 086	(26 947)	0	0	0	0	(26 947)	(26 947)
December	12 246	18 973	(33 674)	0	0	0	0	(33 674)	(33 674)
January (1998)	12 437	12 144	(33 380)	0	0	0	0	(33 380)	(33 380)
February	12 247	12 226	(33 360)	0	0	0	0	(33 360)	(33 360)
March	11 065	12 313	(34 608)	0	0	0	0	(34 608)	(34 608)

Sources (By Column)

- 1 Actual figures provided by company
- 2 Deferred revenue received plus NDC payments plus cash received minus NDC payments 75% through mechanism discounts on interest to an equivalent value
- 3 Column 1 Column 2
- 4-6 Assumed that money paid goes first to the oldest unpaid balance
- 7 After 90 days the debt is written off and returned to the firm
- 8 Same for columns 4, 5 and 6
- 9 Column 8 minus column 9

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**Table 4 7**  
**Khmelntsk Oblenergo**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Payable**  
*(000 HRs)*

Month	1 Total Expenses (000 UAH)	2 Realization Paid (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write Offs (000 UAH)
January (1996)	12 103	5 693	6 411					6 411	6 411
February	10 554	6 960	10 004	0				10 004	10 004
March	9 688	8 603	9 688	1 401	0			11 089	11 089
April	9 848	5 312	9 848	5 777	0	0		15 625	15 625
May	7 153	6 889	7 153	8 737	0	0	0	15 890	15 890
June	7 091	7 891	7 091	7 153	846	0	0	15 090	15 090
July	7 847	9 897	7 847	5 193	0	0	0	13 040	13 040
August	8 495	14 915	6 620	0	0	0	0	6 620	6 620
September	9 885	9 609	6 896	0	0	0	0	6 896	6 896
October	10 955	10 658	7 193	0	0	0	0	7 193	7 193
November	11 490	9 748	8 935	0	0	0	0	8 935	8 935
December	12 971	9 919	11 986	0	0	0	0	11 986	11 986
January (1997)	14 150	8 589	14 150	3 397	0	0	0	17 547	17 547
February	11 827	9 736	11 827	7 811	0	0	0	19 638	19 638
March	11 715	10 030	11 715	9 608	0	0	0	21 323	21 323
April	11 144	11 414	11 144	9 909	0	0	0	21 053	21 053
May	8 554	10 476	8 554	10 577	0	0	0	19 131	19 131
June	7 662	8 526	7 662	8 554	2 051	0	0	18 267	18 267
July	7 765	7 336	7 765	7 662	3 269	0	0	18 696	18 696
August	8 129	9 681	8 129	7 765	1 250	0	0	17 144	17 144
September	9 247	8 622	9 247	8 129	393	0	0	17 769	17 769
October	10 912	11 009	10 912	6 760	0	0	0	17 673	17 673
November	11 980	10 471	11 980	7 201	0	0	0	19 181	19 181
December	13 703	15 693	13 703	3 488	0	0	0	17 191	17 191
January (1998)	14 022	10 070	14 022	7 121	0	0	0	21 143	21 143
February	13 749	10 175	13 749	10 968	0	0	0	24 716	24 716
March	15 328	10 368	15 328	13 749	600	0	0	29 676	29 676

Source: (By Column)

- 1 Actual figures provided by company
- 2 Actual figures provided by company
- 3 Column 1 Column 2
- 4-6 Assume that money paid goes first to the old unpaid balance
- 7 After 90 days the debt is written off and treated as income to the firm
- 8 Same as items 3, 4, 5 and 6
- 9 Column 1 minus amounts receivable with no write-offs

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## 5. CHP

The combined heat and power plant constructed in the early 1960 s in Kamianets Podilsky (70 kilometers southwest of the Oblast's capital) is the only large energy producing facility in the region. The CHP only services the city. The plant's equipment is Russian made and consists of 5 steam boilers (of which three were installed originally) and two added in the 1970's and a turbogenerator manufactured in 1959. The fuel used within the plant is natural gas with mazut held in reserve. The actual electricity output is negligible, and the plant's primary function is the generation of heat for the city's heat system. The heat plant installed capacity is 222 Gcal and the average monthly heat output in 1997 equaled 28 700 Gcal. The CHP employs 187 persons.

Originally the CHP was owned by the sugar processing factory in Kamianets Podilsky. It still is the only direct customer and consumes around 52% of total output. Another 48% is sold to TeploKomunEnergo, the wholesale heat distribution network owned by the city. Under the Ukrainian law, heat generation facilities and networks are excluded from privatization. This fact brings about numerous issues, both operational and legal. In some Oblasts of Ukraine (e.g., Lviv) the steps have already been made towards the streamlining operations by leasing the CHP to the city. However, in Khmelntsky the problem remains unsolved.

Table 5.1 is the income statement for the CHP. Supporting tables include 5.2 (Sales of Heat), 5.3 (Other Income and Expenses), 5.4 (Electricity / Fuel Purchased), 5.5 (Main Production Costs), 5.8 (Aging of Accounts Receivable) and 5.9 (Aging of Accounts Payable).

