

Environmental and Social Action Plan of "PAVLODARENENGO" JSC for 2013

№	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	<p>Publish a corporate EHS report and make it publicly available (including on the internet). The report is to be in compliance with the EIBRD's annual reporting requirement, and to include the following information:</p> <ul style="list-style-type: none"> - Key environmental performance indicators (KPIs) - Environmental performance - Greenhouse gas emissions - Legislative issues, including compliance and fines/penalties - Health and safety performance 	<p>Ensure that best practice is adopted across the organisation and that there is transparency in environmental performance. Reporting of environmental performance to stakeholders.</p>	<p>Best Practice and EIBRD requirement</p>	<p>Internal resources</p>	<p>2008 – then annually</p>	<p>Publication of report</p>	<p>The Corporate report was prepared in accordance with the established sections. The report is available on "PAVLODARENENGO" JSC website at:</p> <p>http://www.pavlodarenengo.kz/assets/files/ESAP_PE_2012_engl.pdf</p> <p>http://www.pavlodarenengo.kz/assets/files/ESAP_PE_2012_engl.pdf</p> <p>and on the website of "Central-Asian Power Electric Power Corporation" JSC at:</p> <p>http://caepco.kz/assets/files/ESAP_Corporate_report_CAFPCO_2012_rus.pdf</p> <p>http://caepco.kz/assets/files/ESAP_Corporate_report_CAEIPCO_2012_eng.pdf</p>	<p>The Corporate report was prepared in accordance with the established sections. The report is available on "PAVLODARENENGO" JSC website at:</p> <p>http://www.pavlodarenengo.kz/assets/files/ESAP_PE_2012_engl.pdf</p>

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2	Maintain the Management Systems in proper working order, in compliance with the requirements of ISO 14001:2004, ISO 9001:2008, and OHSAS 18001:2007 standards	Ensure that best practice is adopted across the organisation. External certification to ISO14001, ISO 9001:2008, and OHSAS 18001:2007 provides third party assurance of performance and a commitment to continual improvement.	Best Practice and EBRD requirement	Internal resources	2008-2009	Certification to ISO14001:2004, ISO 9001:2008, and OHSAS 18001:2007	EMS implementation planned at Pavlodarenergo by the end of 2008.	In 2013 "PAVLODARENBERGO" JSC successfully passed recertification audit procedures to confirm the company's compliance with the requirements of ISO 9001:2008 and ISO14001:2004 standards and the second supervisory audit to confirm its compliance with the requirements of OHSAS 18001:2007 standard as well. Upon the results it was established that the validity of certificate on compliance with the requirements of ISO 9001:2008 is prolonged till 02.10.2015; certificate on compliance with the requirements of ISO14001:2004 is prolonged till 05.03.2016; certificate on compliance with the requirements of OHSAS 18001:2007 is prolonged till 22.01.2015.

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3	Prepare a formal ESIA (Environmental and Social Impact Assessment) for all of the projects at CHP-2 and CHP-3 covered by Investment Programme.	To ensure that the proposed projects minimise environmental impacts. The ESIA will ensure that full consultation takes place and that any project will use European BAT standards as a benchmark as well as ensure appropriate stakeholder consultations are undertaken and projects meet Kazakhstan legislation.	Best Practice and EBRD requirement	80	2008	Publication of ESIA report.	The ESIA will need to include public consultation, an assessment of cumulative environmental impacts from the investments and existing operations, 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 a shareholder will need to be consulted on the ESIA process prior to public consultation.	In 2013 the Company had the EIAs prepared and received sanitary and epidemiological conclusions from the State Administration of Sanitary and Epidemiological Control in the city of Pavlodar and State Institution "Environmental Department in Pavlodar region of the Environmental Regulation and Control Committee of the Ministry of Environmental Protection of the Republic of Kazakhstan" for the working project: "Reconstruction of the dust extraction plant of boiler №3 of BKZ-160-100F(M) type at CHP-2 "PAVLODARENBERGO" JSC with installation of a battery emulsifier of II generation.

