CAEPCO

Центрально-Азиатская
Электроэнергетическая Корпорация

Corporate report

on Environmental and Social Action Plan

of «Central-Asian Electric

Power Corporation», JSC

for the year 2011

Almaty, 2012

CONTENTS

This report of "Central Asian Electric Power Corporation", JSC (hereinafter abbreviated as CAEPCO, JSC) is prepared according to the requirements of Environmental and Social Action Plan (hereinafter abbreviated as ESAP) and prepared as part of the investment program in accordance with the Policy of the European Bank for Reconstruction and Development (EBRD) in respect to the environmental protection of the EBRD-financed projects.

CAEPCO, JSC (hereinafter Company) is a vertically-integrated energy holdings represented by the energy enterprises in Pavlodar and North Kazakhstan regions including all the elements of electricity supply – generation, transmission and distribution and by distribution company in Astana.

The Company contains of:

1. Group of companies of "PAVLODARENERGO", JSC (hereinafter "PE", JSC) - "Pavlodar Heat Distribution Company", LLP (hereinafter "PHDC" PE), "Pavlodar Regional Electric Distribution Company", JSC (hereinafter "PREDC", JSC), "Pavlodarenergosbyt", LLP (hereinafter "PEsbyt", JSC)

2. Group of companies of "SEVKAZENERGO", JSC (hereinafter "SKE", JSC) – "North Kazakhstan Regional Electric Distribution Company", JSC (hereinafter "NKREDC", JSC), "Petropavlovsk Heat Distribution Company", LLP (hereinafter "PHDC", LLP), "Sevkazenergosbyt", LLP (hereinafter "SKEsbyt", LLP)

1. Environmental policy and concepts of environmental activities of the company

Interests of the environmental protection are one of the most important among the priorities of the Programme of strategic development of the Company. Prevention of pollution of the environment is decisive in all decision-making for the production of electricity and thermal energy. Environmental pollution is easier to be prevented rather than eliminated. During the introduction of new technologies, the level of their impact on the environment and the efficiency usage of energy and natural resources is assessed.

Environmental policy of the Company was developed in accordance with Concept of ecological safety of the Republic of Kazakhstan for 2004-2015 years, Environmental Code and ISO 14000 standards based on the tasks set by Environmental and Social Actions Plan. The acquaintance with the environmental policy on the subsidiaries of the Company was implemented with the help of acquaintance lists. The Policy is displayed on the information boards of Environment Management System in all the departments. It was published in "Energetic" newspaper # 13 (2348) dated 17 July 2009.

The Company intends to do everything possible to prevent negative environmental impacts and adopt practices that meet the requirements of ISO 14001.

The fundamental principles of environmental policy are the following:

- recognition of the constitutional human right on healthy environment;
- consideration of priority of environmental security as an integral part of national security;
- guidance by considerations of feasibility and environmental principles of the environmental management system during the development of economic strategy;
- energy saving and rational use of natural resources and energy at all stages of production of electricity and heat;
- the reduction of emissions and wastes from the production of electricity and heat, and environmentally safe treatment for them;
- carrying out activities aimed on reduction and prevention of accidents and reduction of their negative impact on the environment;
- improvement of technological processes of generation of electricity and heat energy.
- openness and accessibility of environmental information, immediate notification of all interested parties about the accident, their environmental impacts and measures for their elimination;
- openness and accessibility of results of environmental monitoring;
- involvement of all personnel of the enterprises in environmental activities of the enterprises through the development and improvement of environmental education of employees; demand all employees to follow safety regulations, environmental standards and rules necessary to comply with environmental policies and achievement the effectiveness of environmental performance.

Top management of "CAEPCO", JSC undertakes the liability for implementation of the stated environmental policy and maintenance of environmental management system.

Environmental activities of the Company are being performed in the following directions:

1. Organization and implementation of production monitoring in order to achieve target indicators of environmental quality:
    - Ambient air monitoring, including:
        - monitoring of operating efficiency of gas-and-dust purifying equipment and compliance with established emissions standards;
        - monitoring of ambient air pollution level on the border with the company's sanitary zone and ash ponds;
        - monitoring of hazardous substances concentration in the company's emissions;
        - monitoring of the quality of instrumental measurements;
    - Water Resources monitoring, including:

  - monitoring of pollution level of underground water at the industrial sites of the company and on the border with the ash pond sanitary zone.
- Soil, land resources and production wastes monitoring, including:
  - monitoring of soil contamination level in the area of the company industrial sites and ash ponds;
- Monitoring of production, management and location of production and consumption wastes;
- Development and planning of environmental activities;
- Monitoring of implementation of the nature-conservative measures;
- Estimation of impact level on the environmental components.
- Minimizing the impact of production processes of the enterprises on the components of environment and human health;
- Formation of a higher level of environmental awareness and responsibility of managers and employees of the Company;
- Increasing production and environmental efficiency of the system of environmental protection management.

2. Registration of environmental emissions, industrial monitoring data analysis, compliance with environmental requirements, provision of industrial ecological monitoring data.

3. Organization of internal inspections. Implementation of preventive and corrective actions aimed at the elimination of violations of environmental legislation of the Republic of Kazakhstan.

4. Implementation of analysis of the company's environmental protection activity and ecological efficiency of environmental protection management system in the company.

2. Social activities of the Company

"PAVLODARENERGO", JSC

The company concluded contract # SU-14/2011/8040.09 dated 15.07.2011 on organization and implementation of the certification audit of the Occupational Health and Safety Management System adopted by the audit client (hereinafter "OHSMS") to verify the company's compliance with the requirements of international standard OHSAS 18001:2007. The work on development and implementation of the Occupational Health and Safety Management System is completed: in accordance with the approved programme of development and implementation of the occupational health and safety system for the period of 2010-2011, the documented procedures were developed according to international standard OHSAS 18001:2007 at "PAVLODARENERGO", JSC. The work on risk assessment (drawing-up of registers) at CHP-2, CHP-3 and Ekibastuz CHP was carried out. The aims and programmes of Occupational Health and Safety Management System were developed, and the internal audit was conducted. Certification of Occupational Health and Safety Management System at "PE", JSC to confirm its compliance with OHSAS 18001 requirements was carried out in the 4th quarter of 2011. The company received certificate #OS-4870-0020.

"SEVKAZENERGO", JSC

The contract wit "TÜV International RUS Ltd., Entrepreneurial Group TÜV Rheinland / Berlin-Brandenburg", LLC # 246 of 11.03.2011, on the provision of services for organizing and conducting the certification audit of the Integrated Management System for compliance with international standards ISO 9001:2008, ISO 14001 : 2004 and OHSAS 18001-2007. Certification was successfully carried out.

Also with the company "TÜV International RUS" LLC and TÜV Rheinland InterCert Kft were signed:
- Agreement on the transfer of the right to use in advertising sign TÜV Rheinland InterCert ISO 14001;
- Agreement on the transfer of the right to use in advertising sign TÜV Rheinland InterCert ISO 9001;
- Agreement on certification and instructions for use certified TÜV Rheinland InterCert to issue a certificate, according to the standard ISO 14001:2004,
- Agreement on certification and instructions for use certified TÜV Rheinland InterCert to issue a certificate under the standard ISO 9001:2008,
- Agreement on certification and instructions for use certified TÜV Rheinland to issue the certificate, according to the standard OHSAS 18001-2007.

"SEVKAZENERGO", JSC were received in English, Russian and Kazakh languages the following certificates:
1) ISO 9001:2008: # 75 100 70429, Moscow, valid from 01.08.2011 to 31.07.2014
2) ISO 14001:2004: # 75 110 0505 Brussels, with validity from 07.09.2011 till 06.09.2014
3) OHSAS 18001-2007: # OS-4870-0010, Moscow, valid from 30.07.2011 till 29.07.2014

The company conducted an internal audit in accordance with the internal audit program for 2011. In the second quarter of 2012 is planned for the first surveillance audit by expert audito "TÜV International RUS Ltd., Entrepreneurial Group TÜV Rheinland / Berlin-Brandenburg", LLC.

"North-Kazakhstan Regional Electric Distribution Company" , JSC

"North Kazakhstan Regional Electric distribution Company", JSC and "Kazakhstan Center of Training and Consulting", LLP have concluded Contract # 248 from April 29th, 2011, for provision of consulting services on development and introduction of Quality Management System, Ecology Management System, Professional Security and Health Care System under the requirements 1S0 9001:2008, 1S0 14001:2004 and OHSAS18001:2007. Projects of Development and introduction of Integrated Management System have been completed. Internal audit at 2011 year has been made. On 2012 there will be concluded the Contract with "National Center of Expertise and Certification" WKB JSC for holding certification audit of Integrated Management System under the requirements 1S0 9001:2008, 1S0 14001:2004 and OHSAS18001:2007. At the end of this certification audit it is planned to receive the compliance certificate of management systems.

3. Environmental regulations of activities of the Company for 2011

In the context of economic activity the Company complies with the requirements of current legislation in the field of environmental protection regulated by Ecological Code and other regulatory legal acts of the Republic of Kazakhstan.

Established ecological regulations of the company's enterprises

"PAVLODARENERGO", JSC (CHP-2, CHP-3, and Ekibastuz CHP)

- insurance policy # GO 1681607 of OC series dated 10.03.2011. The insurance policy is valid up to 09.03.2012.
  Updating of Draft regulations for maximum permissible emissions for CHP-2 of "PAVLODARENERGO", JSC approved by Irtysh Ecology Department in 2011 (conclusion #3-2-13/3145 dated 16.08.2011);
- updating of Draft regulations for maximum permissible emissions for CHP-3 of "PAVLODARENERGO", JSC approved by the Environmental Regulation and Control Committee in 2011 (conclusion #10-02-16/2787 dated 31.08.2011);
- draft regulations for maximum permissible emissions for Ekibastuz CHP of "PAVLODARENERGO", JSC approved by Irtysh Ecology Department in 2011 (conclusion # 3-2-13/4090 dated 19.10.2011);
- environmental impact assessment of enterprise "Ekibastuz Heating Plant" of "PAVLODARENERGO", JSC for 2007. Conclusion of state ecological expertise # 7-12-1/999 dated 18.04.2008;
- environmental impact assessment of enterprises CHP-2 and CHP-3 of "PAVLODARENERGO", JSC for 2007. Conclusion of state ecological expertise on EIA of CHP-2 and CHP-3 of "PAVLODARENERGO", JSC # 7-12-1/1718 dated 17.08.2007;
- draft regulations for waste disposal, approved 23.02.2010 by Irtysh Environmental Department. Conclusion of state ecological expertise on the project "Standards for wastes disposal of Ekibastuz CHP of "PAVLODARENERGO", JSC # 3-2-12/922 dated 23.02.2010;
- draft regulations for production and consumption waste disposal for CHP-2 and CHP-3 of "PAVLODARENERGO", JSC approved 15.06.2010 by the Environmental Regulation and Control Committee of the Ministry of Environmental Protection of the Republic of Kazakhstan. Conclusion of the state ecological expertise on the project "Standards for production and consumption waste disposal of CHP-2 and CHP-3 of "PAVLODARENERGO", JSC" #06-03-01-18/236-1 dated 15.06.2010;
- conclusion of state ecological expertise on project materials:

- "Reconstruction of the ash removal unit of boiler #9 of BKZ-75-39FB type at Ekibastuz CHP of "PAVLODARENERGO", JSC including installation of a battery emulsifier of the II generation" (conclusion #3-2-12/573 dated 17.02.2012)
- "Reconstruction of the ash removal unit of boiler #6 of BKZ-75-39FB type at Ekibastuz CHP of "PAVLODARENERGO", JSC including installation of a battery emulsifier of the II generation" (conclusion #3-2-12/2158 dated 03.06.2011)
- "Installation of turbo unit #1 of PT-65/75-130/13 type at CHP-3 "PAVLODARENERGO", JSC" (conclusion # 3-2-12/5173 dated 22.10.2010)
- "Construction of the 2nd stage of CHP-2 ash pond of "PAVLODARENERGO" JSC" (conclusion #3-2-12/464 dated 03.02.2012)
- "Reconstruction of pressure earthwork structures of CHP-2 ash storage area (ash pond) in Pavlodar" (conclusion #3-2-12/4216 dated 27.10.2011)
- "Reconstruction of pressure earthwork structures of CHP-3 ash storage area (ash pond) in Pavlodar" (conclusion #3-2-12/5322 dated 23.12.2011)
- "Reconstruction of the ash removal unit of boiler #6 of BKZ-420-140 type at CHP-3 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of the II generation" (conclusion #3-2-12/2733 dated 15.07.2011)
- "The ash removal unit of boiler station #4 of BKZ-160(190)-100 type of CHP-2 of "PAVLODARENERGO", JSC with battery emulsifiers of the II generation" (#3-2-12/2707 dated 13.07.2011)
- "Reconstruction of the ash removal unit of boiler #7 of BKZ-75-39FB type at Ekibastuz CHP of "PAVLODARENERGO", JSC including installation of a battery emulsifier of the II generation" (conclusion #3-2-12/596 dated 14.02.2011)
- Construction of the 2nd stage of CHP-3 ash pond of "PAVLODARENERGO", JSC (conclusion #3-2-12/4544 dated 10.09.2010)
- "Reconstruction of the ash removal unit of boiler BKZ-75-39F including installation of battery emulsifiers of II generation (boiler #8)" (conclusion #3-2-12/4012 dated 30.11.2009)
- "Reconstruction of the ash removal unit of boiler #5 of BKZ-420-140 type at CHP-3 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation" (conclusion #3-2-12/1623 dated 04.06.2009)
- "Reconstruction of the ash removal unit of boiler #4 of BKZ-420-140 type at CHP-3 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation" (conclusion #3-2-12/4574 dated 14.09.2010)
- "The ash removal unit of boiler #2 of BKZ-160(190)-100 type at CHP-2 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation (conclusion #3-2-12/4613 dated 16.09.2010)
- "The ash removal unit of boiler #5 of BKZ-160(190)-100 type at CHP-2 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation" (conclusion #06-03-01-18/7947 dated 10.09.2009)
- "Reconstruction of the ash removal unit of boiler #5 of BKZ-420-140 type at CHP-3 of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation" (conclusion #06-03-01-18/7948 dated 10.09.2009)
- "Reconstruction of pressure earthwork structures of CHP-3 ash pond in Pavlodar" (conclusion #3-2-12/4285 dated 20.08.2010)
- "Restoration of the ecological state of ground areas in the anthropogenic domain of CHP-3 ash pond" (conclusion #3-2-12/2086 dated 20.06.2010)
- "Reconstruction of boiler unit #1 of BKZ-420-140 type CHP-3 of JSC "Pavlodarenergo" (conclusion #3-2-12/1094 dated 09.07.2010)
- "Reconstruction of the ash removal unit of boiler #3 of BKZ-420-140 type of "PAVLODARENERGO", JSC including installation of battery emulsifiers of II generation" (conclusion #7-12-1/515 dated 28.08.2008)

