



The Federal Service for Ecological, Technological and Nuclear Supervision

Exercising federal state supervision of hydraulic structures at tailing ponds of industrial enterprises



**Head of the Hydro-Electric Power
Stations and Hydraulic Structures
Supervision Division of the
Department of State Energy
Supervision, Rostekhnadzor
Vladimir Pimenov**



1719

«Наше же Российское Государство, пред многими иными землями преизобирует и потребными металлами и минералами благословенно есть, которые до нынешнего времени без всякого прилежания исканы; паче же не так употреблены были, как принадлежит, тако что многая польза и прибыль, который бы Нам и подданным Нашим из оного произойти мог, пренебрежен.

...того ради мы в пользу Государства и всем Нашим верным подданным особливой Берг-Коллегии. Всемилостиво учредить изволили, и по Нас оному власть и мощь дали единым судиею быть над всеми к тому принадлежащими делами и особами...»



ФЕДЕРАЛЬНАЯ СЛУЖБА ПО ЭКОЛОГИЧЕСКОМУ, ТЕХНОЛОГИЧЕСКОМУ И АТОМНОМУ НАДЗОРУ





The Federal Service for Ecological, Technological and Nuclear Supervision (Rostekhnadzor)

the federal executive body, which carries out functions for the development and implementation of state policy and legal regulation in the established field of activity, including in the field of safety of hydraulic structures (with the exception of shipping and port hydraulic structures)

The main objective of Rostekhnadzor is to increase the level of protection of the vital interests of the individual, society and the state from accidents at hazardous production facilities and their consequences



Regulatory areas of Rostekhnadzor

Safety Regulation for
Nuclear Power Plants and
Research Nuclear Facilities

Safety regulation of
nuclear fuel cycle
facilities, nuclear power
plants of ships and
radiation hazardous
facilities

Mountain supervision

General industrial
supervision

State Construction
Supervision

State Energy Supervision

Coal Oversight

Supervision of oil and gas
facilities

Special security



The functions of Rostekhnadzor in the system of state regulation

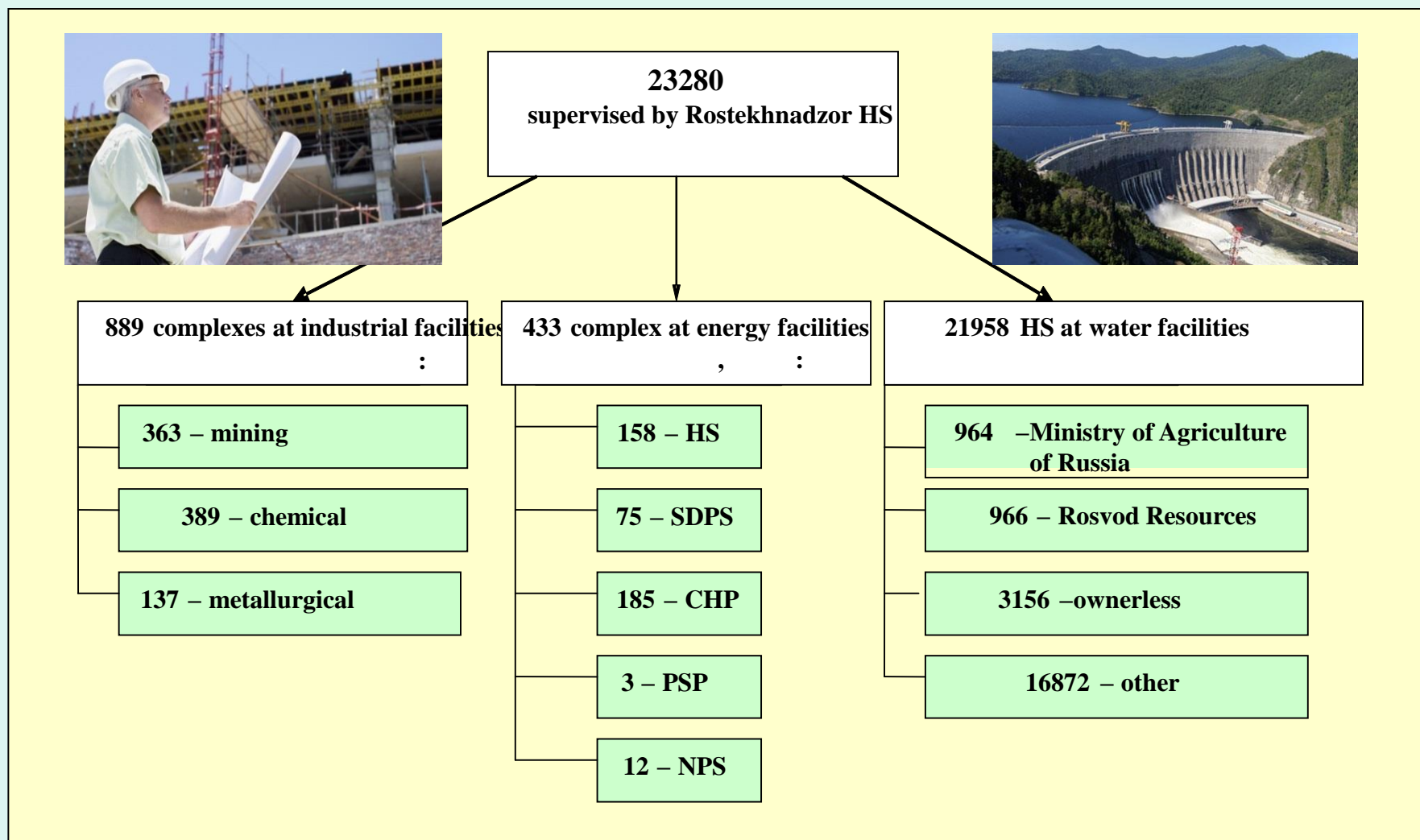
Development of regulatory documents and technical regulations