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4	<p>Ensure that all new projects, extensions, plant and associated infrastructure are to be designed to meet both Kazak and EU environmental standards.</p> <p>It includes LCP Directive 2001 and IPPC EU 1996 (including notes LCP BREF BAT (Section – the best used methods)</p>	<p>To ensure that future projects minimise 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.</p>	<p>Best Practice and EBRD requirement</p>	<p>Will vary by project.</p>	<p>On-going</p>			<p>In 2013 "PAVLODARENENERGO" JSC completed the work on installation of battery emulsifiers at CHP-3, CHP-2 and ECHP.</p> <p>This fact allowed to reach the required level of NOx concentration according to the technical regulations.</p> <p>{From 570-650 mg/m³ and SO₂ (to 2000 mg/m³).</p> <p>Actual average annual data on concentration for 2013 of "PAVLODARENENERGO" JSC composed:</p> <p>NOx – 506 mg/m³, SO₂ – 1033 mg/m³.</p>

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5	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 generating 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		The "Additional Investment Project of reconstruction and technical re-equipment of "Pavlodarenergo" JSC for a long-term period 2010-2015" was developed and approved by the Ministry of Power and Mineral Resources of the Republic of Kazakhstan and by state institution "Department of Pavlodar oblast of the Agency on regulation of natural monopolies of the Republic of Kazakhstan". The scope of the investment project implementation will be reflected in the Corporate Report for 2013 to be found at the website of CAEP/CO.

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6	<p>A programme is to be developed to evaluate the scope for reduction of NOx and sulphur dioxide (SO₂) emissions levels comparable with the Large Combustion Plant Directive, namely 400 mg/Nm³ for SO₂. Where the SO₂ level cannot be met the program shall evaluate the scope for a desulphurization rate of at least 95% with a maximum SO₂ discharge of 400 mg/Nm³. The Company will use low NOx burners and optimise for NOx control.</p>	<p>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.</p>	<p>Best Practice and EBRD requirement</p>	<p>Internal resources</p>	<p>Developed plan - 2010 Implementation plan 2010-2020</p>	<p>Publication of report</p>	<p>A BAT Assessment will set out the scope of any improvement works and the programme for implementation. This will include the practicalities of reinstatement and substitution of equipment</p>	<p>Action plan for the maximum possible decrease of emissions of "PAVLODARENBERGO" JSC was developed in accordance with the requirements of "Technical regulation on the requirements for the emissions produced by the combustion of various types of fuels in boilers of combined-heat-and-power plants".</p> <p>In 2013 "PAVLODARENBERGO" JSC completed the work on installation of battery emulsifiers at CHP-3, CHP-2 and ECHP.</p> <p>This fact allowed to reach the required level of NOx concentration according to the technical regulations.</p> <p>(From 570-650 mg/m³ and SO₂ (to 2000 mg/m³).</p> <p>Actual average annual data on concentration for 2013 of "PAVLODARENBERGO" JSC composed: NOx – 506 mg/m³, SO₂ – 1033 mg/m³.</p>

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7	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 300 mg/Nm ³ for the plant and then for each stack 100 mg/Nm ³ as a long term.	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/Nm ³ . BAT would be in the 20-30 mg/Nm ³ range. Current emission are as follows: 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 . The Company will upgrade the air abatement equipment, however current technology and fuel will not allow EU standards to be met. Company will need to undertake a Best Available Techniques (BAT) to survey the available technologies that could be applied to the plant.	Best Practice and EBRD requirement	Internal resources, CAPEX Approx. 15-20 mln	Plan by 2008 2010 undertake a BAT Assessment to consider how to attain best international practice emission standards such as EU IACP Directive requirements – i.e. 50-100 mg/Nm ³ . The provisions for this study to be agreed with the lender (Bank). Attain 300 mg/Nm ³ average emissions from CHP by 2015 that will be operational post 2015 As a long term aim attain 50-100 mg/Nm ³ 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 appropriate 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.	With a view of Action Plan realisation for the maximum possible decrease of emissions, and according to requirements of "Technical regulation on the requirements for the emissions produced by the combustion of various types of fuels in boilers of combined-heat-and-power plants", the reconstruction works of dust extraction plants on all boilers at CHP-2, CHP-3, and ECHP have been executed. The achieved result is increase of efficiency of ash collecting to 99,5%.

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8	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 tend to decrease CO2 emissions.	Best Practice and EBRD requirement	Internal resources	2010	Publication of GHG reduction plan	The current 12 point investment programme is aimed at improving generating efficiency at CHP-3 and thereby reducing specific CO2 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. In 2013 the ultimate fuel consumption for electric power generation, in comparison with 2006, decreased by 0,010 kg/kWh, and for heat power generation decreased by 5,9 kg/Gcal.
9	Implementation of continuous emission monitoring systems (CEMS) for all stack emissions.	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	200	See comment	Implementation of CEMS	All new boiler plant should be installed with CEMS to ensure it meets the reliability, confidence limits and reporting requirements of the LCPD. CEMS at existing boiler plant of «PAVLODAREN ERGO», JSC should be implemented no later than 2015.	In the first half of 2013 the contracts for manufacturing and supply of equipment of automatic control of emissions concentration in combustion gases were concluded. In December 2013 the supply started.

