

## Environmental and Social Action Plan of “PAVLODARENERGO” JSC for 2012

№	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 EBRD's annual reporting requirement, and to include the following information:</p> <ul style="list-style-type: none"> <li>- Key environmental performance indicators (KPIs)</li> <li>- Environmental performance</li> <li>- Greenhouse gas emissions</li> <li>- Legislative issues, including compliance and fines/penalties</li> <li>- Health and safety performance</li> </ul>	<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 EBRD 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 “PAVLODARENERGO” JSC website at:  <a href="http://pavlodarenergo.kz/about/documents/reports/">http://pavlodarenergo.kz/about/documents/reports/</a> and on the website of “Central-Asian Power Electric Power Corporation” JSC at:  <a href="http://www.caepco.kz/page.php?page_id=38&amp;lang=1">http://www.caepco.kz/page.php?page_id=38&amp;lang=1</a></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	2008/9	Certification to ISO14001:2004, ISO 9001:2008, and OHSAS 18001:2007	EMS implementation planned at Pavlodarenergo by the end of 2008.	In 2012 "PAVLODARENERGO" JSC successfully passed recertification audit procedures to confirm the company's compliance with the requirements of ISO 9001:2008 and ISO14001:2004 standards. The results of the audit confirmed that the systems are being adopted properly and in compliance with the field of its application and all the requirements of ISO14001:2004 (certificate №751100406) and ISO 9001:2008 (certificate №7510070327) standards. The company successfully passed the first supervisory audit to confirm its compliance with the requirements of OHSAS 18001:2007 standard as well. Upon the results it was established that the requirements of Occupational, Health and Safety Management System, as provided for by OHSAS 18001:2007 standard, are fulfilled. Upon completion of the above mentioned audits the company was granted certificates on compliance with ISO 9001:2008, ISO 14001:2004 and official confirmation of the validity of OHSAS 18001 certificate.

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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.	During the period of the investment project implementation, at the design stage the Ecological State Examination Assessment is being implemented and includes those points that may have any environmental impact. In 2012 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 following projects: <ul style="list-style-type: none"> <li>- working project “Construction of the three-section block-modular fan cooling tower at the existing pool of CHP-2 “PAVLODARENERGO” JSC;</li> <li>- working project “Construction of the 2<sup>nd</sup> stage of CHP-2 ash dump at “PAVLODARENERGO” JSC;</li> <li>- working project “Reconstruction of the dust extraction plant of boiler №3 of BKZ-160-100F(M) type at CHP-2 “PAVLODARENERGO” JSC with installation of a battery emulsifier of II generation;</li> <li>- working project “Reconstruction of the dust extraction plant of boiler №2 of BKZ-420-140 type at CHP-3 “PAVLODARENERGO” JSC with installation of a battery emulsifier of II generation”;</li> <li>- working project “Reconstruction of the dust extraction plant of boiler №9 of BKZ-75-39FB type at Ekibastuz CHP “PAVLODARENERGO” JSC with installation of a battery emulsifier of II generation”.</li> </ul>

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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>“PAVLODARENERGO” JSC completed the installation of battery emulsifiers on all boilers of CHP-3 and EkiCHP, and on boiler №1 of CHP-2 the battery emulsifiers will be installed in 2013. The installation of emulsifiers made it possible to reach the level of emissions of NOx ( down to 570-650 mg/m<sup>3</sup> ) and SO<sub>2</sub> (down to 2000 mg/m<sup>3</sup>) required by the Technical Regulations. Actual annual average data for 2012 on NOx and SO<sub>2</sub> emissions made up 597 mg/m<sup>3</sup> and 1,043 mg/m<sup>3</sup>, respectively.</p>
5	<p>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.</p>	<p>To develop a strategy to meet both Kazakhstani and EU environmental standards in the most cost effective manner.</p>	<p>Best Practice</p>	<p>Internal resources</p>	<p>2010</p>	<p>Publication of report</p>		<p>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”.</p> <p>The scope of the investment project implementation will be reflected in the Corporate Report for 2012 to be found at the following website:</p> <p><a href="http://www.capec.kz/php?page_id=40&amp;lang=1&amp;parent_id=24">http://www.capec.kz/php?page_id=40&amp;lang=1&amp;parent_id=24</a></p>

