

PN-ACZ-596
100646

Kazakhstan: Power Sector Reform

Delivery Order No 5 Work Plan

Prepared for

United States Agency for International Development
AID/ENI/EEUD/EI
Ronald Reagan Building
Room 5 10-072
1300 Pennsylvania Avenue, N W
Washington, DC 20004-3002

Under

Contract No CCN-Q-00-93-00152-00
Delivery Order 5

Prepared by

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

October 1994

**U S AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

TASK 1 RESIDENT ADVISOR

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
October 01, 1994**

1. SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

Working through KE, a USAID-financed team of consultants will provide technical assistance, advice, training in support of its privatization, restructuring and investment promotion plans.

2 BACKGROUND

Kazakhstan is the largest of the five Central Asian Republics and has a population of over 16.7 million, second largest within the FSU. Its territory of over 1,048,800 square miles borders Russia (Siberia) in the north, Kyrgyzstan, Turkmenistan and Uzbekistan in the south, the Caspian Sea in the west, and China in the east. Approximately 1.5 million reside in Almaty, the capital city. The topography is varied, with a predominance of lowland and upland plains and rolling hill country. High mountains occur in the northeast, the Altai Mountains, and in the southeast, the Tien Shan Mountains.

The economy is linked closely with the other Central Asian Republics and Russia. Russia is Kazakhstan's largest trading partner and accounts for about 60% of its exports and over 65% of its imports. Goskomstat reports show an inflation rate of 670% over the December 1993-July 1994 period.

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and Fuel Resources into two Ministries: the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister. KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan.

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominately coal-fired), 12% is hydro and 1% is nuclear (from the Aktao Nuclear Power Plant (Aktao) on the Caspian Sea and a research reactor located at Semipalatinsk). It is reported that the Aktao has serious staff and fuel problems. Most of Aktao's staff migrated from Russia about twenty-five years ago when the plant was constructed. Due to the declining standard of living in Kazakhstan relative to Russia and new emphasis on Kazakh as the official language, a majority of the Aktao's employees are leaving for Russia. In addition, despite the fact that Kazakhstan is the largest producer of uranium in the Former Soviet Union (FSU), it does not have processing facilities and must purchase its nuclear fuel from Russia. Due to lack of hard currency, fuel purchases are uncertain.

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is thus subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

Electric tariff structures and rates are the same in each region. KE reviews its revenue and cost structures quarterly and submits tariff suggestions to the State Committee On Pricing Policy (STOPP). STOPP decides what the tariff structures and rates will be and issues a decree accordingly. All energo profits are deposited in a Fund for Price Regulation which redistributes profits to the non-profitable energos in an attempt to stabilize low electric and heating prices through the country. Three of the energos (Altay, Ekibastuz and Pavlodar) are profitable. The remaining seven (7) energos operate at a loss and thus need to be subsidized.

Under the FSU regime, production of industrial goods was more important than the amount of energy consumed in their production, energy was supplied in unlimited quantities and at heavily subsidized prices to support both industrial and domestic sectors. As a result, electric tariffs do not reflect the fixed and variable costs of supply to the various classes of service. For example, electric revenues are estimated to be less than 30% of marginal cost, although it is not entirely clear that

electric energy producers actually know what their actual costs are. The domestic electric tariff is only US \$ 0.002/kWh, approximately 75% less than the industrial tariff (US \$ 0.005/kWh). Cross border electricity prices (export and import prices are the equal) are approximately US \$ 0.024/kWh with Russia, US \$ 0.032/kWh with Kyrgyzstan, US \$ 0.0396/kWh with Turkmenistan and US \$ 0.0416/kWh with Uzbekistan. Cross-border fuel prices are at market prices.

With respect to district heating, heat tariffs are set at the local energy level and vary among regions. Domestic customers are charged from US \$ 0.40 to 0.90/Gcal whereas industrial customers are charged from US \$ 6.50 to 12.00/Gcal. The average revenue from district heating sales is below costs.

The future of energos as commercially viable entities will require changing corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require a different approach to management, organization, and a change in their commercial, accounting and financial policies.

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels to a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments.

3. OBJECTIVE

The objectives of this technical assistance are:

1. Provide a readily available consulting resources for the MOE&CI and other GOK agencies to obtain expert advice, assistance and information on the transition of the power sector to a market based economic system.
2. Create a base of knowledge and a group of experts that will implement the restructuring and privatization of the power sector after the completion of this technical assistance effort.

