



CAEPCO

Central Asian
Electric Power Corporation

Corporate Report
on Environmental and Social Action Plan
of JSC Central - Asian Electric
Power Corporation
for 2019

Nur-Sultan, 2020

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INTRODUCTION

The Report of JSC Central Asian Electric Power Corporation (hereinafter referred to as “JSC CAEPCO”) has been drawn up according to the Environmental and Social Action Plan (hereinafter referred to as the “ESAP”) as prepared under the investment program being carried out in accordance with the Environmental Protection Policy of the European Bank of Development (EBRD) for the EBRD-financed projects.

JSC CAEPCO (hereinafter referred to as the “Company”) is a vertically integrated energy holding company represented by energy companies in the Pavlodar and North Kazakhstan Oblasts including all power supply processes – electric and heat energy generation, transmission and distribution as well as a sales company in Astana.

The Company consists of:

1. PAVLODARENERGO JSC’s (hereinafter referred to as “PE JSC”) group of companies consisting of JSC Pavlodar Electronetwork Distribution Company (hereinafter - “JSC PEDC”), Pavlodar Heat Supply Networks LLP (hereinafter – “PHSN LLP”), and Pavlodarenergosbyt LLP (hereinafter – PESbyt LLP), Ekibastuzteploenergo LLP (hereinafter referred to as ETE LLP).
2. SEVKAZENERGO JSC’s (hereinafter referred to as “SKE JSC”) group of companies consisting of JSC North Kazakhstan Electronetwork Distribution Company (hereinafter – “JSC NK EDC), Petropavlovsk Heat Supply Networks LLP (hereinafter – “PHSN LLP”), and Sevkazenergosbyt LLP (hereinafter – “SKEsbyt LLP”).

ABBREVIATIONS

The following abbreviations are adopted in this report:

Abbreviation	Designation
SI DSUE&WR	State institution “Department of subsoil use, environment and water resources of Pavlodar region”
SEE	State Ecological Expertise
IMS	Integrated management system
CWR MA RK	Committee of Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan (until June 17, 2019)
CWR MEGNR RK	Committee of Water Resources of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan (from 17.06.2019)
CG MEGNR RK	Committee of Geology of the Ministry of Ecology, Geology and Natural Resources (since June 17, 2019)
CERC MEGNR RK	Committee for Environmental Regulation and Control of the Ministry of Ecology, Geology and Natural Resources (from 17.06.2019)
CERC&SIOGC ME RK	Committee for Environmental Regulation and Control and State Inspection in the oil and gas complex of the Ministry of Energy of the Republic of Kazakhstan (until 17.06.2019)
MIID RK	Ministry of Industry and Innovative Development of the Republic of Kazakhstan
OH&SMS	Occupational Health and Safety Management System

1. Company's Environmental Policy and Areas of Environmental Activities

The environmental protection issues are among the key priorities to the Company in its Strategic Development Program. The environmental pollution prevention is the determining factor in all operational decisions in the electric and heat energy production. Environmental pollution is easier to prevent than to eliminate. When introducing new technologies, the level of their impact on the environment and the efficiency of the use of energy and natural resources should be assessed.

For PAVLODARENERGO JSC, in order to improve the integrated management system, from September 24, 2018, the 3rd edition of the unified Policy of quality, environment, occupational safety and labor protection, the energy management system (minutes of an extraordinary meeting of Coordination Group of IMS of PAVLODARENERGO JSC dated September 19, 2018) was put into effect.

According to SEVKAZENERGO JSC, a unified Policy in the field of quality, occupational safety and health, the environment, management of calibration and testing works was introduced by the order for the company No. 650 dated 30.10.2018. The policy of the enterprises of the Company was developed and implemented in accordance with the Concept of the Republic Kazakhstan on transition to a "green economy", the Environmental Code and ISO standards 14001 series on the basis of the tasks set by the Environmental and Social Action Plan.

The Unified Policy was familiarized with at the Company's enterprises through familiarization sheets, by posting it on the company's websites and in branch newspapers. The policy is available to the personnel by placing it on information stands in all its units and divisions.

The Company intends to do its best to prevent an adverse environmental impact, and to introduce methods complying with the ISO 14001 international standard everywhere.

The following are the fundamental principles of the environmental policy:

- recognition of the constitutional human right to the healthy environment;
- consideration of the environmental safety priority as an integral part of the national safety;
- following considerations of the ecological expediency and the environmental management principles when working out an economic strategy;
- energy saving and rational utilization of natural and energy resources at all stages of electric power and heat production;
- reduction of emissions and wastes from electric power and heat production, and their environmentally compatible management;
- carrying out activities on reducing and preventing accidents, as well as minimizing their negative environmental impact;
- transparency of environmental information, immediate notification of accidents, environmental consequences thereof and recovery measures to all the interested parties;
- transparency and availability of the environmental monitoring results;
- involvement of the Company's enterprises' personnel in environmental activities by developing and improving environmental education of employees of the enterprises; the requirements that all employees should comply with such safety regulations, environmental standards and rules as necessary to comply with the requirements of the Environmental Policy and to achieve the environmental performance.
- compliance with the requirements of the legislative base of the Republic of Kazakhstan and the international standards ISO 9001, ISO 14001, OHSAS 18001, ISO 17025 and ISO 5001;
- transparency and availability of information on the activities and the achieved results in the field of management systems, including this policy, to all the interested parties;

- ensuring the completeness and the integrity of management systems when planning and changing management systems;
- bringing the documentation issued under the IMS to the attention of the personnel, a continuous training of the company personnel in following the established policy and procedures in their activities.

The Company's top management undertakes to implement the stated environmental policy and to support the environmental management system.

The Company carries out its environmental activities in the following directions:

1. Organization and conduct of an industrial monitoring to obtain target indicators of the environmental

- the atmosphere monitoring including:
 - Monitoring the operating efficiency of gas-and-dust purifying equipment and compliance with the established emission rates;
 - Monitoring the atmospheric contamination level on the borders of sanitary protection zones (hereinafter – “SPZ”) of enterprises and ash dumps;
 - Monitoring the hazardous substances content in emissions of the enterprises;
 - Monitoring the instrument measurements quality;
- water resources monitoring including:
 - Monitoring the underground water pollution at the Company's industrial sites and on the borders of SPZs of the ash dumps;
- soil, land resources and production wastes monitoring including:
 - Monitoring the soil contamination level within the Company's industrial sites and ash dumps;
 - Monitoring the generation, utilization and disposal of production and consumption wastes;
- elaboration and planning of environmental activities;
- monitoring the implementation of the environmental activities;
- assessing the level of the impact on environmental components;
- minimizing the impact of the enterprises' production processes on the environment and human health;
- increasing the level of the enterprises' top managers and employees' environmental knowledge and responsibility;
- increasing the production and environmental efficiency of the environmental management system;
- compliance with the ISO 14001 requirements.

2. Registration of environmental emissions, analysis of industrial monitoring data for the compliance with the environmental requirements, and provision of industrial environmental monitoring data.

3. Organization of internal inspections. Implementation of preventive and corrective measures to eliminate violations in the environmental legislation of the Republic of Kazakhstan.

4. Analysis of the enterprises' environmental activities (hereinafter the “OOS”) and the environmental efficiency of the OOS management system at the enterprises.

2. Standards of the Company's Environmental and Social Activities

PAVLODARENERGO JSC

In 2019, the certification agency (TÜV Rheinland Kazakhstan LLP) conducted the first compliance audits for the compliance with the international standard ISO 9001:2008, the environmental management system(EMS) for compliance with the new revisions of international standards IS ISO 9001:2015, IS ISO 14001:2015, IS ISO 50001:2011, second compliance audit for compliance with requirements of international standard of IS OHSAS 18001:2007. The company has started the planned and gradual transfer to new revisions of international standards IS ISO 45001:2018 (instead of IS OHSAS 18001:2007) and IS ISO 50001:2018 (instead of MC ISO 50001:2011).

Upon completion of the external recertification audits, certificates for compliance with requirements of IS ISO 9001:2015, IS ISO 14001:2015, IS ISO 50001:2011 were issued, the IS OHSAS 18001-2007 certificate was confirmed and prolonged:

- ISO 9001:2015 Quality Management Certificate, Registration No.011001321810, valid from 21.12.2018 to 20.12.2021;
- ISO 14001:2015 Environmental Management Certificate, Registration No.011041321810, valid from 21.12.2018 to 20.12.2021;
- OHSAS 18001 Occupational Health and Safety Management Certificate, Registration No. OC-4870-0020, valid from 30.10.2017 to 29.10.2020;
- Energy Management System Certificate as per ISO 50001:2011, Registration No.014071321810, valid from 21.12.2018 to 20.12.2021.

PEDC JSC

The Certification Body (TÜV Rheinland Kazakhstan LLP) conducted the recertification audits of QMS, EMS and OHSMS and the energy management compliance audit for the compliance with the international standards ISO 9001: 2015, ISO 14001: 2015 and OHSAS 18001: 2007, ISO 50001:2011.

Upon completion of the conducted audits, the validity of the following certificates was confirmed:

- ISO 9001:2015 Quality Management Certificate, Registration No. 01 100 1319426, valid from 29.05.2018 to 28.06.2021;
- ISO 14001:2015 Environmental Management Certificate, Registration No. 01 104 1319426, valid from 20.06.2018 to 21.06.2021;
- OHSAS 18001:2007 Occupational Health and Safety Management Certificate, Registration No. OC-4870-0024, valid from 29.05.2018 to 28.06.2021;
- Energy Management System Certificate No. 01 407 1319426 valid from 28.12.2016 to 27.12.2019.

PHSN LLP of PE

The Certification Body (TÜV Rheinland Kazakhstan) conducted the recertification audits of QMS, EMS and OHSMS for the compliance with the international standards ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007.

Upon completion of the audits, the following certificates were obtained:

- ISO 9001:2015 Quality Management Certificate, Registration No. 01 100 1319414, valid from 19.02.2018 to 18.02.2021;
- ISO 14001:2015 Environmental Management Certificate, Registration No. 01 104 1319414, valid from 19.02.2018 to 18.02.2021;

- OHSAS 18001:2007 Occupational Health and Safety Management Certificate, Registration No. OC-4870-0028, valid from 19.02.2018 to 18.02.2021.

SEVKAZENERGO JSC

The Certification Body (TÜV Rheinland Kazakhstan) conducted the second compliance audit of QMS, EMS and OHSMS for the compliance with the international standards ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007. The company began a systematic gradual transition to a new version of the international standard IS ISO 45001: 2018 (instead of IS OHSAS 18001: 2007).

Upon completion of the audits, certificates were issued with the following validity periods:

- ISO 9001:2015 Quality Management Certificate Registration No. 011001321852, valid from 01.08.2017 to 31.07.2020;
- ISO 14001:2015 Environmental Management Certificate Registration No. 011041321852, valid from 30.05.2017 to 29.05.2020;
- OHSAS 18001:2007 Occupational Health and Safety Management Certificate registration No. OC-4870-0010, valid from 01.08.2017 to 31.07.2020;

NK EDC JSC

The certification body (TÜV Rheinland Kazakhstan LLP) conducted the first supervisory audit of quality management systems, environmental management and occupational safety and health management systems for compliance with the requirements of ISO 9001: 2015, ISO 14001: 2015, OHSAS 18001: 2007.

Upon completion of the audits, the following certificates with the following terms were issued:

- ISO 9001:2015 Quality Management Certificate, Registration No.01 100 1518811, valid from 28.06.2018 to 21.09.2021;
- ISO 14001:2015 Environmental Management Certificate, Registration No.01 104 1518811, valid from 28.06.2018 to 28.06.2021;
- OHSAS 18001:2007 Occupational Health and Safety Management Certificate No.OC-4870-0051, valid from 28.06.2018 to 27.06.2021.

PHSN LLP of SKE

The Certification Body (TÜV Rheinland Kazakhstan) conducted the recertification audit of Environmental Management System and Occupational Health and Safety Management System for the compliance with the international standards ISO 14001:2015 and OHSAS 18001:2007 and the first compliance audit for the compliance with the international standard ISO 9001:2015.

Upon completion of the audits, the following certificates were validated and extended:

- ISO 9001:2015 Quality Management Certificate No. 011001321855, valid from 26.06.2017 to 19.06.2020;
- ISO 14001:2015 Environmental Management Certificate, Registration No.01 104 1321855, valid from 05.07.2018 to 07.08.2021;
- OHSAS 18001:2007 Occupational Health and Safety Management Certificate No. OC-4870-0037, valid from 05.07.2018 to 07.07.2021;

Each year, the Management makes up a QMS improvement plan based on the Analysis of achievements related to the quality, ecology and occupational safety, on the basis of which goals for a particular year are specified and decisions are taken on the development. To improve the Company's activities related to the QMS, documented procedures and guidelines are updated annually subject to comments and proposals of auditors based on the external audit results. All subsidiaries of JSC CAEPCO conduct internal audits and unscheduled inspections for the IMS. An explanatory work is carried out for the staff for QMS, EMS, OHSMS, and amendments and alterations are made to the internal regulatory documents taking into account the proposals of the

company's employees. The Documented Procedure "Work with Customers" was developed to specify the requirements for the interaction with the customers and the analysis of their requirements.

3. Key Environmental Indicators of the Company for 2019

The environmental protection is a part of the Company's enterprises' daily activities. The Company's enterprises keep records of pollutant emissions and waste generation from the production operations.

3.1. Pollutant emissions into the atmosphere

Table 1. The Company's reported data on pollutants for 2019 broken down by the groups of companies PAVLODARENERGO JSC and SEVKAZENERGO JSC (tons)

Atmospheric emissions	PE JSC, total for 2 CHPs		ETE LLP		SKE JSC (PCHP-2)		JSC CAEPCO	
	limit	actual	limit	actual	limit	actual	limit	actual
Total, incl.:	54 701	44 091	11 089	6 971	48 109	40 118	113 899	91 179
Coal ash (non-organic dust 70-20% (SiO ₂))	9 022	7 773	2 910	1 862	7 221	5 993	19 153	15 628
Nitrogen dioxide (NO ₂)	9 838	9 051	1 402	935	5 634	5 632	16 874	15 618
Nitrogen oxide (NO)	1 599	1 471	228	152	916	915	2 743	2 538
Sulfur dioxide (SO ₂)	32 280	25 122	5 840	3 902	29 930	23 244	68 050	52 268
Carbon monoxide (CO)	1 868	667	700	115	4 360	4 285	6 928	5 067
Others	94	7	9	5	48	48	151	60

Table 2. PAVLODARENERGO JSC by CPH (tons)

Atmospheric emissions	CHP-2		CHP-3		Total, PE	
	limit	actual	limit	actual	limit	actual
Total, incl.:	10 150	7 253	44 551	36 838	54 701	44 091
Coal ash (non-organic dust 70-20% (SiO ₂))	1 468	1 145	7 554	6 628	9 022	7 773
Nitrogen dioxide (NO ₂)	1 876	1 247	7 962	7 804	9 838	9 051
Nitrogen oxide (NO)	305	203	1 294	1 268	1 599	1 471
Sulfur dioxide (SO ₂)	6 162	4 547	26 118	20 575	32 280	25 122
Carbon monoxide (CO)	336	110	1 532	557	1 868	667
Others	3	1	91	6	94	7

Note: the amount of emissions to the environment permitted by the RK authorized environmental protection bodies is given in the table as "limit", and the actual volume of emissions - as "fact".

Table 3. Reported data on the PAVLODARENERGO JSC's average annual pollutant emission concentrations for 2019 (mg/nm³).

Name of pollutant	Pollutant concentration, mg/nm ³ for $\alpha=1,4$					
	PE CHP-2		PE CHP-3		ETE LLP Ekibastuz CHP	
	MPE	Actual	MPE	Actual	MPE	Actual
Coal ash (non-organic dust 70-20% (SiO ₂))	369	222	310	297	596	327
Nitrogen oxide (NO _x)	404	385	543	486	430	353
Sulfur dioxide(SO ₂)	1176	844	1143	1002	1101	1070
Carbon monoxide(CO)	46	28	57	23	91	29

Table 4. Reported data on the SEVKAZENERGO JSC's average annual pollutant emission concentrations for 2019(mg/nm³)

Name of pollutant	Pollutant concentration, mg/nm ³ for $\alpha=1,4$	
	MPE	Actual
Coal ash (non-organic dust 70-20% (SiO ₂))	870	302
Nitrogen oxide (Nox)	616	432
Sulfur dioxide (SO ₂)	2000	1839
Carbon monoxide(CO)	400	112

Table 5. Reporting data on pollutant emissions from electric grid enterprises of CAEPCO JSC by groups, (tons) for 2019

Atmospheric emissions	PEDC JSC		NK EDC JSC		JSC CAEPCO, total	
	MPE	Actual	MPE	Actual	MPE	Actual
Total	75,0412	11,0644	34,567	11,567	109, 608	22,631
Mineral oil	5,1858	0,7350	0,006	0,003	5, 192	0,738
Nitrogen dioxide (NO ₂)	0,7246	0,6189	1,397	0,095	2,122	0,714
Non-organic dust, 70-20% SiO ₂	3,9771	2,6125	5,671	2,565	9,648	5,177
Sulfur dioxide (SO ₂)	-	-	0,482	0,002	0,482	0,002
Carbon monoxide(CO)	8,8187	3,3938	1,328	0,084	10,147	3,478
Others	56,335	3,704	25,683	8,818	82,018	12,522

Table 6. Reporting data on pollutant emissions from heat supply network companies for 2019, (tons)

Atmospheric emissions	PHSN LLP of PE		PHSN LLP of SKE		JSC CAEPCO	
	Limit	Actual	Limit	Actual	Limit	Actual
Total, incl.:	3,930	3,930	1,660	1,660	5,590	5,590
Fluorochemicals	0,014	0,014	0,003	0,003	0,017	0,017
Nitrogen dioxide (NO ₂)	0,137	0,137	0,060	0,060	0,197	0,197
Iron II oxide	0,683	0,683	0,184	0,184	0,867	0,867
Manganese and its compounds	0,079	0,079	0,014	0,014	0,093	0,093
Carbon monoxide(CO)	0,234	0,234	0,100	0,100	0,334	0,334

Atmospheric emissions	PHSN LLP of PE		PHSN LLP of SKE		JSC CAEPCO	
	Limit	Actual	Limit	Actual	Limit	Actual
Others	2,783	2,783	1,299	1,299	4,082	4,082

In general, the Company's enterprises prevented from exceeding the MPE standards in 2019.

3.2. Carbon Dioxide (CO₂) Emissions

After the entry into force of the Kyoto Protocol for the Republic of Kazakhstan on September 17, 2009, the Company organized work on preparing an inventory of greenhouse gas emissions and ozone-depleting substances consumption.

To monitor greenhouse gases, a calculation method is used that ensures the accounting of emissions from normal (regular) production activities, special practices (commissioning, shutdowns, repairs and maintenance) and emergency situations. Greenhouse gas emissions were calculated in accordance with the following Guidelines: methodological guidelines for calculating greenhouse gas emissions from thermal power plants and boiler houses, methodological guidelines for calculating greenhouse gas emissions from motor transport enterprises, methodological guidelines for calculating greenhouse gas emissions from railway transport, both from passenger and cargo transportation, guidelines for national greenhouse gas inventories, 2006. Volume 2. Electric-Power Industry. Chapter 2. Stationary Fuel Combustion, Mobile Fuel Combustion, Volume 3. Industrial Processes and Use of Products, Chapter 7. Emissions of Fluorinated Substitutes for Ozone-Depleting Substances. Emissions from coal and fuel oil combustion are estimated by using Level 3 Methods.

PAVLODARENERGO JSC

In 2019, PAVLODARENERGO JSC produced 3 559.837 mln. kWh of electric energy and supplied 4.540 mln. Gcal of heat energy. 3 564.443 ths. tons of Ekibastuz coal and 6.265 ths. tons of mazut were used for the energy production purposes. Total quantity of generated greenhouse gases (CO₂ equivalent) was 4 568.603 tons (taking into account emissions from gas, diesel fuel and gasoline combustion).

Ekibastuzteploenergo LLP

In 2019, Ekibastuzteploenergo LLP produced 71.665 mln. kWh of electric energy and supplied 1.458 mln. Gcal of heat energy. 490.179 ths. tons of Ekibastuz coal and 1.358 ths. tons of mazut were used for the energy production purposes. Total quantity of generated greenhouse gases (CO₂ equivalent) was 720.733 tons (taking into account emissions from gas, diesel fuel and gasoline combustion).

SEVKAZENERGO JSC

In 2019, SEVKAZENERGO JSC produced 3,472.899 mln. kWh of electricity and 1.831 mln. Gcal of thermal energy. 2 957.397 ths. tons of Ekibastuz coal and 2.992 ths. tons of fuel oil were spent on energy production. In 2019, 4 536.239 ths. tons of CO₂ were generated from the combustion of coal and fuel oil. The amount of CO₂ generated in 2019, (taking into account emissions from the combustion of gas and propane-butane mixture) is 4 536.284 ths. tons

Table 7. Company's greenhouse gas emissions in 2019 (tons)

Name of the Subsidiaries	Greenhouse gas emissions in equivalent CO ₂ , (tons)				
	Carbon dioxide (CO ₂)	methane (CH ₄)	nitrogen oxide I (N ₂ O)	Perfluoro-carbons	Total
PAVLODARENERGO JSC, total, incl.:	5 289 336	887	25 792	-	5 316 015
CHP-2	925 588	156	4 532	-	930 276
CHP-3	3 643 015	608	17 714	-	3 661 337
Ekibastuz CHP ETE LLP	720 733	123	3 546	-	724 402
SEVKAZENERGO JSC, PCHP-2	4 536 285	1 015	10 434	-	4 547 734
JSC CAEPCO, total	9 825 621	1 902	36 226	-	9 863 749

3.3. Ash Slag Waste Management

Reported data on the volume of ash slag waste formation and disposal for 2019 are given in comparison with the permitted and actual levels.