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6	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.	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.	Best Practice and EBRD requirement	Internal resources	Developed plan - 2010  Implementation plan 2010-2020	Publication of report	A BAT Assessment will set out the scope of any improvement works and the programme for implementation. This will include the practicalities of retro-fitting equipment.	Action plan for the maximum possible decrease of emissions 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”, and the Company started its implementation.

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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 <sup>3</sup> for the plant and then for each stack 100 mg/Nm <sup>3</sup> as a long term.	<p>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<sup>3</sup>, BAT would be in the 20-30 mg/Nm<sup>3</sup> range.</p> <p>Current emission are as follows: Data for CHP-2 gives dust levels in the range 1,014 – 1,712 mg/Nm<sup>3</sup>. Data for CHP-3 gives dust levels in the range 1,552 – 1,695 mg/Nm<sup>3</sup>.</p> <p>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.</p>	Best Practice and EBRD requirement	Internal resources, CAPEX Approx. 15-20 mln	<p>Plan by 2008 2010 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/Nm<sup>3</sup>.</p> <p>Terms of reference (ToR) for this study to be agreed with the lender (Bank).</p> <p>Attain 300 mg/Nm<sup>3</sup> average emissions from CHP by 2015 that will be operational post 2015</p> <p>As a long term aim attain 50-100 mg/Nm<sup>3</sup> average on the stack or min 99.8 % efficiency of dust removal</p>	<p>Provision of plant and then BAT Study to the lenders.</p> <p>Publication of information on planned investments.</p> <p>Achieving appropriate emission levels.</p>	<p>Dust emissions are highly visible and all plant worldwide uses dust abatement technology.</p> <p>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.</p>	<p>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 boiler №3 CHP-2, boiler №2 CHP-3, and boiler №5 Ekibastuz CHP have been implemented.</p>

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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.
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	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 of «Pavlodarenergo», JSC should be fitted with CEMS no later than 2015.	The installation, adjustment and alignment of the following automatic emission control devices were implemented: - on boiler units №4 and №6 at CHP-3; - on boiler units №2 and №4 at CHP-2; - on boiler unit №9 at Ekibastuz CHP.
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 Pavlodar CHP-3, CHP-2 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		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.  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.

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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 2012, "PAVLODARENERGO" JSC developed the Plan of equipment inventory in order to determine the presence of polychlorinated biphenyls. The equipment was inspected, and technical documentation was reviewed, in order to identify PCB-containing equipment. In accordance with the legislation of Republic of Kazakhstan, the analysis for the PCB presence will be executed by an independent accredited laboratory by December 2014.



**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 2012 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 17.08.2012 up to 28.11.2012;
- Subject of inspection: a scheduled inspection on compliance with environmental legislation of the Republic of Kazakhstan;
- The issued Improvement Notice №124 dated 28.11.2012.
- Prescribed – nine regulating activities
- Eight of the above mentioned regulating activities were fulfilled at a stated time; as for the rest activities, the time for implementation has not come yet;

**2. Administration of the State Sanitary and Epidemiological Committee in the city of Pavlodar.**

- Inspection date: from 30.09.2012 up to 07.11.2012;
- Subject of inspection: a scheduled sanitary and epidemiological inspection of conditions of work and life and medical care at CHP-2 and CHP-3;
- Certificate on inspection results and prescription №1.2-18/830 were issued
- 3 regulating activities were prescribed. All activities were fulfilled.

**3. Administration of the State Sanitary and Epidemiological Committee in the city of Ekibastuz.**

- Inspection date: from 15.11.2012 up to 30.11.2012;
- Subject of inspection: a scheduled sanitary and epidemiological inspection of Conditions of work and life and medical care at Ekibastuz CHP;
- Certificate on inspection results and prescription №360 were issued

- 15 regulating activities were prescribed. 3 of them are fulfilled; as for the rest, the time for implementation has not come yet.