Supervisory activity

Licensing activities

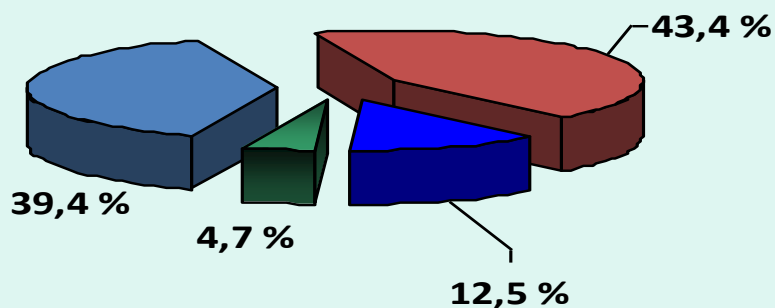


The total number of supervised Rostekhnadzor HS (HS complexes)





Уровень безопасности ГТС



- нормальный - 39,4 %
- пониженный - 43,4 %
- неудовлетворительный - 12,5 %
- опасный - 4,7 %

Normal security level:

HS comply with the project, current standards and rules, the values of safety criteria are not exceed maximum permissible, operation carried out without violation, requirements state oversight bodies are being implemented

Lowered Security:

failure to fulfill priority actions or incomplete enforcement state supervision, other violations of the operating rules

Poor security:

decrease in mechanical or filtration strength, partial excess of the maximum permissible values of safety criteria, other deviations from the design