Table 8. Reported data on the ash and slag waste disposal with a breakdown into the groups of companies of PAVLODARENERGO JSC and SEKKAZENERGO JSC, (tons)

Production wastes	PE JSC		Ekibastuz CHP ETE LLP	
	Limit	Actual	Limit	Actual
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Ash and slag waste	1 451 089	1 249 728	255 426	190 949

Table 8. Continued

Production wastes	SKE JSC		JSC CAEPCO, total	
	Limit	Actual	Limit	Actual
	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
Ash and slag waste	1 318 033	1 237 084	3 024 548	2 677 761

Table 9. PAVLODARENERGO JSC with a breakdown into CHPs (tons)

Production wastes	CHP-2		CHP-3	
	Limit	Actual	Limit	Actual
Ash and slag waste	271 657	248 502	1 179 432	1 001 226

In 2019, the Company's enterprises prevented from exceeding the waste disposal standards.

4. Compliance with the Environmental Requirements

PAVLODARENERGO JSC and SEVKAZENERGO JSC's subsidiaries developed their environmental protection activities for the maximum emissions reduction to meet the requirements of the technical regulations, and to minimize the industrial processes' impact on the environment and human health.

The Company completed the improved flue gas purification system implementation by replacing the existing ash catchers (wet scrubbers with the overlying Venturi pipes, whose ash collecting efficiency is 97%, and with second generation battery emulsifiers for each boiler (99.5% efficiency). Modernization of the ash catchers resulted in decreasing coal ash concentration down to 250-300 mg/m³, and concentration of sulfur oxides by 5-15% without any additives. For the purposes of minimization of production processes' impact on the environment and human health, an environmental protection plan was made up and approved by the environmental protection authorities.

PAVLODARENERGO JSC (CHP-2, CHP-3)

At CHP-2 and CHP-3, action plans for environmental protection for 2019-2028 were developed and agreed in the MEGNR of the Republic of Kazakhstan in the amount of 16 874 255 ths. KZT; of these, 2 006 694 ths. KZT were planned for 2019.

In 2019, actions were actually performed in the amount of 1 292 186.019 ths. KZT, the main of which are:

- construction of the 3rd stage of the ash dump of CHP-3 - 624 221.241 ths. KZT;
- construction (increase) of the 1st stage of the ash dump of CHP-3 - costs amounted to 89 010.960 ths. KZT;
- repair of pipelines, shutoff and control valves of technical and household water at CHP-2, CHP-3 - costs amounted to 5 346.04017 ths. KZT;
- repair of thermal insulation, lining of emulsifiers and gas ducts, repair of storage facilities, maintenance of efficiency of storage facilities at the design level at CHP-2, CHP-3 - costs amounted to 21 591,245 ths. KZT;
- inventory of greenhouse gas emissions and ozone-depleting substances, development of plant pass-ports, monitoring programs, greenhouse gas emission reduction programs for CHP-2, CHP-3 - costs amounted to 1 120 ths. KZT;
- development of the project and working documentation for boiler units No. 7.8 of CHP-3, corresponding to the best available technologies with the best memory system - costs amounted to 124 262.19 ths. KZT;
- repair of ash and slurry pipelines at CHP-3 and ECHP - costs amounted to 4 012,336 ths. KZT;
- implementation of ongoing repair work to maintain the operating modes of the main equipment in accordance with the requirements of the Technical Regulations of the Republic of Kazakhstan (No. 1232 dated 12/14/2007) CHP-2, CHP-3 - costs amounted to 376 344.697 ths. KZT;
- production environmental monitoring at CHP-2, CHP-3 costs amounted to 2 243.415 ths. KZT.

Ekibastuzteploenergo LLP

At Ekibastuz CHP, an environmental action plan for 2019-2028 was developed and agreed in the MEGNR of the Republic of Kazakhstan in the amount of 2 721 516 ths. KZT; of which, for 2019, 32 766 ths. KZT were planned.

In 2019, activities in the amount of 38 100 ths. KZT were actually completed, the main of which are:

- repair of ash removal installations for Barnaul boiler plant and KGTK (scrubbers, emulsifiers), gas flues, costs were 17 350.37 ths. KZT;

- repair of pipelines, valves and control valves of technical and household drinking water, costs were 2 733.64 ths. KZT;
- repair of ash pipelines – 1 633.70 ths. KZT
- conducting industrial environmental control, costs were 2 730.0 ths. KZT.
- removal of industrial and household waste for placement and disposal at specialized landfills – 11 484.42 ths. KZT;

PEDC JSC

Environmental protection activities' plans for 2017-2026 were developed and approved by the environmental protection authorities for the amount of 23 052,3 ths.KZT to minimize the PEDC JSC's industrial processes' impact on the environment and human health.

In 2019, activities were actually performed in the amount of 8 512.394 ths. KZT, the main of which are:

- delivery of industrial waste from the amber and green lists, costs amounted to – 2 371.486 ths. KZT;
- use of water resources and wastewater treatment - costs amounted to 2 796.933 ths. KZT;
- determination of the performance of ventilation units - costs amounted to 5.0 ths. KZT;
- delivery of municipal solid waste to the city landfill - costs amounted to 3 338.975 ths. KZT.

PHSN LLP of PE

Environmental protection activities for 2019 were developed and approved by the environmental protection authorities in the amount of 1 424.0 ths. KZT. In 2019, all planned activities were fully implemented to the amount of 8 316.2 ths. KZT.

The key activities were as follows:

Of these, activities aimed at:

- air protection - costs amounted to 35.0 ths. KZT;
- protection and rational use of water resources - costs amounted to 400.0 ths. KZT;
- protection of land resources - costs amounted to 100.0 ths. KZT;
- management of production and consumption waste (waste disposal for recycling and processing, organization of waste storage sites) - costs amounted to 6 281.231 ths. KZT;
- other expenses - expenses amounted to 1 500.018 ths. KZT.

SEVKAZENERGO JSC

Due to the obtaining of the new Environmental Permission No. KZ60VCZ00146557 dated 26.12.2017, environmental protection measures for 2018-2025 for an overall amount of 3 701 252 ths. KZT were developed and approved by the Committee for Environmental Regulation and Control of the Ministry of Energy of the Republic of Kazakhstan. In 2019, 13 environmental measures were planned in the amount of 1 041 121,0 ths. KZT. All measures were implemented totaling 1 198 310 ths. KZT.

The key activities were as follows:

- Extension of the embankment dams of the ash dump – the costs amounted to 628 302.508 ths.KZT;
- Reclamation of used ash dumps for the land return and timely involvement of them into economic circulation - the costs amounted to 151 051.827 ths.KZT;
- Repair of worn out components of ash collecting facilities – the costs amounted to 186 492.1 ths.KZT;

- Restoration of the heating surfaces of the boiler units that ensure the efficient cleaning, utilization, neutralization, suppression and neutralization of pollutants in gases from sources of emissions – the costs amounted to 91 500.700 ths.KZT;
- Modernization of the water supply system that excludes pollution and depletion of water resources: hydro-ash removal systems, circulating production systems, recycled water – the costs amounted to 80 143.035 ths.KZT;
- Provision of operation of automated stations of production environmental monitoring in real-time mode – the costs amounted to 36 263.800 ths.KZT;
- Carrying out of activities to organize waste storage areas during the operation of the enterprise. Organization of timely removal of generated waste to the landfill site – the costs amounted to 15 844.608 ths.KZT;
- monitoring of quantitative and qualitative indicators of the enterprise's activity: monitoring compliance with MAD standards, which will be carried out at the main sources at the highest load of the enterprise twice a year from October to March inclusive, at each operating in operating mode boiler unit with an instrumental method by a specialized laboratory - costs amounted to 4 285.714 ths. KZT;
- Environmental project development – the costs amounted to 4 040,632 ths.KZT;
- Gardening and landscaping of the area of the administrative and territorial unit – the costs amounted to 281.000 ths.KZT;
- Organization of work to reduce dust at the existing ash dump under windy weather conditions – the costs amounted to 86.0 ths.KZT;
- Subscription to periodical environmental publications of the Republic of Kazakhstan – the costs amounted to 13.0 ths.KZT;
- Informing the public of the impact of the company's activities on the environment – the costs amounted to 5,3 ths.KZT.

NK EDC JSC

The company developed and agreed with the Ecology Department of the North-Kazakhstan Oblast environmental activities for 2017-2025 in the amount of 2 970 ths.KZT: of these, 330.0 thousand tenge were planned for 2019. In 2019, activities in the amount of 450.658 ths. tenge were actually completed.

The key activities included:

- Gardening and landscaping – the costs amounted to 302.280 ths.KZT.
- Repair of dust collection equipment, dust cleaning - the costs amounted to 13.732 ths.KZT;
- subscription to environmental publications - the costs amounted to 31.736 ths.KZT;
- Management of production and consumption waste (disposal for disposal and disposal) - costs amounted to 1 523.048 ths. tenge;
- Industrial environmental control by an independent accredited laboratory - the costs amounted to 750.0 ths.KZT;
- Conclusion of a compulsory environmental insurance contract – the expenses amounted to 1 247.350 ths.KZT;
- A recertification audit of the environmental management system - the costs amounted to 4 844.0 ths.KZT;

PHSN LLP of SKE

The Company developed and agreed the environmental protection activities for 2015-2025 in the amount of 11 373 ths.KZT and agreed them with the RGU “Ecology Department of the North-Kazakhstan Oblast”. In 2019, the activities were fully performed in the amount of 7 906.90 ths.KZT.

The key activities were as follows:

- management of production and consumption waste (disposal) - costs amounted to 2 715.128 ths. tenge;
- conducting a supervisory audit of the environmental management system - the costs amounted to 3 419.640 ths. tenge;
- subscription to environmental publications - costs amounted to 9.507 ths. tenge.
- compulsory environmental insurance – 1 188.070 ths. tenge;
- verification of the efficiency of dust collection equipment - 367.067 ths. tenge;
- landscaping and landscaping - costs amounted to 145.0 ths. tenge.

5. Implementation of Environmental Investment Activities

The Company improves its environmental standards by building new ash dumps, modernizing flue gas purification systems, and carrying out various activities to minimizing an adverse environmental impact. The Company's Investment program is aimed at replacing the out-dated equipment with a new one with the best environmental parameters.

PAVLODARENERGO JSC

Ash dumps construction (CHP-3, CHP-2)

For one of the largest investment projects - construction of new ash dumps of JSC PAVLODARENERGO, which started in 2009 to ensure the continuity of the technological cycle of stations and to store ash and slag wastes up to 25 years, works are ongoing.

In 2017 works were completed on design solutions for ash dumps (2nd stage) at CHP-2 and CHP-3, and work started on the construction of the third stage of an ash dump at CHP-3.

In 2019, the works for construction of the 3rd stage of ash dump of CHP-3 were prolonged the costs amounted to 1 269 121.0 ths. KZT.

In 2018, implementation of the project "Extension of dams of the 1st stage of the ash dump of CHP-3" were started. In 2019, works were performed on this event in the amount of 260 797.0 ths.KZT. The goal of the project is to increase the accumulating capacity of the existing ash dump until the completion of construction of the 3rd stage of the ash dump of CHP-3 is completed with the aim of organizing the storage of ash and slag waste generated during the production activities of the station.

During the construction of new ash dumps, in order to reduce the negative impact on the environment and achieve environmental protection goals, a modern and technological method of groundwater protection was used (CHP-2, CHP-3): the bed and protective dams of ash storage are covered with a Canadian geomembrane film resistant to mechanical damage and temperature extremes, which guarantees durability, long life and environmental safety for the environment, as well as the use of drainage drainage, a beach irrigation system and circulating water system. The estimated cost of construction of the 3rd stage of the ash dump of CHP-3 is 13.554 billion tenge, to build the dams of the first stage of the ash dump of CHP-3 is 2.561 billion tenge.

Reconstruction of the cubes of the water discharge chambers of the boiler unit Barnaul boiler plant-160/100 FM station No. 1 at CHP-2.

The purpose of the event is to reduce the ash wear of the WDC cubes and increase the reliability of the work. In 2019 project implementation costs amounted to 39 425.0 ths.KZT.

Reconstruction of the condenser of the turbine unit PT-25-90/10, station No. 2, CHP-2

As part of the implementation of this investment measure, a tube bundle was replaced to increase reliability. Project implementation costs in 2019 amounted to 94 198.0 ths. tenge.

Reconstruction of the firing-up collectors with the replacement of the boiler units of pressure-reducing desuperheating station No. 1 - No. 6 CHP-3

As part of the implementation of this investment measure, the reconstruction of the firing-up collectors collectors will be carried out with the replacement of the boiler units of pressure-reducing desuperheating at the boilers of station No. 1-6 in connection with their moral and physical deterioration. The purpose of the event is to increase the park resource. The cost of work performed in 2019 is 210 197 ths. tenge, excluding VAT, and includes the costs of developing and coordinating project documentation and procuring materials. Construction and installation works will be carried out in 2020.

“Ekibastuzteploenergo” LLP

Construction of ash dump (Ekibastuz CHP)

Works on the construction of the 2nd section of the ash dump of the Ekibastuz CHP in the bed of Tuz Lake in 2019 were continued. Construction and installation work was carried out on the dust suppression water line, field and technical supervision was carried out, the working draft was adjusted and the state examination passed. The cost of work performed in 2019 is 66.8 million tenge.

SEVKAZENERGO JSC

Activities to reduce negative environmental impact

Restoration of heating surfaces of boiler units that provide the efficient cleaning, utilization, neutralization, suppression and neutralization of polluting substances in gases emitted from emission sources, as well as repair of worn-out elements of ash collecting facilities. The said measures made it possible to save the specific consumption of fuel equivalent, an increase in the efficiency of boilers by 0,55% over the level of 2018, and a decrease in the volume of pollutant emissions into the atmosphere of about 507.82 tons/year.

Continued reclamation of the earlier used Ash dump No.3

Reclamation of the previously worked ash dump No. 3 has been completed (permission for emissions in OS No. KZ96VDD00114953 dated 23.06.2019, with a validity period of 26.03-31.12.2019.), according to the concluded contract No. 760/25п/19 dated 17.06.2019., 20 ha were reclaimed with ATP-Invest LLP, according to the agreement No. 810 dated 30.07.2019. ATP - Invest LLP sowed herbs on the territory of 156.2 hectares.

Reclamation is provided for in 2 stages: technical and biological, in order to reduce the negative impact on the environment (use of developed land resources, moistening the territory and roads, shelter tents body dump trucks for transportation of loose and dusty materials, planting). All the stages of reclamation of the ash dump No.3 were implemented by the enterprise.

Environmental Production Monitoring

Works on provision of operation of automated stations were held under production ecologic monitoring in real-time mode. Purchase of components for gas analyzers was performed, diagnostic works for maintenance of controllers of gas analyzers on boiler units were held, that permitted to receive true data on volumes of formation of pollutants, in mg/m³ in real-time mode.

Modernization of hydraulic ash removal and recycling water supply systems

Performance of works for modernization of hydraulic ash removal and recycling water supply systems designed for production, reused water, and system that excludes pollution and depletion of water resources: cleaning of oil coolers, nets of oil tanks, repair of filters, pumps, slag pipelines, cleaning of a downstream channel and installed boom defenses of permanent floatation were performed. These actions permit to maintain the equipment in working condition, to prevent pollution of water and land resources, and also provide for improvement of qualitative composition of discharged waters.

Extension of dam of ash dump No 2

Activities for extension of separating dams of ash dump No 2 of section 3 are anticipated for 2 years – 2018-2019 and include the following complex of works: dam filling, dam drainage, shaft wells (extension), distribution ash-and-slag lines, dust suppression system, dam condition control system. These activities create additional capacity with volume of 7257,0 ths. m³, that provides for burial of ash and slag wastes for nearly 6 years. For the purpose of decrease of negative

environmental impact, introduction of the dust suppression system is provided for, consumption of fresh water is reduced (preservation of recirculation system of hydro-ash-removal with return of clarified water to CHP-2).

Production and consumption waste management

The organization of separate collection sites for the types of waste generated during the activities of the enterprise and the timely removal of generated waste to the landfill was performed.

Electronetwork distribution companies (PEDC JSC and NK EDC JSC)

The key energy-saving activities implemented with financing amount **466.252** mln. KZT for NK EDC and **337.6** mln. KZT for PEDC were as follows:

- replacing a bare wire with a SIP-4 wire (self-supporting insulated wire) in the city and in the region of **29.5** km (for an overall amount of **144.995** mln.KZT) for NK EDC JSC;
- implementation of an automatic system for commercial accounting of power consumption of the retail market (household consumer) at **947** points of the region (in the amount of **55.4** million tenge) for SKREK, and **1554** points of accounting in Pavlodar and the suburbs of Aksu (in the amount of **89.3** mln. KZT) by PEDC JSC.
- replacement of undercharge / overcharge power supply transformers in quantity of **26** units for the amount of **3.9** mln tenge by PEDC JSC;
- replacement and construction of overcharge cable electric transmission lines with length of **6.0** km (for the amount of **64.9** mln tenge) by PEDC JSC;
- construction of VL-35kV L-62 “Voskresenka -2 - Trofimovka” with a length of 21.7 km (worth **126.1** million tenge) for JSC “PREC”;
- replacement of oil-filled power transformers with dry ones (in the amount of **53.4** million tenge) according to JSC “PREC”;
- reconstruction of 110/10 kV substation No. 3 in Petropavlovsk with the replacement of BB-10 kV in switchgear-10 kV with BB-10 kV in a modular building (totaling **172.081** million tenge) for NK EDC JSC;
- reconstruction of RP equipment, 10 / 0.4 kV transformer substation in the city of Petropavlovsk with reconstruction of buildings in the amount of 5 units (to the amount of **90.042** million tenge) for NK EDC JSC;
- acquisition of AUGUSTE gas-insulated circuit breaker for NK EDC JSC, costs amounted to **3.732** million tenge;

As a result of the implementation of activities under the investment program, the main economic effect was achieved - a reduction in the standard technical losses. At the end of 2019, technical losses amounted to:

in NK EDC JSC - 8.57%, which is 2.4% lower than last year and 7.25% lower than the planned values of 2019;

in SCREK JSC - 7.83%, which is 6.3% lower than the level of the previous year, 5.55% lower than the planned values of 2019.

Heat transport companies (PHSN LLP of PE, PHSN LLP of SKE)

The following activities were carried out:

- reconstruction of transit pipelines with the use of pre-insulated pipeline. This project’s economical effect is presented by the heat losses decrease on reconstructed sites, thermalenergy sales gain, as well as lack of necessity for renewing the heat-insulating installations within the pipeline lifecycle. As part of this project, in 2019, 1,584 km of the pipeline (in the amount of **545.157** million tenge) were replaced through the Petropavlovsk heating networks; 1,706 km of the pipeline (in the amount of **857,031** million tenge) through the Pavlodar heating networks;

- restoration of the heat-insulating installations of transit pipelines with the use of polyurethane insulation (urethane-foam cover). This heat-insulation type's efficiency lies in reducing background heat losses on the pipelines' reconstructed sites, as well as increasing the heat-insulating installations' operating life (in Petropavlovsk city, it was restored 1,245 km).
- reconstruction of the pumping station PS-3 with conversion into a central heating station for heat supply in the village. "Sawmill" in Pavlodar. The aim of the project is to improve the hydraulic regime of consumers in the districts of the Saw Mill in Pavlodar. The sum of costs in 2019 amounted to **431.391** million tenge.

At the end of 2019, the actual losses in Petropavlovsk amounted to 25.86%, which is 1.34 % lower than the level of the previous year. The decrease in the losses of chemically treated water in the heating networks of PTS SKE LLP in 2019 is due to the following factors:

1. A change in the process of finding and eliminating damage;
2. Reducing the number of technological violations on the backbone networks as a result of the implementation of reconstruction activities since 2010. A total of 51.2 km of the pipeline were reconstructed, including:
 - within the framework of the investment program - 7.2 km;
 - within the framework of the EBRD loan and budget subsidies to the MIID RK - 13.6 km;
 - within the framework of the Nurlı Zhol program - 3.9 km;
 - within the framework of the republican and local budget - 26.5 km.

At the end of 2019, the actual total losses in Pavlodar amounted to 24.96%, which is 4.4% lower than last year (2018 - 26.1%).

At the end of 2019, the actual total losses in Ekibastuz amounted to 37.6%, which is 10.3% lower than last year (41.9% in 2018).

6. Regulations of the Company's Environmental Activities for 2019

In business activities, the Company complies with the requirements of the current legislation in the field of environmental protection, regulated by the Environmental Code and other regulatory legal acts of the Republic of Kazakhstan.