**4. Fire Control Administration of the Emergency Department of Pavlodar oblast.**

- Inspection date: from 29.10.2011 up to 07.11.2011;
- Subject of inspection: a scheduled technical fire risk inspection of the territory, buildings and constructions at CHP-2, CHP-3 and Ekibastuz CHP;
- Inspection Certificate dated 26.10.2011 was issued.
- The activities with the deadline in 2012 were fulfilled.

**Article 3. Information on Environmental and Social Reports**

**Information on the reports on Environmental Matters**

<b>№</b>	<b>Type of information</b>	<b>The organization or the official the information is to be furnished to</b>	<b>The deadline</b>
1.	Form №2-TII air (semiannual, annual) abridgement	Department for Statistics of Pavlodar oblast	Before the 25 <sup>th</sup> of July, Before the 25 <sup>th</sup> of January
2.	Form №4-OC on current expenditures for environmental protection (annual)	Department for Statistics of Pavlodar oblast	Before the 23 <sup>rd</sup> 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"	Before the 10 <sup>th</sup> of January
4.	Form №1BK (water supply and drainage system)	Department for Statistics of Pavlodar oblast	Before the 22 <sup>nd</sup> of February
5.	Form "Report on hazardous wastes for the year ended" (annual) with a breakdown	Environmental Department of Pavlodar oblast	Before the 1 <sup>st</sup> of March
6.	Report on implementation of environmental protection activities	Environmental Department of Pavlodar oblast	Before the 5 <sup>th</sup> day of the month following the reporting period
7.	Report on Industrial Environmental Control Programme of "PAVLODARENERGO" JSC	Environmental Department of Pavlodar oblast	Quarterly, Annually

## 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	Before the 25 <sup>th</sup> 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	Revised
Constitution	The Constitution	-	30/08/1995	02/02/2011
Code	Labour Code	252-III	15/05/2007	
Law	On Obligatory Environmental Insurance	93-III	13/12/2005	As of 05/07/2012
Law	On Subsoil and Subsoil Use	291-IV	24/06/2010	26/12/2012
Code	Environmental Code of the Republic of Kazakhstan	212-III	09/01/2007	24/12/2012
Code	Water Code of the Republic of Kazakhstan	481-II	09/07/2003	24/12/2012
Code	Land Code of the Republic of Kazakhstan	442-II	20/06/2003	08/01/2013
Code	On Taxes and other Obligatory Payments to the Budget of the Republic of Kazakhstan	99-IV	10/12/2008	06/03/2013
Government Regulation of the Republic of Kazakhstan	On approval of Rules of state accounting for GHG emissions and use of ozone-depleting substances	714	31/05/2012	
Government Regulation of the Republic of Kazakhstan	On approval of Rules of GHG and ozone-destructive substance emissions inventorization	348-II	13/12/2007	10/05/2012

Government Regulation of the Republic of Kazakhstan	On approval of Rules of development and approval of standards for maximum permissible GHG emissions and use of ozone-depleting substances	350-П	13/12/2007	10/05/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Wastes Classifier	169-П	31/05/2007	
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of a Hazardous Waste Descriptor Form	128-П	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	23/07/2009
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	19/03/2012
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	2011	
Guiding Normative Document	The Guidance on assessment of environmental pollution level with toxic production and consumption wastes	ПНД 03.3.0.4.01-96	29/08/1997	
Guiding Normative Document	The Order of rationing of generation and allocation of waste products	03.1.0.3.01-96	29/08/1997	
Building Performance Requirements	Internal water supply and sewerage system of the buildings	4.01-41-06	2006	2008