Table 5.1 is the 1996-1998 quarterly restated income statement. Beginning with sales, two types of trends exist. The first is seasonal and the second is economic. The seasonal trend shows a peak in consumption in the first quarter of each year with a decline in usage in both the second and third quarters (due to warmer weather). In the fourth quarter a sharp rise in revenues occurs due to colder weather. The second trend is economic. Beginning with the first quarter of 1996, 1997 and 1998, there has been a small rise in sales between 1996 and 1997 and then a sharp decline in 1998.

It should be noted that sales in the third quarter 1996 are negative. As explained by the staff at the Oblenergo, the cost of heat is based on an estimate of fuel costs the beginning of each year. For 1996 the cost of fuel was overestimated and the negative figure represents an adjustment to consumers for overpaying.

**Table 5 1**  
**Khmelnitsk Oblenergo CHP**  
**Ukraine Energy Project**  
**Income Statement for the Period Ending**  
*(000 UAH)*

<b>OPERATING INCOME</b>	<b>1/4/96</b>	<b>1/7/96</b>	<b>1/10/96</b>	<b>1/1/97</b>	<b>1/4/97</b>	<b>1/7/97</b>	<b>1/10/97</b>	<b>1/1/98</b>	<b>1/4/98</b>
<b>Sales</b>									
Electricity	0	0	0	0	0	0	0	0	0
Heat	2 963	748	(244)	3 433	3 009	391	79	2 922	1 655
Internal Transfers	0	0	0	0	0	0	0	0	0
Other Revenues	0	0	0	0	0	0	0	0	0
<b>Total Sales</b>	<b>2 963</b>	<b>748</b>	<b>(244)</b>	<b>3 433</b>	<b>3 009</b>	<b>391</b>	<b>79</b>	<b>2 922</b>	<b>1 655</b>
<b>Operational Expenses</b>									
Purchased Electricity	0	0	0	0	0	0	0	0	0
Operating Expenses	(57)	(33)	(40)	(44)	(43)	(27)	(39)	(26)	(87)
Fuel and Raw Materials	(2 210)	(787)	(3)	(1 620)	(2 705)	(748)	0	(1 865)	(1 876)
Wages & Social Costs	(75)	(108)	(111)	(143)	(159)	(122)	(109)	(126)	(155)
<i>Total Operating Expenses</i>	<i>(2 341)</i>	<i>(927)</i>	<i>(154)</i>	<i>(1 807)</i>	<i>(2 907)</i>	<i>(897)</i>	<i>(148)</i>	<i>(2 017)</i>	<i>(2 118)</i>
Maintenance	0	0	0	0	(44)	(18)	(22)	(33)	0
Depreciation	(14)	(13)	(27)	(35)	(36)	(36)	(58)	(60)	(54)
<i>Total Operational Expenses</i>	<i>(14)</i>	<i>(13)</i>	<i>(27)</i>	<i>(35)</i>	<i>(80)</i>	<i>(54)</i>	<i>(80)</i>	<i>(93)</i>	<i>(54)</i>
<b>Operating Income</b>	<b>608</b>	<b>(192)</b>	<b>(425)</b>	<b>1 590</b>	<b>22</b>	<b>(560)</b>	<b>(149)</b>	<b>812</b>	<b>(518)</b>
<b>NON-OPERATING INCOME</b>									
<b>Net Non Utility Operating Income</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Operating Income Before Taxes and Financial Costs</b>	<b>608</b>	<b>(192)</b>	<b>(425)</b>	<b>1 590</b>	<b>22</b>	<b>(560)</b>	<b>(149)</b>	<b>812</b>	<b>(518)</b>
<b>Taxes and Financial Costs</b>									
Interest on Long Term Debt	0	0	0	0	0	0	0	0	0
Unrealized Accounts Receivable <sup>1</sup>	0	0	0	0	0	0	0	0	0
Unrealized Accounts Payable	0	(292)	(1 381)	0	0	(1 488)	(230)	0	0
Taxes & Payments	(15)	(13)	(13)	(17)	(72)	(7)	(17)	(197)	(11)
<i>Total Taxes and Financial Costs</i>	<i>(15)</i>	<i>(305)</i>	<i>(1 395)</i>	<i>(17)</i>	<i>(72)</i>	<i>(1 495)</i>	<i>(247)</i>	<i>(197)</i>	<i>(11)</i>
<b>NET INCOME</b>	<b>593</b>	<b>(497)</b>	<b>(1 820)</b>	<b>1 574</b>	<b>(50)</b>	<b>(2 055)</b>	<b>(396)</b>	<b>615</b>	<b>(529)</b>

<sup>1</sup> It is assumed that accounts receivable 90 days or older are written off as bad debt expense

<sup>2</sup> It is assumed that accounts payable 90 days or older are written off and treated as income

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The next section in the income statement deals with operational expenses. Also of usefulness is table 5.6 Financial Ratios. In particular, the section referring to the common size income statement will yield important insights to the analysis. The largest cost for distribution is purchased fuel. For 1996 the ratio of cost to sales is 66.1%. The ratio declined in 1997 by falling to 83.0%. The cause of the decline was higher price of mazut and the less efficient usage of the plant per unit of heat produced.

