



ENVIRONMENT PROTECTION

LICENSES AND ENVIRONMENTAL PERMISSION DOCUMENTATION

IDGC of Urals has a license for collection, transportation, processing, utilization, deactivation, dumping of hazard Class I-IV waste (O66 No.00565 dated as of 12.01.2017 in terms of transportation of hazard Class I-IV waste). The Company complies with all license requirements in full. It extracts groundwater to satisfy own drinking and production needs in line with the extraction licenses:

PERMENERGO:

1. PEM 81099 VE (expires on 16.03.2020): drinking and production needs of Nyrob unit (Krasnovishersk DZ of Berezniki Electric Grids PD).

2. PEM 02084 SE (expires on 24.09.2029): drinking and production needs of Gayny DZ and Yukseevsky unit (Kochevsky DZ of North Electric Grids PD).

SVERDLOVENERGO:

1. SVE 02724 VE (expires on 31.05.2028): production needs of Talitsa Electric Grids PD.

2. SVE 02697 VE (expires on 31.12.2027): water well used for fire prevention at "Yuzhnaya" substation (West Electric Grids PD).

3. SVE 02698 VE (expires on 31.12.2027): production needs of Krasnoufimsk DZ (West Electric Grids PD).

4. SVE 02695 VE (expires on 31.03.2034): production needs of Arti DZ.

5. SVE 02679 VE (expires on 28.02.2034): production needs of "Belorechka" substation.

CHELYABENERGO:

1. CHEL 01993 VE (expires on 01.10.2036): production needs of Dolgoderevsky unit (Sosnovsky DZ of Central Electric Grids PD).

2. CHEL 01992 VE (expires on 01.10.2036): production needs of Klenovka unit (Emanzhelinsk DZ of Central Electric Grids PD).

Environmental permission documentation

Title	Prepared and adopted as of 31.12.2015	Prepared and adopted in 2016	Related expenses in 2016, RUB thousand	Required in total
Draft of waste generation norm and waste disposal limits	65	8	292.9	91
Draft of maximum permitted emissions	52	6	926.65	61
Draft of allowable discharge rate				
Draft of sanitary protection zone	49	2	550.0	55
Draft of artesian well sanitary protection zone	1			1
Total	167	16	1,769.55	208

Permenergo and Chelyabenergo branches prepare drafts of waste generation norms and waste disposal limits for each distribution zone, with Sverdlovennergo branch preparing the documentation for each production department (comprising all distribution zones). A draft of maximum permitted emissions of our Permenergo branch is prepared for each distribution zone, drafts of maximum permitted emissions of our Sverdlovennergo and Chelyabenergo branches are prepared for each production department (comprising all distribution zones). The drafts are prepared with allowances made for their maturity and cover all sites. In 2016 all branches have submitted technical memorandums on operation consistency, usable materials and waste treatment to have waste disposal limits for all production departments prolonged. The Company also obtained permits for air emissions.

PROGRESS IN ENVIRONMENTAL ACTION

IDGC of Urals enforces the integrated management system into its operations. The environmental management system, compliant with ISO 14001:2004 "Environmental Management Systems - Requirements with guidance for use", is one of its integral elements. The compliance is confirmed by certificate No.15.1170.026 dated as of 26.06.2015. By enforcing the ISO requirements IDGC of Urals strives to achieve the following goals in the sphere of environment protection:

- Reduction of risks and prevention of threats of negative impact on the environment in the course of operations;
- Compliance with Russian environment protection laws;
- Efficient management of natural resources.

In 2016 the Company carried out several scheduled environmental actions (waste treatment lectures, waste treatment emergency response drills, induction briefings, acquisition of demercurization kits, arrangement of temporary waste accumulation areas, industrial and laboratory environmental monitoring) to promote environmental literacy and awareness among employees, to develop waste negative impact recovery skills and reduce negative impact on environment, when waste is stored, loaded or transported.

AIR PROTECTION ACTIVITIES

Motor vehicles (motor vehicle storage shed, open air or indoor car parks) are the primary air contamination source. Stationary sources (such as: welding stations, lathes or drills) have a minor negative impact on the environment. Priority pollutants are nitrogen and sulphur dioxides, carbon oxide and petroleum. The Company has no dust and gas collectors, since its emissions of pollutants and other substances into the atmosphere are insignificant. No noise screens are required. In 2016 the Company conducted laboratory and instrumental surveys in line with the MPE oversight action plan at its production sites. The surveys of air quality at the Company's production sites showed no trace of excess of pollutant emission MAC. Noise intensity complies with SN 2.2.4/2.1.8.562-96 sanitary standard..

PROTECTION AND SUSTAINABLE USE OF WATER RESOURCES

In 2016 the Company carried out laboratory surveys of groundwater quality at its artesian wells. Compliance with license agreements on the use of subsurface resources to extract fresh groundwater is also strictly monitored. All facilities are furnished with water meters that undergo regular calibration tests. There are no local waste water treatment and reverse water supply systems as they are not provided by design. Since the Company does not use water objects, no contracts on water use were concluded and no allocative decisions on the use of water object were made. Since wells are in use, they were not tamped and suspended..