Sanitary Rules and Regulations	Sanitary Standards of working with mercury, its compounds and mercury-filled devices	1.10.083-94	1994	
State Standard (GOST)	Secondary ferrous metals. General technical requirements	2787-75	1975	1988
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of public hearings	135-П	07/05/2007	02/04/2012
Order of Minister of Environmental Protection 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	25/08/2010
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Standard Environmental Activities List	119-П	24/04/2007	
Government Regulation of the Republic of Kazakhstan	On approval of Rules of the organization of liquidation landfill funds	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	21/07/2010
State Standard (GOST)	Labor Safety Standards. Manufacturing equipment. General safety requirements	12.2.003-91	1991	
State Standard (GOST)	Labor Safety Standards. Harmful Substances. Classification and General Safety Requirements	12.1.007-76	1976	1990
State Standard (GOST)	Labor Safety Standards. Manufacturing equipment. General ergonomic requirements	12.2.049-80	1980	
Law	On Industrial Safety at Dangerous Production Facilities"	314-II	03/04/2002	10/07/2012

Law	On Safety of Chemical Production	302-III	21/07/2007	10/07/2011
Rules	Rules on freight railway transportation	429-I	23/11/2004	
Law	On Rail Transportation	266-II	08/12/2001	24/02/2012
Order of the Agency of the Republic of Kazakhstan on statistics	Instructions on completion of the census report Form №2-TII (air) (annual), "Report on Environmental Protection"	143	20/06/2012	
Order of the Agency of the Republic of Kazakhstan on statistics	Instructions on completion of Form 2-TII (utility water)	2-Г	24/01/2005	
Order of the Agency of the Republic of Kazakhstan on statistics	Instructions on completion of the census report Form 4-OC (annual) "Report on current costs of environmental protection, environmental payments, and payments for natural resources"	228	15/08/2011	
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the report form on hazardous wastes	164-o	21/05/2012	
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	
Order of the Minister on Emergency Situations of the Republic of Kazakhstan	On approval of normative acts in the field of industrial safety	189	29/10/2008	16/07/2012
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules of GHG and ozone-destructive substance emissions inventorization	348-II	13/12/2007	10/05/2012
Standard of the Republic of Kazakhstan	Environmental Management Systems General Guidelines on principles, systems and means of their functioning	14004	2000	
Order of Minister of Environmental	On approval of the Instructions on implementation of the	240-II	28/06/2007	12/03/2012

Protection of the Republic of Kazakhstan	Environmental Impact Assessment of the planned business and other activities when developing preplanning, planning, preproject, and project documentation			
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	
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	
Government Regulation of the Republic of Kazakhstan	On approval of Rules of waste management programme development	403	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	
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	
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	
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	
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the reporting form for GHG inventarization	145-п	10/05/2012	

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	
Government Regulation of the Republic of Kazakhstan	On approval of Rules of granting GHG emissions allowances	584	07/05/2012	
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	
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	
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	
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	
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of Rules for GHG emissions trading and carbon units trading	151-п	11/05/2012	
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	
Order of Minister of Environmental Protection of the Republic of Kazakhstan	On approval of the Installation Descriptor Form	146-п	10/05/2012	
Order of Minister of Environmental Protection of the	The Rules of handling resistant organic pollutants and wastes containing resistant organic	40-п	24/02/2012	



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

### ISO 14001

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.

In August 2010 a certification body TUV International RUS carried out the first supervisory audit at “PAVLODARENERGO” JSC.

In July 2011 a certification body TUV International RUS carried out the second supervisory audit at “PAVLODARENERGO” JSC.

In October 2012 “PAVLODARENERGO” JSC successfully passed a recertification audit in order to confirm its compliance with the requirements of ISO 14001:2004 standard. Based on the audit results it was confirmed that the system is maintained in working order and comply with the field of its application and all the requirements of ISO 14401:1002 standard (certificate № 751100406).

Within the framework of the audit, the company “PAVLODARENERGO” JSC proved that Environmental Management System based on ISO 14001:2004 standards is properly operated and is being developed. The certification body, TUV International RUS confirmed the validity of the certificate of conformity.

### OHSAS 18001

23 January 2012 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.

In July 2012 a certification body TUV International RUS carried out the first supervisory audit at “PAVLODARENERGO” JSC.