Environmental Requirements to the Company's enterprises

PAVLODARENERGO JSC (CHP-2, CHP-3):

- Permit for emissions into the environment of CHP-2, CHP-3, ECHP for the period 2015-2019, No. VCZ00024623 dated December 30, 2014, issued by the Committee of environmental regulation, control and state inspection in oil and gas complex of the Ministry of Energy of the Republic of Kazakhstan;
- Permit for emissions into environment of CHP-2 and CHP-3 for the period from 16.11.2018 to 24.10.2019, No KZ07VCZ00213180 dated 16.11.2018, issued by the Committee of ME RK;
- Permit for emissions into the environment for CHP-2 for emissions of pollutants No.KZ67VCZ00469926 for the period from 07.10.2019. to December 31, 2028, issued by the Committee of ME RK;
- Permit for emissions into the environment for CHP-2 for the disposal of production and consumption waste No.KZ39VCZ00485271 for the period from 24.10.2019. issued on December 31, 2028, by the Committee of ME RK;
- Permit for emissions into the environment for CHP-3 for emissions of pollutants No.KZ76RCP00082386 for the period from 24.10.2019. to December 31, 2028, issued by the Committee of ME RK;

- Permit for emissions into the environment for CHP-3 for the disposal of production and consumption waste No.KZ66VCZ00485270 for the period from 10.24.2019 to December 31, 2028, issued by the Committee of ME RK;
- Draft standards for maximum permissible emissions (MPE) of CHP-2 for the period 24.10.14-24.10.2019 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft standards for maximum permissible emissions (MPE) of CHP-3 for the period 24.10.14-24.10.2019 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft regulations placement of production and consumption waste CHP-2 for the period 07.11.14 - 07.11.19 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft regulations placement of production and consumption waste CHP-3 for the period 07.11.14 - 07.11.19 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft regulations placement of production and consumption waste of CHP-2 for the period 07.11.14- 07.11.19 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft standards for maximum permissible emissions (MPE) of CHP-2 for the period 07.10.14-24.07.2019 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft standards for maximum permissible emissions (MPE) of CHP-3 for the period 24.10.19-31.12.2028 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft regulations placement of production and consumption waste CHP-2 for the period 24.10.2019 – 31.12.2028 agreed by DE for Pavlodar region of Committee of ME RK;
- Draft regulations placement of production and consumption waste CHP-3 for the period 24.10.2019 – 31.12.2028 agreed by DE for Pavlodar region of Committee of ME RK;
- Individual water consumption and wastewater rates per unit for 2016-2020 for CHP-2 "PAVLODARENERGO" JSC, agreed by the Committee of Water Resources of the Ministry of Agriculture of the Republic of Kazakhstan (hereinafter - CWR MA RK);
- Individual water consumption and wastewater rates per unit for 2016-2020 for CHP-3 "PAVLODARENERGO", JSC agreed by CWR MA RK;
- Individual current rate of water consumption and wastewater standards rates per unit for 2016-2020 for CHP-2"PAVLODARENERGO", JSC agreed by CWR MA RK;
- Plan for Environmental protection measures CHP-2 "PAVLODARENERGO", JSC for 2015-2019 agreed by DE for Pavlodar region of Committee of ME RK;
- Plan for Environmental protection measures CHP-3 "PAVLODARENERGO", JSC for 2015-2019 agreed by DE for Pavlodar region of Committee of ME RK;
- Plan for environmental protection measures CHP-2 of "PAVLODARENERGO", JSC for 2018-2019 agreed by Committee of ME RK;
- Plan for environmental protection measures CHP-3 of "PAVLODARENERGO", JSC for 2018-2019 agreed by Committee of ME RK;
- Plan for environmental protection measures CHP-2 of "PAVLODARENERGO", JSC for 2019-2028 agreed by Committee of ME RK;
- Plan for environmental protection measures CHP-3 of "PAVLODARENERGO", JSC for 2019-2028 agreed by Committee of ME RK;
- Insurance policy of PAVLODARENERGO JSC series ECO No.00019134 dated 05.10.2018 valid till 04.10.2019;
- Industrial Environmental Monitoring Program for CHP-2 "PAVLODARENERGO" JSC for 2015-2019;
- Industrial Environmental Monitoring Program for CHP-3 "PAVLODARENERGO" JSC for 2015-2019;
- Industrial Environmental Monitoring Program for CHP-2 "PAVLODARENERGO" JSC for 2019-2028;
- Industrial Environmental Monitoring Program for CHP-3 "PAVLODARENERGO" JSC for 2019-2028;

- Insurance policy of PAVLODARENERGO JSC No. 32061937068724K SK KAZAKHMYS JSC, valid from 10/03/2019 to 09/03/2020.

All the developed and implemented projects undergo an obligatory state ecological examination. The enterprise has the following positive opinions of the state environmental examination (hereinafter – the “SEE”) on the “Environmental Impact Assessment” for some projects:

- adjustment of the "Reconstruction of the CHP-2's ash dump's earth water-retaining facilities" working project (conclusion of the SEE No. KZ14VCY00003906 dated 12.03.2014);
- environmental impact pre-assessment to the feasibility report of the project on choosing turbine device for the Ekibastuz CHP's station No.2 (conclusion of the SEE No. KZ74VCY00012720 dated 30.05.2014);
- the T-100-130-type turbo generator reconstruction at the CHP-3's station No.5, involving generator replacement (conclusion of the SEE No. KZ31VCY00014561 dated 31.07.2014);
- construction of section No.2 of the ash dump in the Tuz lakebed at Ekibastuz CHP" (conclusion of the SEE No. KZ06VCY00014817 dated 13.08.2014);
- conclusion on the "Server room" working project (conclusion of the SEE No. KZ06VCY00030906 dated 12.12.2014);
- conclusion of the SEE on environmental impact assessment of the "Cooling tower No. 5 installation at CHP-3" working project (conclusion of the SEE No. KZ90VCY00016409 dated 24.10.2014);
- restoration of the ash dump lineNo.1 at the "PAVLODARENERGO" JSC's CHP-3 (conclusion of the SEE No. KZ65VDC00030038 dated 28.11.2014);
- reconstruction of water conditioning, involving the crude water supply ø 500-pipelines replacement in chemical department (2 strings), and installation of new crude water clarifier for the "PAVLODARENERGO" JSC's CHP-3 (conclusion of the SEE No. KZ86VCY00013337 dated 28.11.2014).
- construction of the main control room CHP-3 "PAVLODARENERGO", JSC (report No.KZ74VDC00033756 dated 24.02.2015);
- installation of turbine unit No.2 of PT-65/75-130-13 CHP-3 "PAVLODARENERGO", JSC (report No.KZ34VCY00019260 dated 17.03.2015);
- installation of chimney No.2 CHP-3 "PAVLODARENERGO", JSC (conclusion of the SEE No.KZ86VCY00019488 dated 03.04.2015);
- reconstruction of sewage fecal sewage from the sewer of "PKRZ" to the pumping station CHP-3 "PAVLODARENERGO", JSC (conclusion of the SEE No.KZ45VDC00035054 dated 08.04.2015);
- replacement of electrolysis unit of SEU-4M for retrofit to replace worn-out with a control panel and receivers for CHP-2 "PAVLODARENERGO", JSC (conclusion of the SEE No.KZ22VDC00035177 dated 13.04.2015);
- reconstruction of the dredging pump No.1,2 CHP-3 "PAVLODARENERGO", JSC (conclusion of the SEE No.KZ91VDC00035196 dated 13.04.2015);
- reconstruction of water treatment with replacement of pipelines ø500 supply of raw water in a chemical section (2 lines) with the installation of a new clarifier of raw water in the CHP-3 "PAVLODARENERGO", JSC (conclusion of the SEE No.KZ16VDC00035188 dated 13.04.2015);
- reconstruction of dredge pumping CHP-2 "PAVLODARENERGO", JSC (report No.KZ53VDC00035201 dated 13.04.2015)
- Reconstruction of earth water-retaining structure of the ash storage facility (ash dump) of CHP-3 (conclusion of the SEE No.KZ71VCY00019952 dated 06.05.2015)
- Reconstruction of turbo unit T-100 / 120-130-3 st.No.4 with replacement of the generator at CHP-3 (conclusion of the SEE No.S01-0018/15 dated 11.09.2015).

- Reclamation of Kuat and Zhyly Su quarries (conclusion of the SEE No.KZ65VDC00045073 dated 06.01.2016)
- EIA to the Design Project "Reclamation of the 1 ash dump CHP-2" (conclusion of the SEE No. S3-0021/16 dated 04.02.2016);
- Exploration and evaluation works on clay rocks in the ALPHA section in the northern industrial area of Pavlodar (conclusion of the SEE No.Z73VDC00048518 dated 05.05.2016).
- Raise of dams of the ash dump line No.2 at CHP-3 of PAVLODAENERGO JSC (conclusion of the SERE S01-0040 / 16 dated 11.08.2016);
- Liquidation of Kuat and Zhyly Su quarries (conclusion of the SEE No. KZ12VDC00052526 dated 09.09.2016);
- Reconstruction of turbo unit T-100 / 120-130-3 st.No.6 with replacement of the generator at CHP-3 (conclusion of the SEE No.S01-0039/16 dated 11.08.2016);
- "Pavlodar CHP-3. Construction of a site for temporary storage of scrap metal "(conclusion of the SERE No.S01-0049 / 16 dated 03.11.2016)
- Draft "Justification of estimated (preliminary) buffer zone for CHP-2 "PAVLODARENERGO" JSC with ash dumps" (sanitation and epidemiological conclusionNo.S.01.X.KZ04VBS00052248 dated 12.12.2016);
- Draft "Justification of estimated (preliminary) buffer zone for CHP-3 "PAVLODARENERGO" JSC with ash dumps" (sanitation and epidemiological conclusion No.S.01.X.KZ72VBS00051897 dated 08.12.2016).
- Project of "Residential complex with the attached corner 3-storey insertion enclosure attached in the Usolskiy Microdistrict No.1 of Pavlodar" (conclusion of the SEE No. 16-0189/17 dated 16.08.2017);
- Project of "Construction of the 3rd stage of the ash dump at CHP-3 in Pavlodar" (conclusion of the SEE No. 01-0414 /17 dated 25.08.2017);
- Project of "Exploration and evaluation works for clay rocks at the Beta Site in the Northern Industrial Area of Pavlodar" (conclusion of the SEE No. KZ61VDC00067358 dated 28.12.2017);
- Project of "Exploration and evaluation works for clay rocks at the Beta Site in the Northern Industrial Area for 2017" (conclusion of the FEZ No. S.01.X.KZ09VBS00097457 dated 10.01.2018);
- Project "Construction (installation) of stack No 2 of CHP-3 (permit No KZ12VDD00089693 dated 22.02.2018);
- Project "Construction (reconstruction) of sewage system for household effluents from the sewage collector of KazEcoProm LLP till the pump station of CHP-3 (permit No KZ21VDD00089822 dated 26.02.2018);
- Project "Justification of the established (final) sanitary-and-protection zone for CHP-2 of PAVLODARENERGO JSC with ash dumps" (conclusion of FEZ No S.01.X.KZ13VBS00105339 dated 03.04.2018);
- Project "Justification of established (final) sanitary-and-protection zone for CHP-3 of PAVLODARENERGO JSC with ash dumps" (conclusion of FEZ No S.01.X.KZ30VBS00105324 dated 03.04.2018);
- Project "Organization sanitary and protection zone at the site of clay rocks "Beta" in the Northern industrial region of Pavlodar" (conclusion of FEZ No S.01.X.KZ81VBS00111099 dated 06.06.2018);
- Project "Construction (extension) of the 1st stage of ash dump of CHP-3 (permit No KZ72VDD00094627 dated 01.06.2018);
- Project "Industrial development of clay rocks of the site "Beta" in the Northern Industrial region of Pavlodar city (conclusion of State Economic Expert Examination No KZ88VDC00071528 dated 05.07.2018);

- Project "Reclamation of the 2nd stage of ash dump of CHP-3 (conclusion of state expert examination No CE-0223/18 dated 01.11.2018).
- Working draft "Plan of mining for the extraction of clay rocks of the Beta deposit in the Northern industrial region of Pavlodar" (SEE conclusion No.KZ34VDC00077447 dated 28.02.2019);
- Working draft "Plan for the elimination of the consequences of production from the Beta field (conclusion No. CE-0077/19 of 03/28/2019);
- Feasibility study (feasibility study) "Expansion of the CHP-3 of PAVLODARENERGO JSC with the installation of boiler units station No. 7, station No. 8, turbine unit station No. 7 of PAVLODARENERGO JSC (conclusion No. KCO-0062/19 of 12/07/2019);
- Working draft "Extension of dams of the 2nd stage of the ash dump of TPP-2 of PAVLODAR-ENERGO JSC" (SEE conclusion No. S01-0006/20 dated 31.01.2020).

LLP "Ekibastuzteploenergo"

- Permit for emissions into the environment of the ECHP of Ekibastuzteploenergo LLP for the period from 16.11.2018 to 24.10.2019, No.KZ44VCZ00212193 dated 16.11.2018 issued by CER&SIOGC ME RK;
- Draft guidelines for the disposal of production and consumption waste from ECHP for the period from 24.10.2014 to 24.10.2019, agreed by the Department of Ecology of the Pavlodar Region of CER&SIOGC ME RK;
- Draft standards for maximum permissible emissions (MPE) of the ECHP for the period 24.10.2014 – 24.10.2019, agreed by the Department of Ecology of the Pavlodar Region CER&SIOGC ME RK;
- Individual norms of water consumption and water disposal per unit of production for 2016-2020 for ECHP of PAVLODARENERGO JSC, agreed upon by the CWR of the Ministry of Agriculture of the Republic of Kazakhstan;
- Environmental Impact Assessment of Ekibastuz Heating Networks PTS LLP (SEE conclusion No. 1-14 / UR-885 dated 25.10.2011);
- Draft of "Norms of maximum permissible emissions for PC Ekibastuz heating systems of PTS LLP" (conclusion of SEE No.KZ31VDC00041902 dated 28.10.2015);
- Draft waste disposal standards for PC Ekibastuz heating networks of PTS LLP (SEE conclusion No. KZ05VDC00044116 dated 14.12.2015);
- Permit for emissions of the environment for facilities of category IV Ekibastuz heating networks No.KZ51VDC00046990 dated December 22, 2015, issued by the GU UNOSiVR
- Permit for emissions of the environment for heating networks of Ekibastuzteploenergo LLP for the 4th quarter of 2018 - 2019, No. KZ58VDD00101475 dated 10.10.2018, issued by the GU UNOSiVR.
- Environmental Protection Plan of the ETEC LLP EKIBASTUZTEPLO-ENERGO for 2018-2019, agreed by the CER&SIOGC ME RK;
- Draft standards for maximum permissible emissions (MPE) of the ECHP of LLP "ETE" for the period 10.24.2019. - December 31, 2028, agreed by the RSI "KERK MEGPR RK";
- Draft guidelines for the disposal of production and consumption waste from ECHP of LLP ETE for the period 10.24.2019. - December 31, 2028, agreed by the RSI "CER&SIOGC ME RK";
- Environmental Protection Plan of ECHP of LLP "ETE" for 2019-2028, agreed upon by the RSI "CER&SIOGC ME RK";
- Industrial environmental control program for ECHP of LLP ETE for 2019-2028;
- Insurance policy of ETE LLP OEC series No. 00014222, valid from 10.03.2018 to 09.03.2019;

- Insurance policy of ETE LLP No. 3206199M278764T, valid until October 04, 2020.

PEDC JSC

- Permit for emissions into the environment from 17.07.2017 till 31.12.2026, No. KZ07VDD00074457 dated 17.07.2017, the "PEDC" JSC's East Electric Networks;
- Permit for emissions into the environment from 13.07.2017 till 31.12.2026, No. KZ08VDD00074342 dated 13.07.2017, the "PEDC" JSC's City Electric Networks;
- Permit for emissions into the environment No. KZ54VDD00102323 dated 22.10.2018 for unlimited term, the "PEDC" JSC's District Electricity Networks;
- Permit for emissions into the environment from 09.01.2015 till 18.12.2019, No. KZ13VDD00015858, "Pavlodar EDC", JSC - industrial base on Suvorov str., 79;
- Permit for emissions into the environment from 06.02.2020. on 31.12.2029, for No. KZ49VCZ00549984 JSC "PREC" - the production base on Malaysary Batyr street, 79;
- Draft standards of production and consumption waste disposal of Pavlodar EDC JSC approved on 28.08.13 by the Pavlodar Oblast Environment Department (Opinion of the SEE No. 2/1-15/ЮЛ-6-439 dated 28.08.13);
- Permit for emissions into the environment from 09.01.2015 till 18.12.2019, No. KZ13VDD00015858, "Pavlodar EDC", JSC - industrial base on Suvorov str., 79;
- Permit for emissions into the environment from 06.02.2020. on 31.12.2029, for No. KZ49VCZ00549984 JSC "PREC" - the production base on Malaysary Batyr street, 79;
- Draft standards for production and consumption waste disposal of PEDC JSC approved on 23.08.17 by the Pavlodar Oblast Department for of Subsoil Use, Environment and Water Resources of Pavlodar region;
- Plan of environmental protection activities of GPES of PEDC JSC for 2017-2026, approved by GU UNOSiVR;
- Plan of environmental protection activities of VPES of PEDC JSC for 2017-2026, approved by GU UNOSiVR;
- Plan of environmental protection activities of the production site located on Malaysary Batyr St. 79, JSC "PREC" for 2014 2020-2029, agreed by the UNOSiVR;
- Plan of environmental protection activities for production area located at 79, Suvorov Str., PEDC for 2015-2019 approved by GU UNOSiVR;
- Permit for emissions into environment for objects of the 4th category No KZ26VDD00101566 dated 11.10.2018 “Reconstruction of equipment of cells 110 kV OB12, ShSB12, OB34, SSB34, SB13, SB24, and PZA at substation 220/110kV “Industrial”; reconstruction of the substation 110/10 kV “Eastern City”; construction of the substation 110/10 kV “Northern City”, double-circuit VL-110 kV “Industrial substation – Northern City Substation” and installation of two cells 110 kV at the substation 220/110 kV “Industrial”;
- Prmit for emissions into environment for objects of the 4th category No KZ08VDD00101502 dated 10.10.18 “Construction of block-modular transformer-station-34”;
- Permit for emissions into environment for objects of the 4th category No KZ48VDD00100782 dated 01.10.2018 “Reconstruction of the substation 220/35/10 kV “Kalkaman”;
- Permit for emissions into environment for objects of the 4th category No KZ71VDD00097458 dated 03.08.2018 “Reconstruction of the substation 100/10 kV “Yermakovskaya”;
- Permit for emissions into environment for objects of the 4th category No KZ81VDD00097181 dated 30.07.2018 “Construction of block-mopdular substation RP No 2”;

- Insurance policy No 10014250, valid from 01.01.2019 till 31.12.2019.

PHSN LLP of PE

- Draft standards of maximum permissible emissions (MPE) for PHSN LLP (conclusion of state economic expert examination No KZ04VDC00041903 dated 28.10.2015);
- Draft on waste disposal standards for the PHSN LLP (Conclusion of the SEE No.KZ30VDC00043084 dated 24.11.2015);
- Environmental emissions permission for objects of III category PHSN LLP No.KZ69VDC00047539 dated 25.12.2015 for 2016-2024 issued by GU UNOSiVR;
- Environmental emissions permission for objects of IV category PHSN LLP No.KZ74VDC00047061 of 22.12.2015 issued by GU UNOSiVR;

State environmental expertise conclusions on working projects:

- "Construction of a heating main TM-XIV from TK-9I to TK-21K in Ekibastuz" (conclusion of the SEE No.KZ46VDC00033484 dated 17.02.2015);
- "Construction of a heating main TM-VI on Pshembayev str. from TK-4A to TK-36L in Ekibastuz" (conclusion of the SEE No.KZ31VDC00031426 dated 24.12.2014);
- "Construction of a heating main TM-IX on the Pshembayev str. from TK-25E to TK-4A in Ekibastuz"(conclusion of the SEE No.KZ63VDC00035118 dated 10.04.2015);
- Construction of a heat main TM-31 from TK-309 to TK-839 in Pavlodar (conclusion of SEE No. 06-0264 / 19 dated 18.10.2019);
- Removal of the district heating from the private areas of low-rise buildings in Ekibastuz (Conclusion of the SEE No. S3-0064/16 dated 02.06.2016);
- "Construction of modular heat supply stations in Ekibastuz: (Conclusion of the SEE No. S3-0065/16 dated 02.06.2016);
- Reconstruction of the heat main TM-37 from NP-15 to NP-18 in Pavlodar;
- Reconstruction of pumping station No. 3 with the installation of a central heating station in the Lesozavod microdistrict;
- «Construction of modular heat supply stations (Stage 1) in Ekibastuz (Conclusion of the SEE No. S3-0065/16 dated 02.06.16);
- Removal of the district heating from the private areas of low-rise buildings in Ekibastuz» (Conclusion of the SEE No. S3-0064/16 dated 02.06.16);
- Trust SAEM JSC – performance of installation and construction work at the facility: - «Construction of TM-IX at Pshembayev Str., from TK-25E to TK-4A in Ekibastuz (Conclusion of the SEE No. 16-0273116 dated 14.07.15);
- Construction of heat network from NO-21 to NO-21/8 and extension of the off-site heat network from UP-8 in Kamzin Str. Till Ladozhskaya Str., in Ladozhskaya Str. Till Kutuzov Str., for reservation of heat supply of Dostyk microdistrict in Pavlodar city (conclusion of state expert committee No 16-0155/18 dated 04.09.2018)

For all facilities of construction/reconstruction, technical and architectural supervision was carried out by KazStroyEngineering PV LLP, «QazaqEngineering» LLP and NPF SKEP LLP.