The next largest cost is operating expenses. This category includes materials, spare parts, fuel (other than for generation) and small investment. The total spent during each quarter is very low and only once exceeds 60,000 UAH per quarter. It is difficult to see how this small amount is sufficient to operate and maintain the boiler.

Finally, wages increased from 0.8 million the first quarter of 1996 to 1.4 million UAH by the third quarter 1996 and thereafter range from 1.2 to 1.5 million UAH per quarter. The unusual behavior of this cost, especially in 1996, is explained by reporting policy. For the first quarter of 1996, only wages are recorded in accounts 69 and 70 and any bonuses are expenses after profit. In the second quarter, wages and bonuses are expensed before profit and counted as expense. This practice is continued for the rest of the restatement period. For the third quarter of 1996, an annual bonus is also included as an expense. In addition to changes in accounting policy, wages also rise due to adjustments in the cost of living.

Table 5.2 is Heat Sales. The largest consumer for heat is classified as Other. In reality this is the retail distribution network TeploKomunEnergo which serves the town of Kamianets Podilsky. As for steam, the largest consumer is a sugar processing plant. The CHP plant only delivers steam to three industrial plants located in the area.

Table 5.3 is other income and internal transactions. For the heat plant there are no other revenues reported.

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**Table 5 2  
Khmelnitsk Oblenergo CHP  
Ukraine Energy Project  
Heat Sales**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Total Heat Sold	Tariff	Total Sales	Total Heat Sold	Tariff	Total Sales	Total Heat Sold	Tariff	Total Sales	Total Heat Sold	Tariff	Total Sales	Total Heat Sold	Tariff	Total Sales
M nth	(000 Gkcal)	(UAH per m <sup>3</sup> )	(000 UAH)	(000 Gkcal)	(UAH per m <sup>3</sup> )	(000 UAH)	(000 Gkcal)	(UAH per m <sup>3</sup> )	(000 UAH)	(000 Gkcal)	(UAH per m <sup>3</sup> )	(000 UAH)	(000 Gkcal)	(UAH per m <sup>3</sup> )	(000 UAH)
	Industry Hot Water			Residential Hot Water			Cooperative H T W t r			Gr n House Hot Water			Other H T W t r		
January (1996)	3	32 173 91	111	0	0 00	0	0	0 00	0	0	0 00	0	31	32 189 69	899
February	3	33 177 83	101	0	0 00	0	0	0 00	0	0	0 00	0	25	33 178 78	844
March	3	33 180 33	101	0	0 00	0	0	0 00	0	0	0 00	0	23	33 180 26	773
April	2	33 264 52	52	0	0 00	0	0	0 00	0	0	0 00	0	12	33 185 88	386
May	0	0 00	36	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	275
June	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
July	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
August	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
September	0	0 00	244	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
October	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	3	20 891 48	57
November	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	16	24 008 70	387
December	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	28	28 020 00	755
January (1997)	4	32 112 88	114	0	0 00	0	0	0 00	0	0	0 00	0	32	32 109 81	1 041
February	3	32 549 02	83	0	0 00	0	0	0 00	0	0	0 00	0	24	32 551 44	781
March	2	31 409 09	69	0	0 00	0	0	0 00	0	0	0 00	0	19	31 020 08	494
April	1	30 428 57	43	0	0 00	0	0	0 00	0	0	0 00	0	11	30 561 40	349
May	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
June	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
July	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
August	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
September	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
October	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
November	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	12	27 892 31	108
December	3	28 815 38	77	0	0 00	0	0	0 00	0	0	0 00	0	23	28 608 10	363
January (1998)	2	28 260 87	65	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
February	2	31 500 00	83	0	0 00	0	0	0 00	0	0	0 00	0	22	31 645 45	698
March	3	31 923 08	83	0	0 00	0	0	0 00	0	0	0 00	0	23	32 241 38	749
	Industry Steam			Residential Steam			Cooperative Steam			Green H u Steam			Other Steam		
January (1996)	1	42 740 00	21	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
February	0	34 607 14	10	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
March	0	33 962 28	2	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
April	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
May	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
June	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
July	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
August	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
September	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
October	25	31 171 03	775	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
November	18	47 464 48	899	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
December	18	38 100 00	532	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
January (1997)	11	38 347 75	416	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
February	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
March	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
April	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
May	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
June	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
July	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
August	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
September	2	37 571 43	79	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
October	23	32 139 74	736	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
November	28	33 019 18	862	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
December	3	30 800 00	77	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
January (1998)	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
February	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0
March	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0	0	0 00	0

1 Includes Cooperative Sales Cooperative Garages and Artist Workshops and Community Customers

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**Table 5 3**  
**Khmelnitsk Oblenergo CHP**  
**Ukraine Energy Project**  
**Indirect Income and Expenses**

