

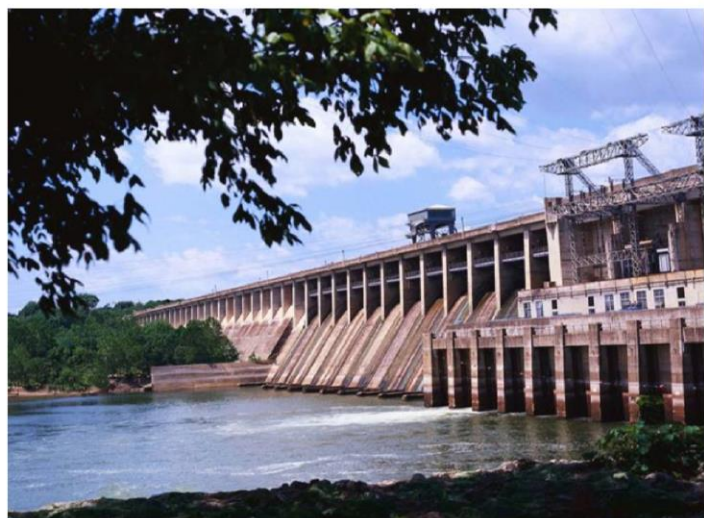


# **Ensuring Safe and Reliable Operation of Hydraulic Engineering Structures Taking into Account Changes in the Law of the Russian Federation**

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## State Supervision over Hydraulic Structures (HS)



Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostekhnadzor) exercises state supervision over compliance of owners and operational organizations of HSs with the mandatory requirements in regard to ensuring safety of HSs (except for navigation and port HSs)

State supervision and control over navigation and port HSs are exercised by Ministry of Transportation of Russia (Rostransnadzor).





## Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor)



A federal executive authority, which performs functions of development and implementation of the State Policy and legal regulation within its scope of competency, including HS safety (except for navigation and port HSs).



## Overall Amount of HS Facilities Supervised by Rostekhnadzor

29 964 supervised HS facilities (HS complexes):

844 facilities at industrial facilities

365 – ore mining

377 – chemical

102 – metallurgy

568 facilities at energy facilities

218 HPPs

80 GRES

256 CHPP

3 PSPs

11 NPPs

28 552 HS facilities of  
water sources utilization system.