"Pavlodarskiye Teplovyie Seti", LLP

- draft Standards for maximum permissible emissions (MPE) for "Pavlodarskiye Tepolyie Seti", LLP. Conclusion of the state ecological expertise #1-14/UP-687 dated 28.07.2011 on the project of maximum permissible emissions for "Pavlodarskiye Tepolyie Seti", LLP;
- environmental impact assessment of Ekibastuz Heat Distribution Company of "Pavlodarskiye Tepolyie Seti", LLP. Conclusion of the state ecological expertise #1-14/UP-885 dated 25.10.2011 on the Environmental Impact Assessment Project;
- draft standards for wastes disposal for "Pavlodarskiye Teplovyie Seti", LLP (including Pavlodar and Ekibastuz heating networks). Conclusion of the state ecological expertise #1-12/UP dated 02.06.2011on the project of Draft standards for wastes disposal;
- permit for emissions into the environment # 0000523 issued by State Institution "Department on Natural resources and Environmental Management Regulation in Pavlodar oblast" for 2011, giving the right to "Pavlodarskiye Teplovyie Seti", LLP to emit pollutants in the amount of 1.0133 tons;
- permit for emissions into the environment # 0001469 issued by State Institution "Department on Natural resources and Environmental Management Regulation in Pavlodar oblast" for 2012-2015, giving the right to "Pavlodarskiye Teplovyie Seti ", LLP to emit pollutants in the following amounts:1.94156278 tons in 2012; 1.94156278 tons in 2013; 1.94156278 tons in 2014; and 1.94156278 tons in 2015;
- permit for emissions into the environment # 0001470 issued by State Institution "Department on Natural resources and Environmental Management Regulation in Pavlodar oblast" for 2012-2015, giving the right to Ekibastuz Heat Distribution Company of "Pavlodarskiye Teplovyie Seti", LLP to emit pollutants in the following amounts:1,3657226 tons in 2012; 1.3657226 tons in 2013; 1.3657226 tons in 2014; and 1.3657226 tons in 2015.

As of 01.01.2012, "Pavlodar Regional Electric Distribution Company", JSC has:

- conclusion of the state ecological expertise on the working draft "Construction (carry-over) of TP-352 in the area of the City Palace of Culture named after Estay in Pavlodar" #1- 12/UP-379 dated 14.06.2010;
- conclusion of the state ecological expertise on the working draft "Construction of temporary substation "Usolskaya-2"-110/10kV and construction of sealing-off from LEP-110kV (transmission line) #104 and its connection to a temporary substation "Usolskaya-2"-110/10kV in Usolskiy micro-district of Pavlodar, in Tkachev street" #1-12/UP-885 dated 19.11.2010;
- conclusion of the state ecological expertise on Environmental Impact Assessment of the production plant located at 79, Suvorov st. in Pavlodar of "Pavlodar Regional Electric Distribution Company", JSC # 1-12/UP-354 dated 18.06.2010;
- environmental impact assessment of the structural unit "PREDC", JSC City Organization for Intrahouse Electricity Networks 2009. Conclusion of state ecological expertise #12/1-12/ -451 dated 12.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – IEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-452 dated 12.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC- MEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-453 dated 12.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – BEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-454 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – UEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-455 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC- JEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-456 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – LEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-457 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – ShEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-458 dated 12.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – KEDN 2009.

Conclusion of state ecological expertise #12/1-12/Ur-459 dated 08.10.2009;

- environmental impact assessment of the structural unit "PREDC", JSC – ZEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-460 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – AEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-448 dated 08.10.2009.
- environmental impact assessment of the structural unit "PREDC", JSC – AEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-449 dated 08.10.2009;
- environmental impact assessment of the structural unit "PREDC", JSC – PEDN 2009. Conclusion of state ecological expertise #12/1-12/Ur-450 dated 08.10.2009;
- environmental impact assessment of the structural unit "PavldarEnergoService", JSC – COEN 2008. Conclusion of the state ecological expertise on compliance with environmental standards and requirements # 7-12-1/1039 dated 23.04.2008. In connection with renaming of the company into "PREDC", JSC in March 2009, the company received Conclusion of state ecological expertise # 3-2-12/2030 dated 17.07.2009;
- environmental impact assessment of the structural unit "PavldarEnergoService", JSC – WOEN 2008. Conclusion of state ecological expertise on compliance with environmental standards and requirements # 7-12-1/1038 dated 23.04.2008. In connection with renaming of the company into "PREDC", JSC in March 2009, the company received Conclusion of state ecological expertise # 3-2-12/2030 dated 17.07.2009;
- permit # 0000381 dated 01.04.2010 for emissions into the environment for 2010-2012, giving the right to "PREDC", JSC – West Organization for Electricity Networks to produce emissions;
- permit # 0000382 dated 01.04.2010 for emissions into the environment for 2010-2012, giving the right for emissions to "PREDC", JSC – City Organization for Electricity Networks to produce emissions;
- permit # 0000383 dated 01.04.2010 for emissions into the environment for 2010-2013 giving the right for emissions to "PREDC", JSC – District Electricity Distribution Networks to produce emissions;
- permit # 0000479 dated 30.07.2010 for emissions into the environment for 2010-2014 giving the right for emissions to "PREDC", JSC – production plant in 79, Suvorov st. to produce emissions.

"SEVKAZENERGO", JSC

- assessment of Environmental Impact for the "SEVKAZENERGO Petropavlovsk", LLP for 2009-2013. The conclusion of the state environmental review for the EEIA project for "SEVKAZENERGO Petropavlovsk" LLP # 06-03-01-18/7078 on 27.08.2009;
- draft standards of maximum allowable discharges for "SEVKAZENERGO", JSC for 2011-2015. The conclusion of the state environmental review for the project PDS for "SEVKAZENERGO", JSC # 10-02-15/5675 on 15.12.2010;
- draft standards for maximum permissible emissions (MPE) of pollutants for "SEVKAZENERGO", JSC for 2011-2015. The conclusion of the state environmental review for the project MPE for "SEVKAZENERGO", JSC # 10-02-15/5676 on 15.12.2010;
- conclusion of the state environmental review based on the assessment of environmental impacts (III stage) to the project "Construction of the section # 3 ash dump # 2 (adjustment) of "SEVKAZENERGO", JSC # 03-05/1116 of 02.06.2011;
- draft regulations for waste "SEVKAZENERGO Petropavlovsk", LLC for 2008-2012. The state environmental expertise to the project WPN for the "SEVKAZENERGO Petropavlovsk", LLP # 04-13/2601 of 17.06.2008;
- resolution on environmental emissions for 2011-2012 for "SEVKAZENERGO", JSC # 0056432 from 30.12.2010, that provides the right to produce emissions - 45 073.460671 tons, discharges - 11 204.902 tons of waste production and consumption – 1123 388.04 tons;
- conclusion of the state environmental review materials Pre-EEIA feasibility study "The reconstruction of Petropavlovsk CHP-2 with the replacement of turbine # 4 and boiler # 8" # 05-10/2546 of 04.08.2010;

- conclusion of the state ecological expertise EPM in the project "System of transport dust high concentration (DHC) with the reconstruction of burners for boilers BVK-220-100-4 and TP-46A "SEVKAZENERGO", JSC # 05-10/2691 of 12.08.2010 ;
- action Plan for the Environment "SEVKAZENERGO", JSC in 2011 - 2012;
- the program of industrial ecological control for "SEVKAZENERGO", JSC in the 2011-2012;
- passports of hazardous waste, designed in 2010;
- insurance policy # 004108 OSE series on 23.09.10, the validity of an insurance policy until 9.23.11; the insurance policy # 0000201 OES series on 23.09.11, the validity of an insurance policy until 23.09.12;

"Petropavlovsk Heat Distribution Company", LLP

- insurance policy, series number 0000110 dated 15.02.12. The period of validity until 16.02.13;
-draft version of MPE (maximum permissible emission) standards for "Petropavlovskie Teplovye Seti", LLP approved in 2009 by Department for natural resources and environmental management in North Kazakhstan Region. Conclusion of the state ecological examination to the draft version of maximum permissible emission for the "Petropavlovskie Teplovye Seti", LLP # 03-3115 dated 31.12.2009;
-assessment of Environmental Impact of Enterprise for "Petropavlovskie Teplovye Seti", LLP. Conclusion of the state ecological examination - # 03.10-03/436 dated 02.03.2010;
- hazardous waste certificate, 13 types dated 2009 approved by the North Kazakhstan branch of "Esil Department for Ecology";
- hazardous waste certificate, three types dated 2012 approved the North Kazakhstan branch of "Esil Department for Ecology";
- permit for environmental emission Series T - 13 # 0000734 dated 15.04.2010 issued by Department for natural resources and environmental management in North Kazakhstan Region for years 2010 - 2014, which allows "Petropavlovsie Teplovye Seti", LLP to make emissions of wastes as follows:
in 2010 – 3,3332643 tons, in 2011. – 4,7057849 tons, in 2012. – 4,7057849 tons, in 2013. – 4,7057849 tons, in 2014. – 4,7057849 tons;
- inventory of emissions to the atmosphere for "Petropavlovsie Teplovye Seti", LLP;
-sanitary and Epidemiological Conclusion No. 252 dated 21.12.11 for the project "Reconstruction of a heat main No. 8 2Du 600 mm from NS (pumping point) 4 to TK (heat chamber)-8-07 on the street Amangeldy (first instance)".

"North-Kazakhstan Regional Electric Distribution Company", JSC

- environmental impact assessment for "North-Kazakhstan Regional Electric Distribution Company", JSC for 2008-2012. Conclusion of state ecological expertise for draft Environmental Impact Assessment for "North-Kazakhstan Regional Electric Distribution Company" ,JSC # 104-13/7165 dated 31.12.2008;
- program for production and ecological monitoring of industrial sites for "North-Kazakhstan Regional Electric Distribution Company" ,JSC # 15-001 dated 03.12.2007;
- draft standards of maximum permissible emissions (MPE) for "North-Kazakhstan Regional Electric Distribution Company", JSC for the period of 2008-2012. Conclusion of state ecological expertise for draft MPE for "North-Kazakhstan Regional Electric Distribution Company", JSC # 03-04/639 dated 09.04.2008;
- permit for emissions into environment for 2010 for "North-Kazakhstan Regional Electric Distribution Company", JSC # 0036915 Series T- 13 dated on 15.01.2008, giving the right to produce emissions of contaminants – 11.254290707 tons and production and consumption wastes – 51.307 tons.

4. Key environmental indicators of the company for 2011

Environmental protection is the part of the content of daily work of the company's enterprises. Company Enterprises are working on metering the emissions into the atmosphere and waste generated during the production.

4.1. Hazardous emissions into the atmosphere

Report Data on emissions of the Company for 2011 in group of companies "PAVLODARENERGO", JSC and "SEVKAZENERGO", JSC (tons)

Emissions of air pollutants	"PE", JSC		"SKE", JSC		**"CAEPCO", JSC**	
	Limit	Actual	Limit	Actual	Limit	Actual
Total, including	77 676	53 883	45 073	38 843	122 749	92 726
Coal ash (nonorganic dust 70-20% silica)	30 423	18 339	14 970	11 227	45 393	29 566
Nitrogen dioxide	8 904	7 688	5 317	4 817	14 221	12 505
Nitric Oxide	1 444	1 247	864	783	2 308	2 030
Sulfur dioxide	34 964	24 997	19 887	18 376	54 851	43 373
Carbon monoxide	1 843	1 514	3 714	3 613	5 557	5 127
Other	98	98	15 291	27	15 389	125

Report Data of "PAVLODARENERGO", JSC CHP for 2011 (tons)

Emissions of air pollutants	CHP-2		CHP-3		Ekibastuz CHP		"PE", JSC, total	
	Limit	Actual	Limit	Actual	Limit	Actual	Limit	Actual
Total, including	14 723	11 038	50 514	34 012	12 439	8 833	77 676	53 883
Coal ash	6 332	4 013	20 308	10 770	3 783	3 556	30 423	18 339
Nitrogen dioxide	1 109	1108	6 407	5 321	1 388	1 259	8 904	7 688
Nitric Oxide	180	179	1 039	863	225	205	1 444	1 247
Sulfur dioxide	6 695	5361	21 303	15 898	6 966	3 738	34 964	24 997
Carbon monoxide	390	360	1 417	1 120	36	34	1 843	1 514
Other	17	17	40	40	41	41	98	98

Note: Permitted emissions to air by Ministry of Environmental Protection in table indicated as Limit of emissions and actual volume of emissions indicated as Actual.