Month	Indirect Income		Other Expenses	
	Other Outside Revenues	Internal Sales		
January (1996)	00	0	0	0
February	00	0	0	0
March	00	0	0	0
April	00	0	0	0
May	00	0	0	0
June	00	0	0	0
July	00	0	0	0
August	00	0	0	0
September	00	0	0	0
October	00	0	0	0
November	00	0	0	0
December	00	0	0	0
January (1997)	00	0	0	0
February	00	0	0	0
March	00	0	0	0
April	00	0	0	0
May	00	0	0	0
June	00	0	0	0
July	00	0	0	0
August	00	0	0	0
September	00	0	0	0
October	00	0	0	0
November	00	0	0	0
December	00	0	0	0
January (1998)	00	0	0	0
February	00	0	0	0
March	00	0	0	0

**Table 5 4**  
**Electricity and Fuel Purchases**  
**Khmelnitsk Oblenergo CHP**  
**Ukraine Energy Project**  
*(000 HRs)*

Month	Electricity Purchased			Natural Gas Purchased			Mazut Purchased		
	MWH Purchased	HRN Per MWH	Cost of Electricity	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel	MT / m <sup>3</sup> Purchased	HRN Per Unit	Cost of Fuel
January (1996)	0	0 00	0	3 122	0 27	852	1 136	181	206
February	0	0 00	0	2 668	0 28	748	2 165	187	404
March	0	0 00	0	2 860	0 15	434	388	157	61
April	0	0 00	0	1 759	0 15	264	180	156	28
May	0	0 00	0	0	0 00	0	0	0	0
June	0	0 00	0	0	0 00	0	0	0	0
July	0	0 00	0	0	0 00	0	0	0	0
August	0	0 00	0	20	0 15	3	0	0	0
September	0	0 00	0	62	0 15	9	0	0	0
October	0	0 00	0	2 214	0 15	329	1 838	209	384
November	0	0 00	0	4 112	0 15	625	1 310	208	273
December	0	0 00	0	5 467	0 15	827	1 169	209	244
January (1997)	0	0 00	0	6 249	0 15	953	771	198	153
February	0	0 00	0	3 549	0 15	528	0	0	0
March	0	0 00	0	2 836	0 15	425	0	0	0
April	0	0 00	0	2 161	0 15	323	0	0	0
May	0	0 00	0	0	0 00	0	0	0	0
June	0	0 00	0	0	0 00	0	0	0	0
July	0	0 00	0	0	0 00	0	0	0	0
August	0	0 00	0	0	0 00	0	0	0	0
September	0	0 00	0	293	0 15	45	0	0	0
October	0	0 00	0	4 423	0 15	684	800	204	163
November	0	0 00	0	5 893	0 16	921	176	295	52
December	0	0 00	0	4 838	0 16	754	133	308	41
January (1998)	0	0 00	0	4 342	0 13	572	0	0	0
February	0	0 00	0	3 739	0 14	509	0	0	0
March	0	0 00	0	3 937	0 13	500	0	0	0

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Table 5 4 shows the monthly purchases for fuel The plant utilizes both natural gas and mazut The pattern of purchases is the same as sales Large fuel purchases in the winter declining to very small ones during the summer months On a cost basis the plant uses mostly natural gas with mazut as a secondary source

The next table 5 5, outlines the main production costs associated with the company The format of the table follows the format used within the generally accepted practices found both within the power sector and in normal accounting for Ukraine Within the table are all the basic accounts used to record costs of production However, discussion of costs will be made within the context of the restated income statement and is presented here for informational purposes for the reader needing more detail

Tables 5 5  
 Khmelnistk Obienergo CHP  
 Ukraine Energy Project  
 Main Production Costs