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10	Improve the physical condition of the mazut storage areas at CHP-2 and CHP-3.	Risks are presented to land, ground and surface waters from chemical storage areas at both sites, in particular mazut storage. Improved storage of this material will minimise risks.	Best Practice and EBRD requirement	200	2012	Publication of improvement plan	Plans for improvement of the physical condition of the territories for mazut storage at CHP-2, CHP-3 and Ekibastuz CHP were developed.	
11	Develop an asbestos management plan aimed at cessation of asbestos usage, removal and disposal.	Improved management of environmental and health and safety issues. Asbestos is present in the boiler house of both CHP-2 and CHP-3. 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	200	See comment	On-going usage of asbestos should cease by 2008. A plan for the removal and disposal of asbestos should be developed by 2010. All asbestos shall be removed from both CHP-2 and CHP-3 by 2015	Plans for Pavlodar CHP-3, CHP-2 and Ekibastuz CHP were developed.	
12	Determine through analysis whether transformer oils at CHP-2 and CHP-3 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	50	2015	Results of analysis	In 2013 the contract for execution of laboratory analysis of PCB-containing equipment was concluded with certified laboratory. The analysis was performed. According to the results of analysis, the concentration of PCB in transformer oil equipment of "PAVLODARENERGO" JSC is less than 50 mg/kg.	

REPORT

on work performed by “PAVLODARENERGO” JSC in compliance with the requirements specified in Article 5.14(c) of Loan Agreement between
**JOINT-STOCK COMPANY “PAVLODARENERGO” and
EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT**
dated 29 November 2007

Article 1. Information on ESDD

“Pavlodarenergo” JSC operates in accordance with the current legislation of the Republic of Kazakhstan on environmental, health and safety issues.

In 2013 the following state authorities carried out the series of check-ups at “PAVLODARENERGO” JSC departments:

- Environmental Department of Pavlodar oblast of the Environmental Regulation and Control Committee of the Ministry of Environmental Protection of the Republic of Kazakhstan – a scheduled inspection of “PAVLODARENERGO” JSC;
- Administration of the State Sanitary and Epidemiological Committee in the city of Pavlodar – a scheduled inspection of CHP-2 and CHP-3;
- Administration of the State Sanitary and Epidemiological Committee in the city of Ekibastuz – a scheduled inspection of Ekibastuz CHP;
- Fire Control Administration of the Emergency Department of Pavlodar oblast – a scheduled inspection of CHP-2, CHP-3 and Ekibastuz CHP.

1. Environmental Department of Pavlodar oblast of the Environmental Regulation and Control Committee of the Ministry of Environmental Protection of the Republic of Kazakhstan.

- *Inspection date:* from 08.04.2013 up to 17.05.2013;
- *Subject of inspection:* a scheduled inspection on compliance with environmental legislation of the Republic of Kazakhstan;
- *The issued Improvement Notice №138 dated 18.06.2013.*
- *Prescribed* – one regulating activity
- The above-mentioned regulating activity was fulfilled at a stated time.

As of 01.01.2014 the check-ups of “PAVLODARENERGO” JSC by State Sanitary and Epidemiological Committee of Pavlodar and Ekibastuz, and Fire Control Administration of the Emergency Department of Pavlodar oblast are not completed. The check-ups started in December 2013. According to the results of check-ups as of 01.01.2014 there are no issued improvement notices.

Article 3. Information on Environmental and Social Reports

Information on the reports on Environmental Matters

№	Type of information	The organization or the official the information is to be furnished to	The deadline
1.	Form №2-ТП air (semiannual, annual) abridgement	Department for Statistics of Pavlodar oblast	Annually Before the 25 th of July.

			Before the 25 th of January
2.	Form №4-OC current expenditures for environment safety (annual)	Department for Statistics of Pavlodar oblast	Annually Before the 23 rd of February
3.	Form №2-TII utility water (annual)	State Administration “Irtysk Inspection for Water Basin Resource Management and Conservation of the Committee for Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan”	Annually Before the 10 th of January
4.	Form №1 BK - drainage system	Department for Statistics of Pavlodar oblast	Annually Before the 22 nd of February
5.	Form: “ Report on hazardous waste” (annual)	Environmental Department of Pavlodar oblast	Annually Before the 1 st of March
6.	Report on Implementation of Environmental Actions	Environmental Department of Pavlodar oblast	Monthly Prior to the 5 th day, following the reporting day
7.	Report on the program of industrial environmental monitoring of “PAVLODARENERGO” JSC	Environmental Department of Pavlodar oblast	Annually, Once a quarter, Once a year, Within 10 business days after the reporting period

Information on the reports on Safety, Health and Labour protection

№	Type of information (reports) to be furnished	Furnished to	Periodicity of reports' furnishing
1	Report on injures 7-TPZ	Department for Statistics of Pavlodar oblast	Annually Before the 25 th of February
2	Safety, Health and Labor Protection Monitoring	State Administration “Department of Control and Social Protection of the Ministry of Labor and Social Protection of Pavlodar oblast”	Twice a year
3	Safety, Health and Labor Protection Monitoring	State Administration “Department of Control and Social Protection of the Ministry of Labor and Social Protection of Pavlodar oblast”	Monthly

Notes: all the reports were furnished in time according to the list.