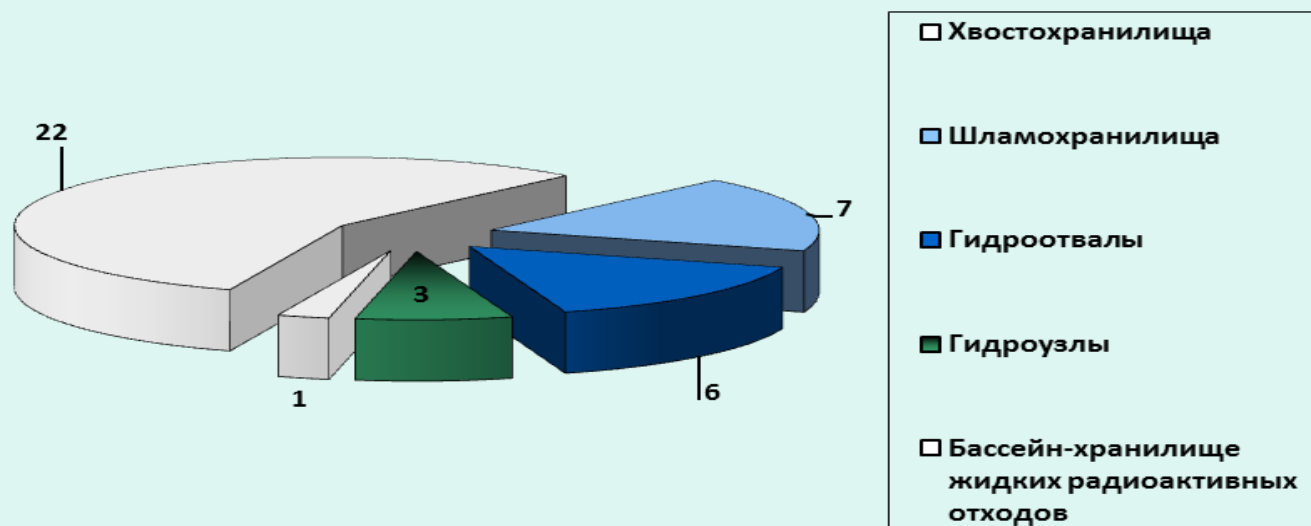
Dangerous level of security:

developing processes to reduce the strength and stability of hydraulic structures and their foundations, exceeding the maximum permissible values of safety criteria, other deviations from the design state, which can lead to the development of an accident



Permanent State Supervision Regime

In accordance with Art. 13 of the Federal Law of July 21, 1997 No. 117-ФЗ “On the Safety of Hydrotechnical Structures”, Decree of the Government of the Russian Federation of May 5, 2012 No. 455 “On the Regime of Continuous State Supervision of Hazardous Production Facilities and Hydrotechnical Structures”, by 148 the most Responsible GTS of class I established a regime of continuous state supervision (as of September 1, 2019)





Legal regulation of the safety of liquid industrial waste storage

- Safety rules for hydraulic structures of liquid industrial waste storage devices (ПБ 03-438-02), approved by the resolution of the Gosgortekhnadzor of Russia dated January 28, 2002 No. 6
- In accordance with the requirements of PB 03-438-02, prior to the beginning of each year, operators of hydraulic structures compile and approve plans and schedules for filling liquid industrial waste storage devices in accordance with the territorial departments of Rostekhnadzor, taking into account their actual state.
- Not later than 15 days before the beginning of next year, operating organizations develop and approve, in agreement with the territorial administrations of Rostekhnadzor, emergency response plans for all facilities and equipment that are part of the drives, the accidents of which are associated with a real threat to the lives of people and the safety of objects inhabited items or environmental disasters.



Risk-based approach

Hazard Class I Objects

Permanent State
Supervision Regime

Hazard Class II Objects

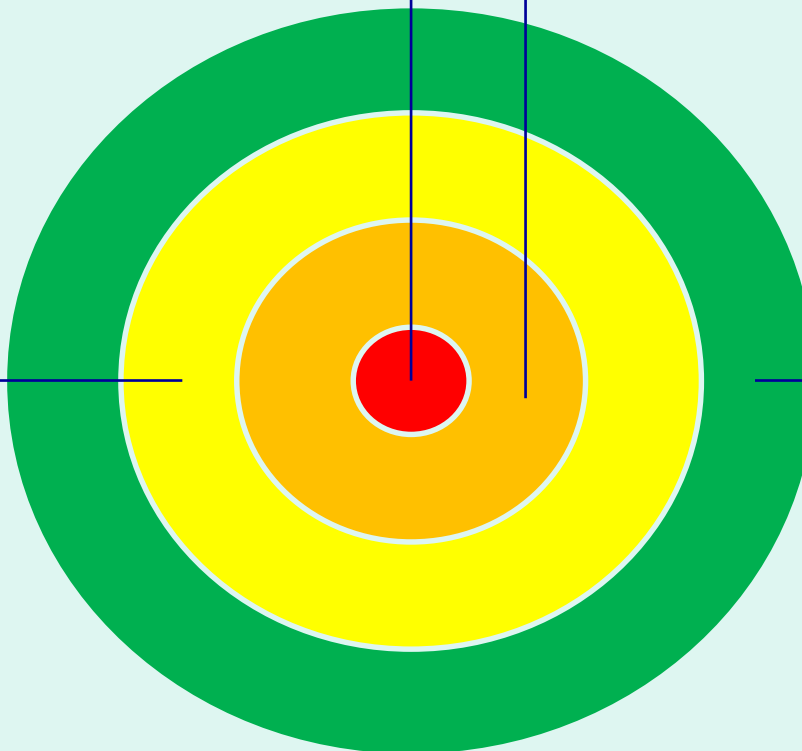
Scheduled inspections - no
more than 1 time per year