Report Data of "Pavlodarskiye Teplovyie Seti", LLP for 2011 (in tons)

Emissions of air pollutants	Pavlodarskiye Teplovyie Seti		Ekibastuz Heat Distribution Company		Total, Pavlodar and Ekibastuz	
	Limit	Actual	Limit	Actual	Limit	Actual
Total, including	1,013	1,366	0,856	1,968	1,869	3,334
Fluorochemical	0,011	0,016	0,006	0,006	0,017	0,022
Nitrogen dioxide	0,097	0,120	0,122	0,159	0,219	0,279
Iron II oxide	0,548	0,629	0,250	0,250	0,798	0,879
Manganese and its compounds	0,043	0,050	0,013	0,014	0,056	0,064
Carbon monoxide	0,191	0,385	0,389	1,297	0,58	1,682
Other	0,123	0,167	0,076	0,244	0,199	0,411

In 2011 the range of pollutants increased, as well as volumes of environmental emissions. Those changes are regulated in the established order by the following drafts, including:

- regulations for maximum permissible emissions for Pavlodar heating networks of "Pavlodarskiye Teplovyie Seti", LLP. According to Conclusion #1-14/UR-687 dated 28.07.2011 of the state ecological expertise on the maximum permissible emissions (MPE) volume for "PTS", LLP, the amount of environmental emissions shall be within the limit of 1.94156278 tons;
- environmental Impact Assessment of Ekibastuz Heat Distribution Company of "PTS", LLP; according to Conclusion #1-14/UR-885 dated 25.10.2011 of the state ecological expertise on the EIA Draft, the amount of environmental emissions shall be within the limit of 1.3657226 tons.

In the Report Data of "PTS", LLP for 2011 in respect of Pavlodar and Ekibastuz heating networks the amount of emissions is 3.337 tons per year, taking into consideration the present changes regulated by the maximum permissible emissions draft and EIA Draft.

	Contents, mg/Nm3 for α = 1,4									
	CHP-2 PE		CHP-3 PE		Ekibastuz CHP PE				PCHP-2 SKE	
					Pipe # 1		Pipe # 2			
	MPE	Actual	MPE	Actual	MPE	Actual	MPE	Actual	MPE	Actual
Nox	371	358	555	543	550	501	575	524	682	553
SO_2	1 598	1 113	1 404	1 148	2214	846	2214	745	1 177	618
CO	97	83	97	90	100	100	258	116	300	168
Coal ash	1 558	540	1 372	470	1 177	977	1 194	862	1 191	316

Report Data of Electricity Networks of "CAEPCO", JSC for 2011 (tons)

Emissions of air pollutants	"PREDC", JSC		"North Kazakhstan REDC", JSC		"CAEPCO", JSC, total	
	Limit	Actual	Limit	Actual	Limit	Actual
Total	7,14	4,81	11,34	9,90	18,48	14,71
Mineral Oil	0,37	0,18			0,37	0,18
Nitrogen dioxide	0,16	0,12	0,16	0,06	0,32	0,18
Nonorganic dust 70-20% silica	0,18	0,16	5,24	5,23	5,42	5,39
Sulfur dioxide	0,11	0,07	0,07	0,01	0,18	0,08
Carbon monoxide	3,62	2,31	0,82	0,82	4,44	3,13
Other	2,69	1,97	5,05	3,78	7,74	5,75

The Company's Enterprises didn't exceed the maximum permissible emissions in 2011.

4.2. Carbon dioxide (CO2) emissions

After entering into force of Kyoto Protocol in the Republic of Kazakhstan on September, 17, 2009, The Company organized a work on preparation of inventory audit of greenhouse gas emissions and consumption of ozone-depleting substances.

"PAVLODARENERGO", JSC

On the 26th of January, 2012 the company issued Order # 147 "On holding of a tender" for purchasing of works on inventorization of GHG emissions and consumption of ozone-depleting substances at CHP-2,

CHP-3 and Ekibastuz CHP for 2011. The fixed date of tender is the 17th February, 2012; a tender board was established. The announcement on tender holding was published in newspaper "Zvezda Priirtysh'ya" #11(18258) on the 28th January, 2012.
In 2011 "PAVLODARENERGO", JSC produced 3,151.983 million kW-hr of electric energy and 4.252 million Gcal of heat energy. 3,281.932 thousand tons of Ekibastuz coal and 5.405 thousand tons of mazute were used for energy production. The results of the conducted inventarization for 2010 are presented in the table below; the results of inventarization for 2011 shall be calculated and reported in a form of Inventarization Certificate to the Irtysh Environmental Department prior to the 31st of March, 2012. The developer of the Certificated is "Ecocom", LLP.

GHG emissions for 2011 of "PAVLODARENERGO", JSC

	CO_2	CH_4	N_2O	$C_2H_2F_4$	SF_6	Total
	amount of GHGs in the equivalent of CO_2, tons					
CHP-2	1 098 989	176	5 121	-	-	1 104 286
CHP-3	3 149 217	511	14 890	0,0247	6,21	3 164 624
Ekibastuz CHP	820 354	129	3730	0,005	-	824 213
"PE", JSC	5 068 560	816	23 741	0,0297	6,21	5 093 123

"SEVKAZENERGO", JSC

In 2011 "SEVKAZENERGO", JSC produced 2 513.3 million kWh of electricity and 1.868 million Gcal of thermal energy. The production of energy has been spent 2 392.108 tons of Ekibastuz coal and 2.109 tons of fuel oil. Guidelines were used for calculating greenhouse gas emissions from thermal power plants and boiler (from 05.11.2010, # 280-ө), Astana, 2010. In 2011 founded and released 3,881,427 tons of CO_2

Overall the Company produced 5 665 mln. kWh of electric energy and 6,120mln GCal of heat energy in 2011. 5 674, 04 thousand tons of Ekibastuz coal and 7,514 thousand tons of mazut were used for production of the energy.

4.3. Placement of ash slag emissions

Value of ash slags, permitted and actual, for the group of companies "PAVLODARENERGO" , JSC and "SEVKAZENERGO", JSC for 2011, (tons)

	"PAVLODARENERGO",JSC		"SEVKAZENERGO", JSC		"CAEPCO", JSC, total	
Wastes	Limit	Actual	Limit	Actual	Limit	Actual
Ash slags	1 545 011	1 349 779	1 123 388	998 902	2 668 399	2 348 681

Including CHPs of "PAVLODARENERGO", JSC (tons)

	CHP-2		CHP-3		Ekibastuz CHP		"PE", JSC, total	
Wastes	Limit	Actual	Limit	Actual	Limit	Actual	Limit	Actual
Ash slags	291 822	287 775	1 047 149	856 076	206 040	205 928	1 545 011	1 349 779

The Company Enterprises didn't exceed the maximum permissible ash slags emissions in 2011.

5. Implementation of environmental requirements

To meet the requirements of the Technical Regulations and minimize the impact of production processes of the enterprise on the environment and human health, subsidiaries of "PAVLODARENERGO", JSC and "SEVKAZENERGO", JSC developed an environmental protection activities for the maximum possible reduction of emissions into the environment. Copies of the Program are attached to the report.

The company developed and implements an improved system of flue gas purification – replacement of the existing ash catchers, i.e. wet scrubbers with superposed venture pipes with ash collecting efficiency equal 97%, with battery emulsifiers of the second generation for each boiler, with the efficiency 99,5%. Modernization of the ash catchers will allow decrease in coal ash output concentration to 250-300 mg/m3 and put down sulfur oxides without any additives by 5-15%.

To minimize the impact of production processes of the enterprise on the environment and human health, environmental protection activities were developed and approved by Environmental Protection agency.

"PAVLODARENERGO", JSC (CHP-2, CHP-3 and Ekibastuz CHP)

Developed an environmental protection actions and approved them by the Ministry of Environmental Protection for the period of 2009-2011 for the amount of 4 444 752 thousands KZT, including for 2011 amount of 3 010 316 thousands KZT . For the period 2009-2011, 22 actions were performed to the amount of 3 911 855.495 thousand KZT, including for 2011 amount of 2 477 419,495 thousands KZT.
The main actions:

- reconstruction of dust-extraction plants on boiler units #2, #4 and #5 at CHP-2 with installation of battery emulsifiers of the II generation; the cost of works is 251 793 thousand KZT, including for 2011 amount of 96 330 thousand KZT;
- reconstruction of dust-extraction plants on boiler units #1, #3, #4, #5 and #6 at CHP-3 with installation of battery emulsifiers of the II generation; the cost of works is 2 580 387 thousand KZT including for 2011 amount of 2 230 857 thousand KZT;
- reconstruction of dust-extraction plants on boiler units #7, #8, and #9 at Ekibastuz CHP with installation of battery emulsifiers of the II generation; the cost of works is 105 322.237 thousand KZT including for 2011 amount of 57 292,337 thousand KZT;
- development of new ash ponds construction project and their construction for CHP-2 and CHP-3; the cost of works is 604 608 thousand KZT, including for 2011 amount of 57 266 thousand KZT;
- strengthening of dikes of the CHP-2 and CHP-3 ash ponds; works to enhance the reliability of hydroulic facilities; the cost of works is 168 409 thousand KZT, including cost of works for 2011 in amount of 16 532 thousand KZT.

"Pavlodarskiye Teplovyie Seti", LLP

Developed Environmental Protection Action Plan for 2011, which were approved by State Institution "Department on Natural resources and Environmental Management Regulation in Pavlodar oblast" to the amount of 783.0 thousand KZT. In 2011, 13 actions out of 17 planned actions were fully implemented to the amount of 2 029.0 thousand KZT.
The main actions:

- cleaning of walls of ventilation systems of stationary welding stations from suspended matter and sediments – 12.0 thousand KZT;
- current repair of the dust exhausting system – 17.0 thousand KZT;
- rpairs of the dust exhausting plant on the woodworking site – 35.0 thousand KZT;
- cleaning of water supply wells and sewage manholes – 63.0 thousand KZT;
- planting of greenery – 144.0 thousand KZT;
- sanitary cleaning of territories of Central Heat Point, transmission and distribution networks (territories the company is reponsible for) from the garbage; the costs made 1,082.0 thousand KZT.

"Ekibastuz Heat Distribution Company",LLP

- cleaning of walls of ventilation systems of stationary welding stations from suspended matter and sediments, costs made 12.0 thousand KZT;
- cleaning of water supply wells and sewage manholes; the costs made 57.0 thousand KZT;
- planting of greenery. Planting of flowers and shrubs; the costs made 11.0 thousand KZT;
- sanitary cleaning of territories of HDN-1, HDN-2 (heat distribution networks), and transmission and distribution networks from garbage; the costs made 523.0 thousand KZT.

"Pavlodar Regional Electric Distribution Company", JSC

In the context of economic activity "PREDC", JSC complies with the requirements of current legislation in the field of environmental protection regulated by Ecological Code and other regulatory legal acts of the Republic of Kazakhstan.

To minimize the impact of production processes of the enterprise "PREDC", JSC on the environment and human health, environmental protection activities were developed and agreed with the autorized environmental bodies for the period 2010-2012 to the amount of 61 066.450 thousand KZT. 19 actions were planned for implementation in 2011 in the amount of 18 377.09 thousand KZT; 14 out of them were fully implemented and amounted to 19 485.640 thousand KZT.

The main actions:

- planting of greenery (trees and bushes), planting of new lawns and flowerbeds; the costs made 42.650 thousand KZT;
- collection of wastes with further removal from the plant's territory to authorized waste ponds; the costs made 1 875.860 thousand KZT;
- delivery of utilized mercury-containing lamps for demercurization; the costs made 90.78 thousand KZT;
- acquisition of shrink sleeves; the costs made 16 845.42 thousand KZT.

"SEVKAZENERGO", JSC

In order to form a higher level of environmental awareness and responsibility of managers and employees of "SEVKAZENERGO", JSC in 2011 was certified for compliance with the requirements of the Integrated Management System, which consists of the Quality Management System, Environmental Management Systems and the OSH management systems for compliance with international standards ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 standard In "SEVKAZENERGO", JSC developed and approved by the Ministry of Environmental Protection, environmental protection measures for 2011-2012 in the amount of 1 126 123 thousand KZT.

In 2011 were planned 11environmental protection measures the amount of 845 887 thousand KZT.

All activities carried out in full in the amount of 639 377 thousand KZT. Some of the activities carried out with a cheaper cost of works.