Article 5. Information on legislative amendments

The list of statutory legal acts that are used in the activity of the Ecological Department of the company

Type of document	Name of document	Number	Effective date	Period of validity	Revised
Constitution	The Constitution	-	30/08/1995	Prior to the replacement by a new one	02/02/2011
Law	On Obligatory Environmental Insurance	93	13/12/2005	Prior to the replacement by a new one	05/07/2012
Law	On Subsoil and Subsoil Use	291-IV	24/06/2010	Prior to the replacement by a new one	04/07/2013
Code	Environmental Code of the Republic of Kazakhstan	212	09/01/2007	Prior to the replacement by a new one	24/12/2012
Code	Water Code of the Republic of Kazakhstan	481	09/07/2003	Prior to the replacement by a new one	24/12/2012
Code	Land Code of the Republic of Kazakhstan	442	20/06/2003	Prior to the replacement by a new one	08/01/2013
Code	On Taxes and other Obligatory Payments to the Budget of the Republic of Kazakhstan	99-IV	10/12/2008	Prior to the replacement by a new one	05/12/2013
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Wastes Classifier	169-п	31/05/2007	Prior to the replacement by a new one	07/08/2008
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of a Hazardous Waste Descriptor Form	128-п	30/04/2007	Prior to the replacement by a new one	30/04/2007
Order of Acting Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of inclusion of nature management conditions into environmental emissions permits	112-п	16/04/2007	Prior to the replacement by a new one	19/03/2012

Order of Minister of Environmental Protection 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	Prior to the replacement by a new one	19/03/2012
Standard of the Republic of Kazakhstan	ISO	14001	2006	Prior to the replacement by a new one	2006
Standard of the Republic of Kazakhstan	ISO	19011	2002	Prior to the replacement by a new one	2006
International Standard	ISO	14001	2004	Prior to the replacement by a new one	2006
International Standard	ISO	19011	2002	Prior to the replacement by a new one	2002
Guiding Normative Document	The Guidance on assessment of environmental pollution level with toxic production and consumption wastes	03.3.0.4.0 1-96	1996	Prior to the replacement by a new one	1996
Guiding Normative Document	The Order of rationing of generation and allocation of waste products	03.1.0.3.0 1-96	1996	Prior to the replacement by a new one	1997
Building Performance Requirements	Internal water supply and sewerage system of the buildings	4.01-41- 2006	2006	Prior to the replacement by a new one	2006
State Standard (GOST)	Secondary ferrous metals. General technical requirements	2787-75	1975	Prior to the replacement by a new one	1988
Sanitary Rules and Regulations	Sanitary Standards of working with mercury, its compounds and mercury-filled devices	1.10.083- 94	1994	Prior to the replacement by a new one	1994
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of public hearings	135-п	07/05/2007	Prior to the replacement by a new one	26/03/2013
Order of Minister of Environmental Protection of	On approval of the Methodology of identifying the norms of emissions to the	158-п	21/05/2007	Prior to the replacement by a new one	11/12/2013

the Republic of Kazakhstan	environment				
Government Regulation of the Republic of Kazakhstan	On approval of Rules of the organization of liquidation landfill funds	591	10/07/2007	Prior to the replacement by a new one	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	Prior to the replacement by a new one	21/07/2010
Permit	Permit for emissions to the environment by CHP-2, CHP-3, ECHP	0056609	01/01/2012	31.12.2014	-----
Correction to the project of norms of MPE	Correction to the project of norms of MPE for CHP-3	-	2011	2014	-----
Correction to the project of norms of MPE	Correction to the project of norms of MPE for CHP-2	-	2011	2014	-----
Correction to the project of norms of MPE	Correction to the project of norms of MPE for ECHP	-	2011	2014	-----
Project of waste disposal	Project of waste disposal of CHP-2, CHP-3 of "PAVLODARENERGO" JSC	-	2010	2014	-----
Project of waste disposal	Project of waste disposal of ECHP of "PAVLODARENERGO" JSC	-	2010	2014	-----
Instruction	Operative actions in case of adverse weather conditions	1	05/01/2009	31/12/2013	05/01/2009
Instruction	Instruction for the organization of works at the territory of "PAVLODARENERGO" JSC by the contractor organizations	2	19.01.2009	19.01.2012	16.09.2013
Order of the Ministry of Statistics of the Republic of Kazakhstan	Instruction for fulfilling the statistic form 2-TII (air) (annual) "Report on environment protection"	180	13/07/2010	Prior to the replacement by a new one	15.08.2011