SEVKAZENERGO JSC

- Conclusion of the SEE No. KZ80VDC00005615 dated 19.03.2014 on draft maximum permissible emissions for the "SEVKAZENERGO" JSC's clay loam quarry;

- Section "Environmental Protection" to the working project "Rehabilitation No.3 Ash dump of CHP-2 "SEVKAZENERGO" JSC (conclusion of the SEE No. KZ82VDC00029538 dated 19.11.2014);
- Plan for environmental protection measures during the reclamation of ash disposal area No.3 of CHP-2 "SEVKAZENERGO" JSC;
- Draft for maximum permissible emissions of "SEVKAZENERGO" JSC valid for 2016-2025 (Conclusion of the SEE No. 05-4-03/64 dated 14.01.2016 of "North Kazakhstan Regional Department of Ecology of the Committee for Environmental Regulation, Control and State Inspection in Oil and Gas Complex of the Ministry of Energy of the RK";
- Permission for emissions No. KZ27VCZ00087981 dated 06.05.2016 valid from 01.07.2016 till 10.12.2018 of the Committee for Environmental Regulation, Control and State Inspection in Oil and Gas Complex of the Ministry of Energy of the RoK;
- Environmental Protection Plan valid from 01.07.2016 till 10.12.2018;
- Draft for maximum permissible emissions of PCHP-2,"SEVKAZENERGO" JSC valid for 2017-2026 (Conclusion of the SEE No.KZ59VCY00081860 dated 11.11.2016 of the RSE "North Kazakhstan Regional Department of Ecology of the Committee for Environmental Regulation and Control of the Ministry of Energy of the RoK");
- Draft standards for production and consumption waste disposal for PCHP-2,"SEVKAZENERGO" JSC (Conclusion of the SEE No. KZ69VCY00078576 dated 07.10.2016 of the RSE "North Kazakhstan Regional Department of Ecology of the Committee for Environmental Regulation and Control of the Ministry of Energy of the RoK";
- Permission for emissions No. KZ30VCZ00120519 dated 14.12.2016 valid from 01.01.2017 till 31.12.2025 of the RSE "Committee for Environmental Regulation and Control of the Ministry of Energy of the RK";
- Environmental Protection Plan valid from 01.01.2017 till 31.12.2025;
- Draft individual current specific standard water consumption and disposal per unit of production for PCHP-2,"SEVKAZENERGO" JSC;
- Approved standard water consumption and disposal per unit of production dated 12.04.2016 No. 18-1-13/475-I CWR MA RK;
- Permission for special water use for discharge of normative-clean waters into surface water bodies dated 23.06.16 No. KZ83RUB00000256 Series Yessil 04-II-35/16 from RSE "Yessil basin inspection on regulation of use and protection of water resources" CWR MA RK;
- Permission for special water use for municipal and industrial water supply of the enterprise dated 08.08.16 No. KZ60VTE00000373 Series Yessil 04-II-46/16 from RSE "Yessil basin inspection on regulation of use and protection of water resources" CWR MA RK;
- Permission for special water use for industrial water supply of the enterprise and cooling water dated 14.12.16 No.KZ38VTE00000672 Series Yessil 04-II-89/16 from RSE "Yessil basin inspection on regulation of use and protection of water resources" CWR MA RK;
- Certificate on greenhouse gas emissions of "SEVKAZENERGO"JSC for 2016-2020 dated 15.04.2016 No.KZ90VWA00000010.
- The conclusion of the state ecological expertise №KZ24VDC00065599 from 11/22/2017. CSE "Department of Natural Resources and Environmental Management of NKR Akimat" for the project of industrial development of loams of the Roschinka deposit in the Kyzylzhar district of the North Kazakhstan region;
- Draft for maximum permissible emissions of PCHP-2,"SEVKAZENERGO" JSC valid for 2018 - 2026 (conclusion SEE №KZ07VCY00101420 dated 24.11.2017 of the RSE

- "North Kazakhstan Regional Department of Ecology of the Committee for Environmental Regulation and Control of the Ministry of Energy of the RoK");
- Environmental impact assessment Stage III: Section "Environmental protection" to the Industrial Development Project for the clay loams of the Roschinka deposit in the Kyzylzhar district of the North Kazakhstan region with a validity period from 2018 to 2020;
 - Permission for emissions №KZ13VDD00083564 dated 13.12.2017 valid from 01.01.2018 till 31.12.2020 CSE "Department of Natural Resources and Environmental Management of NKR Akimat";
 - Permission for emissions №KZ60VCZ00146557 dated 26.12.2017 valid from 01.01.2018 till 31.12.2025 RSE Committee for Environmental Regulation and Control of the Ministry of Energy of the RoK";
 - Environmental Protection Plan valid from 01.01.2018 till 31.12.2020;
 - Environmental Protection Plan valid from 01.01.2018 till 31.12.2025;
 - Conclusion of state ecologic expert examination No KZ02VDC000667838 dated 22.01.2018 issued by Kazakhstan State Entity "Agency of Natural Resources and Subsoil Use Regulation of Akimat of North Kazakhstan Region" for project of liquidation of the soil bank of SEVKAZENERGO JSC in Kyzylzhar district of the North Kazakhstan region;
 - Conclusion of SEVStroyNadzor LLP No CCH-0012/18 dated 29.03.2018 upon the work project "Extension of embanking dams of section No 3 of ash dump No 2 of Petropavlovsk CHP-2 of SEVKAZENERGO JSC";
 - Conclusion of SevStroyNadzor LLP No CCH-0036/18 dated 31.07.2018 upon the work project "reconstruction of the scheme of release of heat capacity of Petropavlovsk CHP-2 of SEVKAZENERGO JSC";
 - Permit for emissions No KZ84VDD00088203 of 31.01.2018 issued by state entity "Agency for natural resources and subsoil use regulation of Akimat of North Kazakhstan region" for liquidation of the soil bank;
 - Permit for emission NO KZ 05VDD00094475 of 30.05.2018 issued by state entity "Agency for natural resources and subsoil use regulation of Akimat of North Kazakhstan region" for construction of embanking dams of ash dump No 2 of section No 3;
 - Permit for emissions No KZ64VDD00099039 of 05.09.2018 issued by state entity "Agency for natural resources and subsoil use regulation of Akimat of North Kazakhstan region" for construction works during reconstruction of the scheme of release of heat capacity;
 - Permit for special water use for release of standard pure waters into superficial water objects dated 23.06.2016 No KZ83RUB00000256, series Yessil 04-H-35/16 issued by Republican state entity "Yessil basin inspection for regulation of water resources use and protection" issued by the Committee of Water resources of the Ministry of Agriculture of the Republic of Kazakhstan with prolongation of validity term till 23.07.2020;
 - Permission for special water use for industrial water supply of the enterprise and water cooling dated 12/14/2016 No. KZ38VTE00000672 Esil 04-P-89/16 series from the RSU "Esil Basin Inspection for the Regulation of Use and Protection of Water Resources" KVR Ministry of Agriculture with an extension of time valid until 13.12.2021;
 - Insurance policy series OЭC No 10014530 dated 18.09.2018 valid till 21.09.2019.
 - Permission for emissions into the environment No. KZ96VDD00114953 dated 23.06.2019. PUI "Management of natural resources and environmental management of the akimat of North Kazakhstan oblast" on the work on the restoration of ash dump No. 3;

- Permit for emissions into the environment No. KZ24VDD00118092 dated 08.05.2019, PUI "Department of Natural Resources and Environmental Management of Akimat of SKO" for the reconstruction of the gas duct to the chimney No. 3 of PCHP-2;
- Permit for special water use for communal and industrial water supply of the enterprise dated December 14, 2016 No. KZ60VTE00000373 from the PUI Esil Basin Inspectorate for Regulation of Use and Protection of Water Resources of the CWR Ministry of Agriculture with an extension of validity until 14.03.2021;
- Permit for emissions No.KZ47VDD00136399 dated 31.12.2019 to PUI "Department of Natural Resources and Environmental Management of the Akimat of the North Kazakhstan Region" for the construction of enclosing dams of ash dump No. 2 of section No. 3;
- Permit for emission No.KZ22VCZ00525541 dated 10.12.2019. PUI "Department of Ecology for North Kazakhstan Region CERC MEGN RK" for the reconstruction of the scheme for the issue of thermal power;
- Plan of environmental protection measures for the period from 01/01/2020 to 12/31/2022;
- Conclusion of SevStroyNadzor LLP No. SSN-0059/19 dated 05/30/2019. on the working draft "Reconstruction of the gas duct to the chimney No. 3 of the Petropavlovsk CHP-2 of SEVKA-ENERGO JSC;
- Conclusion of SevStroyNadzor LLP No. SSN-0076/19 of 12.07.2019 on the working draft "Tapping the dams of section No. 3 of ash dump No. 2 of the Petropavlovsk CHP-2 of SEVKAENERGO JSC (adjustment);
- Insurance policy of a series No. 105-0000111 dated 09/25/2019. Validity of the insurance policy until September 24, 2020.

NK EDC JSC

- Waste Management Program of North Kazakhstan Electronetwork Distribution Company JSC for 2014-2019;
- Draft standards for waste disposal of North Kazakhstan Electronetwork Distribution Company JSC approved by the North Kazakhstan Regional Department of Ecology on 29.06.2018 (conclusion of state economic expert committee No KZ88VDC00071722 dated 16.07.2018);
- Hazardous wastes certificates, developed in 2008, 2009, 2011, 2014, 2016, 2018;
- Draft standards for maximum permissible emissions of "North Kazakhstan Electronetwork Distribution Company" JSC for 2016-2025 (Conclusion of the SEE No. KZ18VDC00054067 dated 25.10.2016);
- Permission for emissions into the environment of "North Kazakhstan Electronetwork Distribution Company" JSC for 2016-2025 No.KZ89VDD00061438 dated 04.11.2016;
- Industrial Environmental Monitoring Program of "North Kazakhstan Electronetwork Distribution Company" JSC for 2016-2025;
- Insurance certificate OEC series No. 10015172 dated 14.06.2018. Valid till 03.07.2019.
- Insurance certificate OEC series No. 3206196R177457J dated 14.06.2018. Valid till 03.07.2020.

PHSN LLP of SKE

- Draft maximum permissible emissions standards approved by the Department of Natural Resources and Environmental Management in North Kazakhstan region in 2014. (Conclusion of the SEE No. KZO4VDC00005625 dated 19.03.2014);
- Permit for emissions into the environment No.0005125 dated 21.04.14, allowing for the emission of pollutants, valid from 01.01.15 till 18.03.19;

- Draft of standards of waste production and limits approved in 2015 by Department of Natural Resources and Environmental Management in North Kazakhstan region. (Conclusion of the SEE No.KZ65VDC00037701 dated 30.06.15);
- Permit for emissions into the environment No.KZ15VDD00029693 dated 01.09.15, allowing for the waste production and limits valid for the period from 01.09.15 till 29.06.25;
- The waste management program for the period 2015-2025;
- Plan for environmental protection measures for "Petropavlovsk Heat Supply Networks" LLP for the period 2015-2019;
- Plan for environmental protection measures "Petropavlovsk Heat Supply Networks " for the period 2015-2025;
- The "Petropavlovsk Heat Supply Networks" LLP's environmental impact assessment. (Conclusion of the SEE No. 03.10-03/436 dated 02.03.2010);
- Hazardous wastes certificates, developed in 2012-2014;
- Draft standards of maximum permissible emissions (MPE) for Petropavlovsk Heat Networks LLP approved in 2018 by the Agency of natural resources and subsoil use regulation of North Kazakhstan region (conclusion of SEE No KZ62VDC00075585 dated 04.12.2018);
- Permit for emissions to environment No KZ63VDD00107205 dated 14.12.18 permitting to make emissions of pollutants, valid from 01.01.19 to 31.12.2027;
- Environmental Action Plan for Petropavlovsk Heating Networks LLP for 2018-2027;
- RE "Reconstruction of heating main No. 9 2Du300-2Du400mm on the Sovietskaya street from TK-9-03 to TK-9a-38 in the city of Petropavlovsk, SKO" (conclusion of SEE No. PETS-0014/19 dated 25.05.2019);
- RE "Reconstruction of heating main No. 7 2Du600mm on Krepostnaya street from TK-1-10 to TP-15-12s in Petropavlovsk, North-Kazakhstan region" (SEE conclusion No. 12-0336/16 dated 30.09.2016);
- Insurance policy of the OEC series No. 10031353 dated 26.12.18. Validity of the insurance policy 01.01.2019 – 31.12.2019.

7. State Environmental Control

Government Environmental Audits

In 2019, at the enterprises of the Company, state bodies carried out inspections on compliance with environmental legislation.

PAVLODARENERGO JSC

In 2019, at the enterprises of PAVLODARENERGO JSC (CHP-2, CHP-3 and Ekibastuz CHP of ETE LLP), 1 (one) scheduled inspection was conducted in the form of preventive control by the RSI "Department of Ecology of Pavlodar Region" on compliance with environmental laws. Based on the control results, 7 (seven) prescriptions were issued. According to 5 (five) regulations, the work on elimination of violations was completed in full and within the established time, according to 2 (two) regulations, work is still underway.

1 (one) unscheduled inspection of the Department of Ecology of the Pavlodar Region by RSU on the issues of compliance with environmental requirements when discharging wastewater was carried out at PTS PE LLP. Based on the results of the audit, 1 order was issued and an administrative fine was paid.

SEVKAZENERGO JSC

In 2019, the following inspections by state bodies were carried out at SEVKAZENERGO JSC:

- in the 1st quarter of 2019, an unscheduled inspection of the RSI “Department of Ecology in the North Kazakhstan Region of the CERC ME RK”. The audit is open on the basis of an individual’s request for compliance with environmental requirements when discharging wastewater. The results of the audit are challenged in court. By the decision of the Specialized Inter-district Economic Court of the North-Kazakhstan region dated April 15, 2019, the Act on the results of the inspection of the control and supervision body of the RSI “Department of Ecology in North-Kazakhstan Region” No. 7-E dated February 12, 2019 and the order to eliminate violations were declared illegal and repealed.
- in the 4th quarter of 2019, a routine inspection by the RSI “Department of Ecology in the North Kazakhstan Region of the CERC MEGN RK” in the form of preventive control. Based on the results of the control, orders were issued to eliminate 14 recorded violations. 10 violations were taken to eliminate, 4 violations were challenged in a specialized inter-district economic court. Based on the court decision dated 27.12.2019, three violations were found to be unlawful and quashed, 1 violation was disputed on appeal.

Information on environmental reports submitted

Table 10. Submitted environmental reports

No.	Information type	Name of the institution or official the information to be addressed to	Information submission terms
1.	No.2-TP Form Air (semi-annual, annual)	Statistics Department in Pavlodar oblast South-Kazakhstan Region Statistics Department	Annual until April 10
2.	No. 4-OS Form on environmental operating costs (annual)	Statistics Department in Pavlodar oblast South-Kazakhstan Region Ecology Department	Annually until April 15
3.	No. 2-TP Form water industry (annual)	“Irtysh Basin Inspection on Regulations on Water Resources Management and Protection of the Water Resources Committee of the Ministry of Agriculture of the Republic of Kazakhstan” Government Institution Ishim Basin Inspection (Petropavlovsk)	Annually until January 10
4.	Waste Inventory Report "Waste Inventory-1" (annual) in terms of CHPs	Pavlodar Oblast Ecology Department South-Kazakhstan Region Ecology Department	Annually until March 01
5.	Report on the implementation of environmental protection measures	Pavlodar Region Ecology Department South-Kazakhstan Region Ecology Department	Monthly, before the 5th day following the reporting once a quarter, once in a half a year, once in 9 months, once a year

No.	Information type	Name of the institution or official the information to be addressed to	Information submission terms
6.	Report on the industrial environmental control program of PAVLODARENERGO JSC	Pavlodar Region Ecology Department	Quarterly, within 10 working days of the reporting period
7.	Report on the industrial environmental control program of SEVKAZENERGO JSC	South-Kazakhstan Region Ecology Department	Quarterly, within 10 working days of the reporting period
8.	Report on greenhouse gases inventory	Committee of environmental regulation and control of the Ministry of Energy of the RK, Nur-Sultan	Annually until April 01
9.	Register of PCB-containing equipment	South-Kazakhstan Region Ecology Department	Annually until March 31
10.	Pollutant Release and Transfer Register Report	South-Kazakhstan Region Ecology Department	Annually until April 01
11.	Passports for technogenic mineral formations	1. RSI "North-Kazakhstan Inter-Regional Department of Geology and Subsoil Use of the CG MEGNR RK 2. South-Kazakhstan Region Ecology Department	Annually until April 30
12.	Report on permitted and actual emissions	South-Kazakhstan Region Ecology Department	Quarterly, until the 10th day of the month following the reporting.

There are no any complaints on the reports quality; all reports were submitted on time.

8. Compliance with Occupational Safety and Health Issues

Social and Labor Relationships

Strengthening of social security of employees of enterprises, members of their families, retirees retired from the entities, and disabled people is the Company's key social priority. The Collective Agreements are concluded in the Company's Subsidiaries. The main objectives of the contract are to increase the efficiency of the operations of the subsidiaries of "CAEPCO" JSC their structural divisions and subsidiaries, enhance the social responsibility of the parties for the results of production and economic activities, ensure the growth of motivation and productivity of employees through the provision of social guarantees, And benefits, ensuring the growth of welfare and the level of social protection of workers, their families, non-working Pensioners, elected and full-time employees of trade union organizations.

Under the Collective Employment Agreement, the Company's entities provide workers with work clothes and safety shoes, personal protective gear, milk or its equivalent, and soap.

Employees receive lump-sum payments at child birth, for the funeral of close relatives or the employee except cases related to production accidents, funeral of the company's retired person.

Children 7-14 years old of the employees can go in summer to children's holiday camps; at that, the parents pay only 20% of the voucher; another 40% are paid by the company, and 40% - by the trade union. If the income per family member is less than the minimum wage in the RK, 50% of the voucher shall be paid by the company, and 50% - by the trade union. Children of group of companies' employees till 14 years old receive New Year gifts (one gift per child); 50% of the cost is paid by the company, and 50% - by the trade union. There are also New Year parties for children 100% paid by the trade union. Employees having the status of families with many children or the families with disabled children receive as a social support from the Administration the financial assistance before the start of academic year for each child of school age.

Special attention is paid to diagnostics and medical treatment programs for employees, especially operational personnel. Annual obligatory medical examinations are held at the expense of employers; operational workers undergo daily before and after work obligatory medical tests in order their state of health to be examined. Each Company's entity has furnished medical rooms at its disposal, where professionals provide physiotherapy, electrotherapy, heliotherapy, laser therapy, massage services, and specialized consultations. In Pavlodar, the "Energetic" sanatorium has been successfully functioning.

Occupational safety and health

Occupational safety and health is one of the key objectives, set by the Company's Labor Safety Management System (LSMS), covering 3-stage monitoring, i.e. inspecting labor safety requirements compliance at each workplace in a division, including monthly Occupational Health and Safety Day celebration, involving the Company's management, top specialists, and public safety inspectors.

In 2019, 1271 inconsistencies on health and safety were identified at "SEVKAZENERGO" JSC by the Company employees, and 217 by the employees of contractors carrying out repair on the territory of PCHP-2 of "SEVKAZENERGO" JSC. All the inconsistencies were addressed in the action plan with appointment of persons responsible for its implementation. As of 24.02.2020, all inconsistencies were eliminated.

In 2019, 967 inconsistencies in structural units of "PAVLODARENERGO" JSC were revealed by "PAVLODARENERGO" JSC HSE department employees, and 1161 - by the employees of contractors. All the inconsistencies were addressed in the action plan with appointment of persons responsible for its implementation and control. As of 20.02.2020, all inconsistencies were eliminated.

In order to improve working conditions at the Company's entities, additional activities are developed and being implemented, including those on preventing occupational traumatism, accidents and diseases.

In 2019, SEVKAZENERGO JSC and its subsidiaries carried out the following activities:

1. The transition to overalls made of heat-protective fabrics for electrical personnel.
2. The transition to personal protective equipment against falling from a height — safety harnesses with five fixation points.
3. The measures dedicated to the World Labor Protection Day were held:
 - a children's drawing competition was held on the subject "Labor protection as seen by the child". All participants of the children's competition were awarded with memorable prizes and souvenirs;
 - workers who worked for a year without violating safety and labor protection are encouraged by memorable souvenirs (hobby groups).

4. Work has been done on promoting S&LP issues, leaflets have been developed for visitors and guests of the enterprise, leaflets for the prevention of falls, compliance with electrical safety rules, corporate posters in the S&LP field have been posted.

5. A mutual audit was conducted at the enterprises to prevent injuries, as well as incidents and accidents during the operation of energy and technological equipment. The application of the best practices identified in the course of the mutual audit made it possible to improve the general situation and indicators on labor protection.

6. A hotline has been created along which each employee can provide photos and videos of a detected violation / non-compliance, etc. (all received messages are worked out by the department of safety and labor protection, based on which measures are developed);

7. Video cameras have been installed around the perimeter and in the premises to be able to monitor compliance with the high-speed mode by motor vehicles, employees to comply with safety and labor protection rules, and fire safety.

8. Implemented and functioning:

- Regulation on the signal sheet (all received signal sheets are worked out by the heads of the workshops, based on them activities are developed);

- Regulation on additional safety signs (safety doors are placed on all doors of electrical rooms, doors of electrical cabinets, electrical equipment, additional safety signs are placed - combined, prohibiting, warning, fire safety signs, directional, prescribing, evacuation signs and signs for medical and sanitary purposes);

- Safety regulations for the interaction of vehicles and pedestrians in the territory of PCHP-2 of JSC SEVKAZENERGO;

- Regulation on the organization of activities of working groups on certification of workplaces of production units of PCHP-2 of JSC SEVKAZENERGO;

- Regulation on the design of the annual work plan with personnel in the field of safety and labor protection;

- Regulations for ensuring safety during work at heights in the territory of PCHP-2 of JSC SEVKAZENERGO (they are also guided by contractors);

- Regulation on the use and testing of protective equipment, tools, fixtures and instruments used in the operation and repair of electrical installations;

- Regulation on the technical description of the applied personal protective equipment and on the procedure for providing personal protective equipment to employees of the organization;

- Regulations on the procedure for observing safety measures when performing work in confined spaces on the territory of the SEVKAZENERGO group of companies;

- Regulation on smoking in the territory of the enterprises of the SEVKAZENERGO group;

- Regulation on the procedure for conducting a medical examination of employees of the SEVKAZENERGO group of companies and contracting organizations performing work on the territory of the SEVKAZENERGO group of companies;

- Plan of measures for safety and labor protection of JSC "Central Asian Electric Power Corporation" for 2018-2019.

9. Newsletters "Lessons learned from the results of the investigation of incidents" were developed under the signature with the staff.

10. Analysis of occupational injuries for 2019 compared to 2018 was worked out with staff.

11. During the year, production tests of samples of personal protective equipment (protective clothing and footwear) were carried out, and relevant documents (acts, protocols) were drawn up based on the results of these tests.

12. Based on the results of a scheduled audit, North-Kazakhstan Distribution Electric Grid Company JSC, measures were developed and put in place to eliminate the identified inconsistencies, and responsible persons and deadlines were appointed.

13. On May 17, 2018, SKREK JSC held a large-scale event aimed at promoting safety measures for schoolchildren and students from being exposed to voltage in existing electrical installations at the end of the school year. The event was held with a demonstration of presentations, slides,

videos. The event was attended by 286 representatives of educational institutions (directors of schools, colleges, their deputies) and organizations (JSC "SKREK", Office of the State Labor Inspectorate). During the event, everyone on the CDs was given S&LP material.

14. In structural units, work has been executed aimed at improving working conditions at workplaces, creating safe working conditions, bringing equipment in accordance with the requirements of labor safety standards, and the requirements of sanitary norms and rules.

15. A system of comprehensive automation of all aspects of labor protection has been introduced, which allows you to consolidate and automate activities in the field of S&LP in the following areas: incident management, audits, S&LP risks, personal protective equipment (availability control), S&LP training.

In 2019, 2 accidents were made in the group of enterprises of SEVKAZENERGO JSC (Petrovavlovsk Heating Networks LLP, SEVKAZENERGO JSC). The classification of an accident by type of accident in 2019 is a cut wound in the buttock region, electric shock. The causes of the accident were gross negligence of the victim, violation of safety and labor protection rules and poor organization of work.

The Company accident rate for industrial injuries for the year 2019 (TIFR) per 1,000 employees was 0.80. The fatal accident rate for 2019 at the workplace (FIFR) per 1,000 employees is 0.

The system of registration, reporting and notification of accidents operating in the Company complies with the requirements of the legislation of the Republic of Kazakhstan and the International Labor Organization.