The main actions:

- set the battery titanium emulsifiers of the 2nd generation of b/u # 1, 9, in order to reduce pollutant emissions, the cost of works - 178 869 thousand KZT;
- repair of worn components ash collecting plants, in order to maintain efficiency of ACP at the required level, cost of works - 10 694 thousand KZT;

- installation of nitrogen oxides, sulfur oxides, carbon dioxide, fly ash in order to control air emissions, the cost of works – 5 993 thousand KZT;
- reclamation of treated ash dumps, in order to restore soil fertility, cost of works -11 550 thousand KZT;
-repair of levees separating ash disposal area to prevcent migration of contaminants, cost of works -6 371 KZT;
-construction of the third section of the ash dump # 2, for the organization storage ash waste, with the cost of operations 398 273 thousand KZT. Work performed on 67% of the planned amount, as by the need to accelerate the entry deadline for this section, most of the work planned for 2011, was completed in 2010.

"Petropavlovsk Heat Distribution Company", LLP

Developed nature conservation activities and had them approved with State Institution "Esil Environmental Department" for the period 2010-2014 for the amount 95.8 thousand KZT. In 2011 all the planned activities were fully executed in the amount of 14.2 thousand KZT.
The main actions:

- repair of dust collecting equipment, dust elimination made using company's own resources;
- subscription to the newspaper "Ecologist - NC" – 15.9 thousand KZT.

"North-Kazakhstan Regional Electric Distribution Company", JSC

Developed 7 nature conservation activities and had them approved with the Ministry of Environmental Protection of RK Environmental Protection of RK for 2011 for the amount 122 422 thousand KZT; all the activities were implemented and amounted to 149 050 thousand KZT.
The main actions:

- repair of worn-out equipment. Costs made 146 000 thousand KZT;
- monitoring of the rational utilization of water for industrial, house-hold and other aims. Costs made 563 thousand KZT;
- organization of wastes collection and transportation procedure excluding environmental pollution. Costs made 1 038 thousand KZT.

6. Governmental environmental control

Governmental inspections on environmental issues

In 2011 the following state authorities carried out the series of check-ups at the Company's enterprises:

"PAVLODARENERGO", JSC (CHP-2, CHP-3 and Ekibastuz CHP)

- Irtysh Environmental Department of the Environmental Regulation and Control Committee of the Ministry of Environmental Defense of the Republic of Kazakhstan - a scheduled inspection of "PAVLODARENERGO" JSC;
- Public institution "Interregional Land Inspectorate of the Land Resources Management Agency in East Kazakhstan and Pavlodar oblasts of the Republic of Kazakhdstan" – an unscheduled theme inspection;
- Department Administrations of the State Sanitary and Epidemiological Committee in Pavlodar - a scheduled inspection of CHP-2 and CHP-3;
- Fire Control Administration of the Emergency Department of Pavlodar oblast – a scheduled inspection of CHP-2, CHP-3 and Ekibastuz CHP.

"Pavlodarskiye Teplovyie Seti ", LLP

- Irtysh Environmental Department of the Environmental Regulation and Control Committee of the Ministry of Environmental Defense of the Republic of Kazakhstan - a scheduled inspection of "Pavlodarskiye Teplovyie Seti", LLP.

"Pavlodar Regional Electric Distribution Company", JSC

In 2011 there were no inspections carried out at "Pavlodar Regional Electric Distribution Company", JSC.

"SEVKAZENERGO", JSC

Scheduled inspection "Management of the State Sanitary and Epidemiological Surveillance in the city of Petropavlovsk" SE on compliance with the Code of RK "On the health of the people and the health care system";
- Unscheduled audit of the Department of Emergency of NKR for compliance with the legislation of the RK in the field of industrial safety at hazardous production facilities;
- Scheduled inspection of the North-Kazakhstan territorial division Ishim pool inspection to address the use and protection of water resources on the protection, registration and use of water resources of RK;
- Scheduled inspection Esil Department of Ecology Committee of ecological regulation and control of the Ministry of Environmental Protection for the North-Kazakhstan region to comply with environmental legislation of the RK;
- Exceptional check "The Department of Emergency Situations Ministry deviation of Emergency Situations" SE on the subject of enforcement of fire safety measures issued in the course of routine inspections in 2010;
- Scheduled inspection "The Department of Control and Social Protection for the standard deviation" SE on the subject of enforcement of labor legislation of the RK;
- Exceptional check "The Department of Emergency Situations Ministry deviation of Emergency Situations" SE for compliance with laws and regulations in the field of fire safety;
- Scheduled inspection "The Department of Emergency Situations Ministry of NKR Emergency Situations" SE for compliance with laws and regulations in the field of fire safety.

"Petropavlovsk Heat Distribution Company", LLP

- planned inspection of Ecological monitoring committee and Ministry of environmental protection for the year 2011. Act of appointment of inspection of North Kazakhstan affiliate of Yessyl Ecological department No.168 dated 16.09.2011.

Following the inspections there were found violations which are totally eliminated at present.

"North Kazakhstan Heat Distribution Company", LLP

- scheduled inspection by Esil Environmental Department of the Committee of Environmental Regulation and Control of the Ministry of Environmental Protection of RK for North-Kazakhstan Region on compliance of the RK ecological laws.

As a result of inspection some breaches were detected and completely eliminated by the moment.

Information on the reports on Environmental Matters

# i/o	Type of information	The organization or the official the information is to be furnished to	The deadline
1.	Form #2-TP air (semiannual, annual) abridgement	Regional Statistics Administration (Pavlodar)	Prior to the 25th of July, Prior to the 25th of January
2.	Form # 4-OS on current expenses for environmental protection (annual)	Regional Statistics Administrations	Prior to the 23rd of February
3.	Form #2-TP air (annual)	Irtysh Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	until 25th of January
4.	Form # 2-TP vodkhoz (annual)	Pool Inspectorate (Pavlodar) Ishim basin inspection (Petropavlovsk)	Prior to 10th of January
5.	Form # 1BK (water supply and sewer system)	Regional Statistics Administration (Pavlodar)	Prior to the 22nd of February
6.	The form "Report on hazardous waste per year" (annual) in the context of	Irtysh Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	Prior to 1st of March
7.	Measures for environmental protection	The Ministry of Environmental Defence of the Republic of Kazakhstan, Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	Prior to 10th of January
8.	Report on the implementation of measures for environmental protection	Irtysh Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	1 time in a quarter, 1 time in six months, 1 time in 9 months 1 per year
9.	A report on the program of self-control of "PAVLODARENERGO", JSC	Ministry of Environmental Protection of RK, Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	1 time in a quarter, 1 time in six months,

			1 time in 9 months 1 per year
10.	A report on the program of self-control	Irtysh Environmental Department (Pavlodar) Esil Department of Ecology (Petropavlovsk)	1 time in a quarter, 1 time in six months, 1 time in 9 months 1 per year

No claims on the reports provided. All reports were submitted in due time.

7. Implementation of environmental investment activities

Development and implementation of investment programs the Company due to the limited resources of the existing ash dumps, increased requirements of current environmental legislation. In addition, this program will increase sales of electricity and heat energy, projected with growth in energy consumption.

"PAVLODARENERGO", JSC

Construction of ash dumps (CHP-3, CHP-2, Ekibastuz CHP)
Since 2009 the company started implementation (design and preliminary works on ash pond drainage system are being implemented) of one of the major investment projects –construction of new ash ponds for CHP-3 and CHP-2. The scheduled time of completion of the construction works is 2012 for CHP-3 and 2013 for CHP-2. As for Ekibastuz CHP, the works start in 2011, end in 2013.
Ash ponds of CHP-2 and CHP-3 constitute a single industrial unit, the western part of which is represented by CHP-3 ash pond, and the eastern part – by CHP-2 ash pond. Ash ponds will be constructed on the site within the bounds of "PAVLODARENERGO", JSC CHP-3 ground area. The CHP-3 ash pond construction site borders upon the active ash pond of CHP-3 within the existing allotment of land of 55 ha. Ash pond of CHP-2 will be constructed on the site within the bounds of "PAVLODARENERGO", JSC CHP-2 ground area. The construction site is a section that borders upon the active ash pond of CHP-2 within the existing allotment of land of 63.7382 ha.
In 2010 the company received Conclusion of state ecological expertise on project materials: "Construction of the 2nd stage of CHP-3 ash pond of "PAVLODARENERGO", JSC (conclusion #3-2-12/4544 dated 10.09.2010)

The construction budgets for CHP-3 ash pond and CHP-2 ash pond ares 2.497 billion KZT and 2.853 billion KZT, respectively; the construction budget for Ekibastuz CHP ash pond is 0.268 billion KZT. The cost of works will be specified after the project implementation.

Reconstruction of ash catching facilities including the installation of battery emulsifiers of the II generation.
Beginning from 2009, a stage-by-stage installation of emulsifiers on CHP-2, CHP-3 and Ekibastuz CHP boilers is being carried out.
Due to implementation of this activity, ash emissions in flue gases are decreased by 4-5 times, sulfur emissions – by a factor of 1.2 for each boiler. By 2015 all 11 boilers will be equipped with such emulsifiers.
Emulsifiers on boilers #3, #4, #5, and #6 at CHP-3, boilers #2 and #5 CHP-2, and boilers #8, #7, and #9 at Ekibastuz CHP were installed. The battery titanium emulsifiers of the II generation are purchased from a manufacturing company – "SVERDLOVENERGO", JSC (the energy and electrification company).

Modernization of the flue gases purification system.

The existing system of flue gas purification consists of scrubbers with preconnected pipes of Venturi type of CHP-2 and CHP-3 boilers and has the ash collecting efficiency of 97%; the system at Ekibastuz CHP has the ash collecting efficiency of 98%. The battery emulsifiers being installed have the efficiency of 99.5%, which allows decreasing ash emissions and will result in paying less for environmental emissions. During the installation of battery emulsifiers, the construction works include the dismantling of a Venturi pipe with the changeinthe design of a flue duct scrubber inlet. An emulsifier swirler and a drop catcher of ring-type are installed into the existing or installed (depending on the project) scrubber in the direction of gas flows. To prevent a low temperature corrosion of a flue gas path, a hot air feeding to an assembly box above the scrubber is provided after the emulsifiers.

Modernization of ash catching facilities will make it possible to reduce the output concentration of coal ash down to 250-300mg/m3, as well as to suppress sulfur oxides without any additives by 5-15%.

Measures to reduce the negative impact on the environment

- Modernization of boiler units in order to change a combustion mode and decrease NOx emissions (started in 2009);
- Decreased use of asbestos and gradual transition to basalt-containing insulation materials. The lifetime of new materials is 45 years longer; such materials possess better insulation characteristics. It is planned to decrease losses with radiation in pipelines by factor of 1.6, which will allow decreasing heat flow losses by 2.1% and heat losses in the engineering process by 6 thousand Gcal;
- Started installation of stationary gas analyzers for monitoring of pollutant emissions, which measure SOx, NOx, CO2, and dust emissions in flue gases during their continuous operation.

Modernization of the main equipment and commissioning of new capacities

- installation of boiler unit of BKZ-420 type (#1 CHP-3); commissioned in December 2011;
- installation of a turbine unit PT-65/75 (#1 CHP-3); commissioned in 2011;
- replacement of a turbine PR-25 (# 1 CHP-2);
- installation of a turbine unit PT-30 (# 2 Ekibastuz CHP).

Measures to reduce fuel consumption by reducing the specific consumption norms and commercial losses

Turbines being installed are equipped with new ancillary equipment, including electric motors of a more advanced design, due to which the decrease in cost ff electricity and heat used for own consumption will be achieved, which, in its turn, will increase the CHP energy efficiency. The company is constantly working to reduce fuel consumption for energy production.

The estimated reduction in extra losses of "PTS", LLP due to restoration of the lacking insulation is observed in 2011 and amounts to 130.89 thousand Gcal; 16.782 km of insulation on pipes of various diameters was restored. In 2011 the heat extra losses at "PTS", LLP decreased by 24.7%, as compared to 2010.

During 2011 electric extra losses of "PREDC", JSC decreased by 9.251 billion kW-hr . In 2011 "PREDC", JSC implemented the energy-saving program for electric networks to the amount of 133.7 billion KZT, which includes replacement of naked wires by self-bearing covered wires, replacement of induction-type meters by electronic meters with distant reading ("Yabeda"), and transfer of registration units of individual houses to the fronts of the houses.

Main activities, planned and being implemented in 2011:

- installation of emulsifiers of the II generation on 4 boilers (boiler unit #6 Ekibastuz CHP, boiler unit # 4 CHP-3, boiler unit #2 CH-2);
- repair of worn elements of ash catching facilities;
- reconstruction of boilers to decrease hazardous emissions into the atmosphere (modernization of boiler unit #1 at CHP-3 and boiler unit #6 at Ekibastuz CHP);
- installation of nitrogen oxide, sulphur oxide, carbon dioxide and ash meter equipment (An automated control device was installed on boiler unit #2 at CHP-3. (the device is being in repair). An automated control device on boiler unit #4 CHP-2 is being adjusted. An automated control device is installed on boiler unit #2 CHP-2. An automated control device for boiler unit #6 Ekibastuz CHP is at the stage of purchasing);

- construction of ash pond for CHP-3 (the project wed carried out and undergone the state expertise; the company received a permission for building and construction works; the installation of sluice-discharge pipelines and drainage is being carried out);
- repair of separating dikes of the ash pond (filling of dikes up to a design reference mark was implemented within the scope of the project of enlarging dikes of the existing CHP-3 ash pond);
- implementation of industrial environmental control;
- informing the public about the Company's impact on the environment.