M nth	Dep d lim	Maintenance	M t rds	Evnt	Construction	Sp r	Non b	B dgt	Insurance	Sal	C sh	Depreciation	Def r d
	3	3	5	6	M t rds	Pr r	P rnt	P rnt	Payment	79	76	75	74
January (1986)	4	0	2	0	0	0	0	0	0	0	0	0	0
February	4	0	3	0	0	0	0	0	0	0	0	0	0
March	4	0	2	0	0	0	0	0	0	0	0	0	0
April	4	0	0	0	0	0	0	0	0	0	0	0	0
May	4	0	3	0	0	0	0	0	0	0	0	0	0
June	4	0	2	0	0	0	0	0	0	0	0	0	0
July	4	0	4	0	0	0	0	0	0	0	0	0	0
August	4	0	0	0	0	0	0	0	0	0	0	0	0
September	4	0	1	0	0	0	0	0	0	0	0	0	0
October	4	0	3	0	0	0	0	0	0	0	0	0	0
November	4	0	1	0	0	0	0	0	0	0	0	0	0
December	4	0	0	0	0	0	0	0	0	0	0	0	0
January (1987)	12	12	6	0	0	0	0	0	0	0	0	0	0
February	12	29	11	0	0	0	0	0	0	0	0	0	0
March	12	3	11	0	0	0	0	0	0	0	0	0	0
April	12	1	6	0	0	0	0	0	0	0	0	0	0
May	12	8	17	0	0	0	0	0	0	0	0	0	0
June	12	9	3	0	0	0	0	0	0	0	0	0	0
July	12	9	5	0	0	0	0	0	0	0	0	0	0
August	12	1	3	0	0	0	0	0	0	0	0	0	0
September	12	12	3	0	0	0	0	0	0	0	0	0	0
October	20	11	0	0	0	0	0	0	0	0	0	0	0
November	20	4	0	0	0	0	0	0	0	0	0	0	0
December	20	12	0	0	0	0	0	0	0	0	0	0	0
January (1988)	20	0	8	0	0	0	0	0	0	0	0	0	0
February	14	0	5	0	0	0	0	0	0	0	0	0	0
March	17	0	3	0	0	0	0	0	0	0	0	0	0
January (1988)	0	0	50	0	51	69	59	68	85	79	76	75	74
February	0	0	0	0	0	12	1	4	15	12	1	0	0
March	0	0	0	0	0	4	1	4	12	15	0	0	0
April	0	0	0	0	0	32	1	4	6	15	0	0	0
May	0	0	0	0	0	18	1	4	12	33	0	0	0
June	0	0	0	0	0	10	1	4	9	24	0	0	0
July	0	0	0	0	0	0	1	3	8	22	0	0	0
August	0	0	0	0	0	10	1	4	9	23	0	0	0
September	0	0	0	0	0	5	0	4	8	21	0	0	0
October	0	0	0	0	0	17	0	5	14	37	1	0	0
November	0	0	0	0	0	0	1	6	11	32	0	0	0
December	0	0	0	0	0	10	0	5	14	0	0	0	0
January (1987)	0	0	0	0	0	24	1	4	13	36	2	0	0
February	0	0	0	0	0	4	5	15	17	42	0	0	0
March	0	0	0	0	0	12	0	17	14	0	0	0	0
April	0	0	0	0	0	7	0	6	15	36	0	0	0
May	0	0	0	0	0	1	11	5	14	0	0	0	0
June	0	0	0	0	0	9	1	4	9	34	0	0	0
July	0	0	0	0	0	3	6	3	10	29	0	0	0
August	0	0	0	0	0	17	1	1	11	22	0	0	0
September	0	0	0	0	0	6	3	1	11	29	0	0	0
October	0	0	0	0	0	4	3	1	11	29	0	0	0
November	0	0	0	0	0	4	3	1	11	29	0	0	0
December	0	0	0	0	0	2	3	1	11	29	0	0	0
January (1988)	0	0	0	0	0	15	0	4	15	40	0	0	0
February	0	0	0	0	0	22	0	4	15	41	0	0	0
March	0	0	0	0	0	32	0	4	12	33	0	0	0

Amounts rounded and not audited

**Table 5 6  
Khmelnitsk Oblenergo CHP  
Financial Ratios**

	1/4/96	1/7/96	1/10/96	1/1/97	1/4/97	1/7/97	1/10/97	1/1/98	1/4/98
<b>Short Term Liquidity</b>									
Current Ratio									
Collection Rate									
% Accounts Receivable Over 60 Days									
% Accounts Payable Over 60 Days									
<b>Capital Structure and Long Term Solvency</b>									
Debt to Equity									
Debt to Total Assets									
Times Interest Earned (Cash)									
<b>Operating Performance Ratios</b>									
Average Ratio of Sales Tariff to Purchase Price (Electricity)									
Operating Profits to Sales									
Net Unrealized Accounts to Sales									
Net Income to Sales									
<b>Asset Utilization</b>									
Sales to Current Assets (Annualized)									
Sales to Net Utility Plant (Annualized)									
Sales to Total Assets (Annualized)									
<b>Common Size Income Statement (% of Total Sales)</b>									
Purchases Energy to Sales	0 0%	0 0%	N A	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%
Operating and Maintenance to Sales	1 9%	4 4%	N A	1 3%	0 0%	2 3%	21 5%	-0 2%	5 3%
Fuel to Sales	74 6%	105 2%	N A	47 2%	89 9%	191 3%	0 0%	63 8%	113 3%
Wages and Social Cost to Sales	2 5%	14 4%	N A	4 2%	5 3%	31 2%	138 1%	4 3%	9 4%
Depreciation to Sales	0 5%	1 7%	N A	1 0%	1 2%	9 2%	73 5%	2 1%	3 3%
Operating Income to Sales	20 5%	25 6%	N A	46 3%	0 7%	143 2%	189 0%	27 8%	31 3%
Net Income to Sales	20 0%	66 4%	N A	45 8%	1 7%	525 6%	502 0%	21 0%	32 0%
<b>Common Size Balance Sheet (% of Total Assets)</b>									
Accounts Receivable									
Current Assets									
Net Fixed Assets									
Current Liabilities									
Long Term Liabilities									
Equity									

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**Table 5 7**  
**Khmelnitsk Oblenergo CHP**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Receivable**  
*(000 HRs)*