LAND CONSERVATION

Wastes from the Company's operations are stored at specially equipped waste accumulation locations (containers, reservoirs, sites located on impervious surface), easily accessible for lifting devices and motor vehicles:

- Class I wastes (mercury-vapor lamps) are stored in sealed labeled metal containers.
- Class III wastes (oily rags, greasy waste, waste batteries) are stored in sealed labeled metal containers. Used petroleum products (oils) are stored in labeled sealed tanks, located on impervious surface in perimeter-wise basins or in undertanks to exclude soil and storm sewer pollution.
- Class IV-V wastes (tires, tire inner tubes, ferrous steel scrap, stubs, metal chips) are stored at labeled waste accumulation locations or metal containers.

Soil and air near waste accumulation locations undergo in-process inspections to monitor pollution index. No excess of pollutant emission MAC was detected. In-process environment inspections are conducted in consort with the approved schedule. Wastes are disposed of by specialized firms with waste management licenses.

TECHNICAL ARRANGEMENTS, INCLUDING BUT NOT LIMITED TO:

Decommissioning of PCB-bearing equipment

In 2016 313/9.037 t. capacitors with trichlorodiphenyl were disposed of. We have received a System Operator's and Sverdlovsk Ministry of Energy's permission to decommission the static capacitor bank with 2,874 elements at "Cheremukhovskaya" substation (Sverdlovenego's Serov Electric Grids PD). Since disposal process re-

quires heavy spending, it is scheduled for 2018-2020. Salvage of "Mikhailovskaya" substation capacitors (Sverdlovenego's Western Electric Grids PD) is a part of the design and refurbishment specification of the substation. After receiving approvals of the specification, we will include the reconstruction of "Mikhailovskaya" substation and relevant expenditures into the investment program to be implemented by 2025.

Installation of bird protection devices

Our Chelyabenergo branch has installed 20 bird protection devices (Yetkulsky and Krasnoarmeysky districts). To enforce regulatory requirements and enhance ornithological safety of power facilities the 2017-2021 implementation schedule of 6-10 kV power line bird protection system for Chelyabenergo's production departments was

set by a Chelyabenergo's decree. Our Sverdlovenego branch has mounted 90 bird protection devices on its facilities.

The most important environment protection measures implemented during 2016, relevant expenses and effect

Measures	Physical volume	Funding, RUB thousand	Brief description of the effect
Disposal of wastes by specialized firms with waste management licenses	117.82 tons	826.0	Reduction of negative impact on environment, reduction of soil pollution by production and consumer wastes
Laboratory surveys of air quality, oversight of MAC compliance in sanitary protection zones, soil examination.	6,879 probes	1,748.15	Requirement of SanPiN 2.2.1./2.1.1.1200-03 sanitary standard on sanitary protection zones and sanitary classification of enterprises, installations and other facilities. Confirmation of compliance with MAC and physical coercion levels.
Preparation of temporary waste accumulation locations	61 locations	2,309.0	Reduction of risks of soil pollution by production and consumer wastes.
Acquisition of sealed containers for temporary waste accumulation	47 sealed containers	181.77	Reduction of risks of soil pollution by production and consumer wastes.
Salvage of used capacitors	313 capacitors/ 9,037 tons	544.08	Compliance with the Stockholm Convention on prohibition of use, production and elimination of PCB-bearing equipment, reduction of negative impact from top priority wastes.
Preparation of a draft of maximum permitted emissions	6 drafts	926.65	Limitation of negative impact, exclusion of above-limit payments and fines
Preparation of a draft of waste generation norm and waste disposal limits	8 drafts	292.9	Limitation of negative impact, exclusion of above-limit payments and fines
Acquisition of demercurization kits	24 kits	80.86	Reduction of negative impact of top priority wastes on environment and health.
Total		6,909.41	

“POLLUTER-PAYS” CHARGES

	2015, RUB thousand	2016, RUB thousand
Air emissions charge	60.78	30.27
Allowable level	59.78	26.9
Above the allowable level	1	3.37
Water emissions charge	481.62	-
Allowable level	-	-
Above the allowable level	481.62	-
Waste dumping	1,429.05	2,155.28
Allowable level	912.29	876.19
Above the allowable level	516.76	1,279.09
Total:	1,971.45	2,185.55
Allowable level	972.07	903.09
Above the allowable level	999.38	1,282.46
TOTAL	1,971.45	2,185.55

Air emissions charge dropped due to the abolished mobile source fee and changed negative impact charges. Production and consumer waste charge escalated due to increased number of landfills, having no licenses and being out of the state register of waste disposal sites. Besides, in 2015 it was landfills that paid negative environmental impact charges but since 01.01.2016 any waste-producing user of nature is to pay a waste disposal fee. There is no water emission charge since 01.01.2016, as stated by clause 1 article 16 of Federal Law No.7-FZ.

Environmental costs in 2015-2016



	2015, RUB thousand	2016, RUB thousand
TOTAL, namely	15,397	15,080
Water protection	2,729	2,828
Air protection	3,018	3,344
Soil protection (incl. processing of production and consumer wastes)	9,650	8,908
SEM implementation and operations	0	0
Other expenses	0	0

All scheduled measures are implemented in full. Arranged tender procedures helped us slightly reduce environmental costs.