"PAVLODARENERGO", JSC (CHP-2, CHP-3 and Ekibastuz CHP) received a certificate confirming its compliance with international environmental standards ISO 14000.

Specialists in "PAVLODARENERGO", JSC carried out preparation for certification to OHSAS 18001:2007. A certification authority, TUV Rheinland, was appointed by "PAVLODARENERGO", JSC to conduct a certification audit of the Occupational Health and Safety Management System being adopted by the Company. The aim of the audit was to verify the compliance of the company's activity with the requirements of the Occupational Health and Safety Management System provided in OHSAS 18001:2007 standard. During the certification audit the company proved that the System was successfully adopted and is properly operated in accordance with the requirements of OHSAS 18001:2007, which is confirmed by Certificate #OC-4870-0020 dated 23.01.2012.

"PAVLODARENERGO", JSC also underwent the second supervisory audit of two existing systems, EMS (Environment Management System) and QMS (Quality Management System). The company proved a proper application of the above mentioned systems and their compliance with the field of application and all the requirements of ISO 14001:2004 and ISO9001:2008 standards. It is planned to carry out a recertification audit in 2012.

In 2011 the preparation for certification was continued to confirm the compliance of "PREDC", JSC and "PTS", LLP with standards ISO 14001 (Environment Management System) and ISO 9001 (Quality Management System).

"Pavlodarskiye Teploviye Seti", LLP underwent two stages of the certification audit successfully. In June 2012 the enterprise is receiving certificates confirming the Company's compliance with ISO 14001 (Environment Management System), ISO 9001 (Quality Management System), and OHSAS 18001 (Occupational Health and Safety Management System) standards.

In 2011 "PREDC", JSC concluded an agreement with the branch of "TUV International Rus" Ltd in the city of Astana on implementation of the 1st and the 2nd stages of certification audit with subsequent granting of a certificate. The company plans to receive the certificate on Integrated management systems confirming the compliance with international standards ISO 9001, ISO 14001, and ISO 18001 in the 2nd quarter of 2012.

"SEVKAZENERGO", JSC

Construction of the ash disposal

In September 2008 initiated the largest investment project - construction of the section number 3 ash dump # 2. In 2011, construction completed. Total construction time is 37 months. The design capacity of 8.74 million cubic meters of ash disposal area, service life is 12 years old ash dump. The project involves building levees and increasing the life of the ash dump up to 25 years. Usable area is 202 hectare. The total length of the dam is 5 kilometer. The estimated cost is $ 3.5 billion KZT. Commissioning of the facility will ensure the continuity of the technological cycle stations and storage of waste ash in the next 25 years;

Reconstruction ash collecting installation (ACI) with the assembly of battery emulsifiers II generation

In implementing this measure, the degree of purification of flue gases from harmful substances reaches 99.5%, a reduction in emissions of ash from the flue gases to 6 times, and sulfur emissions by 1.2 times for each boiler.

Planned installation of titanium battery emulsifiers II generation per year for 2 boilers. Purchase battery titanium emulsifiers II generation is on the manufacturer of "Energy and Electrification" SVERDLOVENERGO". Prior to 2013 emulsifiers will be equipped with all of the 11 boilers.

Measures to reduce the negative impact on the environment
- modernization of the boilers in order to change the mode of combustion and reduce emissions of NOx (begun in 2009);
- increasing pressure on existing pipes Venturri (ash collecting installation - ACI) from 5.2 atm to 6.5-7 atm. Due to this, the efficiency increases with ACI 96.8% to 97.2%, the annual amount of emissions reduced by 3215 tons;
- reducing the use of asbestos and the gradual transition to basalt containing insulation materials. Expected to reduce losses from the heat radiation pipe into the environment as a factor of 1.6, which will reduce loss of heat flow by 2.1% and will reduce heat loss in the process of 8 Gcal;
- installation of stationary gas analyzers, continuous emission measuring mode, SOx, NOx, CO2, dust from the boiler flue gases.

Reconstruction and modernization of basic equipment and commissioning of new facilities
- works on installing the foundation and begun installation of a new boiler frame art. # 8 (E-270-100), capacity 270 tons / hour;
- produced by the dismantling of worn out turbines art. # 4 (R-33-90 / 1.2), followed by replacement on the turbine T-50/60-90;
- completed the reconstruction of boiler # 6, with an increase in steam output up to 270 tons / hour;
- reconstruction of ODI-35 kV with replacement of the support and overhead insulation, installation of vacuum circuit breakers instead of oil, satisfying modern requirements thermal and dynamic stability, providing a reliable, secure and trouble-free work;
- continued replacement of switchgear sections - 6 kV. Replaced sections 2,3 and 6;
- put into operation a system ECAAS 35, 110, 220 kV.

Events in the system of energy saving, reduction of fuel consumption by reducing the specific consumption norms and commercial losses
Mounted turbine units of CHP equipped with a new auxiliary equipment, including motors more sophisticated designs, due to what will be achieved cost savings of electricity and heat for their own needs, which consequently will increase the efficiency of the CHP. Reduced unit costs will be 317 kcal / kW and the total heat consumption for the production of electricity and thermal energy will be 84 thousand Gcal. The process of fuel consumption for the production of energy keeps reducing.
In heating systems are being introduced Variable Frequency Drive (VFD) on circulating, dredgery, make-up pumps and pulverized- coal feeder. The introduction of VFD only group dredger pumps give energy savings of more than 1.5 million kilowatt / hours per year.
Energy Saving Program is closely meets the objectives of environmental management CHP-2. As a result of the above decisions of "SEVKAZENERGO", JSC annually saves up to 9000 tons of fuel. Implementation of the above actions will reduce emissions by 37,000 tons.

The company pays great attention to the study of innovative energy technologies and their application in production. Program to develop measures for renewable energy is one of the promising areas of strategic development of the Company.

Implementation of investment activities allowed increasing capacity utilization, installed at the station in the period from 2009 to 2011 at 8.97%. This fact made it possible to increase the

amount of generated electric power of "SEVKAZENERGO", JSC which for the period 2009 to 2011 markedly increased from 2 377 to 2 514 million kWh. Increase in volume of production will be 5.7%. Mean time between failures of boilers has increased from 1098 hours to 2009 to 1 370 in 2010 and reached the level in 1 506 hours in 2011.

8. Compliance with the safety and health issues

Social and labour relationships

The main purpose of "CAEPCO", JSC in social area is to increase the level of social protection of workers of the company, their family members, non-working pensioners, and retired workers of the company and disabled people. Due to this, discounts, compensations and guarantees policies were developed by the company.

Workers were provided by special cloth and shoes, sanitary-prophylactics means and Personal Protective Devices, milk or other equivalent product, soap in accordance with current Kazakh legislations. Lump sum payments are done at birth of a child, and for the funeral of close relatives.

Summer camps are being organized for children of workers of the company, in Petropavlovsk parents pay 20% of the cost of the pass. In Pavlodar on the basis of the holiday center "Energetic", the company organized a children's health camp "Electronic".

Special attention is paid to the programs of diagnosing and medical treatment of the employees, especially operation personnel. Annually, at the expense of the employer's, medical examinations are performed, daily mandatory pre-shift check-ups of operational staff are done in order to analyze the state of health of employees. Each subsidiary of the company is equipped with medical rooms, service providers, and medical professionals: physiotherapists, electricity and light therapy, laser therapy, massage and organize receptions narrow specialists. During the last several years sanatorium-preventorium "Energetic successfully operates and helps to improve the health of the energy system employees.

In order to socially support workers of the enterprises having the status of large families, or families of workers with disabled children, the administration assists their workers materially at the beginning of the school year for each child of school age. Gifts for children of employees of the company are acquired on Christmas holidays.

The management of the company pays great attention on training managers, specialists and workers. To improve the educational level of its personnel, the company has a system of motivation, which provides educational repayment amounted to 100% of average earnings and compensation of travel in both directions, if the institution is located outside of Petropavlovsk. In addition, workers have the opportunity to obtain interest-free loan for tuition purposes.

"SEVKAZENERGO", JSC issues a newspaper named "Energetic of North Kazakhstan" and "PAVLODARENERGO", JSC issues a one named "Energetic" in order to increase the level of corporative culture and maintain the image of the profession, and informs the public about news of the company and industry.

Department of Labor conducts a systematic picture of the working day of personnel on the plant in order to identify the reserves to increase labor productivity, improve equipment utilization, efficient time consumption meters. It identifies weaknesses in the organization and sanitary conditions of labor and production causing losses or inefficient use of working time. Based on analysis of pictures of the working day, measures on improvement of the organization of work were worked out, deadlines and executing bodies were approved by the orders. Following the verification of the implementation of activities under the approved orders, some of the activities were scheduled to be performed in 2011.

Requirements of the Labor Code of the Republic of Kazakhstan regarding public health and labor safety are being fulfilled:

- training of executives and workers responsible for the safe work implementation on occupational

health and safety and industrual safety issues, improvement of professional skills, and acquisition of adjacent specialties was organized in the company's training centre;

- certification of workplaces was performed;
- workers were provided by special cloth and shoes , sanitary-prophylactics means and Personal Protective Devices in accordance with acting standards;
- contracts of Employer's Liability Compulsory Insurance for injuries or disease arising out of their employment and contracts of obligatory insurance of Civil Liability of owners of the objects which activity is connected with danger of injury to the third parties;
- constant monitoring of working conditions is made;
- preliminary and periodic medical examination of workers is organized;
- improvement of workers in sanatorium-dispensary is arranged.

Reports on occupational Safety, Health and labour Protection

# i/o	Name of the information (reports)	The receiving organ	Periodicity of reporting
1	Monthly Report on injuries.	Department of Statistics North Kazakhstan region	Before the 10th of the month following the reporting
2	Monthly Report on injuries.	Department of Control and Social Protection for	up to 10 standard deviation of the month following the reporting
3	Report on injuries (monthly, quarterly, semiannual, annual)	Regional Department of Statistics; Management of energy monitoring and control of the North Kazakhstan region	until the 10th of the month following the reporting

9. Environmental regulatory and legal framework in Republic of Kazakhstan

In the context of economic activity the Company complies with the requirements of current legislation in the field of environmental protection, regulated environmental By Ecological Code and other regulatory legal acts of the Republic of Kazakhstan.

List of regulatory legal acts used by environmental services of the Company enterprises

Type of document	Name of document	Number	Effective date
Constitution	The Constitution	-	30.08.1995
Code	Labor Code of the Republic of Kazakhstan	252-III	15.05.2007
Law	On Obligatory Environmental Insurance	93	14.12.2005
Law	On Subsoil and Subsoil Use	2828	27.01.1996
Law	On Sanitary-Epidemiological Wellbeing of Population	361	04.12.2002
Code	On Population Health and Public Health Services	193-IV	18.09.2009
Code	Environmental Code	212-II	09.01.2007
Code	Water Code	481-II	09.07.2003
Code	Land Code	442-II	20.06.2003
Code	On Taxes and other Obligatory Payments to the Budget	99-IV	10.12.2008
Government Regulation of the Republic of Kazakhstan	On Approval of Governmental Rules of Accounting of GHG Emitters and Ozone-destructive Substance Use	124	08.02.2008
Government Regulation of the Republic of Kazakhstan	On Approval of Rules of Limitation, Suspension or Reduction of GHG Emissions	128	11.02.2008
Government Regulation of the Republic of Kazakhstan	On Approval of Rules of GHG and Ozone-destructive Substance Emissions Inventorization	5094	13.12.2007
Government Regulation of the Republic of Kazakhstan	On Approval of Rules of Development and Validation of Standards of Maximum Permissible GHG Emissions and Ozone Destructive Substance Use	5087	13.12.2007
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Waste Classifier	169-п	31.05.2007
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of a Hazardous Waste Descriptor Form	128-п	30.04.2007

The Order of Acting Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Rules of Inclusion of Nature Management Conditions into Environmental Emissions Permits	112-п	16.04.2007
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Document Forms of Environmental Emissions Permits and the Rules of Form Completion	94-п	30.03.2007
Standard of the Republic of Kazakhstan	ISO	14001	2006
Standard of the Republic of Kazakhstan	ISO	19011	2002
International Standard	ISO	14001	2004
International Standard	ISO	19011	2002
Guiding Normative Document	The Guidance on Assessment of Environmental Pollution Level with Toxic Production and Consumption Wastes	03.3.0.4.01 -96	1996
Guiding Normative Document	The Order of Rationing of Generation and Allocation of Waste Products	03.1.0.3.01 -96	1996
Building Performance Requirements	Internal Water Supply and Sewerage System of the Buildings	4.01-41-06	2006
Sanitary Rules and Regulations	Sanitary Standards of Working with Mercury, its Compounds and Mercury-filled Devices	1.10.083-94	1994
State Standard	Secondary Ferrous Metals. General Technical Requirements	2787-75	1975
State Standard	Scrap and Wastes of Non-Ferrous Metals and Alloys	1639-93	1993
Management Directive	Methods of Estimation of Gross and Specific Air Emissions of Hazardous Substances from CHP boiler plants	34.02.305-98	1998
Management Directive	Rules for Technical Operation of Power Stations and Networks in the Republic of Kazakhstan	34 PK.20. 501-02	2002
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Rules of Public Hearings	135-п	07.05.2007
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Methods of Normative Air Emissions Estimation	158-п	21.05.2007
The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Rules of Coordination of Production Ecological Monitoring Programs and Reporting Requirements of the Results of Production Ecological Monitoring	123-п	24.04.2007