Month	1 Total Revenues (000 UAH)	2 Realization Received (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write Offs (000 UAH)
January (1998)	1 132	283	849					849	849
February	955	188	955	661				1 616	1 616
March	876	1 195	876	422	0			1 298	1 298
April	438	1	438	876	421	0		1 735	1 735
May	310	129	310	438	876	292	0	1 916	1 916
June	0	105	0	310	438	771	292	1 520	1 812
July	0	113	0	0	310	325	771	635	1 699
August	0	26	0	0	0	285	325	285	1 673
September	(244)	130	(375)	0	0	0	285	(375)	1 298
October	831	1 341	(885)	0	0	0	0	(885)	788
November	1 255	652	(282)	0	0	0	0	(282)	1 391
December	1 347	154	911	0	0	0	0	911	2 584
January (1997)	1 571	180	1 571	731	0	0	0	2 302	3 975
February	874	384	874	1 571	347	0	0	2 792	4 465
March	564	367	564	874	1 551	0	0	2 989	4 662
April	391	727	391	564	874	824	0	2 653	4 326
May	0	210	0	391	564	664	824	1 619	4 116
June	0	387	0	0	391	177	664	568	3 729
July	0	338	0	0	0	53	177	53	3 391
August	0	133	(133)	0	0	0	53	(133)	3 259
September	79	147	(201)	0	0	0	0	(201)	3 190
October	844	797	(154)	0	0	0	0	(154)	3 238
November	1 225	1 281	(210)	0	0	0	0	(210)	3 181
December	853	1 381	(739)	0	0	0	0	(739)	2 653
January (1998)	65	978	(1 652)	0	0	0	0	(1 652)	1 740
February	759	214	(1 106)	0	0	0	0	(1 106)	2 285
March	831	678	(953)	0	0	0	0	(953)	2 438

Sources (By Column)

- 1 Actual figures provided by company
- 2 Defined as actual cash received plus NDC non payments plus (non cash received minus non cash NDC payments) 75% This correction discounts non cash transactions to an equivalent value that can be used to pay creditors
- 3 Column 1 Column 2
- 4 6 Assumed that money paid goes first to the oldest unpaid balance
- 7 After 90 days the debt is written off and treated as income to the firm
- 8 Sum of columns 3 4 5 and 6
- 9 Cumulative accounts receivable without write-offs

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**Table 5 8**  
**Khmelnytsk Oblenergo CHP**  
**Ukraine Energy Project**  
**Determination and Aging of Accounts Payable**  
*(000 HRs)*

Month	1 Total Expenses (000 UAH)	2 Realization Paid (000 UAH)	3 End of Month Unpaid Balance (000 UAH)	4 30 Days Unpaid Balance (000 UAH)	5 60 Days Unpaid Balance (000 UAH)	6 90 Days Unpaid Balance (000 UAH)	7 Write Offs (000 UAH)	8 Total Receivable (000 UAH)	9 Receivable Without Write Offs (000 UAH)
January (1996)	52	283	(231)					(231)	(231)
February	44	188	(375)	0				(375)	(375)
March	64	1 195	(1 505)	0	0			(1 505)	(1 505)
April	71	1	(1 435)	0	0	0		(1 435)	(1 435)
May	55	129	(1 509)	0	0	0	0	(1 509)	(1 509)
June	40	105	(1 574)	0	0	0	0	(1 574)	(1 574)
July	60	113	(1 627)	0	0	0	0	(1 627)	(1 627)
August	49	26	(1 604)	0	0	0	0	(1 604)	(1 604)
September	83	130	(1 651)	0	0	0	0	(1 651)	(1 651)
October	67	1 341	(2 926)	0	0	0	0	(2 926)	(2 926)
November	80	652	(3 499)	0	0	0	0	(3 499)	(3 499)
December	93	154	(3 559)	0	0	0	0	(3 559)	(3 559)
January (1997)	113	180	(3 627)	0	0	0	0	(3 627)	(3 627)
February	142	384	(3 868)	0	0	0	0	(3 868)	(3 868)
March	99	367	(4 136)	0	0	0	0	(4 136)	(4 136)
April	86	727	(4 777)	0	0	0	0	(4 777)	(4 777)
May	56	210	(4 931)	0	0	0	0	(4 931)	(4 931)
June	68	387	(5 250)	0	0	0	0	(5 250)	(5 250)
July	76	338	(5 512)	0	0	0	0	(5 512)	(5 512)
August	81	133	(5 563)	0	0	0	0	(5 563)	(5 563)
September	88	147	(5 623)	0	0	0	0	(5 623)	(5 623)
October	102	797	(6 317)	0	0	0	0	(6 317)	(6 317)
November	175	1 281	(7 423)	0	0	0	0	(7 423)	(7 423)
December	165	1 381	(8 640)	0	0	0	0	(8 640)	(8 640)
January (1998)	107	978	(9 511)	0	0	0	0	(9 511)	(9 511)
February	105	214	(9 620)	0	0	0	0	(9 620)	(9 620)
March	97	678	(10 201)	0	0	0	0	(10 201)	(10 201)

Sources (By Column)

- 1 Actual figures provided by company
- 2 Actual figures provided by company
- 3 Column 1 Column 2
- 4 6 Assumed that money paid goes first to the oldest unpaid balance
- 7 After 90 days the debt is written off and treated as income to the firm
- 8 Sum of columns 3 4 5 and 6
- 9 Cumulative accounts receivable without write-offs

