

Reduction of Electricity Losses

Actual electricity loss in the Company's grids was 2,547 million kW□h, or 6.41% of output to the grid. A reduction of output to the grid year-on-year by 2.39%, electricity loss decreased by 22 million kW□h, or 0.06% against output to the grid. A relative indicator was almost flat.

One of IDGC of the North-West priorities is a set of measures aimed to optimize (reduce) losses.

Measure	Annual effect of loss reduction driven by measures taken											
	2011			2012			2013			2014		
	million kW	h	RUB mln	million kW	h	RUB mln	million kW	h	RUB mln	million kW	h	RUB mln
Measures, total	69.42		127.62	61.04		121.75	106.97		287.49	72.08		245.13
Organizational measures	49.78		96.58	36.62		78.99	43.06		129.00	43.91		158.00
Certificates of unaccounted electricity consumption included in electricity net supply (ESC)	26.33		66.25	18.79		51.88	25.5		79.64	31.47		105.83
Payment under certificates of consumption without contracts (RGC)	20.48		25.23	14.03		24.72	7.41		32.56	10.03		49.11
Technical measures	7.66		10.22	5.76		6.51	9.49		17.58	3.93		7.44
Repair and retrofit (replacement of overloaded capacity, installation and commissioning of power transformers at operated power plants, replacement and construction of new overhead lines)	2.49		6.64	4.99		6.24	8.54		15.79	3.67		7.01
Measures to improve electricity meters and technical recording systems	11.98		20.82	18.65		36.25	54.42		140.91	24.24		79.69
Implementation of metering system development (PMS PDP)	5.89		12.56	11.33		26.05	50.71		133.99	18.99		69.34
Other measures to improve metering systems (non PMS PDP)	6.09		8.26	7.32		10.20	3.71		6.92	5.25		10.35

The Prospective Development Program for Power Management Systems on REM involved the upgrade of 4,187 metering points and installation of a remote data acquisition center for those metering points in 2014. Costs amounted to RUB 52.598 million.

Activities completed under the Prospective Development Program for Power Management Systems reduced electricity loss by 19,124 thousand kW□h in 2014 which was 5,528 thousand kW above the target effect (141% of the target of 13,596 thousand kW□h).

The effect achieved from the implementation of the Prospective Development Program for Power Management Systems on REM in 2014 was RUB 35.779 million which was RUB 8.926 million above the target effect of RUB 26.853 million.

Effect from implementation of the investment under program is due to loss reduction driven by a higher accuracy class of meters, operational identification of theft and under-recorded electricity; involving an increase in transferred electricity caused by concurrent meter readings.

The goal of the investment program is to achieve an economic effect by reducing electricity loss as a result of reliable and timely receipt of consumed electricity except for the option of its unaccounted use and reduction of fees for electricity transmission.

The Prospective Development Program for Power Management Systems is categorized as a capital investment activity with a forecasted simple payback period of 6.9 years, investment NPV of above zero, IRR of over 12%, PI of over 1, and a discount-adjusted payback period not exceeding an investment project life (10 years). This means that activities under the Program are feasible and efficient.