The activities of the contracting organizations involved in the production facilities of the enterprise are controlled by:

1. Planned and sudden inspections of the state of S&LP in the contractors and briefings for the personnel of the contractors are carried out;
2. informing on bulletins of accidents is carried out in order to communicate the causes and prevent the recurrence of similar cases in the future;
3. Implementation of corporate standards on S&LP;
4. carrying out the days of biotechnological safety;
5. Conducting S&LP meetings.

Actual expenses for the implementation of safety and labor protection measures, improvement of working conditions in 2019 amounted to more than 246 989 802.00 tenge. Financial resources have been invested in providing workers with the necessary personal protective equipment, including electrical protective equipment, special meals, medicines, staff training, in the purchase of fire extinguishing equipment, as well as the implementation of measures to additionally illuminate workplaces, repair ventilation and air conditioning systems, and repair buildings and structures and another.

In accordance with the requirements of the Law of the Republic of Kazakhstan "On Compulsory Accident Insurance of an Employee in the Performance of Labor (Official) Duties", all employees of the Company's enterprises are insured against accidents.

The following activities were held at PAVLODARENERGO JSC and its subsidiaries in 2019:

1. A plan of measures for 2019 to improve working conditions at workplaces was made up by CHP-2, CHP-3 and ECHP of PAVLODARENERGO JSC. Activities were developed according to three directions: measures to prevent injuries and accidents, preventive measures, and measures to improve working conditions, 73 measures were implemented for a total of 4,003,633 tenge;
2. According to the schedules of overhaul, current repairs, service platforms, protective fencing are brought into compliance with the requirements of biotechnological safety measures, the channels of the gas storage are blocked;
3. Work continues on: certification / bringing jobs (quick wins) to a safe state; notification by sending letters to the families of workers who have violated safety and labor protection

requirements; implementation of “Signal sheets”; timely studies of the retrospective and information bulletins on accidents are carried out (familiarization of all technical workers, unscheduled briefings in all departments of the enterprise, the implementation of measures according to the act of special investigation and development of measures to prevent similar cases in all departments of PAVLODARENERGO JSC);

4. Video was prepared and recorded on the theme "Wear a helmet";

5. Road markings and pedestrian paths were marked on the roadway of the CHP-3;

6. Information leaflet “Safety Traffic Light” was issued;

7. The measures dedicated to the World Labor Protection Day were held: family Day of labor safety and labor protection, the competition of children's crafts “Labor protection through the eyes of the child”; encouraged the best workers in safety and labor protection; prepared and recorded a video message from the children of employees of PAVLODARENERGO JSC on the topic: “The importance of observing safety and labor protection requirements”; the best employees in the group of companies of PAVLODARENERGO JSC in the field of biotechnology were awarded with memorable prizes;

8. At the CHP-2, CHP-3 purchased and posted at the walk-through CHP-2, CHP-3 light information board on the line of safety and labor protection;

9. The standards for the issuance of soap and special nutrition (milk) to employees of the group of companies of PAVLODARENERGO JSC were revised and approved;

10. Conducted OSH trainings for managers and employees of contracting organizations working in the territory of PAVLODARENERGO JSC, on the topics of “wearing and using personal protective equipment” and issues of meeting the requirements for alcohol, drugs and smoking;

11. They made a complete transition of electrical personnel to suits made of heat-protective fabrics of the NOMEX® type, which have the properties of protection from high temperatures and flame, thermal effects of an electric arc, electrical insulation;

12. Sketches were developed according to which banners, posters on S&LP were made, placed on information stands on S&LP and on the territory of enterprises;

13. A complete transition to safety harnesses (five-point) was made, the so-called parachute belts, instead of belts with belt support, including contractors based on the territory of the stations;

14. Together with the Public Association “Local Union of Energy System Workers “PAVLODARENERGO” and the “Trade Union Center of Pavlodar Region”, they participated in seminars on the topics: “Providing healthy jobs — the foundation of successful development of society”, “Labor disputes, causes of their occurrence. The procedure for resolving a labor dispute in the conciliation commission”;

15. Developed guidelines for Industrial Safety and Labor Protection Management Systems MS ISO 45001: 2018;

16. In order to properly and timely conduct a medical examination of personnel to detect the fact of alcohol intoxication, two breathalyzers of the Alcotest-203 brand were additionally purchased from PREC employees;

17. In order to increase the discipline of labor and the responsibility of production personnel of JSC “PREC” involved in operational switching, job preparation, installation / removal of grounding at workplaces, etc., 11 video recorders were purchased;

18. The certification of production facilities for working conditions in "ETE" LLP;

19. The ETE LLP is completing the reconstruction of showers with 365 seats, as well as corridors, flights of stairs, bathrooms in the building of the KVTK (transfer tower);

20. In the repair service of Pavlodar Heating Networks LLP, the roof was overhauled and a separate meal room was organized;

21. In the group of enterprises of PAVLODARENERGO JSC, automation of biotech processes is being implemented to solve the following tasks: planning, control and analysis of OHSE business processes.

In 2019, the PAVLODARENERGO JSC group of companies, 3 injuries with a severe outcome (PREC JSC, PTS LLP, ETE LLP) and 1 fatal accident (ETE LLP) are admitted.

In the structural divisions of CHP-2, CHP-3 of PAVLODARENERGO JSC there were no accidents for the reporting period.

All enterprises of the Subsidiaries of JSC CAEPCO operate as required by the occupational safety and health management system, in accordance with the requirements provided by ONSAS 18001: 2007 and have corresponding certificates.

As part of the Occupational Safety and Health Management System, the enterprises of the Subsidiaries of JSC CAEPCO hold quarterly/monthly occupational safety and health meetings aimed at raising the level of the state of occupational safety and health and strengthening the responsibility of managers at all levels for the state thereof in their units by further analyzing by the management and, if necessary, developing additional measures to improve working conditions.

At the enterprises of the Subsidiary Organizations of JSC CAEPCO, fire and technical commissions were set up guided in their activities by the Regulations on fire and technical commissions, whose meetings are held twice a year.

At all CHPs, the fire safety state of facilities is inspected quarterly/weekly as per the approved schedules.

To meet the fire safety requirements, at the enterprises of the subsidiaries of JSC CAEPCO:

- the relevant employees fulfilled the minimum fire-technical requirements in specialized organizations in 2019;
- quarterly (at PCHP-2 – on weekly basis) inspections of the fire safety of shops are carried out, during which all production buildings and facilities, installations, warehouses and laboratories of the shop are inspected;
- instructions on fire safety measures (Instruction on fire safety, Instruction on storage of fire-fighting equipment, Instruction on fire safety in the performance of fireworks) were prepared and put in force;
- responsible persons for fire safety were assigned by an order, and their official duties were determined;
- Commission surveys of facilities are conducted with the participation of the management and leading experts of the enterprise in the spring-autumn period; the required employees are trained and their knowledge of fire safety is tested, and briefings, fire training etc. are provided.

Every month, the enterprises of the subsidiaries of JSC CAEPCO hold Safety Days where representatives of the commission visit workplaces, workshops, rest rooms, locker rooms, showers, areas of divisions, warehouses and other premises for the compliance with the regulatory requirements for the safety day program making inspections more comprehensive according to the approved directions. In 2019, the Safety Commission by SEVKAZENERGO JSC revealed 414 non-conformities to the Rules and Norms on Occupational Safety and Health, Fire Safety, and all non-compliance identified at the time of verification were eliminated in full.

Daily, structural divisions of the enterprises of the subsidiaries of JSC CAEPCO are visited by public inspectors for the compliance with the work order - work permit system, i.e. the completeness of the specified and implemented safety measures and measures for the preparation of workplaces in the performance of operations (shutdown/connection of equipment by posting safety signs, installing special enclosures, additional lamps, ventilation etc.), the availability of tested individual protection equipment, electro-pneumatic tools, scaffolding, stairs, and a

qualification certificate with a record of knowledge verification, special works and medical examination, and also a document regulating repair procedures.

Every day, engineers and technicians of the enterprises of the subsidiaries of JSC CAEPCO visit the working area to check the personnel's performance of operations according to the rules, production and job descriptions, the maintenance of the established operating mode of the equipment; the compliance by the personnel with the order of acceptance- of a shift, the maintenance of operational documentation, and production and labor discipline; the timeliness of identifying defects and malfunctions in the operation of the equipment by the personnel and the adoption of measures to eliminate them; the correctness of applying a work order-work permit system when performing repair and special works; the maintenance of occupational hygiene at workplaces; the availability and serviceability of devices and tools for safety incl. fire safety.

During 2019, the departments / security and occupational safety services of the subsidiaries of JSC CAEPCO regularly visited work places to ensure that they meet the occupational safety and health requirements, and fire safety and hygiene standards.

SEVKAZENERGO JSC held 12 Days of Occupational Safety and Health, according to the results of which 12 inspection reports were drawn up.

PAVLODARENERGO held 12 Days of Occupational Safety and Health in 20 production divisions, according to the results of which 240 inspection reports were drawn up.

The requirements of the Labor Code of the Republic of Kazakhstan for occupational safety and health are being fulfilled:

- Managers and persons responsible for safe production of operations are trained in occupational safety and health issues by the specialized training centers, workers are trained in industrial safety issues, skills are improved and related specialties are acquired;
- Workplaces are certified;
- Workers are provided with overalls, special footwear, sanitary means and individual protection equipment within the effective standards;
- compulsory personal civil liability insurance contracts are concluded against harm to the life and health of an employees in the performance of their work (official) duties and compulsory insurance contracts for the owners of facilities whose activities are associated with a risk of causing harm to third parties;
- Agreements are concluded for employees who are associated with harmful conditions of work, and for special nutrition (milk);
- A continuous monitoring of working conditions;
- Preliminary and periodic medical examinations of employees are organized;
- Issues of health improvement of workers in a he sanatorium-preventorium are addressed.

Occupational Safety and Health Reports

Table 11. Presented reports in the field of Safety and Labor Protection

No.	Information/report type	Submitted to	Frequency of reporting
1.	7-TPZtraumatism report (annual)	Regional statistics departments in Pavlodar region Statistics departments of South-Kazakhstan region	Annually until February 25
2	Traumatism report	Regional departments of energy	Until the 10 th day

No.	Information/report type	Submitted to	Frequency of reporting
	(monthly, quarterly)	supervision and control	
3.	Occupational safety & health monitoring	Regional Department for Control and Social Protection	Quarterly, until the 15th day preceding the reporting month
4.	Fire safety monitoring	Regional Department of Energy and Housing and Communal Services	Monthly, until the 10th day following the reporting month
5.	Information on results of production control	Territorial division of department of state authority in the field of sanitary and epidemiologic welfare of population	Once a half year until July 05 and January 05

All occupational safety and health reports incl. fire safety reports in 2019 and following the results of the reporting year were submitted to the authorized bodies in time as per the above list.

9. Environmental, occupational safety and health regulatory and legal framework in Republic of Kazakhstan

In the context of economic activity, the Company complies with the requirements of the current legislation in the field of environmental protection, safety and labor protection, regulated by the regulatory legal acts of the Republic of Kazakhstan in the relevant areas of activity.

List of legal acts used in the divisions' environmental, occupational safety and health activities

Table 12. List of regulatory and legal acts

No.	Document title	Code of the normative document	Date of approval (review)
1	RK Constitution	-	05.09.1995 (10.03.2017)
2	RK Environmental Code	212-III	09.01.2007 (26.12.2019)
3	RK Water Code	481- II	09.07.2003 (28.12.2019)
4	RK Land Code	442- II	20.06.2003 (26.12.2019)
5	RK Entrepreneurial Code	375-V	29.10.2015 (21.01.2019)
6	RK Code on Taxes and Other Obligatory Payments to the Budget	120-IV	10.12.2008 (01.01.2020)
7	RK Law "On Mandatory Environmental Insurance"	93- III	01.01.2006 (01.01.2020)
8	RK Labour Code	№414-V 3PK	23.11.2015. (24.05.2018)
9	RK Code "On Subsurface and Subsurface Use"	125-IV	25.12.2017 (30.12.2019)

No.	Document title	Code of the normative document	Date of approval (review)
10	RK Law "On Civil Protection"	188-V	11.04.2014 (07.01.2020)
11	RK Law "On Electric Power Industry"	588-II	09.07.2004 (05.10.2018)
12	RK Law "On Chemical Production Safety"	302-III	21.07.2007 (29.10.2015)
13	RK Law "On Railway Transportation"	266-II	08.12.2014 (19.04.2019)
14	RK Law "On architectural, town-planning and construction activity in the Republic of Kazakhstan"	242-II	16.07.2001 (25.12.2017)
15	Hygienic standards "Sanitary-and-epidemiological requirements for ensuring radiation safety"	155	27.02.2015
16	Hygienic ambient for atmospheric air regulations in urban and rural settlement	168	28.02.2015
17	National Regulations in the field of architecture, urban development and construction. Internal water supply and sewerage of buildings and structures	RK Building Regulations 4.01-01-2011	01.07.2015 (11.10.2017)
18	State standard "Occupational safety standards system. Harmful substances. Classification and general safety requirements"	GOST 12.1.007-76	1976 (1990)
19	State standard "Occupational safety standards system. Production equipment. General safety requirements"	GOST 12.2.003-91	1991
20	State standard "Occupational safety standards system. Production equipment. General ergonomic requirements"	GOST 12.2.049-80	1980
21	State standard "Hazardous cargoes. Classification and marking"	GOST 19433-1-2010 GOST 19433-2-2010 GOST 19433-3-2010	11.10.2010
22	State standard. "Protection of Nature. Atmosphere. Sources and meteorological factors of pollution, industrial emissions. Terms and Definitions"	GOST 17.2.1.04-77 (ST SEV 3403 - 81)	28.06.1977
23	State standard. Methods for determination of velocity and flowrate of gas-and-dust streams from stationary sources of pollution	GOST 17.2.4.06-90	1991
24	State standard. Secondary black metals. General specifications	GOST 2787-75	1975 (1977)
25	Instruction "Operative actions under unfavorable meteorological weather conditions (NMU) at PAVLODARENERGO JSC"	И ПЭ 09-03-17	16.11.2017

No.	Document title	Code of the normative document	Date of approval (review)
26	Instructions for the implementation of land-cadastral work	-	24.12.1999
27	Instructions for completing a statistical form of the departmental statistical observation "Report on water intake, use and discharge (2-TII utility water)	94	25.12.2014 (11.01.2018)
28	Instructions for completing a statistical form of the national statistical observation "Report on the costs for environmental protection" (4-OS)	Annex 18 to Order No 5	13.12.2018
29	Instructions for completing a statistical form of the national statistical observation "Report on atmospheric air protection" (2-TII air)	Annex 16 to Order No 5	13.12.2018
30	Instructions for completing a statistical form of the national statistical observation "Report on functional operation of the water supply system, sewerage system and their particular parts (1-BK)	Annex 10 to Order No 5	13.12.2018
31	Instructions for organization and conduct of work within PAVLODARENERGO JSC by contractors	И ПЭ 10-06-18	31.05.2018
32	Instructions for conducting an assessment of the impact of planned economic and other activities on the environment in the development of preplanned, planned, pre-project and project documentation	204-п	28.06.2007 (17.06.2016)
33	Instructions for development of projects for reclamation of disturbed lands	346	17.04.2015
34	Instructions for acceptance, storage, accounting and depositing of mercuric lamps of PCHP-2 of SEVKAZENERGO JSC	I 16.012/02	11.04.2018г.
35	Instructions. Operations of the PCHP-2 personnel in unfavorable weather conditions	I 16.014/01	19.12.2018г.
36	Instructions of PCHP-2 of SEVKAZENERGO JSC. Emergency actions of the personnel	IMS 08.05.	11.04.2018г.
37	Criteria for relating waste products to secondary raw materials	332	19.07.2016
38	Criteria for assessing the degree of risk and quality of the leaf in the field of protection of the environment, reproduction and use of natural resources	joint order of the Ministry of Energy of the Republic of Kazakhstan No. 721 with the order of acting Minister of Economy of the Republic of Kazakhstan No. 835	15.12.2015 30.12.2015 (19.11.2018)
39	Methods for determining emissions of pollutants into the atmosphere for thermal power plants and boilers	221-Ө (Annex 3)	12.06.2014
40	Methods for determining standards of emissions in the environment	110-ө	16.04.2012 (17.06.2016)
41	Methods for calculating damage to the environment caused by natural (forest, steppe)	298 (Annex 36)	29.11.2010

No.	Document title	Code of the normative document	Date of approval (review)
	and man-caused (industrial, domestic) fires		
42	Methods for developing draft standards for the maximum allocation of production and consumption wastes	100-π (Annex 16)	18.04.2008 (29.11.2010)
43	Methods for calculating the norms for the placement of ash and slag wastes for boilers of various capacities working on solid fuels	221-Θ (Annex 10)	12.06.2014
44	Methods for calculating the norms for the placement of ash and slag wastes for boilers of various capacities working on solid fuels	354	26 .09.2011 (28.02.2015)
45	Methodological guidelines for determining the level of pollution of environmental components by toxic substances of production and consumption wastes	Regulatory Document 03.3.0.4.01-96	1996 (1997)
46	Guidelines for the application of environmental requirements to landfill sites	298 (Annex 33)	29.11.2010
47	On approval of Consumption Limits (allowances) of ozone-depleting substances for the period from 2016 to 2019	35	04.02.2016
48	On approval of Rules for automated monitoring of emissions into environment during holding the production environmental monitoring and requirements to reports on results of production environmental control	356	07.09.2018
49	Rules for access to environmental information relating to the procedure for assessing the impact on the environment and the process of decision-making on the intended economic and other activities	238-π	25.07.2007 (21.06.2016)
50	Form of documents for issuing permits for emissions to the environment and the rules for their completion	115	20.02.2015 (22.08.2016)
51	On the Approval of the Waste Inventory Report Form and Instructions for its Completion	352	29.07.2016
52	On approval of the Form of an installation passport	122-π	15.05.2013 (03.08.2018)
53	The List of GHG emission specific ratios	222	28.06.2017
54	The Rules for keeping the National Registry of wastes and transport of air pollution	241	10.06.2016
55	Rules for maintaining the state register of carbon units	147-π No. 496	10.05.2012 (17.11.2016) (amendments made with 01.01.2018)
56	The rules for monitoring, accounting and reporting on carbon emission units for greenhouse gases for trade purposes	157-π	14.05.2012 (17.11.2016)

No.	Document title	Code of the normative document	Date of approval (review)
57	Rules for the inclusion of environmental management in the resolution of emissions to the environment	112-п	16.04.2007 (21.06.2016)
58	The Rules for GHG allowance allocation alteration and redemption	292	28.06.2016 (03.08.2018)
59	Rules for the conversion of units of project mechanisms in the field of regulation of emissions and removals of greenhouse gases into quota units	148-п	10.05.2012 (17.11.2016)
60	Rules for the Elimination and Conservation of Subsoil Use Objects	200 155	27.02.2015
61	The rules for monitoring and control of greenhouse gas inventory	221 496	19.03.2015 (17.11.2016) (amendments made with 01.01.2018)
62	The rules for handling persistent organic pollutants and wastes containing them	40-п	24.02.2012
63	Rules for the mutual recognition of quota units and other carbon units on the basis of international treaties of the Republic of Kazakhstan	153-п	11.05.2012 (11.11.2016)
64	Rules of primary water accounting	19/1-274	30.03.2015 (27.12.2018)
65	Rules for the preparation of consideration and approval, accounting, reporting and monitoring of domestic projects to reduce greenhouse gas emissions	150-п	11.05.2012 (17.11.2016)
66	The rules for reception of sewage in the system of sewerage of settlements	546	20.07.2015
67	Rules for conducting state ecological expertise	100	16.02.2015 (28.08.2018)
68	Rules for holding public hearings	135-п	07.05.2007 (08.09.2017)
69	Rules for work with personnel in RK energy organizations	234	26.03.2015 (15.07.2016)
70	Rules for the development of domestic projects to reduce emissions of greenhouse gases and a list of industries and sectors of the economy in which they can be implemented	156-п	14.05.2012 (17.11.2016)
71	Rules for developing a waste management program	146	25.11.2014
72	Rules for the allocation of quotas for greenhouse gas emissions and the formation of reserves of the established number and volume of quotas of the National Greenhouse Gas Emission Distribution Scheme	370	15.06.2017
73	Rules for consideration, approval and implementation of projects aimed at reducing	841	26.06.2012 (29.05.2017)

No.	Document title	Code of the normative document	Date of approval (review)
	emissions and the absorption of greenhouse gases		
74	Rules for the Implementation of Design Mechanisms in the Sphere of Emission and Absorption of Gaseous Gases	76	12.02.2015 (17.11.2016)
75	Rules for Standardization of Measurement and Accounting of Greenhouse Gas Emissions	144-П	10.05.2012 (31.05.2016)
76	Rules of technical operation of power plants and networks	247	30.03.2015
77	Rules for trading greenhouse gas emissions quotas and carbon units	151-П	18.09.2012 (12.07.2016)
78	Rules for Accounting production and consumption wastes	312	11.07.2016
79	Rules for forming liquidation funds for waste disposal sites	125	13.11.2014
80	Rules for the economic evaluation of damage caused by environmental pollution	535	27.06.2007 (21.06.2016)
81	Rules for the provision of information on state accounting of mineral reserves to state bodies	№ 393	25.05.2018
82	Production instruction on the maintenance and operation of booms and the use of a sorbent for emergency response	IP 16.001/02	20.10.17
83	Regulations on interaction for environmental protection management between JSC Central-Asian Electric Power Corporation and SEVKAZENERGO JSC	RG 16.041/02	17.10.2017
84	Regulation of actions related to the operation of oil-containing equipment of PCHP-2	RG 16.075/02	23.11.2017
85	Guidelines. Environmental control by PCHP-2 of SEVKAZENERGO JSC. Production Instruction	IMS 06.39/01	11.04.2018
86	Regulations for holding the Day of improvement of territory of PCHP-2 of SEVKAZENERGO JSC	RG 16.082/02	09.04.2018
87	Sanitary rules “Sanitary and epidemiological requirements for water sources, water intake points for household and drinking purposes, household and drinking water supply and places of cultural and household water use and safety of water objects”	209	16.03.2015
88	Sanitary rules when handling mercury, its compounds and devices with mercury filling	Building Regulation 1.10.083-94	1994
89	Sanitary Rules Sanitary and epidemiologic requirements to collection, use, application, neutralization, transportation, storage and dumping of production and consumption waste	187	23.04.2018