4. SCOPE OF WORK

Four (4) separate working groups will be established to implement the project. Each working group will be headed by a US and a Kyrgyzstan Co-Chairman and will have its own membership.

Objectives and work plan The Private Investment Working Group (PIWG) will work to create a basic framework that supports and encourages private investment in the power sector. The Legal and Regulatory Working Group (LRWG) will be charged with assisting the GOK and the MOE&CI in formulating energy-related regulations and legislation, and will also draft model project agreements to facilitate transactions with independent developers and multilateral lending agencies. The objective of the Restructuring and Privatization Working Group (RPWG) will be to assist the GOK and the MOE&CI in developing an implementation plan for restructuring and privatizing of KE. The Public Health Working Group (PHWG) will submit a plan for assessing working conditions and environmental impacts resulting from privatization efforts.

While working separately to achieve their objectives, the working groups will cooperate with each other and exchange information freely and on a timely basis. The overall activities of this cooperative effort will be managed by the RCG/Hagler Bailly Project Director from the United States who will be a resident in Almaty, Kazakstan. The Project Director will be the manager of the US contribution to this activity. He will be responsible for the content of work plan proposals submitted to USAID, for the selection of the US working group consultants, for scheduling of work, and for quality control under the guidance of a Joint US-Kazakhstan Coordination Committee.

The Coordinating Committee (CC) will be comprised of members from MOE&CI, Ministry of Economy, Ministry of Finance, Ministry of Public Health, State Anti-Monopoly Committee and the State Property Management Committee and will be chaired by the Project Director. The CC will be the decision-making body regarding the privatization strategies developed by the working groups. It will also determine the relationship between the activities of the working groups and related projects being performed by other donor organizations (such as the World Bank, the European Community's Technical Assistance to the CIS States Program (TACIS), the European Bank for Reconstruction and Development (EBRD), etc.)

The overall activities of this cooperative effort will be managed by the RCG/Hagler Bailly project director from the United States, who will be a resident in Almaty. The project director will manage the U S contribution to this activity. He will be responsible for the content of work plan proposals submitted to USAID and the Kazakstan members, for the selection of the U S working group consultants, for scheduling work, and for quality control.

5 DELIVERABLES

A monthly report will be filed with USAID/Washington and USAID Almaty Kazakhstan. The report will brief the project office on the general activities under this contract, restructuring activities and happenings to date within the Kazakh Government.

Technical reports will be submitted within 30 days after completion of each subtask

6. EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Energy Act and Energy Savings Law,
- ▶ Regulatory framework for the power sector,
- ▶ Restructuring of energy enterprises into sustainable business units,
- ▶ Corporatization selected energy enterprises, and
- ▶ Institutional building in Kazakhstan

7. STAFFING

Resident advisor sponsored by USAID

Joseph C Skroski, Sr Energy Policy Specialist

Assignment will include

Mr Skroski as a resident advisor in Kazakhstan with the additional responsibility of limited administrative duties associated with the management of assigned professional staff and funds to be expected on behalf of USAID

Mr E H Anafin, Deputy Minister will direct the Efforts of the MOE&CI staff in this activity

8. SCHEDULE

The project schedule is from October 01, 1994 to February 25, 1996

9. LEVEL OF EFFORT

The total estimated professional level of effort is 240 person-days of U S -based assistance Mr Skroski, who will reside in Kazakstan, will also spend approximately 120 days, 33% of his time, in Kyrgyzstan under delivery order No 6

**U S AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

TASK 2. PROVIDE LEGAL AND REGULATORY ASSISTANCE

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
November 01, 1994**

1 SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

The objective of this task is to provide legal and regulatory assistance to the GOK in the restructuring and privatization of the power sector and in the development of a contractual framework necessary for private sector development of power projects.

2 BACKGROUND

Kazakstan is the largest of the five Central Asian Republics and has a population of over 16.7 million, second largest within the FSU. The economy is linked closely with other Central Asian Republics and Russia. Russia is Kazakhstan's largest trading partner and accounts for about 60% of its exports and over 65% of its imports. Goskomstat reports show an inflation rate of 670% over the December 1993-July 1994 period.