Within the framework of the audit, the company “PAVLODARENERGO” JSC proved that Occupational. Health and Safety Management System based on OHSAS 18001-2007 standard is properly operated and is being developed. The certification body, TUV International RUS confirmed the validity of the certificate of conformity.

### **Emission permits**

#### **CHP-2, CHP-3 and Ekibastuz CHP**

- Permit №0056609 dated 29/11/2011 for environmental emissions in 2012-2014.

**Chairman of the Board of “PAVLODARENERGO” JSC**

**I.V. Tatarov**

**First Deputy of Chairman on Economic and Finance  
of “PAVLODARENERGO” JSC**

**I. Riesen**

**Chief Engineer of “PAVLODARENERGO” JSC**

**L.V. Larichev**

**Report**  
**on compliance with ecological legislation of the Republic of Kazakhstan**  
**of “PAVLODARENERGO” JSC in 2012**

The main activity of “PAVLODARENERGO” JSC is production, transmission and distribution of heat and electricity. Environment control is part of the company’s daily routine. The main tasks are:

- minimization of environmental and health impact of the company’s production processes;
- building of a higher level of ecological awareness and responsibility of the company’s management and employees;
- increase in manufacturing and ecological efficiency of the Environmental Management System.

**Main ecological factors**

To achieve the previously mentioned goals, “PAVLODARENERGO” JSC complies with the corresponding legislative and normative requirements on environmental issues, obtains permits for environmental emissions, and conducts work on air pollutant emissions and waste generation accounting.

The report figures for 2012 are as follows: (tons)

Air pollutant emissions	CHP-2		CHP-3		Ekibastuz CHP	
	Limit	Actual	Limit	Limit	Actual	Limit
Total	11,532.891	9,048.558	45,065.499	30,554.158	11,309.354	9,204.048
including Coal ash	1,422.158	1,410.150	6,904.420	6,163.705	4,108.399	3,284.996
Nitrogen dioxide	2,949.505	1,897.462	13,039.118	5,886.206	1,622.647	1,302.692
Nitrogen oxide	479.045	308.091	2,117.125	954.556	263.229	212.665
Sulfur dioxide	6,294.091	5,075.857	21,002.096	16,347.420	4,804.279	3,997.817
Carbon oxide	368.808	337.714	1,957.623	1,157.157	463.618	358.714
Other	19.284	19.284	45.117	45.114	47.182	47.164

There was no limit excess of Maximum Permissible Emissions in 2012.

The amounts of ash-and-slag waste generation, permissible and actual for 201, are as follows:(tons)

Waste	CHP-2		CHP-3		Ekibastuz CHP	
	Limit	Actual	Limit	Limit	Actual	Limit
Ash and slag	287,519	279,603	1,030,813	909,845	222,349	222,287

There was no limit excess of permissible amounts of ash-and-slag wastes in 2012.

**Activity on compliance with environmental requirements**

To minimize environmental and health impact of the company’s production processes, “PAVLODARENERGO” JSC developed nature-conservative measures for 2012-2014 to the amount 2,249,525 thousand tenge, including the amount of 726,942 thousand tenge to be used in 2012, which were endorsed by the Ministry of Environmental Protection. In 2012 the company implemented activities to the amount of 1,148,767 thousand tenge.

The main activities are as follows:

- reconstruction of the dust extraction plant on boiler №3 CHP-2 with installation of battery emulsifiers of II generation; the cost of works made 334,133 thousand tenge;

- reconstruction of the dust extraction plant on boiler №2 CHP-3 with installation of battery emulsifiers of II generation; the cost of works made 446,368 thousand tenge;
- reconstruction of the dust extraction plant on boiler №5 Ekibastuz CHP with installation of battery emulsifiers of II generation; the cost of works made 43,875 thousand tenge;
- construction of a new cooling tower (at CP-2); the cost of works made 214,280 thousand tenge.