No.	Document title	Code of the normative document	Date of approval (review)
90	Quality Management System	MS ISO 9001:2015	2015 (2018)
91	Occupational safety and health management system	MS ISO 18001:2007 MS ISO 45001:2018	2008 (2018)
92	Energy management system. Requirements with guidance for use.	MS ISO 50001:2011 MS ISO 50001:2018	2011 (2018)
93	Systems of environmental management. Requirements and guidelines for their application	MS ISO 14001:2015	2015 (2018)
94	Technical regulations "Requirements for emissions to the environment when burning various types of fuel in boilers of thermal power plants"	1232	14.12.2007 (21.07.2010)
95	Greenhouse gases inventory report form	502	28.07.2015 (02.06.2016)
96	Form of report on hazardous wastes and instructions for completing the form of the report on hazardous wastes	164-п (Annex 1,2)	21.05.2012
97	Hazardous waste certificate form	128-п	30.04.2007 (27.12.2016)
98	Greenhouse gas emissions monitoring plan form	245	13.06.2016

First Deputy General Director

D.N. Turganov

ENVIRONMENTAL AND SOCIAL ACTION PLAN OF JSC CAEPCO FOR 2019

Corporate Portfolio Plan								
N o.	Activity	Environmental risks / Liabilities / Benefits	Law requirements/ best practice	Investment needs/ Resources (Euro, 000)	Schedule – To be fully implemented	Goal and evaluation criteria for successful implementation	Comments	Report
0	<p>Undertake an independent audit, inclusive of the best available technologies (BAT) assessment in 2015 in order to verify the implementation of the current and past ESAP, as well as identify opportunities for further improvement of pollution control and environmental efficiency.</p> <p>Based on the audit, a <u>new Action plan will be made up to increase the existing stations' efficiency</u> by 2023 in accordance with national standards.</p>	Need for a long term investment program and operations review	EBRD	50-75 K EUR		<p>Report to the Bank in 2015.</p> <p>New action plan in 2016.</p>	<p>As part of the 2015 BAT Assessment, develop plan to limit dust, SO_x and NO_x emissions by 2023.</p> <p>The plan will set out road map to attain step-by-step reduction of emissions as per EU Standards under LCP and IED benchmarks below 50 mg/Nm³.</p> <p>BAT Assessment will result in review of the new-type equipment performance and show, what BAT should be selected for future upgrade at the CHPs. The selected best available practice (BAT) should comply with commercial</p>	<p>An independent environmental audit was conducted in 2018 at the generation facilities of CAEPCO JSC (CHP-2, CHP-3, ECHP of PAVLODARENERGO JSC and PCHP-2 of SEVKAZENERGO JSC), including an assessment by the best available technologies (BAT Assessment) for validation of the current and completed ESAP. Based on the results of the audit, a report was compiled and recommendations were made to improve the environmental performance of existing plants in accordance with national and international standards.</p> <p>The audit report was sent to the EBRD in April 2019 along with the ESAP report for 2018.</p> <p>In connection with the large-scale reform of the environmental legislation of the Republic of Kazakhstan, in 2019 a draft of the new Environmental Code was developed, which is currently under approval by the Government of the Republic of Kazakhstan. It should come into effect on January 1, 2021. Within the framework of the new Environmental Code, a phased transition to the best available technologies (BAT) will be carried out in the Republic of Kazakhstan. In 2020, comprehensive technological audits will be conducted at large enterprises in all industries to assess the existing technical and general condition and</p>

							realities of Kazakh electricity market, at the same time reducing emissions as per EU standards. The BAT Study will be used to adjust the tariffs to market levels (if applicable), and EBRD will support the Company in such discussions with regulators, as required.	determine the feasibility of introducing BAT. Based on the audit reports received, the development of national BAT reference books will begin. In connection with the foregoing, an action plan to improve the environmental performance of CAEPCO JSC's generation facilities will be developed after the introduction of national BAT reference books, as part of a comprehensive environmental permit.
1	<p>Publish the corporate environment, health protection and safety (EHPS) report and make it publicly available (including on the Internet).</p> <p>In 2015, develop a CSR (Corporate Social Responsibility) as per GRI (Global Reporting Initiative) standards.</p>	<p>Ensure that the best practice is adopted across the organization, and environmental performance is transparent. Submit reports on the environmental performance to the interested parties.</p> <p>Publish the CSR report, inclusive of KPIs (Key Performance Indicators), such as energy and carbon intensity from stations.</p>	Best practice and EBRD requirements	Internal resources	Within 90 days from the end of each financial year	Report publication. 2016CSR report in accordance with GRI.	<p>Corporate reports are prepared every year and published on the websites of CAEPCO., SEVKAZENERGO and PAVLODARENERGO. The reports contain information that is required in accordance with the Environmental and Social Action Plan 2009 (ESAP 2009); nevertheless, they need to be supplemented with information on planned new investments, data on the reliability of heat and electricity supplies over the past year and the main issues related to interaction with the public in accordance with the Action Plan for interaction with the interested parties.</p>	<p>The corporate report is compiled in accordance with the approved sections and published on corporate websites of the Company by the following links:</p> <p>JSC CAEPCO: http://caepco.kz/ru/investoram/finansovaya-otchetnost/esap.html</p> <p>PAVLODARENERGO JSC: http://pavlodarenergo.kz/ru/ustojchivoerazvitie/ekologicheskaya-politika1.html</p> <p>SEVKAZENERGO JSC:</p> <p>The report on Corporate Social Responsibility of JSC CAEPCO is included in the section "Sustainable Development" of the Annual Report and compiled in accordance with the GRIG4 standards. It is published on the corporate website of the Company by the following link: http://caepco.kz/ru/investoram/finansovaya-otchetnost/godovoj-otchet.html</p>
2	Update the list of	The Stakeholder	EBRD	Internal and	3rd quarter of	The SEP	Companies	The Stakeholder Engagement Plan (SEP) of JSC CAEPCO is systematized, updated and published on the Company's

	<p>activities and the policy of the existing The Stakeholder Engagement Plan (SEP). The plan of interaction with the interested parties should be updated by the Company annually and subject to external audit at least every 5 years.</p>	<p>Engagement Plan is necessary both for the corporation and for individual sites. This should include a complaint plan (complaints procedure) that will allow staff and external interested parties (the public, etc.) to voice their interests, opinions, etc. Proper interaction with the interested parties reduces the risk of civil unrest and anxiety among the public.</p>		<p>external resources</p>	<p>2013 – then each 12 months</p>	<p>should be updated on an annual basis with a brief review (reminder) to the Bank in the Annual Report.</p>	<p>implemented number of new procedures and informing methods to communicate the public about their activities. However, there is no structured database, containing such information as status of the SEP implementation (type, number and time of: applied procedures, complaints, considerations, conducted environmental and information procedures, and communicating the public). This kind of data is only collected in written form, and gathered in particular companies. This issue needs to be systematized.</p> <p>Furthermore, the SEP was not updated on the yearly basis.</p>	<p>corporate website at the following link: JSC CAEPCO: http://caepeco.kz/ru/investoram/finansovaya-otchetnost/sep.html</p>
<p>3</p>	<p>Maintain and improve the grievance mechanism for both internal (workers, subsidiaries) and external (local community, contractors) concerned parties. Making agreements with local</p>	<p>People can express their opinion, the complaints are effectively processed and result in proper mitigation measures. Tasks and responsibilities are</p>	<p>Best practice, norms and Bank guidelines</p>	<p>Internal resources</p>	<p>2013 then - on regular basis</p>	<p>Grievance procedures are put in place and publicized. Inclose information in annual</p>	<p>Current grievance mechanism does not fully meet the EBRD requirements. Information on possibilities for submitting grievance is not very clear, the</p>	<p>The subsidiaries of the Company working directly with consumers and public, keep record of the received claims and complaints as follows: - via the "trust line" (hotline phone); - via the Contact-centers; -through official corporate websites; (to the blog of the first leader).</p>

	community on construction and exploitation stages	clearly identified.				report	Company does not keep register of submitted complaints and requests.	<p>The following has been done as measures to improve complaint mechanisms:</p> <ul style="list-style-type: none"> • The chief executive officer 's blog (on the corporate website of the company) is created to improve handling complaints, where the Director General of the company is responsible for each appeal; • He following sections are created to improve handling of claims: "Headquarters for work with consumers", "Anticorruption", "Request-Response", "Feedback"; • In the cities of Pavlodar, Ekibastuz, Aksu and in the district areas there are boxes for complaints of consumers in the amount of 16 pcs; • Subsidiaries conduct customer surveys to determine the satisfaction / dissatisfaction with the work of employees of the customer service center (CEP), where complaints of external stakeholders published in the media are received on the blogs of the city and oblast governors, obtained as a result of monitoring the information field of the Company in the external environment, all complaints from external APs are conducted in the register of complaints of individuals and legal entities that is located in the PSC; • daily requests from consumers for insufficient heat supply are accepted by telephone and in writing; • on the information boards of the entrances of apartment houses, announce the deadlines for the supply of heat; • Surveys are carried out, as a result of which commissioning activities are carried out, acts are compiled, the basis of the above acts is maintained; • before the start of the project on modernization and reconstruction of heating networks, public hearings with residents of the city's district are held with the participation of the media (local TV channels) and publication in the local press; • for the period of reconstruction of heating networks, a program is being developed to temporarily switch consumers
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								<p>from other sources of heat energy supply, which are fed from the reconstructed section of the heat network.</p> <p>According to JSC CAEPCO received 897 332 appeals from consumers, of them 326 appeals came through the telephone hotline, 404 appeals were registered as “complaints”.</p> <p>All appeals have been answered, all "complaints" have been considered, negative consequences have been eliminated.</p>
4	<p>Management systems – ISO, Occupational Health and Safety Management OHSAS, Environmental management and audit (EMAS)</p> <p>It is necessary to re-certify the subsidiaries of CAEPCO on a timely basis.</p> <p>CAEPCO (holding company) will be certified in Q2. 2014.</p> <p>Conduct a training course on EHS for employees.</p>	<p>Ensure that best practice is adopted across the organization. External certification of the ISO14001 and OHSAS 18001 compliance secures liabilities to the third parties and guarantees continual improvement.</p>	<p>Best practice and EBRD requirements</p>	<p>Internal resources</p>	<p>2013, then as each certificate expires</p>	<p>Certification of ISO14001 and OHSAS 18001 at the level of pre-black companies.</p> <p>For the managing holding company - ISO 9001 in 2014 and ISO 14001 by 2015</p>	<p>In all companies, the certification process is complete. Nevertheless, the actual implementation of activities requires improvements. It is important to maintain management systems in the subsidiaries of the holding. In connection with significant staff movements (at workplaces), it is necessary to allocate funds for ongoing training in the issues of Environmental, Health and Safety of Life (OZOBZH)</p>	<p>In preparation for the implementation of ISO 9001 and ISO 14001 management standards by the managing holding "CAEPCO", a number of consultations were held with companies providing audit and certification services, as well as studying the experience of Kazakhstan companies (in terms of certification) with a similar JSC "CAEPCO" "Management structure, such as Samruk-Energo JSC, NAC Kazatomprom JSC, etc. Based on the practice of the above-mentioned companies, organizations that do not have their production assets that are separate legal entities that include control packages of shares in their Subsidiaries and who, through this, exercise general management, usually undergo certification only in accordance with ISO 9001 Quality Management System, and their Subsidiaries for all the required standards of an integrated management system (IMS). On the basis of the foregoing, bearing in mind that ISO standards (9001,14001,18001 and others) have been introduced in all the Subsidiaries of JSC "CAEPCO" and that the company's offices are not among the hazardous production facilities, etc., in connection with which , a decision was agreed with the EBRD to exclude from the Environmental and Social Action Plan an item related to the Certification of the Company in accordance with ISO14001 "Environmental Management System".</p> <p>In 2017, in preparation of JSC CAEPCO certification in accordance with ISO 9001 Quality Management System, the following work was carried out: a contract was concluded to provide information and consulting services, heads of</p>

								<p>departments (Departments, Departments, etc.) in the amount of 25 people were trained in the development and implementation of SMC, internal regulatory documents were developed, diagnostic audit was held.</p> <p>In 2018, in connection of the company reorganization and alteration of the organizational structure, works upon this activity have been temporarily suspended.</p> <p>However, trainings were held, Rules for management of internal normative documents (IND) upon standards of the Quality Management System were developed, and all INDs are developed according to standards. Additionally, employees of the department responsible for introduction passed training with BureauVeritas Kazakhstan LLP. Works upon this activity are planned to be continued in quarter 3-4 of 2019.</p> <p>In 2019, in connection with the relocation of structural units (departments) of CAEPCO JSC from Almaty to Nur-Sultan, a temporary understaffing occurred, including in terms of specialists in the field of QMS, in connection with which, work on this event was temporarily suspended (the selection of specialists in QMS is ongoing) and postponed until 2020.</p> <p>At the same time, in accordance with the GNI Management Rules in force in the Company (developed according to the QMS standards), work is underway to review existing and develop new GNIs within the framework of the concept of process management, risk-based thinking and other requirements of the ISO 9001 standard.</p> <p>Also, JSC CAEPCO developed a uniform policy for the Group of Companies on environmental protection, as well as safety and labor protection and distributed to all enterprises of the Group.</p> <p>To maintain the management system, the holding's subsidiaries allocate funds for ongoing training in environmental, health and life safety (OHSOPS) issues.</p>
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								<p>PAVLODARENERGO JSC</p> <p>In 2019, through the educational center of PE JSC, 908 persons passed training, among them 36 – upon occupational safety and health, 583 – upon industrial and fire safety, 147 – upon professional development, 147 – certification and training. Total costs amounted to 15 924.28 ths.KZT. (including travel expenses of 6 593.87 ths.KZT). The training took place in the following organizations:</p> <p>In Pavlodar city - the training center of JSC "PE", "Kazakhstan Training and Scientific Center for Non-Destructive Testing and Technical Diagnostics", LLP "Technadzor";</p> <p>In Almaty city - the Republican Training and Methodological Center for Civil Protection LLP, the Ernst & Young Academy of Business;</p> <p>In Nur-Sultan city - RSI "KazInMetr";</p> <p>In Petropavlovsk city - PromExpert LLP, Pod-Shipnik-Plus LLP, PozhSystemService LLP.</p> <p>SEVKAZENERGO JSC</p> <p>In 2019, 1 181 people underwent training and advanced training at JSC SEVKAZENERGO. In 2019, the PromExpert Plus LLP training center underwent training in training and retraining in the field of industrial safety - 893 people, in the fire-technical minimum - 139 people, in labor safety and labor protection - 112 people. Further training in training centers of Kazakhstan and Russia - 33 people.</p> <p>The total amount of expenses amounted to 7 679.9 ths. tenge.</p> <p>Every year the enterprises carry out activities to confirm compliance with the IMS (audits).</p>
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<p>5</p>	<p>Prepare a formal environmental and social impact assessment (ESIA) for all future development projects that fall within Annex 1 of EU EIA Directive (i.e. new high-voltage lines above 110 kV 10 km, any new boiler units above 300 MW, any ash dump above 25 ha).</p> <p>ESIA for new ash dumps should include complete wastes analysis with respect to mercury and other heavy metals concentration in them.</p>	<p>To ensure that the initiated projects have minimum environmental impact. The environmental and social impact assessment guarantees all issues to be negotiated, any project to comply with the European technologies standards and Kazakh law, and stakeholders to be engaged.</p>	<p>Best practice and EBRD requirements</p>	<p>Internal resources</p>	<p>For all new investment events - starting from Q 2 of 2013.</p>	<p>ESIA report and publication of the Non-Technical Summary (NTS) on the Company’s web site.</p> <p>Submission to the Bank of the Non-Technical Summary copy.</p> <p>Place respective link in annual report.</p>	<p>The companies have been conducting EIA with the help of modernized facilities under the law of Kazakhstan. However, impact on soil and water resources should be assessed too, as well as issues on the soil degradation in wastes disposal areas concerned.</p>	<p>The website contains non-technical summaries of investment projects of PAVLODARENERGO JSC:</p> <p>http://www.pavlodarenergo.kz/en/ekologiya/otchetnost.html</p> <p>SEVKAZENERGO:</p> <p>http://www.sevkazenergo.kz/ru/ekologiya/otchetnost.html.</p> <p>For new investment measures, the implementation of which can directly affect the environment and citizens' health, projects are being developed, "Environmental Impact Assessment" (EIA), which are subject to environmental review by an authorized body to obtain permits for emissions into the environment. Information on the transfer of draft EIAs to environmental expertise is published in the media (media), for familiarization by all stakeholders and public organizations. The EIA projects are submitted to public hearings before being submitted for environmental review. The EIA assesses the impact on the state of the air, water basin, on soils, subsoil, flora and fauna.</p> <p>In total in 2019 at subsidiaries of JSC "CAEPCO" 8 new projects on investment measures were developed.</p> <p>PAVLODARENERGO JSC</p> <p>In 2019, 5 investment projects were developed to obtain the conclusions of the state environmental review for the EIA projects:</p> <ul style="list-style-type: none"> - RP "Reconstruction of the cubs of the water discharge chambers of the boiler unit BKZ-160/100 FM station number 1 CHPP-2"; - RI "Reconstruction of the condenser of the turbine unit PT-25-90 / 10, station No. 2 of CHP-2 with the replacement of the tube bundle"; - RI "Reconstruction of the heating network recharge scheme at TPP-3"; - Feasibility study “Expansion of the CHP-3 with the installation of boiler units station No. 7, 8 and turbine unit No. 7; - RI "Building the 2nd stage of the ash dump of CHP-2."
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6	Integrate respective certified systems of continuous emission monitoring system (CEMS) at all emitting facilities, working on coal. The system should cover monitoring and control in real time operation mode, and electronic data storage.	Ensure that distributed data is reliable and based on trustworthy independent systems.	Best practice and EBRD requirements		2015	Submit data on implementation and average results for each station and boiler in annual 2014 report.	CEMS devices were installed only on a few facilities. The company needs the program to be implemented in full scope, and all records to be available.	<p>"PAVLODARENERGO" JSC</p> <p>Stationary device for automatic control over pollutant substances concentration in flue gases (SIEMENS) was installed. It serves for continuous measurements of SO_x, NO_x, CO, dust and fuel gases at all CHP-2 and CHP-3 boiler units, and therefore for the personnel's ability to respond promptly to the equipment operational mode change, i.e. take appropriate measures on pollutant substances concentration, make the fuel combust to the full extent, increase the ash removal units' efficiency.</p> <p>In 2019, a pre-project survey was conducted with the development of the Terms of Reference for the development of a project for the installation of an automated monitoring system (AFM) of emissions into the environment for emission sources of CHP-2, CHP-3 and at the boundaries of the SPZ CHP-2, CHP-3 of PAVLODARENERGO JSC.</p>

								"SEVKAZENERGO" JSC Special device for measuring nitrogen, sulfur, carbon oxides was installed at all boilers for the purpose of control over the atmosphere emissions.
7	<p>Ensure that all new projects, extensions, attributed to stations and common infrastructures are being engineered in compliance with Kazakhstan environmental regulations and aim on EU standards, particularly on EU IED directives.</p> <p>Any land, which hasn't been used for construction purposes before, should comply with the BAT IED emissions requirements.</p> <p>Any changes should serve for the BAT on dust, SOx and NOx compliance.</p> <p>Reach the average dust emission level at all stations below 300 mg/Nm3 by 2016.</p> <p>Long-term action plan, aiming on reaching the emission level of below 100 mg/Nm3, should be developed as part of BAT Assessment in 2023.</p>	<p>To ensure that future projects minimize environmental impacts. The assessment at development stage will ensure that any project complies with European BAT, stakeholders' requirements and Kazakh law.</p> <p>Kazakh standards for existing stations are quite high, so their emissions level should be decreased to below 300 mg/Nm3 by 2016.</p> <p>Develop long-term program for further dust reduction.</p>	<p>Best practice and EBRD requirements</p> <p>EBRD</p> <p>EU</p>	<p>Will vary for different projects</p> <p>CAPEX</p>	<p>CHPs: On-going</p> <p>Distribution companies: starting from 2011, all new heat transmission pipelines should meet EU energy efficiency standards (pre-isolated tubes, etc.).</p>	<p>Provide respective details on any new station. Annual report design, permitted plus minimum emissions volume to be reached.</p> <p>In 2015, submit report on dust reduction in 2013 down to 100 mg/Nm3.</p>	<p>All new boilers at new stations, for which building permit is to be attained after 1st January 2015, will be engineered in accordance with the EU directives for big fuel-combustion facilities on existing stations (dust – 50 mg/nm3, SOx – 800-2400 mg/nm3), depending on the boiler size.</p> <p>Any land, which hasn't been used for construction purposes before, or block generating more than 100 Mw of heat energy, after 2013 should be engineered in conformity with IED, and aimed on reaching the 300 mg/Nm3-dust, 200-250 mg/Nm3-Nox, 150 mg/Nm3-Sox emissions level.</p>	<p>"PAVLODARENERGO", JSC completed installation of battery emulsifiers on all boiler units of CHP-3, ECHP, and CHP-2. The installation of emulsifiers made it possible to reach the level of emissions, required by the Technical Regulations. The actual average annual data on the concentrations of CHP-2 and CHP-3 for 2019, according to monitoring reports, were dust - 260 mg / m3, NOx –435 mg / m3, SO2 - 922 mg / m3; according to ETEC LLP “ETE” - dust - 327 mg / m3, NOx –353 mg / m3, SO2 - 1070 mg / m3;</p> <p>"SEVKAZENERGO" JSC completed the installation of battery emulsifiers on all boiler units. Actual annual average for 2019 amounted to: dust – 302 mg/m3, SOx– 1839 mg/m3, NOx– 432 mg/m3.</p> <p>Pavlodar Heat Supply Networks LLP of PE and "Petropavlovsk Heat Supply Networks LLP of SKE</p> <p>All works on the construction and reconstruction of heating networks are carried out on the basis of the developed projects. Projects must pass state ecological expertise, and also be coordinated with interested organizations.</p> <p>In working projects, measures are envisaged in the field of labor protection, fire safety, as well as environmental protection. To comply with the requirements of the legislation on health, safety, environment and fire safety, contractors have created an order to include, as a condition, developed requirements for contractors in the field.</p> <p>All purchased goods and materials comply with GOST, and contractors working at construction or reconstruction sites are licensed. These are mandatory requirements when concluding</p>

