

Company`s Initiatives in the Field of Protection of the Environment

Studies on the Company`s impact on biodiversity

The issue of power grid companies` impact on biodiversity is poorly studied. Since 2009 Federal Grid Company carries out environmental monitoring in the area of the passage of 500 kV HV line in the national park Smolny (the Republic of Mordovia), located in the operation area of Nizhegorodskoye PMES. The aim of monitoring is the long-term flora and fauna observation in the impact area of 500 kV HV line, impact degree assessment of 500 kV HV line on wildlife objects and development of recommendations to prevent their deaths as well as rehabilitation and long-term development of ornithological complexes in the area of HV lines.

As a result of these monitoring studies carried out in 2009-2012, significant fluctuations in species diversity and abundance of birds in the area of HV line were registered.

In areas immediately adjacent to the routes of 500 kV Ulyanovskaya - Northern and Ulyanovskaya - Southern HV lines, the following events, most notably affecting the dynamics of terrestrial ecosystems were registered:

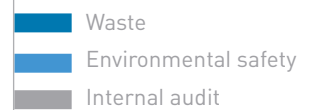
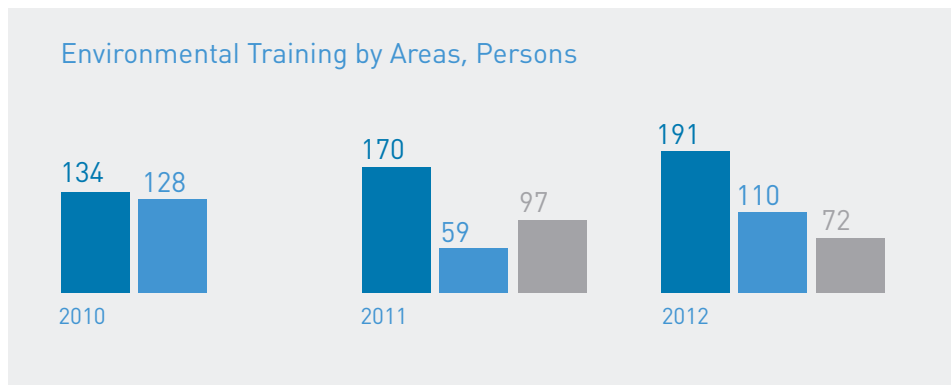
- climatic and phenological variations of different seasons (years), primarily variations of surface soil moisture and development dynamics of herbaceous and shrubby plant communities;
- felling and thinning woody and shrub undergrowth in some areas of 500 kV HV lines routes;
- forest fires and they long-term transformation of plant formations caused by it.

Environmental auditing and training of employees

In 2012, annual inspections were carried out as part of industrial environmental monitoring (hereinafter - IEM) in all branches of Federal Grid Company. In the course of IEM compliance with environmental legislation, environmental documentation completeness and the technical condition of environmentally protected sites were verified. The

problems in organizing and carrying out environmental activities in the branches were analyzed. Based on the results of IEM programs of activities that improve environmental performance both the branches and the Company were developed.

Environmental training of employees is carried out every year in Federal Grid Company:

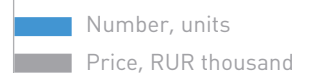
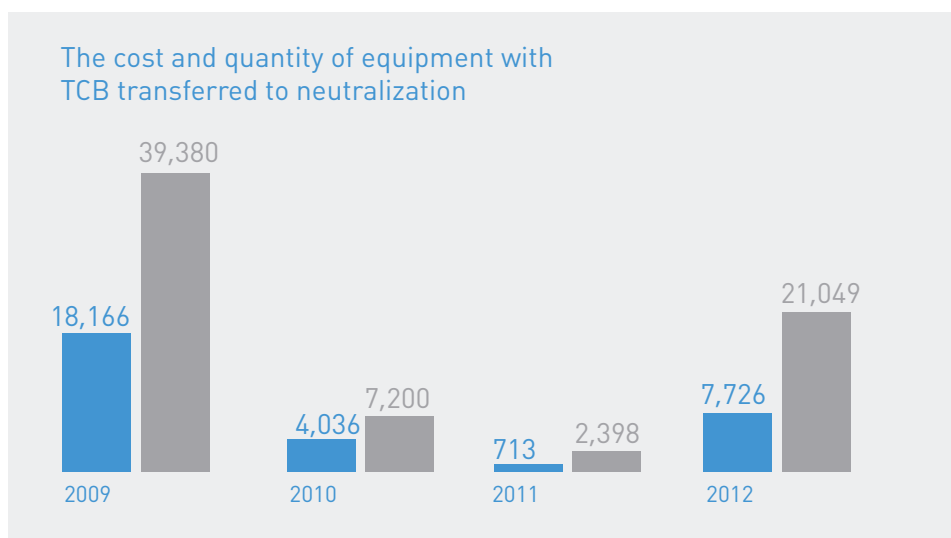


