ENGINEERING POLICY

By decision of the Board of Directors of Kubanenergo PJSC dated 28.03.2017 (minutes No. 267/2017), theRegulation of PJSC Rosseti "On the Unified Technical Policy in the Electric Grid Complex"was approved as a Company internal document, and put into action by the order of Company No. 859 on August 10, 2017.

The objectives of the engineering policy are: identifying critical areas of engineering and technology, development, the unification of technical solutions to enhance the reliability and efficiency of power industry facilities in the long term, with ensuring adequate industrial and environmental safety on the basis of innovative improvement principles, assuring the non-discriminatory access to electricity networks for all market participants.

In the preparation and implementation of the Company's programs the Company is guided by the following requirements of engineering policy:

- investment;
- maintenance and repair;
- innovative development;
- energy saving and energy efficiency improvement;
- target programs related to the implementation of technical concepts and technical development strategies;
- research-and-development activity;
- import substitution.

Key projects, which implementation was based on innovative, advanced, high tech technical solutions, technologies and equipment in compliance with the engineering policy, completed by the Company in 2018

SEQ NO.	COMPANY BRANCH	ENERGY FACILITY NAME	KEY TECHNICAL PARAMETERS
1	Sochinskiye electric networks	Construction of Substation "Lazurnaya" 110 kV with overhangs of overhead lines 110 kV	110 and 10 kV microprocessor Relay Protection and Automation Devices (RPAD) manufactured by AST LLC (NR) and EKRA NPP (the main protections are differential-phase protection of 110 kV overhead lines). Protection devices for local back-up power transformers T-1 and T-2 (PUMA). 110 kV SF6 circuit breakers EKLW24-145. 110 kV capacitive explosion-proof voltage transformers ETH-110UHL1. Communication capacitors in explosion-proof version SMAPV-110/V3-6.4 UHL1. Reactors in arc extinguishing oil performance RDMK-400/11-U1. Auxiliary power transformer, energy-saving TMGE
2	Krasnodarskiye electric networks	Reconstruction of the "Yugo-Zapadnaya" Substation 110/10 kV. Installation T-3 with a capacity of 40 MVA	Microprocessor RPAD 110 and 10 kV produced by LLC AST (NR) and NPP EKRA (the main protection of RPAD overhead line 110 kV). Protection devices for local back-up power transformers T-1, T-2, and T-3 (PUMA). Gas-insulated circuit breaker 110 kVEKLW24-145
3	Krasnodarskiye electric networks	Reconstruction of the substation "Severo-Vostochnaya" 110/6-10 kV . Installation T-3 with a capacity of 40 MVA	110 and 10 kV microprocessor-based relay protection devices produced by LLC AST (NR). Protection devices for local back-up power transformers T-1, T-2, and T-3 (PUMA). Gas-insulated circuit breaker 110 kVEKLW24-145
4	Krasnodarskiye electric networks	Reconstruction of the substation "Turgenevskaya" 110/10 kV. Installation T-3 with a capacity of 40 MVA	110 and 10 kV microprocessor-based relay protection devices produced by LLC AST (NR). Protection devices for local back-up power transformers T-1, T-2, and T-3 (PUMA). Gas insulated switch110 kV EKLW24-145. 110 kV capacitive explosion-proof voltage transformers ETH-110UHL1. Reactors in arc extinguishing oil performance RDMK-400/11-U1. Auxiliary power transformer, energy-saving TMGE

SEQ NO.	COMPANY BRANCH	ENERGY FACILITY NAME	KEY TECHNICAL PARAMETERS
5	Krasnodarskiye electric networks	Reconstruction of the substation 35/10 kV "Kalinino". Replacement of 2 × 10 MVA transformers with 2 × 16 MVA	35 and 10 kV microprocessor-based relay protection devices produced by LLC AST (NR). Protection devices for local back-up power transformers T-1 and T-2 (PUMA). 35 kV cells of type KM-35. Energy saving auxiliary power transformer
6	Krasnodarskiye electric networks	Reconstruction of the 35/10 kV Shapsug substation with conversion to 110/35/10 kV voltage with two 40 MVA transformers	110, 35 and 10 kV microprocessor-based relay protection devices produced by EKRA. Protection devices for local back-up power transformers T-1 and T-2 (PUMA). 35 kV cells of KRU-SESCH-65UHL1 type. 110 kV SF6 circuit breakers EKLW24-145. 110 kV capacitive explosion-proof voltage transformers ETH-110UHL1

The list of regulatory and technical documents (RTD) of the electric grid subject in Kubanenergo PJSC was approved by Order No. 115 dated February 16, 2016, and placed on the server in public access for the Company's employees and updated annually, as well as at the revising existing or developing new RTD.

In the reporting year, the Company developed 33 regulatory and technical documents in the field of technical regulation, four of them – with the involvement of contracting organizations:

SEQ NO.	TECHNICAL REGULATION AREA	NUMBER OF DOCUMENTS
1	Prompt technological and situational management	6
2	Fire safety	6
3	Metrology and power quality	6
4	Rationing in the integrated power grid	5
5	Test methods and diagnostics	3
6	Grounding and lightning protection	2
7	Electricity accounting and service development	2
8	Occupational Safety and Health	1
9	Power lines, substations and main equipment	1
10	Means of communication	1