Order of the Ministry of Statistics of the Republic of Kazakhstan	Instruction for fulfilling the 2-TII (utility water)	2-r	24/01/2005	Prior to the replacement by a new one	13.07.2010
Order of the Ministry of Statistics of the Republic of Kazakhstan	Instruction for fulfilling the statistic form 4-TII (annual) "Report on current expenditures for environment protection"	180	13/07/2010	Prior to the replacement by a new one	15.08.2011
State Standard (GOST)	Labor Safety Standards. Manufacturing equipment. General safety requirements	12.2.003-91	1991	Prior to the replacement by a new one	1991
State Standard (GOST)	Labor Safety Standards. Harmful Substances. Classification and General Safety Requirements	12.1.007-76	1976	Prior to the replacement by a new one	1990
State Standard (GOST)	Labor Safety Standards. Manufacturing equipment. General ergonomic requirements	12.2.049-80	1980	Prior to the replacement by a new one	1980
Law	On Industrial Safety at Dangerous Production Facilities"	314	03/04/2002	Prior to the replacement by a new one	10/07/2012
Law	On Safety of Chemical Production	302	21/07/2007	Prior to the replacement by a new one	10/07/2011
Law	On rail transport	266	08/12/2001	Prior to the replacement by a new one	24/12/2012
Order of the Minister of the Ministry of Agriculture of the Republic Kazakhstan	On approval of the Rules of initial water balance inventory	1216	02/11/2009	Prior to the replacement by a new one	28/10/2011
Government Regulation of the Republic of Kazakhstan	On approval of the Rules of use of water supply system and drainage system in community settlements	832	05/06/2009	Prior to the replacement by a new one	05/06/2009
Order of the Minister on Emergency Situations of the Republic of	On approval of normative acts in the field of industrial safety	189	29/10/2008	Prior to the replacement by a new one	29/11/2011

Kazakhstan					
Government regulation of the Republic of Kazakhstan	On approval of the Rules of state accounting of the sources of greenhouse gases emissions to the environment and consumption of ozone-destructive substances	124	08/02/2008	Prior to the replacement by a new one	22/10/2013
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of GHG and ozone-destructive substance emissions inventorization	348-П	13/12/2007	Prior to the replacement by a new one	25/02/2012
Joint order of Minister of Environmental Protection and Minister of Economic development and Trade of the Republic of Kazakhstan	On approval of the form of check-up list for check-ups of subsoil users	232-П-293	23.02.2010 25.02.2010	Prior to the replacement by a new one	31.10.2012
Standard of the Republic of Kazakhstan	Environmental Management Systems General Guidelines on principles, systems and means of their functioning	14004	2010	Prior to the replacement by a new one	2010
Government Regulation of the Republic of Kazakhstan	On approval of the Rules of licensing and qualification requirements, necessary for the activity of preparation, storage, processing, and realization of grub iron and iron and steel wastes by legal entities	80	31/01/2008	Prior to the replacement by a new one	30.07.2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the Instructions on implementation of the Environmental Impact Assessment of the planned business and other activities when developing preplanning, planning, preproject, and project documentation	240-П	28/06/2007	Prior to the replacement by a new one	24/09/2013

Government Regulation of the Republic of Kazakhstan	On approval of Sanitary Rules "Sanitary and epidemiological requirements to water sources and water supply points used for domestic water consumption and drinking, household water supply, places of community water supply, and safety of water bodies"	104	18/01/2012	Prior to the replacement by a new one	29/03/2013
Government Regulation of the Republic of Kazakhstan	On approval of Rules for wastewater acceptance into wastewater discharge systems of residential areas	141	28/05/2009	Prior to the replacement by a new one	28/05/2009
Government Regulation of the Republic of Kazakhstan	On approval of Rules of waste management programme development	403	30/03/2012	Prior to the replacement by a new one	30/03/2012
Order of Acting Minister of Environmental Protection of the Republic of Kazakhstan	On approval of limits (allowances) of usage of ozone-depleting substances	131-п	04/05/2012	Prior to the replacement by a new one	04/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of methods and criteria of preparation of GHG inventarization reports	149-п	10/05/2012	Prior to the replacement by a new one	10/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of methods of monitoring plans development by entities at the stage of GHG emissions allowance distribution	143-п	10/05/2012	Prior to the replacement by a new one	10/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of keeping the State Register of carbon units	147-п	10/05/2012	Prior to the replacement by a new one	10/05/2012
Order of Minister of Environmental Protection of	On approval of the reporting form for GHG inventarization	123-п	15/05/2013	Prior to the replacement by a new one	15/05/2013