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and Fuel Resources into two Ministries: the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister. KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan.

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW.

and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominately coal-fired), 12 % is hydro and 1 % is nuclear (from the Aktao Nuclear Power Plant (Aktao) on the Caspian Sea and a research reactor located at Semipalatinsk)

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is thus subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

Electric tariff structures and rates are the same in each region. KE reviews its revenue and cost structures quarterly and submits tariff suggestions to the State Committee On Pricing Policy (STOPP). STOPP decides what the tariff structures and rates will be and issues a decree accordingly. All energo profits are deposited in a Fund for Price Regulation which redistributes profits to the non-profitable energos in an attempt to stabilize low electric and heating prices through the country. Three of the energos (Altay, Ekibastuz and Pavlodar) are profitable. The remaining seven (7) energos operate at a loss and thus need to be subsidized.

Under the FSU regime, production of industrial goods was more important than the amount of energy consumed in their production, energy was supplied in unlimited quantities and at heavily subsidized prices to support both industrial and domestic sectors. As a result, electric tariffs do not reflect the fixed and variable costs of supply to the various classes of service. For example, electric revenues are estimated to be less than 30% of marginal cost, although it is not entirely clear that electric energy producers actually know what their actual costs are. The domestic electric tariff is only US \$ 0.002/kWh, approximately 75% less than the industrial tariff (US \$ 0.005/kWh). Cross border electricity prices (export and import prices are the equal) are approximately US \$ 0.024/kWh with Russia, US \$ 0.032/kWh with Kyrgyzstan, US \$ 0.0396/kWh with Turkmenistan and US \$ 0.0416/kWh with Uzbekistan. Cross-border fuel prices are at market prices.

With respect to district heating, heat tariffs are set at the local energo level and vary among regions. Domestic customers are charged from US \$ 0.40 to 0.90/Gcal whereas industrial customers are charged from US \$ 6.50 to 12.00/Gcal. The average revenue from district heating sales is below costs.

The future of energos as commercially viable entities will require changing corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require

a different approach to management, organization, and a change in their commercial, accounting and financial policies

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments

3 OBJECTIVE

All legal and regulatory guidance is given to the GOK by the Legal and Regulatory Working Group (LRWG) will be supportive of GOK's fundamental goal namely, attracting private investment to the energy sector. Given this core principle, the basic objectives of the LRWG are to review the current legal framework of Kazakhstan from the perspective of power sector restructuring and privatization and the attraction of private investment, to identify the specific laws, regulations and ordinances required to support the restructuring, privatization and private investment objectives, to produce drafts of the basic legislation needed to facilitate the restructuring and privatization of the power sector, and to produce draft project agreements necessary to facilitate GOK's relations with foreign developers and private investors

4. SCOPE OF WORK

This task will include the following activities

- ▶ Summarize the key elements of the energy laws and regulations governing the existence and operation of the power sector in the United States and the United Kingdom, and what has been recently proposed with respect to the Russian power sector, and assess the feasibility of their respective adaptation to the Kazakhstan legal system
- ▶ Describe and assess legislative and regulatory alternatives for the Kazakhstan energy sector, and submit recommendations to MOE&CI and KE as to which should be adopted
- ▶ Identify the key laws, ordinances and regulations required to promptly restructure and privatize KE and to attract private investment and, to the extent feasible, assist the GOK in developing such laws and ordinances (including an Energy Savings Act, National Energy Act and National Coal Act)

- ▶ Define broadly the organizational requirements and the time table for the institutional development of regulatory body
- ▶ Identify laws, regulations and procedures required to implement framework energy legislation and a regulatory body
- ▶ Draft a model request for proposal, implementation agreement, power purchase agreement and fuel supply agreement for implementation of an independent power program

5 DELIVERABLES

- ▶ Trip reports to USAID
- ▶ Monthly progress reports to USAID
- ▶ Comments on legislative and regulatory issues and constraints on wholesale power option report by RPWG 15 Feb 1995
- ▶ Report summarizing the Kazakh legislative and regulatory environment of the power sector including the identification of problems and opportunities 15 Mar 1995
- ▶ Participation in workshop on selection of the form of the wholesale power market 15 Mar 1995
- ▶ Participation in workshop on selection of power sector structure/ownership 31 Mar 1995
- ▶ Comments on regulatory issues and constraints on retail price regulation by RPWG 15 Feb 1995
- ▶ Participation in workshop on selection and form of retail pricing regulation 31 May 1995
- ▶ Participation in workshop on the recommended restructuring/privatization of the power sector 31 Oct 1995
- ▶ Draft model documents on independent power