Disposal of equipment containing trichlorobiphenyl

Federal Grid Company yearly implemented measures to replace and dispose equipment containing persistent organic pollutant - trichlorobiphenyl, which is a type of polychlorinated biphenyls*. Replacement of equipment containing

trichlorobiphenyl is performed as it is worn as well as part of works in reconstructing and modernizing substations. Dismantled capacitors are transferred to specialized organizations for utilization.

* In the framework of the Stockholm Convention, signed and ratified by the Russian Federation, according to which the Parties shall cease, "... the use of polychlorinated biphenyls in equipment (i.e. transformers, capacitors or other receptacles containing liquid stocks) by 2025"



Construction and reconstruction of sewage systems, water treatment facilities, household and storm water discharges. Protection of water resources

The Company`s enterprises include measures in the annual water resources environmental action plans:

- to execute the terms of license agreements entitled to use subsoil (extraction of fresh groundwater) - constructing and maintaining water sources sanitary protection zones, conducting analytical monitoring of groundwater quality and necessary hydrogeological works;
- to repair (reconstruct) water supply and sewerage systems, treatment facilities for domestic and storm water discharges and artesian wells;
- to repair (reconstruct) oil receivers systems and devices to prevent spills and prevent transformer oil from entering soil and water reservoirs;
- on analytical monitoring of condition of wastewater.

In 2012, the Company`s water consumption decreased compared to 2011, which is related to technical maintenance, repair and reconstruction of water supply systems in the Company`s branches (MES and PMES).

Energy saving

The Program to reduce electric energy losses in the Unified National Energy Grid in 2012 was developed under the Program for energy conservation and enhancing energy efficiency of Federal Grid Company for the period 2010-2014 and included the following three key areas:

- optimizing circuit and operating parameters under service conditions and operational management of power grids;
- reducing energy consumption for own needs of substations;
- construction, reconstruction and development of power grids, commissioning of energy-saving equipment.

As part of work to optimize circuit and operating parameters under service conditions and operational management of power grids the maintenance of optimum conditions for reactive power and voltage, disconnection of electric grid equipment (transformers and HV lines) in the modes of small loads, reduction of maintenance duration and repair of the basic grid equipment were ensured.

As part of measures aimed at reducing the electricity consumption for own needs of sub-stations, the following activities were carried out: optimization of work duration and the number of activated cooling fans of transformers and auto-transformers, optimization of heating and lighting equipment work of control buildings of substations, installation of energy-saving lamps and lighting fixtures for outdoor switchgear, enhancing energy efficiency of buildings etc.

The measures to reduce energy consumption in 2012 resulted in saving 214.87 million kWh of electricity.

Measures to construct, reconstruct and develop electric power grids as well as commission energy-saving equipment included:

- installation of reactive power compensation devices;
- replacement of overloaded transformers and installation and commissioning of additional power transformers at existing substations;

— work to optimize the load of electric power grids via construction of overhead lines and substations.

As a result of the implementation of measures aimed at reducing the losses in the UNEG, at the end of 2012, the effect achieved was 214,019.1 thousand kWh.

2013 Environment Action Plan

The main tasks in the field of environmental activity of Federal Grid Company in 2013 are:

- introducing and certifying an environmental management system which meets the international standard ISO 14001:2004 in the branch of Federal Grid Company - MES Center and maintaining optimal functioning of the environmental management system in the executive apparatus of the Company, MES South and MES North-West;

- disposal of dismantled equipment containing trichlorobiphenyl;
- planning and implementing technical and organizational environmental measures;
- conducting internal environmental audits in the branches of Federal Grid Company;
- organizing environmental training for management and personnel.