1481 – Ministry of Agriculture

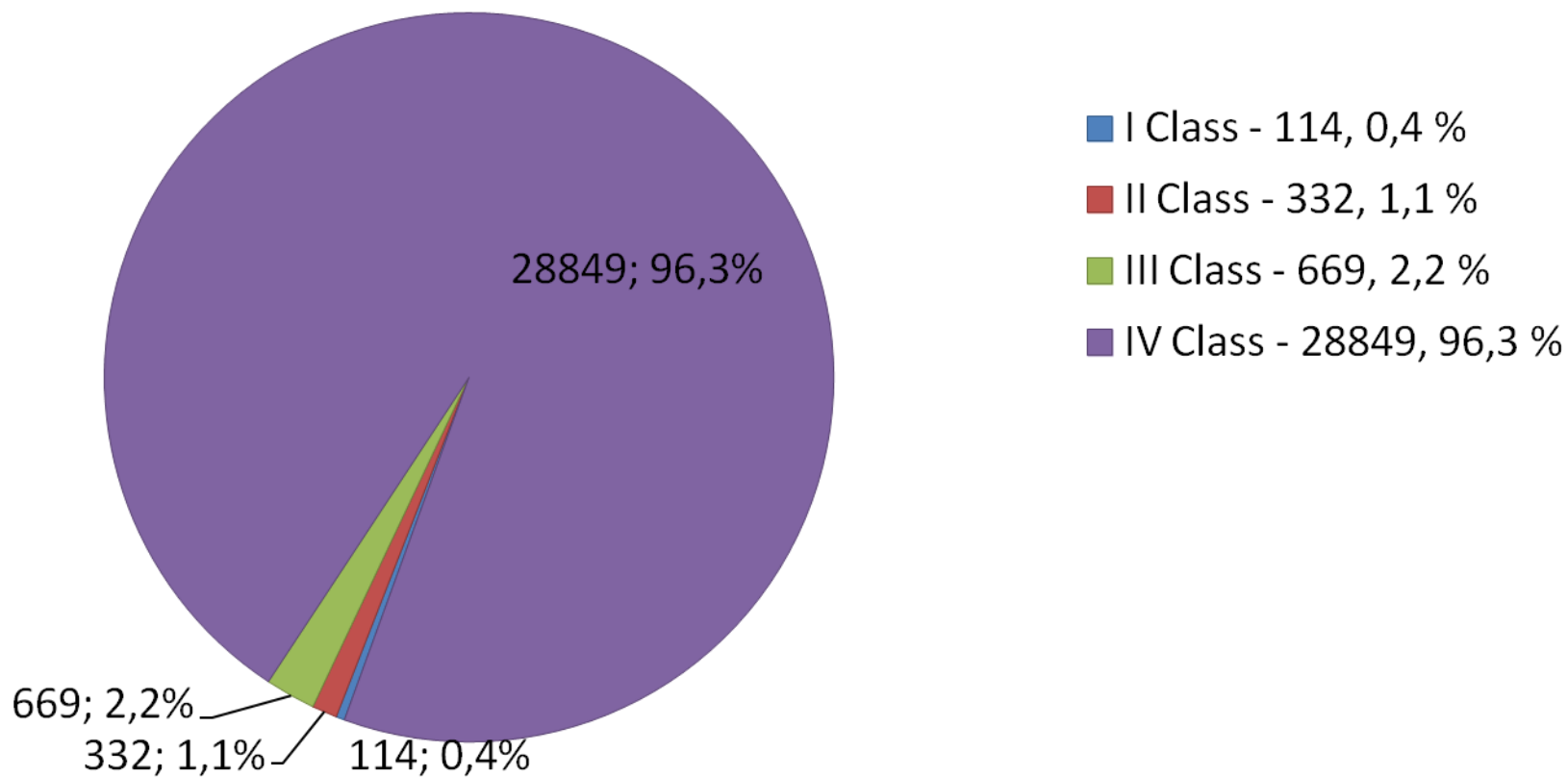
884 – Federal Agency of  
Water Resources