- ▶ Participation in the preparation of a power sector restructuring/privatization implementation plan 15 Nov 1995
- ▶ Final report summarizing the activities completed and identification of legislative and regulatory tasks remaining and to be accomplished, and the status of the overall restructuring effort and on major issues that need to be addressed

6. EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Electricity Act and Energy Savings Law,
- ▶ Regulatory framework for the power sector,
- ▶ Framework for private sector development of power projects,
- ▶ Restructuring of energy enterprises into sustainable business units,
- ▶ Institutional building in Kazakhstan

7 STAFFING

Joellyn Murphy, Sr Energy Policy Specialist, will have general responsibility of managing this task, Y A Papafanasopula, Advisor to the Minister, will coordinate the legal & regulatory efforts for MOE&CO

MOE&CI counterparts include A A Dubatova, Deputy Head, Ministry Board, E Y Ryaskov, Deputy Dept Head, Coal & Atomic Industry, O S Vershinsky, Board of Director, Tsotenergo, K A Barzbyer, Chief Specialist, Y U Fomenko, Dept Head, and A N Staroverov, BOD, Kazakhstanenergo

Key personnel for this task include

U S Expatriate
Sr Lawyer- Paul Hunt

Sr Lawyer- To Be Selected
Sr Lawyer- William Steinmeyer
Jr Lawyer- Mary Ann Young
Sr Energy Policy Specialist- David Keith

Kazakh
Sr Energy Policy Specialist- To Be Selected

8. SCHEDULE

The schedule of the performance is from November 01, 1994 to January 31, 1996

9 LEVEL OF EFFORT

The professional level of effort for this task is 183 person-days of U S -based labor and 175 person days of Kazakh-based labor

**U S AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

TASK 3: PROVIDE TARIFF ASSISTANCE

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
November 01, 1994**

1 SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

The objective of this task is to provide tariff assistance to the GOK in the restructuring and privatization of the power sector and in the development of regulatory body.

2. BACKGROUND

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and Fuel Resources into two Ministries: the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister. KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan.

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominantly coal-fired), 12% is hydro and 1% is nuclear (from the Aktao Nuclear Power plant (Aktao) on the Caspian Sea and a research reactor located at Semipalatinsk).

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the

South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is thus subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

Electric tariff structures and rates are the same in each region. KE reviews its revenue and cost structures quarterly and submits tariff suggestions to the State Committee On Pricing Policy (STOPP). STOPP decides what the tariff structures and rates will be and issues a decree accordingly. All energo profits are deposited in a Fund for Price Regulation which redistributes profits to the non-profitable energos in an attempt to stabilize low electric and heating prices through the country. Three of the energos (Altay, Akibastuz and Pavlodar) are profitable. The remaining seven (7) energos operate at a loss and thus need to be subsidized.

Under the FSU regime, production of industrial goods was more important than the amount of energy consumed in their production, energy was supplied in unlimited quantities and at heavily subsidized prices to support both industrial and domestic sectors. As a result, electric tariffs do not reflect the fixed and variable costs of supply to the various classes of service. For example, electric revenues are estimated to be less than 30% of marginal cost, although it is not entirely clear that electric energy producers actually know what their actual costs are. The domestic electric tariff is only US \$ 0.002/kWh, approximately 75% less than the industrial tariff (US \$ 0.005 k/Wh). Cross border electricity prices (export and import prices are the equal) are approximately US \$ 0.042k/Wh with Russia, US \$ 0.032k/Wh with Kyrgyzstan, US \$ 0.0396k/Wh with Turkmenistan and US \$ 0.0416 k/Wh with Uzbekistan. Cross-border fuel prices are at market prices.

With respect to district heating, heat tariffs are set at the local energo level and vary among regions. Domestic customers are charged from US \$ 0.40 to 0.90/Gcal whereas industrial customers are charged from US \$ 6.50 to 12.00/Gcal. The average revenue from district heating sales is below costs.

The future of energos as commercially viable entities will require changing the corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require a different approach to management, organization, and a change in their commercial, accounting and financial policies.