The Order of Minister of Environmental Defense of the Republic of Kazakhstan	On Approval of Standard Environmental Activities List	119-п	24.04.2007
The Order of Acting Minister of Public Health Services of the Republic of Kazakhstan	On Approval of Sanitary-Epidemiological Rules and Regulations "Sanitary and Epidemiological Requirements for Production Facilities Designing"	334	08.07.2005
Government Regulation of the Republic of Kazakhstan	On Approval of Rules of Liquidation Landfill Funds Organization	591	10.07.2007
Government Regulation of the Republic of Kazakhstan	On Approval of Technical Regulations "Air Emissions Requirements during the Process of Combustion of Various Types of Fuels in Boilers of CHPs"	1232	14.12.2007
Akhim's Regulation	Pavlodar Sewerage System Operating Rules	1255/21	11.10.2007
Akhim's Regulation	Ekibastuz Sewerage System Operating Rules	540/11	18.10.2004
State Standard	"Hazardous Freight. Classification and Marking"	19433-88	1988
State Standard	"Labor Safety Standards. Manufacturing Equipment. General Safety Requirements"	12.2.003-91	1991
State Standard	"Labor Safety Standards. Harmful Substances. Classification and General Safety Requirements"	12.1.007-76	1976
State Standard	"Labor Safety Standards. Manufacturing Equipment. General Ergonomic Requirements"	12.2.049-80	1980
Law	On Industrial Safety at Dangerous Production Facilities"	314	03.04.2002
Law	On Safety of Chemical Production	302	21.07.2007
Rules	Freight Railway Transportation Rules	429-I	23.11.2004
Law	On Rail Transportation	266	08.12.2001

President of "CAEPCO", JSC — Amirkhanov E.A.

Deputy Chairman of the Board
for the production of "PAVLODARENERGO", JSC — Shevtsov V.G.

Deputy Chairman of the Board
for the production of "SEVKAZENERGO", JSC — Perfilov O.V.

Environmental and Social Action Plan of "Central-Asian Electric Power Corporation", JSC for the year 2011

ESAP – corporate/ main CHPs and distribution companies								
#	Action	Environmental Risks / Liability / Benefit	Legislative Requirement / Best Practice	Investment Needs / Resources (Euros ,000s)	Timetable To be completed by the End of Year	Target and Evaluation Criteria for Successful Completion	Comment	Report
1	**Publish a corporate EHS report and make it publicly available (including on the internet).** The report to be in compliance with the EBRD's annual reporting requirement, and to include the following information: - Key environmental performance indicators (KPIs) - Environmental performance - Greenhouse gas emissions (CO_2) for each plant and Company - Legislative issues, including compliance and fines/penalties - Health and safety performance including information on statistics - social and labor issues	Ensure that best practice is adopted across the organization and that there is transparency in environmental performance. Reporting of environmental performance to stakeholders.	Best Practice and EBRD requirement	Internal resources	2009 - then annually	Publication of the report	EHS report should take into account the problem of future investment plans necessary for good quality of energy and heat delivery to the communities. The report should inform the community on the new procedures for client contacts, community interaction in accordance with the Stakeholder Engagement Plan.	Corporate Report prepared in accordance with approved section. Published on "PAVLODARENERGO", JSC, website: http://pavlodarenergo.kz/about/documents/reports/ and "Central Asian Electric Power Corporation", JSC website: http://www.caepco.kz/page.php?page_id=38&lang=1
	Retrenchment. Develop a retrenchment porgramme, whenever more than 100 people are to be laid off any subsidiary in one go.	Need to ensure appropriate systems are in place when dealing with any staff reductions, ad that any reductions are made in a transparent manner to minimize social impacts and provide as much support to staff as possible (including retaining if needed)	EBRD and best practice	Internal	2009	Programme in place	Any major retrenchment needs to be communicated to the Bank at the time of decision making, as well as summarized in the Annual report	The Company developed regulatory documents and adopted the process connected with the termination of the employment contracts, which is based on the possible planned staff reduction. The process was enforced with Direction #14 dated 28 June, 2007 ("SKE", JSC), and Regulations "On company's personnel" dated 3 June, 2008 ("PE", JSC, article 16.6). At the moment, within the bounds of adoption of the Integrated Management System (IMS), the business process is being revised, and the process provides for the following: 1. Obligatory notification of regional state social protection authorities 2 months prior to reduction.

								2. Notification of the employees 1 month prior to the planned reduction. 3. The offer of other vacancies to the redundant, both in the present company and other enterprises of the Group. 4. Possibility of re-skilling to fill vacancies. 5. Creation of temporary work places (for the period of repair works, etc.) and transfer of the redundant to those places. 6. Payment of remuneration in the amount provided for in Labour Code of the Republic of Kazakhstan. According to Regulations "On company's personnel" of 2012 ("PTS", LLP, article 16.9): 1. Obligatory notification of regional state social protection authorities 2 months prior to reduction. 2. Notification of the employees not less than 1 month prior to the planned reduction. 3. The offer of other vacancies to the redundant. 4. Possibility of re-skilling to fill vacancies. 5. Creation of temporary work places (for the period of repair works, etc.) and transfer of the redundant to those places. 6. Payment of remuneration in the amount provided for in Labour Code of the Republic of Kazakhstan.
	Stakeholder Engagement Programme (SEP). Develop an SEP to address both worker and public stakeholder engagement prohrammes at the individual sites as well as corporate. Draft prepared by Atkins in January 2009 – to be updated annually by the Company and audited min every 5 years externally	SEP is required for both corporate as well as individual sites, This needs to include a grievance plan (complaints procedures) to allow staff and external stakeholders (public, etc) to voice concerns, opinions etc. Good stakeholder engagement reduce risk of civil unrest and public concern.	EBRD	Internal and external	2009	SEP in place updated on a annual basis with summary provided to the Bank in Annual Report	SEP will allow for good public communications program.	The Company has corporate sites: http://www.caepco.kz, http://www.sevkazenergo.kz, http://www.pavlodarenergo.kz, http://www.astanaenergosbyt.kz). The following columns can be found on the sites: "Public relations", "To consumers", "News" "Questions and answers", which contain information about tariffs, the order of execution and issue of technical specifications, formation of contracts and other reference information. Consumers can address theirs questions, remarks and suggestions. The information is updated every 2-3 days. Within the frameworks of the integrated management system, the Company developed the following: 1. The Regulations on informing the public and the company's employees; 2. The order of office work procedures; 3. Management of inappropriate products; The above mentioned documents provide all stakeholders with the information and describe actions in case of any external requests (questionnaires КП-7-01(QMS) "Consumer feedback"). In accordance with Law of the

								Republic of Kazakhstan #272-I "On natural monopolies…" dated 9 July, 1998, public hearings are held twice a year, with the participation of the council of experts, the consumer rights protection society, cooperatives for apartment owners, mass media, and all stakeholders. Additionally, "PE", JSC developed the following Documentary Procedures on environmental issues: 1. "The order of public engagement, social organizations and mass media interaction concerning environmental issues" DP-10-04-08 (EMS). Trust line telephone numbers are published in mass media, which can be used by the stakeholders to inform on cases of environmental security violation; from time to time the environmental inquiries are carried out. 2. "The order of internal and external communication on environmental issues" DP-10-08-08 (EMS). The information concerning the environmental security violation received from organizations and the public is worked out.
	Management systems – ISO, OHSAS, EMAS **CHP units (Petropavlovsk and Pavlodar Energo, Ekibastuz CHP) -** Develop and implement OHSAS 18001 Health and Safety Management System (EMS). Maintain ISO 14001 certification. **Distribution companies**: propose the exact timeline for the implementation of ISO 14001 Environmental Management System (EMS).	Ensure that best practice is adopted across the organization. External certification to ISO14001 and OHSAS 18801 provides third party assurance of performance and a commitment to continual improvement.	Best Practice and EBRD requirement	Internal resources	**PTETS -** 2010/12 **PAVLODARENERGO CHP** – 2009/2010 **Distribution companies**: 2009 – selection of the contractor for ISO training and preliminary training 2011- implementation CAEPCO (holding Company) to be certified by 2012	Certification to ISO14001 and OHSAS 18001 both at	**PTETS** - ISO 14001 certification attained in 2007. The international certification body (company) will be changed every 5 years. **PavlodarEnergo CHP:** EMS implementation planned by the end of 2008. **Distribution companies:** EMS implementation needs the uniform group approach, as a result the real deadline for implementation should be in 2011 with the first selection of consultants in 2009	**ISO14001:2004.** The Company acquired certificate of conformity #751100406 dated 14 December, 2009 issued by "TÜV Rheinland Inter Ctrt". The company "TUV Inrenational Rus" conducted the second supervisory audit at "PE", JSC which proved that the Environment Management System based on ISO 14001:2004 standard is successfully implemented and being developed;it also proved the validity of the certificates of conformity. "SEVKAZENERGO", JSC ("SKE", JSC) JSC contract with "TÜV International RUS Ltd., Entrepreneurial Group TÜV Rheinland / Berlin-Brandenburg» LLC # 246 of 11.03.2011, on the provision of services for organizing and conducting the certification audit of the Integrated Management System for compliance with international standards ISO 9001: 2008, ISO 14001:2004 and OHSAS 18001-2007. Certification was successfully carried out. Following certifications were obtained in English, Russian and Kazakh: 1) ISO 9001:2008: # 75 100 7042 9, valid from 01.08.2011 to 31.07.2014, 2) ISO 14001:2004: # 75 110 0505 , valid from 07.09.2011 till 06.09.2014, 3) OHSAS 18001-2007: # OS-4870-0010, valid from 30.07.2011 till 29.07.2014. In the second quarter of 2012 the first surveillance audit by expert auditors LLC "TUV

								International RUS Ltd., Entrepreneurial Group TÜV Rheinland / Berlin-Brandenburg" is scheduled. "Pavlodarskiye Teplovyie Seti", LLP underwent the second internal audit of the management system; taking into consideration the results of the first stage of certification audit, all discrepancies are remarks were eliminated. The company successfully underwent the second stage of certification audit conducted by the certification authority "TÜV International Rus" (group "TÜV Rheinland Inter Ctrt"(Berlin-Brandenburg). The company plans to receive ISO 9000. ISO 14000 and OHSAS 18000 certificates in July 2012. **OHSAS 18001.** Specialists in "PAVLODARENERGO", JSC carried out preparation for certification to OHSAS 18001:2007. A certification authority, TUV Rheinland, was appointed by "PAVLODARENERGO", JSC to conduct a certification audit of the Occupational Health and Safety Management System being adopted by the Company. The aim of the audit was to verify the compliance of the company's activity with the requirements of the Occupational Health and Safety Management System provided in OHSAS 18001:2007 standard. During the certification audit the company proved that the System was successfully adopted and is properly operated in accordance with the requirements of OHSAS 18001:2007, which is confirmed by Certificate #OC-4870-0020 dated 23.01.2012. "PAVLODARENERGO", JSC also underwent the second supervisory audit of two existing systems, EMS and QMS. The company proved a proper application of the above mentioned systems and their compliance with the field of application and all the requirements of ISO 14001:2004 and ISO9001:2008 standards. It is planned to carry out a recertification audit in 2012.
2	**Prepare a formal ESIA** (Environmental and Social Impact Assessment) for all future development projects that fall under Annex 1 of EU EIA Directive and National legislation (ie	To ensure that the proposed projects minimize environmental impacts. The ESIA will ensure that full consultation takes place and that any project will use European BAT	Best Practice and EBRD requirement	Internal resources	**CHPs**: 2009 onwards **Distribution lines:**	Completion of ESIA report and publication of a None Technical Summary (NTS) on	The ESIA will need to include public consultation, an assessment of cumulative environmental impacts from the investments and existing operations,	All the projects of "PAVLODARENERGO", JSC being developed include Section "Environmental Impact Assessment" (EIA). Within the frameworks of that Section social impact assessment is also carried out. All the projects undergo a compulsory ecological expertise conducted by an authorized body. Further the information on the results of such ecological expertise is published in mass media for all the stakeholders and social