the Republic of Kazakhstan					
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of monitoring, accounting, and reporting on carbon units of GHG emissions for trading purposes	157-п	14/05/2012	Prior to the replacement by a new one	14/05/2012
Government Regulation of the Republic of Kazakhstan	On approval of Rules of granting GHG emissions allowances	584	07/05/2012	Prior to the replacement by a new one	07/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the Rules of GHG and ozone-destructive substances inventorization	348-п	13.12.2007	Prior to the replacement by a new one	25/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for conversion of units of design mechanisms into allowance units in the field of emissions regulation and GHG absorption	148-п	10/05/2012	Prior to the replacement by a new one	10/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for mutual acknowledgement of allowance units and other carbon units based on the international agreements of the Republic of Kazakhstan	153-п	11/05/2012	Prior to the replacement by a new one	11/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for preparation, consideration and approval, accounting, reporting and monitoring of internal projects on GHG reduction	150-п	11/05/2012	Prior to the replacement by a new one	11/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for development internal projects on GHG emissions reduction and the List of fields and economic sectors to which they can be applied	156-п	14/05/2012	Prior to the replacement by a new one	14/05/2012
Order of Minister of Environmental Protection of	On approval of Rules for GHG emissions trading and carbon units trading	151-п	11/05/2012	Prior to the replacement by a new one	11/05/2012

the Republic of Kazakhstan					
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for standardization of measurements and accounting of GHG emissions	144-п	10/05/2012	Prior to the replacement by a new one	10/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the Installation Descriptor Form	122-п	15/05/2013	Prior to the replacement by a new one	15/05/2013
Order of Minister of Environmental Protection of the Republic of Kazakhstan	The Rules of handling resistant organic pollutants and wastes containing resistant organic pollutants	40-п	24/02/2012		

Note: The present amendments to statutory legal acts will not have a negative influence on the “PAVLODARENERGO” JSC project implementation.

ISO 14001:2004

In 2009 a certification authority (TÜV Rheinland InterCert) granted a certificate of conformity to “PAVLODARENERGO” JSC (registration number 751100406), confirming that the system the company adopts is in compliance with the requirements of ISO 14001:2004. The frames of Certificate efficiency is defined: “Generation, transmission, distribution of electric and heat power; repair, manufacturing and installation for own needs”.

OHSAS 18001

In 2011 a certification body TUV International RUS carried out the supervisory audit at “PAVLODARENERGO” JSC. A certification authority (TÜV Rheinland InterCert) granted a certificate of conformity to “PAVLODARENERGO” JSC (registration number OC-4870-0020), confirming that the company adopts the system in compliance with the requirements of OHSAS 18001-2007. The frames of Certificate efficiency is defined: “Generation, transmission, distribution of electric and heat power; repair, manufacturing and installation for own needs”. The termination of the Certificate is 23.01.2012-23.01.2015.

In 2013 during the period from 08.10.2013 to 10.10.2013 the certificate audit on the system of ecological management to comply with the requirements of standard ISO14001:2004 was executed and the second supervisory audit on the system of professional safety management and labor safety to comply with the requirements of standard OHSAS 18001-2007.

The termination of the Certificate of standard ISO14001:2004 is prolonged till 22.01.2015.

Emission permits for CHP-2, CHP-3 and Ekibastuz CHP of "PAVLODARENERGO" JSC
- Permit №0056609 dated 29/11/2011 for environmental emissions in 2012-2014.

Acting Chairman

A handwritten signature in blue ink, consisting of several overlapping loops and a long vertical stroke extending upwards from the top right.

O.V. Perfilov

Report
on compliance with ecological legislation of the Republic of Kazakhstan
of “PAVLODARENERGO” JSC in 2013

The issues of environment protection are one of the most relevant priority tasks, prescribed by the strategic development of the company.

Prevention of pollution of environment is determinant within the decision making in operational activity of production, transmission and distribution oh electric and heat power. The level of influence on environment and efficiency of power and nature resources usage are assessed during the process of new technologies implementation.

Main ecological factors

The emissions into environment are made on the base of obtained permits for the emissions into environment.