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both

domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments

3. OBJECTIVE

The objective of this task is to describe and assess both regulatory and market-based alternatives for pricing electricity at (1) wholesale level, including the development of a competitive wholesale power market, and (2) at the retail level and (3) identify modifications to existing and proposed electricity tariff methodology and structures to establish an economic energy system attractive to foreign capital investment

4. SCOPE OF WORK

This task will include the following activities

- ▶ Describe and assess both regulatory and market-based alternatives for pricing electricity at the wholesale level, including the development of competitive wholesale power market, and recommendation which should be adopted by MOE&CI and to include in their proposed pricing/rate structure development effort
- ▶ Identify modifications to existing and proposed electricity tariff methodologies and structures to establish an economic energy system attractive to foreign capital investment and submit recommendations to KE and CG&E to aid in their development of a pricing/rate structure
- ▶ Prepare a report describing the regulatory alternatives for setting wholesale power prices in Kazakhstan based on generation cost of service
- ▶ Prepare a report on retail pricing options
- ▶ Conduct a workshop in Almaty to discuss wholesale and retail pricing and to choose one or more regulatory methodologies for further development
- ▶ Produce a final report incorporating the results of the workshop discussions and decisions

5. DELIVERABLES

- ▶ Trip reports to USAID
- ▶ Monthly progress reports to USAID
- ▶ Recommendations regarding modifications to existing and proposed electricity tariff methodologies and structures to KE 31 Mar 1995
- ▶ Report describing the regulatory alternatives for setting wholesale power prices in Kazakhstan based on generation cost of service 30 Apr 1995
- ▶ Workshop on selection of the form of the wholesale power market and retail pricing 31 May 1995
- ▶ Final report summarizing the activities completed and identifying future tariff analysis and modifications necessary to establish on-going basis for electricity tariff reform

6. EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Methodology and form of wholesale and retail pricing
- ▶ Institutional building in Kazakhstan

7. STAFFING

Joellyn Murphy, Sr Energy Policy Specialist, will have general responsibility of managing this task, Y A Papafanasopula, Advisor to the Minister, will coordinate this effort for MOE&CO

Key personnel for this task include

U S Expatriate
Sr Energy Policy Specialist - David Keith
Sr Energy Policy Specialist - Linda Kalver

Sr Energy Policy Specialist - Mark Lively

Kazakh

Sr Energy Policy Specialist - To Be Selected

8. SCHEDULE

The schedule of performance is from November 01, 1994 to January 31, 1996

9 LEVEL OF EFFORT

The professional level of effort for this task is 87 person-days of U S -based labor and 96 person days of Kazakh-based labor

**U S AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

**TASK 4: PROVIDE RESTRUCTURING AND PRIVATIZATION
ASSISTANCE**

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
November 01, 1994**

1. SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

This team will act as the focal point for issues or concerns during the restructuring and privatization effort. They will assist in drafting business plans, corporate plans, and structure of the power sector and enterprises. They will also identify areas where additional training, technical changes and supporting structures are required within the restructured power sector. The team will have funding limitations that will preclude them from providing the final product needed for each issue. In such a circumstance, they will assist the GOK in defining the scope of work and in finding the requisite resources.

2. BACKGROUND

Kazakhstan is the largest of the five Central Asian Republics and has a population of over 16.7 million, second largest within the FSU. The economy is linked with the other Central Asian Republics and Russia. Russia is Kazakhstan's largest trading partner and accounts for about 60% of its exports and over 65% of its imports. Goskomstat reports show an inflation rate of 670% over the December 1993-Jul 1994 period.

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and

Fuel Resources into two Ministries the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominately coal-fired), 12 % is hydro and 1% is nuclear (from the Aktao Nuclear Power Plant (Aktao) on the Caspian Sea and a research reactor located at Semipalatinsk)

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is thus subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

Electric tariff structures and rates are the same in each region. KE reviews its revenue and cost structures quarterly and submits tariff suggestions to the State Committee On Pricing Policy (STOPP). STOPP decides what the tariff structures and rates will be and issues a decree accordingly. All energo profits are deposited in a Fund for Price Regulation which redistributes profits to the non-profitable energos in an attempt to stabilize low electric and heating prices through the country. Three of the energos (Altay, Ekibastuz and Pavlodar) are profitable. The remaining seven (7) energos operate at a loss and thus need to be subsidized.