	new HV lines above 110 Kv 10 km, any new Boiler plant above 300 MW thermal, any new ash pond above 25 ha) **In all distribution companies** ESIA will cover projects above the initial limit – proposed limit: more than 15 km of 220 kV lines (or higher voltage), more than 50 km of 110 kV lines or new connectivity contracts of more than 10,000 Gcal/year or new areas supplied with 30 MW, or new lines for more than 3000 new clients covered by Investment Program.	standards as a benchmark as well as ensure appropriate stakeholder consultations are undertaken and projects meet Kazakhstan legislation. **Distribution companies** - current European standards set the initial limit of 15 km of 220 kV power lines for Environmental Impact Assessment. However due to significant social importance of energy and heat distribution, and necessity of assessment of possible consequences Consultant recommend few more precise limits.			2009 – for all new 220 kV and new 110 kV lines, 2010 – for other investments	the company web site. Provision of a copy of a None Technical Summary to Bank and publishing an NTS on the Company web site	as well as social issues. The ESIA will also need to compare the project with Kazakhstan and EU environmental standards and this information included in the publicly available documentation. The Bank will provide guidance and training on the procedures which should be implemented into the corporate EMS. The Bank as an investor will need to be consulted on the ESIA process prior to public consultation. The NTS will be a short (circa 10 pages) in none technical language summary of the project and how it meets Kazakh and international best practice standards.	organizations to be informed. "SEVKAZENERGO", JSC obtained Pre-EIA for Feasibility Study of "The reconstruction of Petropavl CHP-2 with the replacement of turbo unit station #4 and boiler unit station #8". The company had the project "Transportation system for dust of high concentration with the reconstruction of burners for boiler BVK-220-100-4 and TP-46A" endorsed by the Ministry of Environmental Protection. In the first half of 2012 corporate report will be published in the media.
3	Ensure that all new projects, extensions, plant and associated infrastructure are to be designed to meet both Kazak and EU environmental standards. In **PTETS**, unit no 8 will be reconstructed to meet Kazak standards and will include continuous monitoring systems installed prior to commissioning.	To ensure that future projects minimize environmental impacts. The assessment at design stage will ensure that any project will comply as far as practical with European BAT, stakeholder requirements and Kazakhstan legislation.	Best Practice and EBRD requirement	Will vary by project.	**CHPs**: On-going **Distribution companies**: from 2011 all new heat transmission pipelines should meet EU energy efficiency standards (pre-isolated tubes, proper quality of laying, geotechnical review etc.).		In **PTETS**: This will include an overview of unit no 8. Unit no 8 will be designed to meet Kazak standards for rehabilitated units in place from 2013 (Decree of the Government of Republic of Kazakhstan from December 14, 2007, # 1232 – Appendix 3 of the Ordinance). All new boilers for which a building permit is to be attained post 1st	In accordance with international standard ISO 14001, the characteristics of new projects implemented at "PAVLODARENERGO", JSC ("PE", JSC) should comply with "Technical Regulations…" approved by the RK Government Regulation # 1232 date 14 December, 2007r The following works on EIA were implemented: - Project "Reconstruction of the dust-extraction plant of boiler #6 of BKZ-420-140 type at CHP-3 of "PAVLODARENERGO", JSC with installation of emulsifiers of the II generation"; - Project "Dust-extraction plant of boiler #4 of BKZ- 160(190)-100 type at CHP-2 of "PAVLODARENRGO", JSC with installation of emulsifiers of the II generation". Boiler # 8 of "SEVKAZENERGO", JSC is designed in

							January 2009, will attain EU Large Combustion Plant Directive standards for existing plants **(dust 50 mg/Nm3, Sox 800-400 mg/Nm3 depending on size of boiler)**	accordance with Kazakhstan's Technical Regulations for the installations, which enter into force from 2013. On the boiler will be installed gas analytical system of continuous monitoring of pollutants in flue gases. The reconstruction on the b/u # 1, 9 is done. Variable Frequency Drive (VFD) was applied in boilers # 1-4, 11. At b/u # 1-5, 10 environmental emission meters are installed.
4	Improve the physical condition of the mazout storage areas.	Risks are presented to land, ground and surface waters from chemical storage areas at both sites, in particular mazout storage. Improved storage of this material will minimize risks. Undertake site assessment by 2012 and base don this develop clean up plant There are 325 tanks in Pavlodar distribution company and app 100 tanks in Petropavlovsk distribution company.	Best Practice and EBRD requirement	**PTETS:** 300 k site investigations **PAVLODARENERGO CHP:** 200 Pavlodar and Petropavlovsk **Distribution plants**: 500	2012	Presentation of management plan to EBRD and shareholders and agree action plan to clean up site		Plans for each of "PAVLODARENERGO", JSC stations were developed and published in newspaper "Energetic" #3(2338) dated 13 February, 2009 and #5(2340) dated 20 March, 2009. "Pavlodar Regional Electric Distribution Company", JSC has 30 reservoirs for oil storage on its books. As for "SEVKAZENERGO", JSC from the part of the warehouse, located in the ground, oil removed and transferred to the ground storage. All existing fuel oil storage tanks at the station to be stock-taken , including the decommissioned ones.
5	Undertake a BAT (Best Available Techniques) Assessment **in all CHP units** and develop a programme to evaluate the scope for reduction of NOx and sulphur dioxide (SO_2) emissions levels comparable with the Large Combustion Plant Directive (as far as possible) and compliance with Kazak legislation, notably more stringent dust emission from 2013 (phase 1) and SOx emission (phase 2)	The EBRD requires that all new generating assets achieve new plant standards as described by EU Large Combustion Plant Directive. Existing plants should as minimum comply with Kazak standards and a plan be put in place to comply with existing plant standards as described within the EU LCPD Note. Current emissions exceed EU standards in all cases as well as Kazak requirements for new plants	Best Practice and EBRD requirement	Internal resources	**PTETS:** Develop plan 2012 and submit to shareholders and EBRD. Implement 1st stage by 2013-2016 and 2nd stage by 2020 **PAVLODARENERGO CHP** - 2010	Presentation of the report to EBRD representatives, later publication of the summary of the report.	A BAT Assessment will set out the scope of any improvement works and the program for implementation. This will include the retro-fitting equipment.	With a view of Action Plan realization for the maximum possible decrease of emissions, and according to requirements of Technical regulation "The requirements for the emissions produced by the combustion of various types of fuels in boilers of combined-heat-and-power plants" the company is implementing reconstruction works on ash-catching plants with installation of emulsifiers of the 2nd generation; the implementation period is up to the end of 2012. Earlier BAT assessment was implemented. Decrease in dust emissions 6-fold, sulfur – by 15%. Reconstruction of fuel combustion system on boiler units is being conducted (tertiary blowing) to decrease NOx. GHG Passport was developed. "SEVKAZENERGO", JSC participates in the project "Cooperation in carbon catching" jointly with Hasselt University, University of Leeds, Royal Belgian Institute of

								Natural Sciences, and Coordination Centre on Climate Change.
6	**In all CHPs:** As part of the BAT Assessment develop a plan to limit dust emissions, through combination of new investments and upgrade of existing assets. The plan will set out a road map to attain at **first a under 300 mg/Nm3 for the plant** (Kazak national standards from 2013) and then for each stack 100 mg/Nm3 between 2016-2020 (EU Standards under LCP – IPPC benchmarks are for below 50) . The BAT Assessment will review the performance of the new type emulgators vs. ESPs and confirm whether new emulgators or EPS should be installed on all boilers post 2010 at the plant to attain national and EU environmental standards.	Current emissions exceed EU standards in all cases and given the fuel parameters and local technology EU standards will not be met in the medium to long term. International standards is 50 mg/Nm3, BAT would be in the 20-30 mg/Nm3 range. The Company will upgrade the air abatement equipment, however current technology and fuel will not allow EU standards to be met. The plant swill need to undertake a Best Available Techniques (BAT) to look at the available technologies that could be applied to the plant. The plan needs to consider replacing the emulgators with ESP (electrostatic precipitators) that have been successfully used at other power station **PAVLODARENERGO**: Data for CHP-2 gives dust levels in the range 1,014 – 1,712 mg/Nm^3. Data for CHP-3 gives dust levels in the range 1,552 – 1,695 mg/Nm^3.	Best Practice and EBRD requirement	Internal resources CAPEX tbc Approx. 15-20 mln Euro	Plan by 2012 2010-2012 undertake a BAT Assessment to consider how to attain best international practice emission standards such as EU LCP Directive requirements – i.e. 50-100 mg/Nm3. ToR for this study to be agreed with the lenders. Attain below 300 mg/Nm3 average emissions from CHP by 2013 that will be operational post 2015 As a long term aim tend to approach 50-100 mg/Nm3 average on the stack or min 99.8 % efficiency of dust removal	Provision of plant and then BAT Study to the lenders. Publication of information on planned investments Achieving emission levels.	Dust emissions are highly visible and all plant worldwide uses dust abatement technology. Dust also can cause respiratory health problems. The Company must address dust emission as a priority, even if neighbouring plants are significant sources of pollution. The use of emulgators (wet scrubbers) can be viewed as BAT in terms of availability and reliability as well as effectiveness. The new units should attain below 270 mg/nm3 emission level. . The BAT study will review the performance of the ESPs and confirm whether they meet the BAT definitions.	For 2015 the Investment Programme provides for the installation of titanium emulsifiers of the 2nd generation which will allow reaching the efficiency of 99.4% - 99.6%; further works will be implemented in accordance with the regulations which is valid after 2015. At "PAVLODARENERGO", JSC emulsifiers were installed on 10 boilers out of 22: boiler #5, #2, and #4 CHP-2; boiler #3, #4, #5 and #6 CHP-3; boilers #7, #8 and #9 Ekibastuz CHP. At "SEVKAZENERGO", JSC emulsifiers are set at 9 boilers (# 1, 2, 3, 4, 5, 6, 9, 10, 11) of 11. In 2012 the emulsifiers are set at 19 boilers out of 33. By the year 2012, taking into account activities undertaken, a new plan on reduction of emissions will be prepared.

7	**In all CHPs:** Implementation of continuous emission monitoring systems (CEMS) for all stack emissions. CEMS will be installed on each boiler retrofitted with a new emulgator or ESP starting from 2009.	Although legal compliance is generally demonstrable, the current monitoring programmes and techniques do not allow ready comparison with EU standards or other published data. There is no continuous monitoring in place, only periodic monitoring for some key parameters. CEMS will allow active control of emissions rather than reactive.	Best Practice and EBRD requirement	PTETS: 200 **PAVLODARENERGO**: CAPEX	By 2013 on all boilers at CHPs. Program to be developed as part of BAT Assessment	Commissioning of CEMS at all appropriate sources	All new boiler plant should be installed with CEMS to ensure it meets the reliability, confidence limits and reporting requirements of the LCPD. Existing boiler plant should be fitted with CEMS no later than 2013 to verify that national dust emission levels are met. Whilst this is not a regulatory issue, this is a high priority in order to provide operation data for future design. Specifically this must include SO2, NOX, CO and particulates. Water vapour, temperature, oxygen concentration, pressure should be recorded if the sample is not dried.	"PAVLODARENERGO", JSC 1. The installation was completed, and adjustment of automated emissions control devices is being implemented on – Boiler units #4 and #6 at CHP-3; – Boiler units #2 and #4 at CHP-2; and – Boiler unit #9 at Ekibastuz CHP. 2. In 2012 it is planned to implement installation and adjustment of automated emissions control devices on – Boiler unit #2 at CHP-3; – Boiler unit #3 at CHP-2; and – Boiler unit #14 at Ekibastuz CHP. "SEVKAZENERGO", JSC: at the boiler # 10, 1-5 of Petropavlovsk PP-2 (PPP-2).
8	**In all CHPs:** Develop an asbestos management plan aimed at cessation of asbestos usage, removal and disposal. The plan will identify high, medium and low risk asbestos use areas. Stop purchase of asbestos containing products from end of 2009	Improved management of environmental and health and safety issues. Asbestos is present at the CHP. An asbestos review at the sites is therefore recommended, together with the development of asbestos management plans. The plans will include how risks are to be managed as well as a removal strategy.	Best Practice and EBRD requirement	Consultancy cots / internal	Assess presence of Asbestos by 2010 Develop a plan by 2010 implement for high risk areas systematically between 2012-20.		Installation and on-going usage of asbestos should cease by 2008. A plan for the removal and disposal of asbestos should be developed by 2010 High risk asbestos use area shall be removed by 2020.	Plans for each stations of "PAVLODARENERGO", JSC were developed and published in newspaper "Energetic" #3(2338) dated 13 February, 2009 and #5(2340) dated 20 March, 2009. In accordance with approved plans, every year asbestos-containing materials are replaced by basalt-containing materials (basalt mats, fireproof basalt-containing rolls MBOR-C2-5, and of mullite-siliceous rolled materials MKRR-130). In 2011 "PTS", LLP replaced 100% of asbestos-containing roofing materials with metal roofing materials. The Company does not use asbestos-containing objects and structures. In carrying out overhauls asbestos containing material is replaced by a heat insulating basalt containing material

9	**In all CHPs:** Determine through analysis whether transformer oils contain PCBs.	Continued use of PCB-containing transformer oil until the end of its useful life is acceptable. However, long term plans for its phase out should be developed.	Best Practice and EBRD requirement	consultancy	2015	Results of analysis		"PAVLODARENERGO", JSC performed the analysis, which proved that transformer oil used by the Company does not contain polychlorinated biphenyls (PCBs). The company developed Instruction ПИ -04-26-2010 on PCBs identification in transformers. During the purchase of oils for replacement in transformers, on a mandatory basis a point about the absence of PCBs is controlled in the certificate. "SEVKAZENERGO", JSC A group of UNDAF / GEF held a seminar "Inventory and the safe handling of PCB-containing equipment" to the staff. The equipment during the inspection of technical documentation was identified. A laboratory sampling of the storage oil was done. Received confirmation of the absence of PCBs.With purchase of oil, on a mandatory basis are required to provide suppliers a certificate that there is no PCBs.