4047 – Orphans

22 140 – Others

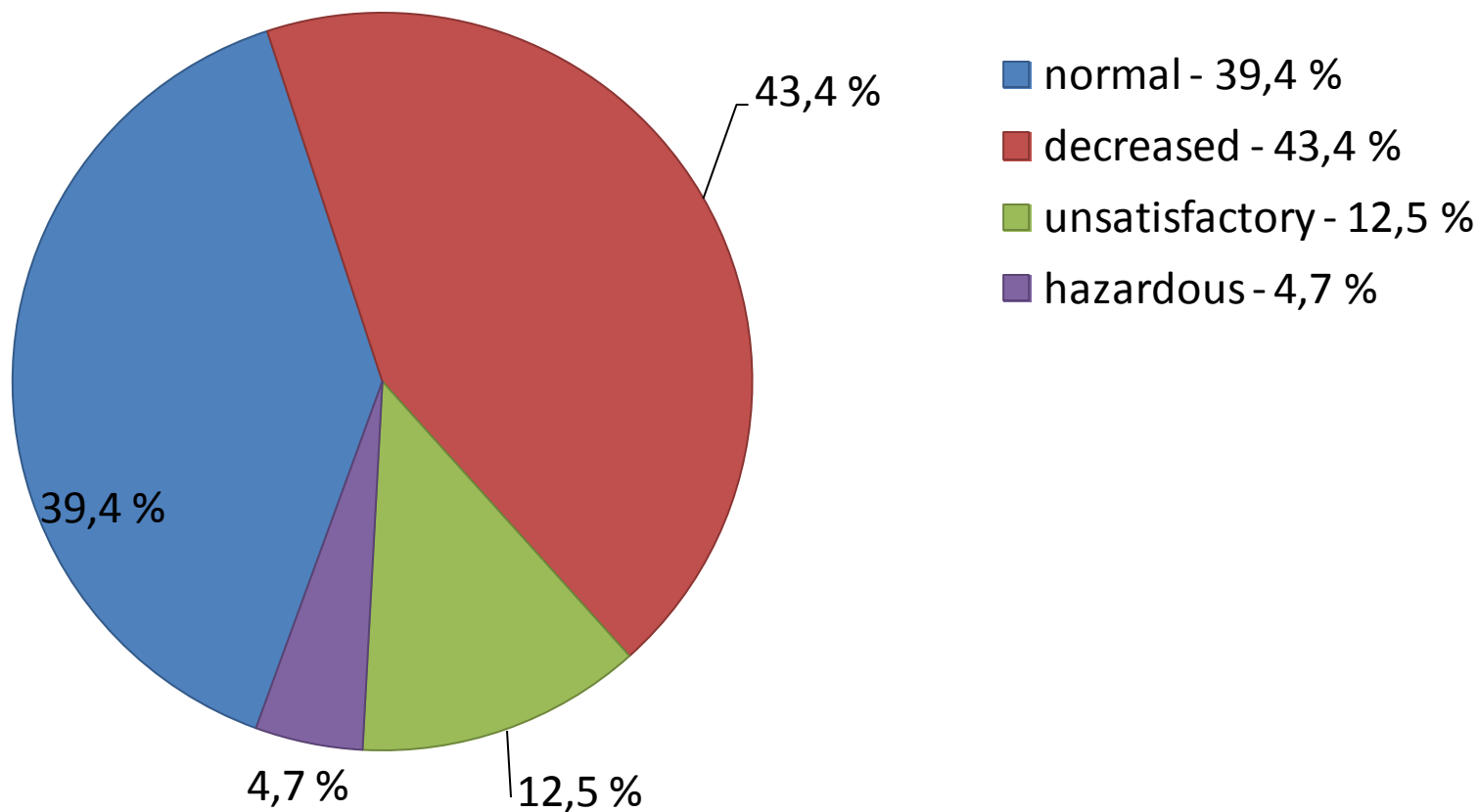


## HS Classification





## Level of Safety of Supervised HS





## Functions of the Supervisory Body

- arrange for development and agreement of operational rules for HS;
- organize inspections of HS;
- issue orders dealing with ensuring safety of HS as well as orders on suspension or halt of construction, reconstruction, recovery, preservation or disposition of HS;
- select expert centers that are entitled to conduct an HS safety declaration review;
- establish a list of expert centers, which are entitled to conduct expert examinations of declarations of safety of HS;
- develop a list of facilities subject to HS declaration, as well as a schedule for submitting such declarations;
- specify qualification requirements to specialists that comprise the expert committee; identify the expert committee procedures; organize training of experts and their experience exchange;



## Functions of the Supervisory Body

- review and approve HS safety declarations and the expert committee reports;
- issue operating permits;
- open and maintain the sector-wide Register of HSs and the database of HS safety declarations;
- engage in drafting regulations applicable to safety of HS;
- other functions as envisaged by the legislation relevant to safety of HS;





## **Federal State Supervision over Safety of Hydraulic Structures**

The subject-matter of federal state supervision over safety of hydraulic structures is the activity of the federal executive authorities aimed at identification, prevention and preclusion of violations of HS safety requirements, as envisaged in the Russian legislation (hereinafter – mandatory requirements), committed by legal entities that operate hydraulic structures, i.e. their senior managers or other officials, individual entrepreneurs or their authorized representatives (hereinafter – legal entities and individual entrepreneurs) through conducting inspections of such entities, taking preventive or remedial actions as per the Russian legislation. Also the subject-matter is the activity of the mentioned bodies aimed at continuous enforcement of the mandatory requirements, analysis and forecast of the implementing status of that mandatory requirements when legal entities and individual entrepreneurs exercise their activity.



## Special Features of Organizing and Conducting Scheduled Inspections

The grounds for inclusion of a scheduled inspection into the Annual Scheduled Inspections Plan shall be **one year expiry from the date of:**

- the issuance of the duly issued operating permit for the hydraulic structure;
- the completion of the last scheduled inspection.