Under the FSU regime, production of industrial goods was more important than the amount of energy consumed in their production, energy was supplied in unlimited quantities and at heavily subsidized prices to support both industrial and domestic sectors. As a result, electric tariffs do not reflect the fixed and variable costs of supply to the various classes of service. For example, electric revenues are estimated to be less than 30% of marginal cost, although it is not entirely clear that electric energy producers actually know what their actual costs are. The domestic electric tariff is only US \$ 0.002/kWh, approximately 75% less than the industrial tariff (US \$ 0.005/kWh). Cross border electricity prices (export and import prices are the equal) are approximately US \$ 0.024/kWh with Russia, US \$ 0.032/kWh with Kyrgyzstan, US \$ 0.0396/kWh with Turkmenistan and US \$ 0.0416/kWh with Uzbekistan. Cross-border fuel prices are at market prices.

With respect to district heating, heat tariffs are set at the local energo level and vary among regions.

Domestic customers are charged from US \$ 0.40 to 0.90/Gcal whereas industrial customers are charged from US \$6.50 to 12.00/Gcal. The average revenue from district heating sales is below costs.

The future of energos as commercially viable entities will require changing corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require a different approach to management, organization, and a change in their commercial, accounting and financial policies.

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels to a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments.

3. OBJECTIVE

The primary objectives of the Restructuring and Privatization Working Group (RPWG) are to assist the GOK in developing an overall strategy for restructuring, regulating and privatizing KE to ensure that it can function efficiently and effectively in Kazakhstan's developing market economy. These objectives include:

- ▶ Providing a readily available consulting resource for the MOE&CI and other GOK agencies to obtain expert advice, assistance and information on the transition of the power sector to a market based economic system, and
- ▶ Creating a base of knowledge and a group of experts that will implement the restructuring and privatization of the power sector after the completion of this technical assistance effort.

4. SCOPE OF WORK

This task will include the following activities:

- ▶ Comprehensive review and assessment of the current and planned organization of the power sector and of the existing plans for its restructuring, corporatization and privatization.

- ▶ Develop 2-3 alternative restructuring options for the power sector, describe the advantages and disadvantages of each, the transitional stages required, and make recommendations regarding which should be adopted
- ▶ With respect to the alternatives and key decision that must precede privatization of KE, organize and sponsor a seminar/workshop on "The Kazakhstan Power Sector Organization and Privatization Plans" for the MOE&CI, KE and other GOK officials Present the basic options and assist them in making decisions regarding the restructuring, corporatization and privatization of the energy and electric power sector
- ▶ Assist the GOK, MOE&CI and KE in developing the framework for attracting private sector, independent power developer, participation, in the development of power projects
- ▶ In coordination with USEA, identify the need for select KE's executives, managers and specialists to visit the United States and other countries to become familiar with and gain experience in the ownership, organization, planning and operation of the electric power sector in market economies
- ▶ Assist MOE&CI and KE officials in developing a comprehensive description of the desired long-term structure and organization of the power sector and an implementation action plan for managing the transition from its current state to its long-term objective, and conduct a workshop in Almaty
- ▶ Provide analytical support as needed to further revise the privatization proposal, estimate its impacts on various parties, and support the drafting of legislation

5 DELIVERABLES

- ▶ Trip reports to USAID
- ▶ Monthly progress reports to USAID
- ▶ Report on assessment of the current and planned organization of the power sector and of the existing plans for its restructuring, corporatization and privatization 31 Jan 1995
- ▶ Report describing the advantages and disadvantages of the alternative structural models and ownership forms of the power sector 31 Jan 1995

- ▶ Workshop on “The Kazakhstan Power Sector Organization and Privatization Plans” 15 Mar 1995
- ▶ Report on suggested modifications to proposed GOK tax and customs duty methodologies to GOK 31 Jul 1995
- ▶ Report and workshop on restructuring/privatization of the power sector 31 Oct 1995
- ▶ Implementation action plan for restructuring/privatization of the power sector 15 Nov 1995
- ▶ Final report summarizing the activities completed and identification of remaining and to be accomplished, the status of the overall restructuring and privatization effort and on major issues that need to be addressed