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## APPENDIX ONE METHODOLOGY OF RESTATEMENT

In this section an overview of the methodology used to convert Soviet based financial statements into statements that use International Accounting Standards (IAS) will be discussed. The reader must understand, however, that a restatement is not the simple application of an accounting algorithm with clear inputs entered into a standard model and the IAS financial statements forthcoming once the data has been fully incorporated. This view is much too simplistic and the range of the determining variables too wide to accomplish the task with such ease. In the text below is an outline describing the different levels of restating accounts towards IAS standards. For the restatement of Khmelnitsky Oblenergo a level one restatement (adjustment to accrual basis) was completely achieved. As for level two (adjustment of asset and liability accounts), accounts receivable and payable were partially adjusted to determine the effects of bad debt on the income statement. The reason a more detailed restatement was not performed was cost effectiveness. The degree of restatement described above was sufficient to determine the financial condition of the company and any additional refinement would add little to the overall conclusions of the Oblenergo operating performance time while at the same drastically increasing the cost of performing the work.

### INTRODUCTION

The Soviet accounting system is directly related to the cost accounting system of the West. The main purpose of Soviet Accounting was to understand the costs of production (usually on a per unit basis), how much was delivered and how much taxes is owed on delivered production whereas IAS accounting is concerned with determining ultimate profit from sales. Although each FSU country has adapted the old system to fit its own needs, the Soviet Accounting System is founded on a series of accounts from 1 - 86. The basics within each FSU country remain the same. Each account represents either an asset, liability, equity/fund, sales or cost. For example, account 01 is for fixed assets account 20 summarizes main production costs, accounts 51-59 are cash accounts and so on. The basics are straightforward, easy to understand and perfectly acceptable way to account for the financial transactions inside a smaller company using manual accounting techniques.

The major difference between the two systems, Soviet and IAS is the actual reporting. First in most situations the Soviet system reports on a cash basis whereas the IAS reporting system is accrual. The Soviet reporting system counts only what was both delivered and paid for whereas the IAS system counts what is sold. Second the Soviet system's main objective is calculating (and to some degree maximizing) taxes whereas the IAS system is used for determining profit from operations. Under the Soviet system a

very large, complex and dynamic set of rules exists on what costs can be included before and after taxable profit. For example, during 1996 the rule was changed concerning wage bonuses. Prior to the rule change, wages/bonuses were to be deducted after the profit was calculated. The idea behind such a rule is to force taxable profit to be a larger value. After the rule change, the companies were allowed to include bonuses as wage expense and deduct before taxable profit was determined. To overcome such large obstacles, the actual Soviet income statement is ignored and the raw data based on the ledgers is collected and used. By following such a procedure, much of the reporting bias is eliminated and a more accurate picture of sales and costs can be determined.

The most significant problem is not the Soviet Accounting System itself, but its application. Although a strict set of rules exists as to how the accounting system should be applied, the range of applications are as many as the number of chief accountants that apply them. In effect, everybody does it differently. To compound this problem, within the power sector they used a variation on the old system and its application was just as varied. Therefore, one had to first understand how the accounting procedures should have been applied and then examine the records to see how they actually were applied. Within this context, in some circumstances chief accountants (and their staff) would use intermediary accounts whereas others would not. Therefore, the threat of either double counting or not including the cost at all always existed and the only way to prevent such an occurrence would be to understand the specific application on an individual basis. These actions, in itself, were extremely time consuming.

#### **DEGREES OF IAS RESTATEMENT**

As stated before, an IAS restatement is not a simple procedure. Too many variables exist concerning the actual application of the Soviet rules to allow it to be a standard methodology. Therefore, as with most things, basic economic principles apply to financial restatements as well. At some point within the analysis, the marginal cost of doing a task exceeds the marginal benefit derived from the cost. Because of this, an IAS restatement can be thought of as a matter of degree and described below is a general outline of the different levels (or degrees) of restatement. For illustrative purposes, four levels of increasing complexity will be discussed.

The first (and simplest) level would be to adjust the sales and costs to an accrual basis. It is also the most cost effective. In situations where the company is either marginally profitable or losing money, this would be the appropriate course to take since increasing the scope of the restatement will only intensify the problem (unprofitability) that has already been identified by a limited restatement. When the problem of unprofitability has been identified, it is a waste of resources to more precisely measure the loss. The available resources can be used in more beneficial ways.

However if the firm is profitable on an accrual basis the restatement can go to the second level by examining the asset and liability accounts. In particular the value of fixed assets needs to be assessed and in most cases increased to near fair value. Under the old system, extremely low values were given to fixed assets that under today's current economic situation have little association with replacement cost. To compound the problem very low depreciation rates are allowed by tax law. All of this combined has the result of vastly understating the fixed charges of a company. For capital intensive industries this will significantly overstate profit. In addition, both accounts receivable and payable need to be evaluated and all accounts on an individual basis need to be aged. Bad debt should be charged against earnings if the account is not collectable. Finally, inventories need to be evaluated using a clear inventory costing strategy. All of this additional work is very time intensive and should only be completed once the company has been established as profitable with excellent future prospects.