To build a higher level of ecological awareness and responsibility of the company's management and employees, there is an Environmental Management System (EMS) ISO 14001:2004 was developed and adopted by "PAVLODARENERGO" JSC. The certification body, TÜV Rheinland Inter Ctrt issued a certificate of conformity, registration №751100406, confirming that the Environmental Management System was adopted and maintained in compliance with ISO14001:2004 requirements.

### **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 Ekibastuz CHP)

- Updating of Draft regulations for maximum permissible emissions for CHP-2 of "PAVLODARENERGO" JSC approved by Irtysk 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 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 Irtysk Environmental Department in 2011 (conclusion № 3-2-13/4090 dated 19.10.2011)
- Draft regulations for waste disposal, approved 23.02.2010 by Irtysk 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.
- Environmental impact assessment of Ekibastuz CHP of "PAVLODARENERGO" JSC for 2012. Conclusion of State ecological expertise № 3-02-12/338 dated 26.01.2012.
- Environmental impact assessment of CHP-2 of "PAVLODARENERGO" JSC for 2012. Conclusion of the State ecological expertise - № 3-2-12/337 от 26.01.2012г;
- Environmental impact assessment of CHP-3 of "PAVLODARENERGO" JSC for 2012. Conclusion of the State ecological expertise № 3-2-12/339 от 26.01.2012г;
- Insurance policy series ОӘС № 0000014 dated 10.03.2012. The period of the policy validity is up to 09.03.2013.
- Permit № 0056609 dated 29.11.2011 for emissions into the environment for 2012-2014, giving the right to "PAVLODARENERGO" JSC to emit pollutants in the amount of

67,907.745 tones in 2012, and to dispose the production and consumption wastes in the amount of 1,540,681 tones in 2012.

- Environmental protection plan of “PAVLODARENERGO” JSC for 2012-2014.
- Conclusion of State ecological expertise on project materials:
  - “Reconstruction of the dust extraction plant 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 dust extraction plant 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 dump of “PAVLODARENERGO” JSC” (conclusion №3-2-12/464 dated 03.02.2012)
  - “The construction of three-section block-modular fan 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-160-100 F (M) type CHP-2 of “PAVLODARENERGO” JSC including installation of battery emulsifiers of II generation (conclusion №3-2-12/3332 dated 26.11.2012)
  - Reconstruction of the dust extraction plant of boiler №2 of BKZ-420-240 type CHP-3 of “PAVLODARENERGO” JSC including installation of battery emulsifiers of II generation (conclusion №3-2-12/3330 dated 26.11.2012)

#### 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-TII air (semiannual, annual) abridgement	Department for Statistics of Pavlodar oblast	Before the 25 <sup>th</sup> of July, Before the 25 <sup>th</sup> of January
2.	Form №4-OC on current expenditures for environmental protection (annual)	Department for Statistics of Pavlodar oblast	Before the 23 <sup>rd</sup> of February
3.	Form №2-TII utility water (annual)	State Administration “Irtysh Inspection for Water Basin Resource Management and Conservation of the Committee for Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan”	Before the 10 <sup>th</sup> of January
4.	Form №1BK (water supply and drainage system)	Department for Statistics of Pavlodar oblast	Before the 22 <sup>nd</sup> of February
5.	Form “Report on hazardous wastes for the year ended” (annual) with a breakdown	Environmental Department of Pavlodar oblast	Before the 1 <sup>st</sup> of March
6.	Report on implementation of environmental protection activities	Environmental Department of Pavlodar oblast	Before the 5 <sup>th</sup> day of the month following the reporting period

7.	Report on Industrial Environmental Control Programme of "PAVLODARENERGO" JSC	Environmental Department of Pavlodar oblast	Quarterly, Annually
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**Information on the reports on Safety, Health and Labour protection**

<b>№</b>	<b>Type of information (reports) to be furnished</b>	<b>Furnished to</b>	<b>Periodicity of reports' furnishing</b>
1.	Report on injures 7-TPZ	Department for Statistics of Pavlodar oblast	Before the 25 <sup>th</sup> 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.

**Chairman of the Board of "PAVLODARENERGO" JSC**

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