								<p>contracts for the provision of services (work performance).</p> <p>Reconstruction of heating mains is carried out with the use of a pre-insulated pipeline.</p> <p>In 2018, the following best available technologies (BAT) were used in the reconstruction of heat networks:</p> <ul style="list-style-type: none"> - pre-insulated steel pipes in foam-polyurethane (PPU) insulation, modern shut-off and control valves; - new materials of anticorrosion protection, replacement of mineral wool on the PUF shell; - modern network pumps - allow to create a prospective drop at the subscriber's input; - frequency converters - which allows to reduce the consumption of electricity of about 40% and set the release mode of the coolant to the consumer. <p>The economic effect of this project is to reduce heat losses in the reconstructed sites, increase sales of thermal energy, as well as in the absence of the need to replace thermal insulation designs throughout the life of the pipeline. Also, the quality of heat supply to consumers serviced by network sections is improved.</p>
8	<p>On any investments in modernization or new construction of the fuel oil storage sites, the BAT requirements should be observed, as well as regulations on soil and water protection from pollutant substances' leakage, and infection.</p> <p>Integrate continuous control system on all fuel oil storage areas, where the oil concentration</p>	<p>The procedure of preventing the soil infection risks (which will be also the part of the ISO set of activities) should be integrated.</p>	<p>Best practice and EBRD requirements</p>		<p>3rd quarter of 2013 – tender on the detailed assessment of the risks, related to the big fuel oil storage areas</p> <p>2nd quarter of 2014 – the assessment results to be submitted to</p>	<p>Submit new policy in accordance with ISOcertificates, negotiate on the site clean-up plan.</p>	<p>A limited amount of work on soil purification from pollutants was carried out in 2011 (104 mg of soils in the Petropavlovsk REC). In all CAECC companies, it is necessary to introduce an appropriate procedure for preventing the occurrence of future obligations related to soil contamination.</p> <p>For established sites</p>	<p>PAVLODARENERGO JSC</p> <p>Work is continuing to improve the physical condition of the areas for storing fuel oil at the CHP plant in order to reduce the negative impact on the environment and to avoid emergency fuel oil leaks. Systematically conducted surveys of the technical condition of equipment, buildings and structures of fuel pump stations, according to the results of which appropriate measures are taken (repairs, cleaning of tanks, painting tanks, renewal of the embankment, etc.). The program of industrial environmental control (PEC) for 2019-2028, within which production monitoring is conducted to obtain environmental quality targets (monitoring of groundwater pollution, cc). Environmental components were monitored by the accredited laboratories KazPII Kazakhstan</p>

	<p>exceeds 50 mg/mn3.</p> <p>Classify the sites on the basis of the soil contamination risks level.</p>				<p>the company</p> <p>3rd quarter of 2014 – selecting sites to be restored in the future</p>		<p>with the highest level of soil contamination, it is necessary to have plans for restoring the condition of soils.</p>	<p>Project LLP. Excess oil products were not detected.</p> <p>SEVKAZENERGO JSC</p> <p>Work is underway to improve the physical condition of the territories for storing fuel oil at the CHP plant in order to reduce the negative impact on the environment and to eliminate emergency fuel oil leaks. Systematically conducted surveys of the technical condition of equipment, buildings and structures of fuel pump stations, according to the results of which appropriate measures are taken (repairs, cleaning of tanks, painting tanks, upgrading the embankment, etc.). The Program of Production Environmental Control (PEC) for 2017-2025 is developed, within which production monitoring is conducted to obtain target quality indicators of the environment (control of the level of pollution of groundwaters, soils).</p> <p>According to the results of soil cover sampling by our own accredited environmental monitoring laboratory of the testing center of SEVKAZENERGO JSC, protocol No. 5-024 dated 09.07.2019, there were no excess MPCs. The components of the level of environmental pollution were also monitored by the accredited laboratory of the Test Center of EcoExpert LLP in Karaganda, protocol No. 1499 dated September 30, 2019. Excess in oil products was not found.</p>
<p>9</p>	<p>In 2014, develop the program for assessing the level of NOx and SOx emissions decrease, and respective directives on big fuel combusting units (to the possible extent), with significantly more severe restrictions on dust emissions, starting from 2018 (phase 1).</p>	<p>The EBRD requires that all new generating assets meet new stations standards, as it is required by the EU Directive on big fuel combusting units. Existing stations must at least comply with Kazakh standards; it is also required for the entities to develop</p>	<p>Best practice and EBRD requirements</p>	<p>Internal resources</p>	<p>CHP-3:</p> <p>To develop plan in 2014 and submit it to the shareholders and EBRD. Implement phase 1 by 2018, phase 2 – by 2023.</p>	<p>Submission of the report to the EBRD representatives, and further publication of the summary.</p>	<p>BAT assessment was performed at Pavlodar and Petropavlovsk CHPs by the local consultant.</p> <p>Program should be developed in cooperation with respective authorities as a part of the entire environmental strategy (in the context</p>	<p>PAVLODARENERGO JSC</p> <p>The Plan for reducing NOx emissions, SOx and coal ash in the period from 2015 to 2019 has been developed. According to the approved program in 2019, JSC "PAVLODARENERGO" performed the following activities:</p> <ul style="list-style-type: none"> - Burners were replaced and repaired; repair and replacement of thermal insulation of burners were held within the period of overhauls at CHP-2, CHP-3; - Procedures for adjustment of burning mode and fuel combustion mode at CHP-2, CHP-3 were developed and held;

		plans on implementing existing standards for stations, as it is mentioned in explanatory notes on the EU Directive on big fuel combusting units. Current emissions level exceeds the European standards, and does not comply with regulations of the Republic of Kazakhstan for new stations.					of the "Kazakhstan-2050" Strategy)	<ul style="list-style-type: none"> - Repair and replacement of worn out elements of ash catching devices (ACD) of battery titanium emulsifiers of the II-nd generation named after Yu. Panarin at CHP-2, CHP-3; - Tests on the effectiveness of the work of ash catchers were carried out at CHP-2, CHP-3. According to the test results, the efficiency of ash catchers comply with data for 99,51%. <p>SEVKAZENERGO JSC</p> <p>A program was developed to estimate the amount of NOx SOx and coal ash reduction between 2014 and 2020, according to the Investment Program of SCE. Under the approved program in 2019, JSC "SEVKAZENERGO" performed the following activities:</p> <ul style="list-style-type: none"> -Control repair of worn-out elements of the ash-handling facilities of the battery titanium emulsifiers of the II-nd generation named after Yu. Panarin at the station; -Conducting works on dust suppression at thermal power plants and a construction site; - Measures to adjust combustion regimes were developed; - Adjustment of the fuel combustion mode, carrying out the operational tests of facility 1-12. - Reconstruction of fuel supply.
10	In all CHP: Stop purchase of asbestos containing products in Petropavlovsk, starting from the end of 2014. Not to revert to any kind of asbestos usage on any other sites.	Improved environmental and occupational health management. Asbestos is presented at CHPs.	Best practice and EBRD requirements	Consulting costs/ internal costs	In 2014 – stop purchasing asbestos by all sites.	Independent report by the 4 th quarter of 2014	On-going usage of asbestos in Petropavlovsk should be terminated by 2014. This company is currently using asbestos within modernization operations (around 60 mg per year). The plan on asbestos removal and disposal in Petropavlovsk by the 2 nd quarter of 2013 should be developed. High-risk asbestos using	<p>PAVLODARENERGO JSC</p> <p>Since 2010, asbestos-containing materials are not being purchased. The developed programs (schedules) for each CHP for the replacement of asbestos-perlite products in equipment with basalt ones and their removal from the territories have been fully implemented. Procurement of asbestos-free materials is being carried out, in 2019 basalt articles (basalt mats produced by MVI Plant LLP) in quantity of 1 006.84 m3</p> <p>SEVKAZENERGO JSC</p> <p>The plan of work with asbestos (extraction, removal and dumping), as well as reclamation of the sites of the dump, have been carried out in full in accordance with the Order "On the Implementation of the Plan of Environmental and</p>

							areas should be liquidated by 2020. In Pavlodar, asbestos are not used anymore. Nevertheless, there are still high quantities of asbestos materials at the site, and measures should be undertaken on their disposal.	Social Activities". From 01.01.14 the purchase of asbestos-containing products was stopped, with the transfer of environmentally friendly insulation material - sealing plaster "Vermisol". In order to fulfill the environmental and social obligations assumed in 2019, SEVKAZENERGO concluded an agreement with LLP Kazvermikulit Plant, Pavlodar city No. 199 dated 07.02.19, for the supply of heat-insulating dry plaster mix Vermi-Light in the amount of 19 tons, and No. 619 dated 03.05.19 in the amount of 2 tons .
11	In all CHPs: Through analysis detect whether transformer oil contains any PCBs.	Transformer oil, containing PCB, is acceptable till its useful time expires. Nevertheless, long-term plans on their termination should be developed.	Best practice and EBRD requirements	Consulting costs	2015	Results of analysis	Submit updated annual report	In all enterprises of the Company, when purchasing oils (oil-containing equipment), a mandatory requirement is to provide suppliers with a certificate of the absence of polychlorinated biphenyls (PCBs / PCBs). PAVLODARENERGO JSC In accordance with the requirements of the environmental legislation of Kazakhstan, an inventory of oil-filled equipment was performed, an accredited laboratory conducted analyzes of oil-filled equipment for the presence of PCBs. According to the results of tests, the PCB content in all samples is less than 50 mg / kg. In energy oils purchased in 2019 polychlorobiphenyls are absent, which is confirmed by relevant certificates of quality. SEVKAZENERGO JSC In 2019, there was no need for these analyzes. The transformer oil passport for new equipment transformer 7AT DTsT-240000/220/110 / U1 indicates the absence of PCBs (oil passport No. 42).
12	In all CHP: Recalculate the provisions for future closure and restoration of ash dumps.	Company should have transparent information on its future environmental protection liabilities.	Best practice	Consulting costs	4th quarter of 2013, for CHPs – 2014.	Report, containing calculations, submitted to EBRD	For each ash dump, estimated costs of its closure and restoration (including soil transportation and planting) should be	PAVLODARENERGO JSC The cost of reclamation of the 1st stage of the ash dump of CHP-3 according to the working draft is 560 856 thousand tenge. In 2015, the restoration of the first stage of the ash dump of CHP-3 was completed.

							calculated.	<p>In 2016, the technical stage of reclamation of the 1st stage of the ash dump of CHP-2 in the area -36.75 hectares was carried out. The total cost of the reclamation expenses is KZT 264 358.620 thousand. The internal act of acceptance of the object was commissioned on 02.12.16.</p> <p>In the second quarter of 2017, a commission survey of the site was carried out with the involvement of authorized bodies for the subsequent delivery of the land plot to the city's balance sheet.</p> <p>In 2019, work continued on:</p> <ul style="list-style-type: none"> - the construction of the 3rd stage of the ash dump of CHP-3; - construction (building) of dams of the 1st stage of the ash dump of CHP-3; - the construction of the 2nd section of the ash dump of Ekibastuz CHP in the bed of Tuz Lake. <p>According to the design and estimate documentation developed by JSC Institute KazNPIEenergoprom for the working draft "Construction of the 2nd section of the ash dump in the bed of Tuz Lake" (ETEC), as part of the project, conservation will be carried out for section No. 5 of the old ash dump (80.845 thousand tenge), and conservation of section No. 1 of the existing ash dump (425.698 thousand tenge).</p> <p>SEVKAZENERGO JSC</p> <p>In order to comply with the ecological requirements of the Republic of Kazakhstan, JSC "SEVKAZENERGO" started reclamation of previously spent ash dump No. 3, the purpose of which is to prevent dusting of the surface of the washed ash-slag of the spent section. There are 2 stages: technical and biological. The area of reclamation in 2015 was 32.8 hectares. Remediation works are carried out on the basis of the concluded contract.</p> <p>For the implementation of this measure, Permission for</p>
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								environmental issues from 08.10.15 No. KZ79VDD00033585 with a validity period from 2015 to 2018; No. KZ96VDD00114953 dated 06/23/2019 with a validity period from 26.03.19 to 31.12.19 has been obtained. In 2019, the amount of expenses under this article amounted to 151 051 827.36183 tenge. 20 ha were reclaimed, grass was sown on the territory of 156.2 ha. Reclamation of the ash dump is over.
13	Develop social program for co-financing of the employees' long-term housing (apartments and hotels)	Severe personnel fluctuations due to low wages and housing problems	Best practice	1 million Euro per year in the period of 2015-2020	3rd quarter of 2014	Report	The labor market competitiveness is in need of significant raise. Construction of several apartment houses is recommended, which can serve for preventing the personnel turnover, and staffing the Company with employees of at least 5-8-year professional experience.	<p>PAVLODARENERGO JSC The Regulation on the granting of an interest-free loan for the purchase of housing by employees of enterprises of JSC "PE" in the house, in the construction of which the Company took a share. 20 highly qualified specialists who worked at the enterprise for more than 5 years were provided with interest-free loans for the purchase of apartments at a rate of 25% of the total cost of the apartment, with an obligatory period of service in the Company for 5 years from the date of receipt of the loan. A questioning of employees was received, information was received on the need for improvement of housing conditions, PEDC JSC has on the balance sheet of the company 4 office flats for employees of RES.</p> <p>SEVKAZENERGO JSC Has on the balance 2 common hostels and 16 kvartir for employees of the enterprise in the city of Petropavlovsk. On December 22, 2016, a small family dormitory was opened for the employees of the SEVKAZENERGO group of companies. There are 90 apartments in the hostel: 80 - one-room and 10 two-room apartments, each of which has a separate kitchen and a bathroom. The total area of the building is 4329 m2.</p> <p>JSC "SEVKAZENERGO" has a Regulation on the provision of office accommodation to employees of the group of companies "SEVKAZENERGO" (WG 12.6.005 / 02 of 21.04.2015).</p>

14	<p>Assess the environmental impact of facilities in operation – conduct the heavy metals coal quality additional independent analysis</p>	<p>New European Directives on Ni, Hg, As and other heavy metals emissions; the way of the issue settlement is determined.</p>	<p>Best practice</p>		<p>In 2014, the company should carry out independent analysis for mercury and other metals</p>	<p>Submit information within the annual report</p>	<p>Thorough analysis of mercury, arsenic, fluoride and heavy metals content in coal should be done. Environmental impact should be analyzed with this regard.</p>	<p>SEVKAZENERGO JSC</p> <p>Analysis of coal for the content of mercury, arsenic, fluoride and heavy metals in coal ash was carried out by the Test Center of EcoLux-As LLP in Stepnogorsk, protocol No. 0192 dated 30.12.2019, based on agreement No. 1138 dated 12/23/19</p> <p>Sampling and analysis of groundwater at section No. 3 of the ash dump (No. 27-04-39-25 dated 19.06.19; No. 27-04-39-41 / 1 dated 16.09.19) and soil cover (No. 8142-12 -19 dated September 17, 18) was produced by the accredited laboratory of the Testing Center Centergeanalit LLP in Karaganda, as well as its own environmental monitoring testing laboratory of SEV-KAZENERGO JSC. All indicators are normal.</p> <p>PAVLODARENERGO JSC</p> <p>Due to the fact that Coal of one coal basin, Ekibastuz, is used in the work of CHP of JSC "SEVKAZENERGO" and JSC "PAVLODARENERGO", the results of the analyzes carried out by SEVKAZENERGO JSC can be used in the work and taken into account by PAVLODARENERGO JSC.</p> <p>Also, annually, as part of the implementation of the industrial environmental control program, monitoring is carried out to assess the environmental impact of ash collectors on groundwater and soil in the areas of their location. The monitoring of the components of the level of groundwater and soil pollution for the association of harmful substances characteristic of the ash and slag waste accumulator (manganese, arsenic, copper, nickel, zinc, aluminum, iron) in 2019 was carried out by an accredited laboratory of Kazakhstanproject Kazakstani Scientific Industrial Institute LLP; all indicators are normal.</p>
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15	<p>All CHPs: Develop standards on storm run-offs and sewage waters on-site management on the basis of the best practice.</p>	<p>Storm run-offs and sewage waters management improvement, setting international standards and goals on their achievement. Securing step-by-step approach to the best practice integration.</p>	<p>Best practice</p>	<p>Internal costs</p>	<p>2014</p>	<p>Policies publication. Upgraded data in the report</p>		<p>"PAVLODARENERGO" JSC In order to improve the storm, sewerage management on the site, the "Reconstruction of the" Pavlodar Carton Ruberoid Plant "JSC's canalization collector's black water sewage till the "PAVLODARENERGO" JSC's CHP-3's pumping station" Project was developed. In 2018, this activity was carried out, the costs amounted to 159 050,0 ths tenge. Environmental control programs for the period of 2019-2020 were developed (CHP-2, CHP-3), aimed at obtaining target indicators on the environmental conditions and instruments for regulating production processes. Control is carried out by the special certified organization under the contract, in compliance with the methods, included in the Measuring Methods of the Republic of Kazakhstan. At the "PE" JSC's entities, we have developed production guidelines for preventing the black water canalization of plugging and obstructions removal, regulations on storm run-offs and water sewage management, guidelines on operating the pumping stations. 12 of CHP-2 and CHP-3, guidelines on operating pumping station of industrial run-offs. 12 of CHP-2 and CHP-3. For the rational use of water resources, waste water is sent to the sewer network. Every year, preventive inspections of structures, equipment and pipelines, repairs of pumps are carried out, replacement of oil-contaminated sewage pipelines is carried out, if necessary. The capacity of the plant for cleaning the oil-contaminated wastewater has been increased by replacing the pumps.</p> <p>SEVKAZENERGO JSC In order to the run-offs and water sewage management improvement, the company has developed a plan for reducing disposals to the hydro-ash-removal channel dated December 9, 2014, as well as on the target indicators on the environmental conditions and instruments for regulating production processes. Laboratory control. Under the action</p>
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								plan for reduction of water discharges, "SKE" LLP has performed the following measures: -installation of oil removers on industrial storm water station No.1; - inspection of the pressure of a collector. - increase of capacity of the installation for cleaning greasy and oily wastewater; - the drainage of the expander intermittent blowdown of the first stage.
16	Improve occupational health and safety (OHS) management, including as minimum: enforcement of wearing of required personal protection gear, respective training of new and transferred personnel, proper and precautionary signage of hazardous areas, implementation of noise abatement techniques, especially for furnaces, provision of first aid kits, enforcement of subcontractors obligations related to OHS, and visits to the families of the workers having participated in heavy accidents in the last 3 years.	Improved health and safety management. Decrease in number of incidents. Decrease occupational diseases rate.	Legal compliance and reduced risk of accidents	Internal costs	2013	Improved management practices. List of implemented decisions on the employees' protection. Internal review records.	Inspection protocols indicated shortcomings with regard to working conditions. Several heavy accidents occurred in 2012.	<p>PAVLODARENERGO JSC In order to improve the quality of management in the field of industrial safety and labor protection (Industrial safety and labor protection management system) in PE JSC in 2019, 4 internal regulatory documents were developed: - I PE 10-07-19 “on the use of additional safety signs in structural divisions of PAVLODARENERGO JSC”; - I PE 10-08-19 "On the provision of first aid in accidents"; - I PE 10-09-19 "When working on a personal computer"; - P PE 10-02-19 “On the signal sheet on safety and labor protection in PAVLODARENERGO JSC. According to the order for PAVLODARENERGO JSC, the standards for safety and labor protection of CAEPCO JSC were introduced unchanged: - Standard for safety and labor protection. “Behavioral Safety Audit”; - Standard for safety and labor protection. "Technical description of the applied personal protective equipment and the procedure for providing personal protective equipment for workers."</p> <p>SEVKAZENERGO JSC To improve the quality of management in the field of labor protection and industrial safety (LPIS), JSC "SKE" in 2019 updated the following internal regulatory documents (RD) including: - Regulation on the signal sheet (all received signal sheets are worked out by the heads of the workshops, based on them</p>