Hazard Class III Objects

Scheduled inspections - no
more than 1 time in 3
years

Hazard Class IV Objects

No scheduled inspections





Remote monitoring of technological processes

Automated accident risk calculation:

Low risk

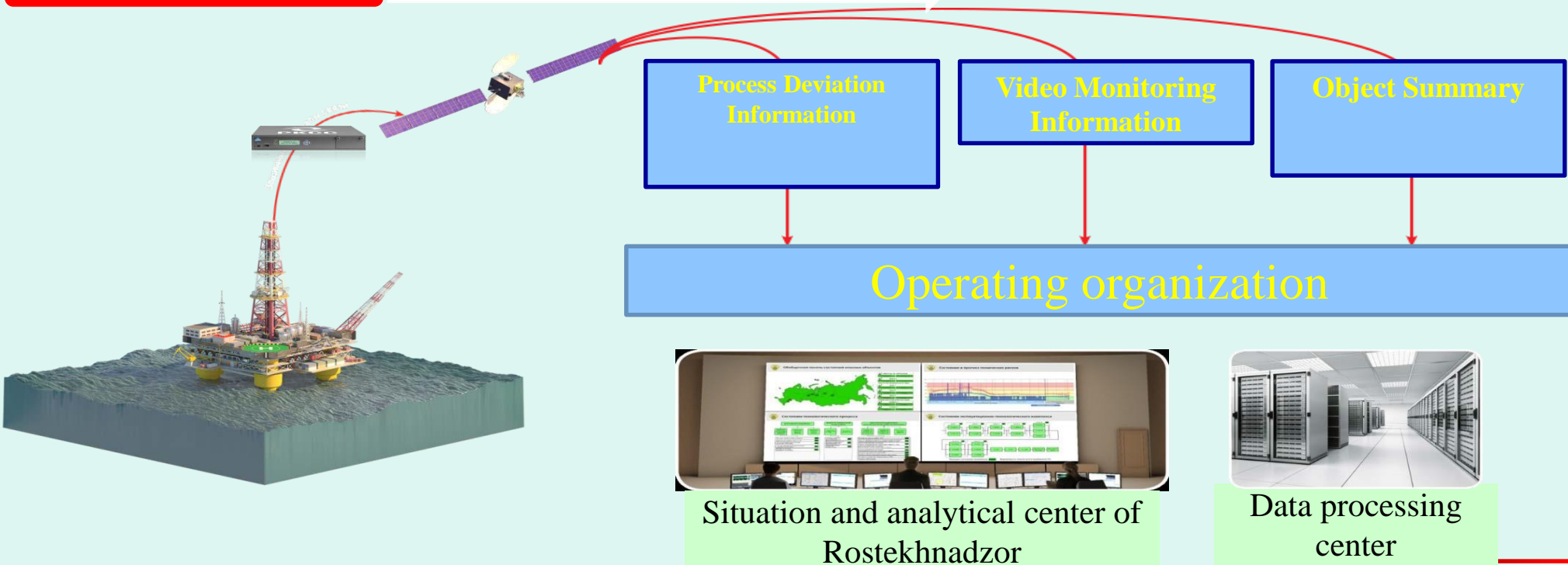
- No deviations

Medium risk

- Non-critical deviations

High risk

- Critical deviations



Remote control system

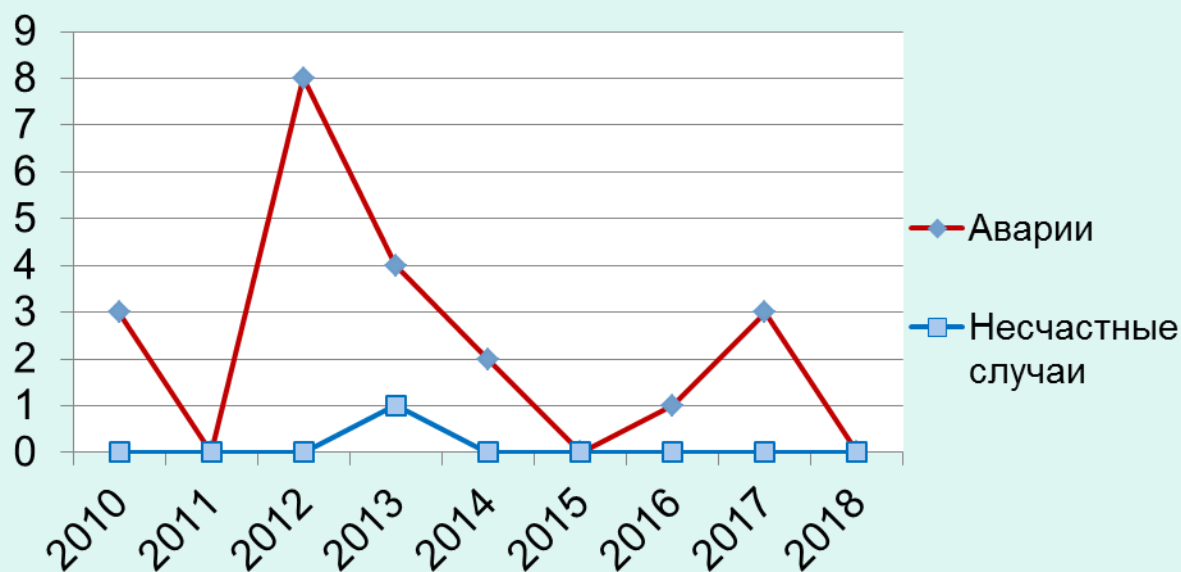
The main idea of the remote control system is based on the use of a risk-based approach and consists in the rapid assessment and forecasting of any incident and the adoption of preventive measures to prevent an accident.

This is achieved by :

- continuous monitoring of the state of the object in real time
- using an automated process control system (ACS TP)
- operational risk assessment of accidents
- security prediction
- enabling the operating organization to take measures to prevent accidents.



Accidents and accidents at hydraulic structures



The causes of the accidents were:

External factors: natural influences (sharp increase in air temperature, active melting of snow, heavy rainfall).
Technical factors: unsatisfactory technical condition of the GTS, lack of KIA, insufficient water throughput of structures.

Internal factors: lack of a qualified operation service, rules for the operation of hydraulic structures, compulsory insurance contract, emergency response plan.

No injured or injured in the population



Break of the dam on the river Ceiba In the Krasnoyarsk Territory

10/19/2019 there was a breakthrough of the embankment in the subsurface area owned by Sisim LLC, where gold mining operations were carried out. The gold deposit in the mentioned subsoil block is alluvial, does not belong to the hazardous category and does not fall under the jurisdiction of Federal Law of July 21, 1997 No. 116-Φ3 On Industrial Safety of Hazardous Production Facilities.

Thus, Rostekhnadzor does not oversee and control these facilities.

In accordance with the project, on the site where the accident occurred, the construction of the hydraulic structures was not expected, but mounds and sedimentation tanks were provided for temporary non-categorical structures that were not declared, an accident on which could not lead to an emergency



Break of the dam on the river Ceiba In the Krasnoyarsk Territory



Thank you for attention!