The report figures of emissions for 2013 of “PAVLODARENERGO” JSC are as follows:

Air pollutant emissions	CHP-2		CHP-3		Ekibastuz CHP		Total “PE” (tons)	
	Limit	Actual	Limit	Actual	Limit	Actual	Limit	Actual
Total	11539,057	8029,084	45081,413	33478,060	11309,354	7789,686	67929,824	49296,83
including								
Coal ash	1422,158	1398,905	6904,42	5466,923	4108,399	2418,571	12434,977	9284,39
Nitrogen dioxide	2949,556	1546,771	13039,293	7245,944	1622,647	1099,578	17611,496	9892,29
Nitrogen oxide	479,054	251,117	2117,144	1177,216	263,229	200,374	2859,426	1628,70
Sulfur dioxide	6294,098	4482,254	21002,114	18065,346	4804,279	3690,405	32 100,491	26238,00

The reporting data on the volume of ash-and-slag waste generation, permissible and actual for 2013 of structural divisions of “PAVLODARENERGO” JSC, are as follows:

Waste	CHP-2		CHP-3		Ekibastuz CHP		“PE” JSC, total (tons)	
	Limit	Actual	Limit	Actual	Limit	Actual	Limit	Actual
Ash and slag	288,075	256,040	1,032,136	1,019,711	222,34	222,139	1,542,560	1,497,890

Hard waste disposal and sweepings of the Company in 2013 were executed to the city dump of Pavlodar and Ekibastuz.

Industrial waste disposal from industrial objects of the Company was executed in compliance with the concluded agreements and contracts to the dumps of existing yards.

Activity on compliance with environmental requirements

In 2013 the company implemented activities to the amount of 1,342,017.48 thousand tenge.

The main activities are as follows:

- reconstruction of the dust extraction plant on boiler №1 CHP-2 with installation of battery emulsifiers of II generation; the cost of works made 131,178.088 thousand tenge;

- construction of new ash dump CHP-2 – the cost of work made 379,990.188 thousand tenge;
- obtaining the allowances for emissions of GHG for CHP-2, CHP-3, ECHP – the cost of work made 15,471.614 thousand tenge;
- installation of devices for automatic control of the combustion gases composition at boilers of CHP-2, CHP-3 – the cost of work made 78,839.624 thousand tenge;
- repair of conveying pipes at CHP-3 – the cost of work made 12,419.165 thousand tenge;
- construction of new ash dump CHP-3 – the cost of work made 5,994.182 thousand tenge;
- reconstruction of boiler unit BKZ # 6 at ECHP with installation of emulsifiers of II generation – the cost of work made 100,587.7 thousand tenge;
- construction of the second stage of ash dump ECHP – 23,500.00 thousand tenge.

ISO 14001:2004

In 2013 within the period from 08.10.2013 to 10.10.2013 there was a certificate audit on Environmental Management System (EMS) to comply with the requirements of standard ISO14001: 2004 and the second supervisory audit on the System of Professional safety management and labor safety to comply with the requirements of standard OHSAS 18001-2007.

The period of validity of Certificate ISO14001: 2004 is prolonged till 05.03.2016.

Legislative requirements

“PAVLODARENERGO” JSC conducts its activity in compliance with the current legislation of the Republic of Kazakhstan on environment, health and safety issues.

All the projects developed and being implemented are subject to the obligatory state ecological assessment. The company has the affirmative findings on:

“PAVLODARENERGO” JSC (CHP-2, CHP-3 and ECHP)

- Updating of Draft Regulations for maximum permissible emissions for CHP-2 of “PAVLODARENERGO” JSC, approved by Irtysh Environmental 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 Committee on Ecological Monitoring and Regulation 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)
- Draft Regulations for waste disposal approved by Irtysh Environmental Department on 23 February 2010. Conclusion of the State environmental expertise № 3-2-12/922 dated 23/02/2010 1 on “Draft Regulations for waste disposal for Ekibastuz CHP of “PAVLODARENERGO” JSC”;
- Draft Regulations for production and consumption wastes disposal at CHP-2 and CHP-3 of “PAVLODARENERGO” JSC” approved by Environmental Regulation and Control Committee of the Ministry of Environmental Protection of the Republic of Kazakhstan on 15 June 2010. Conclusion of the State ecological expertise № 06-03-01-18/236-1 dated

15/06/2010 on “Draft production and consumption wastes disposal at CHP-2 and CHP-3 of “PAVLODARENERGO” JSC”;