ESAP specific for particular companies								
#	**Action**	**Environmental Risks / Liability / Benefit**	**Legislative Requirement / Best Practice**	**Investment Needs / Resources (Euros, 000s)**	**Timetable To be completed by the End of Year**	**Target and Evaluation Criteria for Successful Completion**	**Comment**	**Report**
PETROPAVLOVSK PTETS								
1	Install dust abatement on units in accordance to agreed schedule, namely, on tow boilers each year	Planned implementation of investment program to allow the plant to attain Kazak emissions limits by 2013 and longer term aim to attain international standards for dust emissions.	Kazak national requirements and best practice	CAPEX	Timetable of 2 units upgraded per annum.	Attain Kazak national standards for dust) by 2013		In order to implement the Program to the maximum possible reduction of emissions into the environment in accordance with the requirements of Technical regulation stating "Requirements for emissions into the environment during combustion of fuels in the boilers of power plants", developed a plan for installation of 2nd generation titanium emulsifiers for all boilers by 2013. Plan is being performed on schedule. On 01.01.2012 the emulsifiers are already installed on boilers # 1, 2, 3, 4, 5, 6, 9, 10, 11.
2	Reduce the risk of the contamination of the Beloe Lake with oily water	Develop procedure for sampling and install preventative measure (oil traps) to reduce the risk of accidental oil spillage reaching the Beloe Lake	Best practice	Own resources	2012			Analysis of water in Beloe lake is performed twice a month. The absence of oil in the tailrace channel is monitored continuously. Oil catchers are successfully applied on tailrace channel.

PAVLODARENERGO CHP								
1	Undertake a review at CHP-2 and CHP-3 of the costs of retrofit abatement solutions (plant and other improvement measures) compared with the complete replacement of primary generation and utilities equipment, as the most cost-effective long term strategy to meet both Kazakhstani and EU environmental standards.	To develop a strategy to meet both Kazakhstan and EU environmental standards in the most cost effective manner.	Best Practice	Internal resources	2010	Publication of report.		"INSTITUTE KazNIPIEnergoprom", JSC performed report "Concept of CHP-2 reconstruction at "PAVLODARENERGO", JSC, Almaty, 2011. The following conclusions are based on the results of a comparative analysis: 1) the cost of construction of a new CHP is 15.5% higher than the reconstruction of the existing one; 2) full-scale reconstruction of the main building is practically impossible, taking into consideration the current requirements of technical and environmental safety; 3) it is reasonable to build a new high-technology automated CHP (with the lifetime of at least 30 years) by means of displacement power and construction of a main building within the area of the existing site, with gradual withdrawal of obsolete equipment with a glance on the terms of commissioning of the new equipment, taking into account actual increase in consumer's loads in the area covered by CHP-2. to make a final decision it is necessary to develop a feasibility study taking into consideration a financial model and competitive energy tariffs of a new CHP.
2	Evaluate further energy efficiency improvement measures. This can be undertaken as part of the BAT assessment and within the BAT assessment budget.	Energy efficiency and lower fuel use per MWh will result in a decrease CO_2 emissions.	Best Practice and EBRD requirement	Internal resources	2010	Publication of GHG reduction plan	The current 12 point investment program is aimed at improving generating efficiency at CHP-3 and thereby reducing specific CO_2 emissions.	Performance of arrangements of the investment program for 2007-2013 will lead to the expected decrease of fuel rate for electric and heat energy production by 0.027 kg/KWh and 3 kg/Gcal, respectively.

Pavlodar Electricity Distribution Company. Petropavlovsk Electricity Distribution Company Pavlodar and Ekibastuz Heat Distribution Company. Petropavlovsk Heat Distribution Company								
1	Prepare a detailed energy efficiency improvement program. This should include 15 years program for pre-isolated pipelines installation, program for installation of appropriate heat meters and the program for thermo-vision photos of the main assets for identification of heat losses. This can be undertaken as a part of the investment program approved by anti-	Energy efficiency and lower fuel use per a square meter will result in this program. Currently each company has above 40,000 GCal/year extraordinary losses along transmission pipelines. Moreover large heat losses are in consumers properties due to poor thermal insulation of houses – the problem lays in financing of such a way of energy saving.	Best Practice and EBRD requirement	Internal resources	2010 – initial actions, preparation of the program, application for acceptance of the program and new rates by local authorities	Publication of energy efficiency program.		Heat-transmitting companies developed the Investment programme "Development, reconstruction and retrofitting" to reduce extra losses during the period 2010-2016. One of the points of this programme reads as: Reconstruction of transmission (mains) and distribution heat networks with the use of pre-insulated pipelines. This includes a scheduled replacement of heat insulation of mineral wool mats with foamed polyurethane insulation in incombustible covering during restoration of heat insulation of the heating networks transmission pipelines. In 2011 "Pavlodarskiye Teplovyie Seti", LLP purchased a piece of thermal imaging equipment, an infrared imager FLIRP660. The company sent one of its specialist to a special training in St. Petersburg (Russia) to be able to use the above mentioned equipment in daily work. The company specialist completed the 1st stage of training in the field of infrared thermography. During the period from October 2011 to March 2012 the company conducted a heat inspection of 27 houses and the heating networks in the city of Pavlodar. In March 2012, the company organized a heat inspection presentation in Pavlodar, which was attended by representatives of State Institution "Department of housing maintenance and utilities, passenger traffic, and motor roads" and State Institution "Department of the Agency on regulation of natural monopolies" (DAREM), local executive powers, and chairmen of condominiums.

	monopoly office.							
2	Implementation of environmental training for all employees with less than 3 years of experience in the company.	Due to frequent rotation of the staff it is necessary to provide additional trainings for all employees in scope of their responsibilities in terms of environmental protection, energy efficiency and costumers treatment during energy supply breakdown.	Best Practice and EBRD requirement	150	2009/2011 - See comment	Contract of such trainings, reports from participants and evaluation documentation.		""Pavlodar Regional Electric Distribution Company", JSC took an environmental engineer on its staff. The environmental engineer has the following certificates: IRBARIS (adoption of GHGs inventarization in Kazakhstan); training at Kazakhstan Quality Organization on "development, adoption and audit of the integrate management system based on the international standards". The company developed: Environmental Policy and the company's aims in the field of environmental protection; list of hazards and risks; tasks and activities were determined to reduce adverse environmental impact. The company underwent the 1st and the 2nd stages of certification audit of the company's compliance with the requirements of ISO 14001 and OHSAS 18001 standards. It is planned to receive a certificate in the second decade of 2012. "Pavlodarskiye Teplovyie Seti", LLP appointed an environmental engineer who is responsible for environmental safety and underwent training on "Development, adoption and internal audit of the environmental management system in accordance with the ISO 14001:2004 requirements", which is proved by the certificate. According to the plan of ISO 14001:2004 adoption the following documents were developed: the company's environmental policy and aims and the lists of environmental aspects. The tasks and programmes of environmental management system were determined, and the lists of regulatory requirements were developed. In organization departments, which activity is connected with environmental impact, the heads of organization departments are held responsible for the compliance with the requirements of environmental laws of the Republic of Kazakhstan. Within the frameworks of Environment Management System adopted by the company, a training on production and consumption wastes management was carried out on 28 March 2012. The employees of "North Kazakhstan Regional Electric Distribution Conpany", JSC are trained on environmental issues; in every service and department there is a person responsible for the compliance with environmental legislation. The Regulations on territory contamination prevention are in force, and the company organises technical traning of its employees. The programme of technical training includes issues on compliance with environmental legislation. "Petropavl Heat Distribution Company", LLP appointed a person responsoble for environmental safety – a chemical engineer in the technical department. In order to increase the ecological awarenes of the company's employees, necessary information was sent in form of lectures. The company susbcribes to "Labour Protection" magazine that publishes section "Health protection and environmental conservation". According to its environmental and social action plan, "Petropavl Heat Distribution Company", LLP underwent the 1st stage of certification audit; in May 2011 it is planned to obtain a certificate confirming the company's compliance with ISO 9001 requirements. The company is investigating the suppliers market concerning the services of Managment System adoption in accordance to ISO ISO 14001 and OHSAS 18001 requirements.
3	Prepare the detailed inventory of the area with only one side supply, perform the risk assessment for this areas	Due to severe climatic conditions the Companies have to secure power supply. Some areas have only one-sided supply and in	Best Practice	40.000 Euro per company	May 2010 – the report should be presented as an	Publication of the report for the local authorities plus		The risk concerning electric energy supply is minimal; the consumers' energy supply is carried out depending on the category of objects, according to the Rules of arrangement of electricity generating plants of RK. There are three categories of objects: I category includes consumers, in respect of which the interruption of the energy supply may cause hazard to people's life; it is necessary to supply such consumers with energy from 2 independent reserve sources. II category includes consumers, in respect of which the interruption of the energy supply may lead to mass

		some cases through very old power lines (over 20 and 30 years old). Any serious breakdown along such a line may cause significant social harm if it happens during a winter.			annex to the 2009 financial report for the whole company	regulatory office. Discussio n of the results within managem ent and supervisor y board		undersupply of energy; it is recommended to supply such consumers from 2 power sources. The rest of consumers refer to III category, for which one power source is necessary. The Company keeps record of consumers of I and II categories. All the consumers of I category conform with norms; consumers of II category which do not conform with norms are registered, and the company takes measures to create power reserves. Heat transmissio companies in their activities follow The Rules of technical exploitation of electic power plants and networks and Internatinal Building Code (IBC 4.02-02-2004 "Heat Networks"). There are three categories of consumers: I – objects in respect of which the interruption of the energy supply is intolerable; II – objects in respect of which the temperature reduction is allowable but not more that 54 h of breackdown elimination. III – all other objects. There is a scheme of temporary heat energy supply from operating CHPs available in case of breakdown. All the consumers which do not conform with technical regulations are registered. If a feed network is available, temporary transfer is employed. The Company take mesures to properly supply consumers with heat energy and to minimize their risks. The Board of Directors of "PAVLODARENERGO", JSC made a Decision dated 26 November 2011 on adoption of the Risks Management System and the Internal Control System to decrease the possibility of risks which may arise during the company's activity, including "Pavlodarskiye Teplovyie Seti", LLP in part concerning heat energy transportation and distribution.
4	Verification of the contractors for old transformers and equipment utilization. Develop the certification of the utilization technologies.	Improved management of environmental and H&S issues in the region. Old electric devices require special procedures for utilization and the audited Companies are the largest producers of such wastes in the region. In accordance with Best Practice the way of utilization of these devices should be controlled. The audited plans shall include how risks are to be managed as well as a waste removal strategy.	Best Practi ce	30	See comment			Electric energy distribution companies carry out repairs of out-of-service transformers using their own resources at the repair facilities of the industrial overhaul plant; after that repaired transformers are repeatedly used in operation. Utilization of unfit equipment is not carried out, as soon as metal scrap is used for repair purposes. Heat-transmitting companies. In accordance with a requirement of ecological code of the Republic of Kazakhstan, the company developed a business process for utilization of mercury-containing lamps. Within the framework of the business process: the movements of mercury-containing lamps are registered (appointment of persons responsible for replacement and storage of new and used mercury-containing lamps); creation of storage conditions of mercury-containing lamps in accordance with current normative documents; the company concluded a contract "On acceptance and demercurization of used mercury-containing lamps". Under that contract, acceptance and demercurization of used mercury-containing lamps is implemented by special organizations providing services on acceptance and disposal of solid domestic and industrial wastes. The company submits annual reports: - to Environmental Department of the Ministry of Environmental Protection of the Republic of Kazakhstan on hazardous wastes; - on ambient air protection in Form 2-TII air; - on industrial environmental control programme; - to Regional Statistics Departments "On technical costs of environmental protection" – report in form 2-TII air. Every quarter the company submits a report on fulfillment of the Plan of nature conservation activities to regional Departments of the Ministry of Environmental Protection of the Republic of Kazakhstan.

5	Stakeholder Engagement Programme (SEP). Develop an SEP to address both worker and public stakeholder engagement programmes at the individual sites as well as corporate. Draft prepared by Atkins in January 2009 – to be updated annually by the Company and audited min every 5 years externally	SEP is required for both corporate as well as individual sites, This needs to include a grievance plan (complaints procedures) to allow staff and external stakeholders (public, etc) to voice concerns, opinions etc. Good stakeholder engagement reduce risk of civil unrest and public concern.	EBRD	Internal and external	2009	SEP in place updated on a annual basis with summary provided to the Bank in Annual Report	SEP will allow for good public communications program.	The Company has corporate sites: http://www.caepco.kz, http://www.sevkazenergo.kz, http://www.pavlodarenergo.kz, http://www.astanaenergosbyt.kz). The following columns can be found on the sites: "Public relations", "To consumers", "News" "Questions and answers", which contain information about tariffs, the order of execution and issue of technical specifications, formation of contracts and other reference information. Consumers can address theirs questions, remarks and suggestions. The information is updated every 2-3 days. Within the frameworks of the integrated management system, the Company developed the following: 1. The Regulations on informing the public and the company's employees; 2. The order of office work procedures; 3. Management of inappropriate products; The above mentioned documents provide all stakeholders with the information and describe actions in case of any external requests (questionnaires КП-7-01(QMS) "Consumer feedback"). In accordance with Law of the Republic of Kazakhstan #272-I "On natural monopolies…" dated 9 July, 1998, public hearings are held twice a year, with the participation of the council of experts, the consumer rights protection society, cooperatives for apartment owners, mass media, and all stakeholders.

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