6 EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Energy Act and Energy Savings Law,
- ▶ Regulatory framework for the power sector,
- ▶ Framework for private sector development of power projects,
- ▶ Restructuring of energy sector development of power projects,
- ▶ Institutional building in Kazakhstan

7. STAFFING

Sr Business Administrative Specialist (to be assigned), will have general responsibility of managing this task

Key personnel for this task include

U S Expatriate
Sr Privatization Specialist - Indira Crum

Sr Privatization Specialist - John Foley, Jr
Sr Financial Specialist - Ali Zavar
Sr Financial Analyst - To Be Selected

8. SCHEDULE

The schedule of performance is from November 01, 1994 to January 31, 1996

9. LEVEL OF EFFORT

The professional level of effort for this task is 145 person-days of U S based labor

**U.S AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

TASK 5: PROVIDE PRIVATE INVESTMENT ASSISTANCE

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
November 01, 1994**

1. SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

2. BACKGROUND

Kazakhstan is the largest of the five Central Asian Republics and has a population of over 16.7 million, second largest within the FSU. The economy is linked closely with the other Central Asian Republics and Russia. Russia is Kazakhstan's largest trading partner and accounts for about 60% of its exports and over 65% of its imports. Goskomstat reports show an inflation rate of 670% over the December 1993 - July 1994 period.

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and Fuel Resources into two Ministries: the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister. KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan.

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominantly coal-fired), 12% hydro and 1% nuclear (from the Aktao Nuclear Power Plant (Aktao) on the Caspian Sea and a research reactor located at Semipalatinsk).

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is thus subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

The future of energos as commercially viable entities will require changing the corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require a different approach to management, organization, and a change in their commercial, accounting and financial policies.

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels to a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments.

3. OBJECTIVE

The basic function and objective of Private Investment (PIWG) will be to recommend specific actions required to prepare and effectively integrate the power sector of Kazakhstan into national and international securities markets. An important complementary responsibility of this group will be to influence the formation of financial markets in Kazakhstan to assure that they serve the needs of the power sector.

4. SCOPE OF WORK

This task will include the following activities:

- ▶ Undertake a review of the present and planned financial market in Kazakhstan
- ▶ Recommend a strategy for securities management in a market economy
- ▶ Based upon all of the above, make recommendations to LRWG on the legal and

regulatory framework required to attract and maintain an adequate supply of capital

- ▶ Recommend a program for integrating Kazakhstan's power sector into both national and international financial markets, including steps, a schedule, and budget for implementation
- ▶ Review existing information on the Aktyubinsk Power Station and Almaty Thermal Power Plant No 2 and recommend a strategy for attracting foreign investment
- ▶ In conjunction with IIE and USEA, conduct a workshop on the "Evaluation of Power Sector Investment Projects"

5. DELIVERABLES

- ▶ Trip reports to USAID
- ▶ Monthly progress reports to USAID
- ▶ Proposed strategy for securities management in market economy 15 May 1995
- ▶ Proposal for integrating Kazakshta's power sector into both national and international financial markets 30 Jun 1995
- ▶ Strategy for attracting foreign capital for financing the Aktyubinsk Power Station and Almaty Thermal Power Plant No 2 and recommend a strategy for attracting foreign capital 30 Jul 1995
- ▶ Final report summarizing the activities completed, identification of tasks remaining and to be accomplished, the status of the overall restructuring and privatization effort and on major issues to be addressed

6. EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Framework for private sector development of power projects,

- ▶ Restructuring of energy enterprises into sustainable business units,
- ▶ Strategy for attracting foreign capital for financing private sector power and energy projects,
- ▶ Institutional building in Kazakhstan

7. STAFFING

Sr Investment Banker (To Be Selected) will have general responsibility of managing this task

Key personnel for this task include

- U S Expatriate
- Sr Financial Analyst - To Be Selected
- Sr Privatization Specialist - John Foley, Jr

8. SCHEDULE

The schedule of performance is from November 01, 1994 to January 31, 1996

9. LEVEL OF EFFORT

The professional level of effort for this task is 129 person-days of U S -based labor

**U S. AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)
ENERGY REGULATORY REFORM AND RESTRUCTURING
REPUBLIC OF KAZAKHSTAN**

TASK 6: PROVIDE PUBLIC HEALTH ASSISTANCE

TASK DESCRIPTION

**RCG/Hagler Bailly, Inc
November 01, 1994**

1. SUMMARY

The Government of Kazakhstan (GOK) is presently in the process of privatizing Kazakstanenergo (KE), a utility corporation created by the GOK under the Ministry of Energy & Coal Industry (MOE&CI), and revising its overall energy policies to attract private investment and reduce energy vulnerability in the near future and energy independence in the long run. Implementing the GOK's plans will require significant efforts in the areas of restructuring and privatization.