If the business continues to be profitable after examination of the income, expenses and the balance sheet, the third level should be the application of the current taxes within the country. As with the examination of assets and liabilities, this can be a labor intensive task and should only be undertaken on business that have promising profit potential. Otherwise it would be a waste of resources.

The fourth and final level of a restatement is both the most complete labor intensive and expensive of the four choices. It is an audit of the company financial records. Within the Soviet system a financial team would have to reconstruct the entire financial history for a period of time. In essence all accounting transactions for the period under evaluation would have to be completed a second time under IAS. In addition initial trial balances would have to be created.

#### RESTATEMENT OF SALES

The objective of restating sales is to convert them to an accrual basis. In principle this is accomplished by determining how much electricity was delivered at what price. Within the context of the Oblenergo restatement, form 46 was used to accomplish this part of the task. Form 46 is the monthly report to Minnenergo of electricity sales by consumer group. It has both the tariff used and amount sold. In addition, the company generates fees and other income for various reasons. Late fees and transmission fees are example. This information is taken from the Combined Report on Sales submitted to Minnenergo on a monthly basis. For the business units not involved in the marketing of either electricity or heat sales are taken from the general ledger account 45 (goods delivered) or 46 (services).

Finally, since the restatement was completed for each individual business unit inside the Oblenergo consolidated company, some internal transaction adjustments were

required. The data for internal transfers was supplied by the accounting staff at each business unit. However, when the actual consolidation of the individual business units was made, the amounts for internal transfers were not included as part of sales.

### **RESTATEMENT OF COSTS**

Under normal Soviet accounting procedures, this information is relatively easy to collect from account 20, main production costs, within the general ledger. However for the Oblenergo, this was not the case. The first problem is that the electricity sector has its own individual accounting system that was significantly different from what is normally found in other companies. To further compound the problem was each business unit that used the energy accounting system actually used its own variation. In addition, some of the non-electricity business units used a general ledger. The result is that internally the company had no consistent application of accounting procedure.

To overcome this problem of inconsistent accounting and reporting, it was determined that certain accounts were basic cost accounts while other summarized the basic costs by function. For example, account 2 (depreciation), account 6 (fuels) or account 70 (wages) are basic cost accounts. They represent an actual cost for production. However account 26 (general expenses) summarized the basic cost accounts associated with the management and support staff. In almost all the business units the data was collected using the basic cost accounts.

### **PURCHASED ENERGY / FUEL**

Because of its importance and relative size when compared with other costs of production, more detailed statistics were collected on both electricity purchases (for electricity distribution) and fuel purchases (heat). The additional data included the amount of electricity/fuel purchased, the average price for the month and the total amount of the cost. The main reason for collecting more detailed data for the largest cost is to provide a more transparent view of the business for the interested reader.

### **MONEY IN / MONEY OUT**

The purpose of collecting such data is twofold, first, to complete an aggregate aging of both accounts receivable and payable. The second reason is to more closely examine the structure of the flow of funds through the company. Money In can be defined

as the amount of value<sup>4</sup> collected from a consumer that will offset the outstanding accounts receivable of the consumer Money Out is the amount of value paid out to creditors that offsets an outstanding accounts payable Because of the nature of the payments system (or lack thereof) in Ukraine, attempting to follow the value passing through a company is at best an imprecise science The combination of barter deals and the uncertain prices associated with them, and multi-party offsets would require a highly sophisticated system of accounting that is far exceeds the capabilities of the hand written ledgers normally kept at the lower levels of the company To compound the problem even more are the cash collection procedures (transit account) that returns only a small portion of actual cash collected to the Oblenergo, and the regressive and complex tax system and the constant threat of inflation which erodes the actual value of money collected

As for Money In, the data was collected in two forms, cash and non cash payments Based on these figures, certain assumptions relating to its value in satisfying creditors was used Cash was assumed to have 100% value in payment to creditors As for the non cash payments received, it was assumed to have 100% value up to the amount owed for electricity Any amounts above this were discounted 25% to account for the transaction cost of disposing of the non cash item The three amounts – cash non cash used to pay electricity and non cash (discounted) were added together to obtain an estimate of the amount of value actually received against sales for the same period and is the figure used in the aggregate aging of accounts receivable

Money Out was collected within four types of categories, cash paid for electricity, non-cash paid for electricity, cash paid to other creditors and non cash paid to other creditors These four figures were added up and compared with the total expenses from the general accounts to determine the aggregate aging of accounts payable

The main purpose for examining the aggregate flow of money is to broadly calculate the aging of accounts receivable and payable to estimate how much (if any) bad debt should be written off against income and to compare it with the trend in each account on the balance sheet In addition, the growth in each account as calculated within the aging was approximately equal to the actual growth on the balance sheet Because this close relationship between calculated and actual, the original balances were used in the restated Balance Sheet However, it should be pointed out that for some of the individual business units bad debt did exist and were charged off against earnings

#### BALANCE SHEET

With the exception of accounts receivable and payable, no other account

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The term value is used because what is actually collected from consumers can be in the form of cash, barter, and offsets