- Environmental Impact Assessment for Ekibastuz CHP “PAVLODARENERGO” JSC, 2012. Conclusion of the State ecological expertise № 3-2-12/338 dated 26.01.2012;
- Environmental Impact Assessment for CHP-2 “PAVLODARENERGO” JSC, 2012. Conclusion of the State ecological expertise № 3-2-12/337 dated 26.01.2012;
- Environmental Impact Assessment for CHP-3 “PAVLODARENERGO” JSC, 2012. Conclusion of the State ecological expertise № 3-2-12/339 dated 26.01.2012;
- Insurance Policy №0000014 dated 10.03.2012, series ОЭС. The policy expires on 09/03/2013.
- Permit for emissions into environment for 2012-2014 for “PAVLODARENERGO” JSC # 0056609 dated 29.11.2011, which gives a right to execute emissions of polluting substances in 2012 – 67907,745 tons, and to dispose the production and consumption waste in 2012 – 1540681 tons;
- Activity plan on environment protection of “PAVLODARENERGO” JSC for 2012-2014.
- Conclusion of the State ecological expertise for project materials:
 - “Reconstruction of the dust extraction plant of boiler №9 of BKZ-75-39FB type at Ekibastuz CHP of “PAVLODARENERGO” JSC with installation of a battery emulsifier of the II generation” (conclusion №3-2-12/573 dated 17.02.2012);
 - “Reconstruction of the dust extraction plant of boiler №6 of BKZ-75-39FB type at Ekibastuz CHP of “PAVLODARENERGO” JSC with installation of a battery emulsifier of the II generation” (conclusion №3-2-12/2158 dated 03.06.2011);
 - “Installation of turbo-unit №1 of ПТ--65/75-130/13 type at CHP-3 of “PAVLODARENERGO” JSC (conclusion № 3-2-12/5173 dated 22.10.2010);
 - “Construction of the 2nd stage of CHP-2 ash dump of “PAVLODARENERGO” JSC” (conclusion №3-2-12/464 dated 03.02.2012);
 - “Construction of three stage cooling tower at the existing pool of CHP-2 of “PAVLODARENERGO” JSC (conclusion # 3-2-12/3495 dated 07.12.2012)”;
 - “Reconstruction of the dust extraction plant of boiler №3 of BKZ-160-100Φ (M) type at CHP-2 of “PAVLODARENERGO” JSC with installation of battery emulsifiers of the II generation” (conclusion №3-2-12/3332 dated 26.11.2012);
 - “Reconstruction of the dust extraction plant of boiler №5 of BKZ-420-140 type at CHP-3 of “PAVLODARENERGO” JSC with installation of battery emulsifiers of the II generation” (conclusion №3-2-12/1623 dated 04.06.2009);
 - “Reconstruction of the dust extraction plant of boiler №2 of BKZ-420-240 type at CHP-3 of “PAVLODARENERGO” JSC with installation of battery emulsifiers of the II generation” (conclusion №3-2-12/3330 dated 26.11.2012);
 - “The dust extraction plant of boiler №1 of BKZ-160-100 (M) type with installation of battery emulsifiers of the II generation” (conclusion № KZ12VCY00002196 dated 23.12.2013);

Information on the reports on Environmental Matters

№	Type of information	The organization or the official the information is to be furnished to	The deadline
1	Form №2-ТII air (semiannual, annual) abridgement	Department for Statistics of Pavlodar oblast	Annually Before the 25 th of July, Before the 25 th of January

2	Form № 4-OC on the current expenses for environment protection (annual)	Department for Statistics of Pavlodar oblast	Annually Before the 23 rd of February
3	Form №2-ТП utility water (annual) of CHP-2, CHP-3 and Ekibastuz CHP	State Administration "Irtysk Inspection for Water Basin Resource Management and Conservation of the Committee for Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan"	Annually Before the 10 th of January
4	Form №1BK- drainage system	Department for Statistics of Pavlodar oblast	Annually Before the 22 nd of February
5	Form: hazardous waste (annual)	Environmental Department of Pavlodar oblast	Annually Before the 1 st of March
6	Report on Implementation of Environmental Actions of	Environmental Department of Pavlodar oblast	Before the 5 th of the month following the reporting period
7	Report on the program of production and ecologic control of "PAVLODARENERGO" JSC	Environmental Department of Pavlodar oblast	Annually Once a quarter, Once a year, Within 10 days following the reporting period

Information on the reports on Safety, Health and Labour protection

№	Type of information (reports) to be furnished	Furnished to	Periodicity of reports' furnishing
1.	Report on injures 7-TPZ	Department for Statistics of Pavlodar oblast	Annually Before the 25 th of February
2.	Safety, Health and Labor Protection Monitoring	State Administration "Department of Control and Social Protection of the Ministry of Labor and Social Protection of Pavlodar oblast"	Annually Twice a year
3.	Safety, Health and Labor Protection Monitoring	State Administration "Department of Control and Social Protection of the Ministry of Labor and Social Protection of Pavlodar oblast"	Monthly

Notes: all the reports were furnished in time according to the list.

Acting Chairman
"PAVLODARENERGO" JSC



O.V. Perfilov