The objective of this task is to provide assistance to the GOK in addressing issues of working conditions and environmental limitations to be considered in the restructuring and privatization of the power sector.

2 BACKGROUND

Kazakhstan is the largest of the five Central Asian Republics and has a population of over 16.7 million, second largest within the FSU. The economy is linked closely with the other Central Asian Republics and Russia. Russia is Kazakhstan's largest trading partner and accounts for about 60% of its exports and over 65% of its imports. Goskomstat reports show an inflation rate of 670% over the December 1993-July 1994 period.

The GOK reorganized the energy sector in January 1994. The GOK split the Ministry of Energy and Fuel Resources into two Ministries: the MOE&CI and the Ministry of Oil and Gas Industries under the same Deputy Prime Minister. KE, a corporation created by the GOK under the MOE&CI in February 1992, is responsible for the production and distribution of heat, steam and hot water throughout Kazakhstan.

KE's electric power system has 64 power stations with an installed capacity of about 16,000 MW.

RCG/Hagler Bailly

and employs over 103,000 workers. Of the total capacity, 87% is thermal (which is predominantly coal-fired), 12 % is hydro and 1% is nuclear (from the Aktao Nuclear Power Plant (Aktao) on the Caspian Sea and research reactor located at Semipalatinsk)

The electric power system is subdivided into three (3) regional power grids which are isolated due to low power transfer capacity of the transmission interconnecting facilities. The north, the largest, consists of six (6) energos, the west consists of two (2) energos and is connected to Russia, and the South consists of two (2) energos and connected to Kyrgyzstan. Each energo is semi-autonomous, headed by a President appointed by KE (and is this subject to the control of KE), and is responsible for the generation, transmission and distribution of electricity and heat within its respective service area.

The future of energos as commercially viable entities will require changing the corporate culture from one of a provider of social services to one that is profit and customer service driven. This will require a different approach to management, organization, and a change in their commercial, accounting and financial policies.

The Kazakhstan-American effort is expected to result in a power sector reorganization and privatization plan, legal and regulatory framework for the sector, a strategy for moving electricity and district water heating prices from their present subsidized levels a level required to attract and maintain private, non-government, investment, a strategy to guarantee the sector's access to both domestic and foreign financial markets, and the design and initial implementation of a plan for the promotion of early domestic and foreign private, non-government, investments.

3. OBJECTIVE

The objective of this task is to identify issues relating to working conditions and environmental limitations to be considered in developing the framework for privatization of the electric power sector.

4 SCOPE OF WORK

This task will include the following activities:

1. Develop a plan for assessing the working conditions and environmental impacts on the electric power sector resulting from the restructuring, privatization, regulatory and legislative activities.

- 2 Prepare a report on issues which need to be addressed in order to resolve major health and related environmental problems

5. DELIVERABLES

Trip reports to USAID

Monthly progress reports to USAID

- ▶ Proposal for assessing the working conditions and environmental impacts on the electric power sector resulting from the restructuring, privatization, regulatory and legislative activities 15 Aug 1995
- ▶ Report on issues which need to be addressed in order to resolve major health and related environmental problems 30 Nov 1995

6. EXPECTED RESULTS

The activities of this effort are expected to result in the following

- ▶ Restructuring of energy enterprises into sustainable business units,
- ▶ Institutional building in Kazakhstan

7. STAFFING

Cathryn Goodard, Sr Energy Policy Specialist, will be responsible for this task

Kazakh
Sr Energy Policy Specialist - To Be Selected

8. SCHEDULE

The schedule of performance is from February 01, 1995 to December 31, 1995

9. LEVEL OF EFFORT

PROVIDE PUBLIC HEALTH ASSISTANCE ▶ T6-4

The professional level of effort for this task is 22 person-days of U S -based labor and 11 person-days of Kazakh-based labor