								<p>activities are developed);</p> <ul style="list-style-type: none"> - Regulation on additional safety signs (safety doors are placed on all doors of electrical rooms, doors of electrical cabinets, electrical equipment, additional safety signs are placed - combined, prohibiting, warning, fire safety signs, directional, prescribing, evacuation signs and signs for medical and sanitary purposes); - Safety regulations for the interaction of vehicles and pedestrians in the territory of PCHP-2 of JSC SEVKAZENERGO; - Rules for organizing the activities of working groups on the certification of workplaces of production units of PCHP-2 JSC "SEVKAZENERGO"; - Regulation on the design of the annual work plan with personnel in the field of safety and labor protection; - Regulations for ensuring safety during work at heights in the territory of PCHP-2 of JSC SEVKAZENERGO (they are also guided by contractors); - Regulation on the use and testing of protective equipment, tools, fixtures and instruments used in the operation and repair of electrical installations; - Regulation on the technical description of the applied personal protective equipment and on the procedure for providing personal protective equipment to employees of the organization; - Regulations on the procedure for observing safety measures when performing work in confined spaces on the territory of the SEVKAZENERGO group of companies; - Regulation on smoking in the territory of the enterprises of the SEVKAZENERGO group; - The Regulation on the procedure for conducting a medical examination of employees of the SEVKAZENERGO group of companies and contracting organizations performing work in the territory of the SEVKAZENERGO group of companies. <p>NK EDC JSC</p>
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								<p>In order to improve the quality of management in the sphere of safety and labor protection, fire safety, JSC "NK EDC in 2019 developed and reviewed 4 internal regulatory documents, including:</p> <ul style="list-style-type: none"> - Regulatory instructions “Safety measures when working in confined spaces” (introduced in JSC “SK REC” by order No. 34 dated 09.01.2020); - Standard for labor safety and labor protection “Technical description of personal protective equipment” (Introduced into JSC SK REK by order No. 599 dated July 9, 2019) - The standard on safety and labor protection “Behavioral safety audit” (Introduced into JSC SK REC by order No. 598 dated July 5, 2019). - Regulation of admission of contracting, third-party organizations for the performance of work in electric networks of JSC SK REK (RG 03.060). <p>LLP "Petropavlovsk Heat Networks"</p> <p>In order to improve the quality of management in the field of safety and labor protection, fire safety, the following internal regulations were developed at the enterprise in 2019:</p> <ul style="list-style-type: none"> - RG 09.25 Regulation on conducting a medical examination - RG 08.12. Rules for investigation and registration of technological violations - IMS Guidelines 06.06 Occupational Health and Safety Management - RG 06.4.13 Regulation for the analysis and documentation of the results of emergency and fire-fighting exercises; - RG 09.24 Regulation on the interaction of vehicles and pedestrians on the territory of Petropavlovsk Heating Networks LLP; - P 20.09 Regulation on the evacuation commission; - P 08.10 Regulation on the technical engineer responsible for the safe operation of cranes <p>Enterprises of the Company provide workers with overalls, special footwear, personal protective equipment, milk in the framework of the current legislation of the Republic of</p>
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								<p>Kazakhstan. An independent expert on technical supervision in terms of engineering networks, technological equipment, as well as load-bearing and enclosing structures is involved in the facilities of the enterprise where heat network repairs are carried out. Every year security signs are issued (prohibiting, warning, prescriptive, indicative) for workplaces where security is required. Persons who do not have the required professional education and / or work experience, are trained in the form of education that is in force in the industry. For timely and effective provision of pre-hospital care, all production facilities are provided with first-aid kits and posters that clearly illustrate the rules for providing first aid, employees are annually trained in methods of providing pre-hospital care.</p> <p>Declaration of industrial safety is complied with. Anti-fire and fire fighting training are conducted. All personnel are instructed, trained, retrained, attested for industrial safety and labor protection. Safety Days are held weekly / monthly.</p> <p>The legislative base for Labor Protection and Safety and Safety of Living is updated daily by notifying responsible persons. Visits to structural units are made by inspectors and engineers and technicians, and all results are recorded in the Operational Log, the Log of Defects, the Log of Safety and Labor Protection state inspection, and the Log of work visits. There are logs to record accidents and introductory briefings. The introduction of requirements for contractors’ breach in the performance of subcontract works by subsidiaries for the sanitary and epidemiological requirements, environmental protection, fire safety and safety was approved.</p>
17	Implement the requirements of the inspection orders.	Numerous issues related to environmental compliance	Environmental law	Internal costs	As required by the inspection protocols	Submit information on fulfillment to the inspecting authority.	Every year, companies are subject to verification by the local supervisory bodies on industrial safety, labor protection and the environment. Each time,	<p>PAVLODARENERGO JSC</p> <p>In 2019, structural units (CHP-2, CHP-3) and subsidiaries of PAVLODARENERGO JSC (ETE LLP and PTS LLP) underwent 1 (one) check in the form of preventive control by RSU “Department Ecology in Pavlodar region” on issues of compliance with environmental legislation.</p>

						Report to the Bank on implementation status within the annual report	there are certain shortcomings, for example, regarding wastewater management, air emissions, improper waste management, littering, etc.	<p>According to the results of the control of CHP-2, CHP-3 and ETE LLP, 7 (seven) instructions were issued. According to 5 (five) instructions, the work on elimination of violations was completed in full and on time, according to 2 (two) instructions the work is still underway.</p> <p>For PTS LLP, the audit was unscheduled regarding compliance with environmental requirements for wastewater discharge. Based on the results of the audit, 1 order was issued and an administrative fine was paid.</p> <p>SEVKAZENERGO JSC</p> <p>In 2019, the following inspections by state bodies were carried out at SEVKAZENERGO JSC:</p> <ul style="list-style-type: none"> - in the 1st quarter of 2019, an unscheduled inspection of the RSU “Department of Ecology in the North Kazakhstan Region of the CERC ME RK”. The audit is open on the basis of an individual’s request for compliance with environmental requirements when discharging wastewater. The results of the audit are challenged in court. By the decision of the Specialized Inter-District Economic Court of the North-Kazakhstan region dated April 15, 2019, the Act on the results of the inspection of the control and supervision body of the RSU “Department of Ecology for North-Kazakhstan Region” No. 7-E dated February 12, 2019 and the order on elimination of violations were declared illegal. - in the 4th quarter of 2019, a routine inspection of the RSI “Department of Ecology in the North Kazakhstan Region of the CERC MEGR RK” in the form of preventive control. Based on the results of the control, orders were issued to eliminate 14 recorded violations. 10 violations were taken to be eliminated, 4 violations were challenged in a specialized inter-district economic court. Based on the court decision of 27.12.2019, three violations were declared unlawful and quashed, 1 violation was disputed on appeal.
18	As part of EHS management system, create the EHS team	Improvement of the Company’s environmental	Best practice	Internal resources	2013	Report to the Bank,enclos	There is no environmental department in the	A separate structural unit was created in JSC CAEPCO in April 2017 - the Department of Safety, Labor Protection and Ecology with subordination to top management. The

	<p>within the CAEPCO corporate structure, and assign the occupational health and safety manager.</p> <p>This group should be represented by all stations’ occupational health and safety top-managers, and be a part of the Company’s formal structure. The team should settle relevant environmental issues, develop efficient approaches to the Company’s performance in terms of environmental impact, report to EBRD on occupational health and safety activities.</p>	management.				ed to the annual report.	Company (corporate environmental department). At each station, responsibility on different environmental aspects is divided between certain officials.	department consists of three employees - the director and two main specialists (in the areas of: ecology and safety / labor protection). In the subordination of the Department of Safety, Labor Protection and Ecology there are 17 specialists in environmental protection of the enterprises of JSC "PAVLODARENERGO" and JSC "SEVKAZENERGO". A group on environmental protection has been established, consisting of heads of environmental protection departments, dealing with significant issues in the field of ecology and submitting reports to the EBRD.
19	<p>Development of the Environmental Occupational Health and Safety Procedures for Construction Works (construction companies, including subcontractors), defining: safety measures, accidents and emergency prevention and response, evaluation, feedback, reporting, personnel training, etc.</p> <p>Supervision of construction works by environmental and</p>	<p>Definition of clear responsibilities for constructors. Ensure that all employees are aware of environmental requirements, activities guidelines, surface and underground waters protection issues, solid wastes treatment, etc.</p> <p>Prevention of construction injuries, child labor etc.</p>	<p>Best practice.</p> <p>Environmental, industrial safety and labor protection requirements</p>	<p>Time, spent on managing, or external experts’ fees</p>	<p>Before the beginning of construction, then - continuously.</p>	<p>Procedures are developed. Training programs are implemented. Reports are submitted to the project manager.</p>	<p>Company has already implemented a number of occupational safety standards. However they cover day-to-day activities, rather than investment ones.</p>	<p>The Company developed the "Guidelines on the organization and conduct of works on the subsidiaries of territories by subcontractors" and "Regulations on general labor protection, industrial, fire safety, sanitary regulations and legal requirements for the environment" the order of executing works. The Company included the main requirements on the quality, energy management, occupational health and safety, environmental protection, metering and testing works into the agreements with subcontractors.</p> <p>Within the implementation of OHSAS 18001, the Company developed the lists of dangers, and identified the risk levels for subcontractors. Subcontractors are supervised according to the schedule; in case of any contract. Construction works are supervised by the ecologist and industrial safety specialist.</p>

	industrial safety specialist							
20	Ensure that location and technical specifications of new wastes burial areas will meet best technologies requirements and rely on the local environmental and underground waters conditions. Creation of new wastes burial sites should be preceded by environmental and hydrogeological analysis, subjected to the environmental impact assessment procedure.	To ensure that future projects minimize environmental impacts	Best practice and European requirements	Internal resources	2013 – future projects When new wastes burial locations are needed	Report to EBRD		<p>Prior to the implementation of activities under the EBRD loan, (including design and estimate documentation) including all sections of the projects on Environmental Impact Assessment in accordance with the requirements of the current legislation of the Republic of Kazakhstan are subject to state environmental review, after receiving a positive conclusion, which begins the implementation of the working draft . One of the requirements of the Terms of Reference for the development of projects of the Company's enterprises indicate the need to search for technical solutions to reduce emissions and discharges of harmful substances into the environment during the implementation of the project.</p> <p>When constructing new maps of ash dumps, the latest technology of the anti-filtration screen in the bed of the ash dump is used - the Canadian polysynthetic geomembrane. The use of a special film - geomembranes, will achieve 100% of waterproofing. This is a reliable and durable anti-filtration screen that provides protection of soils and groundwater from contamination due to chemical components of the recycled hydrosoldering system (GZU) contained in clarified water.</p> <p>Wastes generated at enterprises during the implementation of projects are transferred on a contractual basis for placement at landfills, or for disposal to specialized organizations.</p>
Petropavlovsk CHP								
21	Reduce the risk of contamination of the Beloye lake with oil-containing water	Develop procedure for sampling, and install preventative facilities (oil collectors) to reduce the risk of accidental oil leakage to the	Best practice	Own resources	2014	Certificates copies and data on water sewage quality, submitted to	The Company faces some problems related to reducing contamination, resulting from the water discharged to the Beloye lake and Ishim	In 2019, the volume of regulatory clean water from B. Beloe Lake in the Ishim River amounted to 1 279 341 m3. The volume of formation of pollutants amounted to 1 696.209 tons, the amount of the payment for emissions amounted to 1 118 734 tenge.

		Beloye lake. As an alternative, divide the Beloye lake into cooling pond (app. 10% of the lake area) and the rest of the lake.				the Bank.	river. Permissible pollutant substances concentration in disposed waters is exceeded, whereas particular substances are not listed in the certificate.	The fact of pollution of the river. Ishim oil-contaminated water from JSC “SKE” is absent. The quality control of waste and cooling water is controlled by its own accredited testing laboratory for environmental monitoring of SEVKAZENERGO JSC
22	Develop plan on reducing the greenhouse gases emissions for as per 1MW for 2014-2020. Evaluate further activities on the energy consumption efficiency increase.	Efficient energy consumption efficiency and lower fuel consumption as per 1 MWh will result in decreased CO ₂ emissions.	Best practice and EBRD requirements	Internal resources	1st quarter of 2014	Publication of plan on reducing the greenhouse gases emissions	The current investment program is aimed on improving generating efficiency of CHP-3 and CHP-2, and thereby reducing CO ₂ emissions. It will be the part of the entire program on the CO ₂ emissions limits and emissions trade within the new Kazakh law.	A plan for reducing greenhouse gas emissions per 1 MW between 2014 and 2020 has been developed and approved. According to the approved Plan, for 2019. no events planned. At the end of 2019, there was an increase in the generation of CO ₂ by 1 MW, compared to 2018 by 2.5%. The reason for the growth is an increase in the volume of production of supplied heat energy in 2019 by 12.1% of the planned volume, which actually amounted to 1 831.484 thousand Gcal., Instead of the planned 1,633.569 ths. Gcal. Coal consumption increased by 4.6% of the planned volume and amounted to 2,957,397 tons, instead of the planned 2,828,238 tons.
23	Perform the review of the feasibility of the use of the European best available technology reference documents (BREF) related to improvement of the open cooling system in Petropavlovsk.	To ensure that future projects minimize environmental impacts.	Best practice and European requirements	Internal resources	2014	Report to EBRD	This open-cooling system is not in full compliance with BREF (December 2001) for industrial cooling operations. The program for upgrade should be discussed internally and with respective authorities.	According to the set-up projects data, as well as that of technological process of the turbo generators' condensers cooling, no any other technologies for the water delivery to the stations territory are available.
PAVLODARENERGO CHP								
24	Develop plan on reducing the greenhouse gases emissions as per 1 Mw for	Efficient energy consumption and lower fuel	Best practice and	Internal resources	2014	Publication of plan on reducing the	The current investment program is aimed on	At each CHP, an Action Plan was developed to reduce greenhouse gas emissions for the period of the National Greenhouse Gas Emissions Plan for 2014-2015, as well as a

	2014-2020. Evaluate further activities on the energy consumption efficiency increase.	consumption as per 1 MWh will result in decreased CO ₂ emissions.	EBRD requirements			greenhouse gases emissions. Submit to EBRD data on each station's carbon emissions within the annual report. In 2015, include the chemical safety report data.	improving generating efficiency of CHP-3 and CHP-2, and thereby reducing CO ₂ emissions. It will be the part of the entire program on the CO ₂ emissions limits and emissions trade within the new Kazakh law.	Plan to reduce greenhouse gas emissions by 1 MW in the period from 2014-2020. According to the Plan approved in 2019, JSC "PAVLODARENERGO" performed the following activities: - installation of energy-saving lamps at CHP-2, CHP-3; - modernization of the cubes of the water-discharge zone of the boiler unit BKZ-420-140 station No. 2 CHP-3; - repair of the turbine unit T-120 / 130-130 PR2, station No. 4 of CHP-3; - repair of safety valves of the boiler unit station 2,3 CHP-3.
25	Engineer cooling towers and systems in accordance with European BREF for cooling, dated December 2001.	To ensure that future projects minimize environmental impacts.	Best practice and European requirements	1300 milliontenge. Included in the investment program.	2013	Report to EBRD	Electric power output during summertime is limited to 300MW due to insufficient capacity of the cooling system. The company intends to construct the additional cooling tower in 2013 - 2014	"KazNIPIEnergoProm" JSC (Almaty) upon the order of the "PE" JSC developed the "Installation of the" PE "JSC's CHP-3's cooling tower No. 5" Project. The project provides for cutting-edge cooling technology, i.e. use of polymer irrigators, which complies with the best available technologies in accordance with the List of best available technologies, approved by the Decree of the Government of the Republic of Kazakhstan. Dated March 12, 2008. Within the process of selecting anti-corrosive materials for coolers, the IPPC, referenced document on the best available technologies for large fuel-using facilities "(2010). The experience of usage of polymer irrigators proves them serving for: – improving the cooling effect by 2.0-2.5 C, or decreasing the height of the irrigator by 1.0-1.5 m while saving the level of cooling; – adjusting the skeleton's supporting structures. "weight to

								irrigator, based on polymeric irrigators' weight. Cooling tower No.5 of CHP No.3 of "PE" JSC was commissioned in 2015.
Pavlodar Electronetwork Distribution Company, Petropavlovsk Electronetwork Distribution Company, Pavlodar and Ekibastuz Heat Distribution Companies, Petropavlovsk Heat Distribution Company								
26	<p>For heat distribution companies:</p> <p>Prepare new program on the energy consumption efficiency improvement for 2014 - 2020.</p>	<p>Energy efficiency and lower fuel use per a square meter will result in this program implementation. This should include program on pre-isolated pipelines, appropriate heat meters installation, as well as program on thermo-vision photos of the assets for identification of heat losses.</p>	<p>Best practice and EBRD requirements.</p>	<p>Internal resources</p>	<p>4th quarter of 2013 – initial actions, program development, applying for the program and new tariffs approval by local authorities.</p>	<p>Publication of the energy saving program</p>	<p>The companies developed the "Improvement, reconstruction and restoration" program to reduce extra-long losses during the period of 2010-2016. It includes schedule for replacement of heat insulation of mineral wool mats by foamed polyurethane insulation.</p>	<p>Pavlodar Heating Networks LLP</p> <p>Under investment programs in 2019 in Pavlodar and Ekibastuz, within the framework of depreciation and budget subsidies, as well as through a loan from the EBRD, the following was accomplished:</p> <ul style="list-style-type: none"> - reconstruction of heating networks using a pre-insulated pipeline - 0.853 km of the pipeline (in a two-pipe version); the total length of the pipeline was 1.706 km; <p>At the end of 2019, the actual total losses in Pavlodar amounted to 24.96%, which is 4.4% lower than last year (2018 - 26.1%).</p> <p>At the end of 2019, the actual total losses in Ekibastuz amounted to 37.6%, which is 10.3% lower than last year (41.9% in 2018).</p> <p>LLP "Petropavlovsk Heat Supply Networks"</p> <p>Within the framework of the investment program in 2018:</p> <ul style="list-style-type: none"> – Reconstruction of heating mains with the use of a pre-insulated pipeline – 1.580 km. – Thermal insulation was restored using pre-insulated pipeline shells on pipelines - 1.245 km <p>At the end of 2019, the actual total losses in Petropavlovsk amounted to 25.86%, which is 1.34% lower than last year.</p>
27	<p>Implementation of educational programs on environmental issues,</p>	<p>Due to frequent staff rotation, it is necessary for employees to be</p>	<p>Best practice and</p>		<p>2013/2014 - see comment</p>	<p>Contract for such training, or</p>	<p>In all stations the environmental management</p>	<p>Newly employed employees of the Daughter Organizations of JSC "CAEPCO" the leaders of the JV are introduced to the list with operating documents ISO 14001-2004. The degree</p>

	<p>focused on employees of less than 3-year work experience in the Company.</p>	<p>additionally trained in respect of their performance complying with environmental requirements, as well as regulations on communicating with consumers in case of energy supply breakdown.</p>	<p>EBRD requirements</p>			<p>implementation by the Company itself; the programs participants' reports and knowledge control documents</p>	<p>improvement activities were implemented, i.e. hiring an environmental engineer, ecologists training, developing environmental procedures within the ISO certification routine. Nevertheless, it seems that new employees haven't been trained at all.</p>	<p>of educational level of personnel in the field of environmental protection, the culture of environmentally safe orientation and systemic thinking is enhanced in the course of work. In addition, these employees, before commencing their work duties, are informed by the requirements of the internal regulatory documents of the enterprise for the protection of the environment at work.</p> <p>In 2019, the following measures were taken to increase the environmental awareness of employees of the subsidiaries of JSC CAEPCO:</p> <ul style="list-style-type: none"> - Introductory, initial and periodic briefings include questions on environmental protection and environmental safety at the enterprise; - Subscription to the newspaper "Ecological Courier"; - IK CONSULTING Contract No. 729 / 19.03 dated 26.08.2019 conducted the training course "Training of internal auditors of the integrated management system"; <p>In 2019, in order to increase the environmental awareness of employees, PTS PE LLP conducted the following activities:</p> <ul style="list-style-type: none"> - primary and periodic briefings include questions on environmental protection and environmental safety at the enterprise; - a subscription is made to the Ecological Courier newspaper. <p>In 2019, in order to increase the environmental awareness of employees, SCREK JSC held the following activities:</p> <ul style="list-style-type: none"> - training program for employees of SCREK JSC on compliance with environmental legislation was developed and approved; - presentation on Environmental Protection was developed as a visual material during the training of JSC employees; - primary and periodic briefings include questions on environmental protection and environmental safety at the enterprise; - subscription to the newspaper “Ecological Courier”, the quarterly information and analytical magazine “Ecology and Industry of Kazakhstan”. <p>An environmental protection engineer annually develops a</p>
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								<p>Register of environmental aspects, a list of indicators in the field of ecology, environmental goals and measures to achieve them, with which interested employees of the company are familiarized with a personal signature.</p> <p>In 2019, in order to increase environmental awareness of employees, PTS SKE LLP conducted the following activities:</p> <ul style="list-style-type: none"> - primary and periodic briefings include questions on environmental protection and environmental safety at the enterprise; - a subscription is made to the Ecological Courier newspaper.
28	<p>For electricity distribution companies: develop and coordinate with the local authorities the plan on proper heat power supply to the 1-category consumers</p>	<p>Due to severe climate conditions, the companies have to secure power supply. Some areas have only one power source, sometimes having the power delivered through worn-out electricity lines (more than 20-30 years old). Any serious breakdown at such line may cause significant social injury in winter.</p>	Best practice	40 per company	4 th quarter of 2013 - new report should be submitted, having enclosed 2013 regulations for the Company as a whole	Discussing results with tariffs-regulating authorities and local institutions	<p>Limited inventory was developed in Petropavlovsk. Information on Pavlodar and Petropavlovsk is absent. The costs of supply from the second source should be covered by local authorities or management of the entity, entitled to dual supply (hospitals etc.). Due to the lack of funds, this issue is not solved in these cities.</p>	<p>PEDC JSC A plan was prepared to provide consumers of the 1st category with electricity in accordance with the categories. A list of consumers that do not meet these requirements has been drawn up, at present the issue of their provision with electricity is being solved by local authorities.</p> <p>NK EDC JSC In the service area of SC REC JSC 144 objects were determined (Decision of Akim SKO No.28 dated September 15, 2010 "On approval of the list of objects of continuous power supply of the North Kazakhstan area"). GU "The Department of Energy and Housing and Communal Services of the North-Caucasian Region" developed and approved a Schedule of step-by-step implementation of actions for obtaining the 1st category of reliability of power supply and drawing up Emergency Armor Acts. As of 13.02.2019, from the above list, 20 consumers received the technical specifications for the 1st category of electric power supply reliability, and the 2 of them implemented the technical specifications. From the above list, consumers did not execute Acts of Emergency Reservation.</p>
29	Request for confirming documents (certificates, licenses) from the subcontractors,	Improved environmental, healthcare, labor protection	Best practice	30	3 rd quarter of 2013 – see comment		According to the 2012 EHS report, the old transformers are repaired by the	<p>NK EDC and PEDC JSC The transformers and electrical equipment to be repaired in accordance with the Technical Inspection and Discarding Acts are sent to the warehouse with the registration of the</p>

	<p>performing old transformers and equipment utilization.</p>	<p>management. Old electrical devices require special unitization procedures to be implemented.</p>					<p>companies themselves. Mercury containing lamps are disposed by "special companies". However it is not known whether they are certified for such services. No information on the other equipment utilization was provided.</p>	<p>receipt order as spare materials for the operating electrical equipment. In this regard, the transfer to recycling of failed transformers and other electrical equipment to third parties is not made.</p> <p>Used mercury-containing lamps are sent under a demercurization contract to a specialized organization of LLP Polestar (Stepnogorsk) and LLP ElectroTransRelto in Pavlodar (contract No 716/18.03 dated 05.12.2018).</p> <p>PHSN LLP of PE Used mercury-containing lamps are sent for demercurization to a specialized organization of Industrial Waste Kazakhstan LLP under contract No. 394/189.03 of 10.07.2019. According to the Law of the Republic of Kazakhstan No. 214-III dated January 11, 2007 “On Licensing” (with amendments and additions as of November 7, 2014), a license to engage in this type of activity is not required.</p> <p>PHSN LLP of SKE The enterprise does not transfer to the disposal of the failed electrical equipment, it is repaired if it is repairable. If the electrical equipment cannot be repaired, it is decommissioned, and then transferred to SC REC (for repair or further use of the parts).</p> <p>Used mercury-containing lamps are sent for demercurization to a specialized organization of Polestar LLP (Stepnogorsk town) under contract No 381 dated 29.12.2017.</p>
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First Deputy General Director



D.N. Turganov