Scheduled inspections in the periods that do not have predefined deadlines or those of higher risk for hydraulic structures (e.g. during flood or navigation seasons) shall be carried out upon the **order (decree)** of the chairman of state supervisory body, who also specifies the inspection beginning and ending dates.

The Annual Scheduled Inspections Plan, the inspection assignment order (decree) of the state supervisory body and the inspection report shall also identify the name and location of the hydraulic structure in regard to which the control activity is to be conducted and actual control activity performed.



## Special Features of Organizing and Conducting Scheduled Inspections

The grounds for conducting an **off-scheduled inspection** are the following:

- expiry of the prescriptions to rectify discovered violations of the mandatory requirements;
- admission of **applications and appeals** from the general public or legal entities, receipt of information from state authorities on accident and emergency occurrences at hydraulic structures;
- order (decree) of the chairman (deputy chairman) of the state supervision body on the assignment of an off-scheduled inspection, issued pursuant to an order of the **President or Government of the Russian Federation**;
- **prosecutor's demand** of the conduct of an off-scheduled inspection within the scope of law enforcement upon admission of materials and appeals to prosecution authorities.



## A Permanent State Supervision Regime

Federal law No. 242-FZ of 18 July 2011 *On Amendment of Certain Laws of the Russian Federation as Regards State Control (Supervision) and Municipal Control* introduced a change to Article 13 of Federal law No. 117-FZ of 21 July 1997 *On Safety of Hydraulic Structures* that stipulates establishing a permanent state supervision regime at certain HSs. The Government of the Russian Federation has approved the Decree No. 455 of 5 May 2012 *On Permanent State Supervision Regime of Hazardous Production Facilities and Hydraulic Structures*, which have introduced the permanent state supervision regime at hazardous production facilities and hydraulic structures since 1 July 2012.



## Attribution of an HS within the Permanent State Supervision Regime

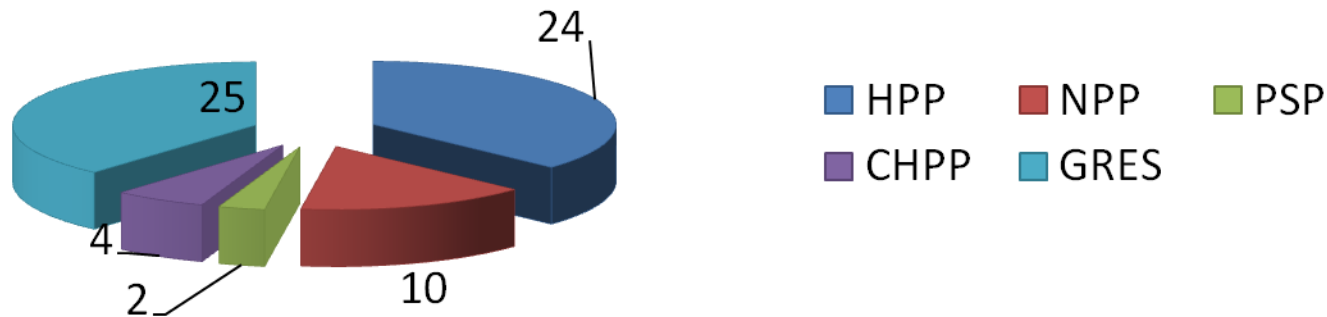
Hydraulic structures of Class I subject to the permanent state supervision regime were identified in accordance with the following classification of hydraulic structures established by Government of the Russian Federation in the Decree No. 968 of 2 November 2013:

- ➔ **Dam height depending on the foundation type** (rock, sandstone, clay) and **dam material** (concrete, enforced concrete, earth);
- ➔ **Social and economical effect and disturbance of the normal human life of the population in event of an accident at the HS** (HSs of electric power plants of installed capacity more than 1000 MW; HSs of nuclear power plants; HSs in dependence on the hazard class of stored waste);
- ➔ **Consequences of potential accidents at HSs** (in dependence on the number of residents who may suffer from an accident at the HS if such number is more than 3000 people; the number of people the living environment of whom may be disturbed in event of an accident at the HS if such number is more than 20 000 people; and the area under emergency resulted from an accident at the HS on the territory of two of more Subjects of the Russian Federation)

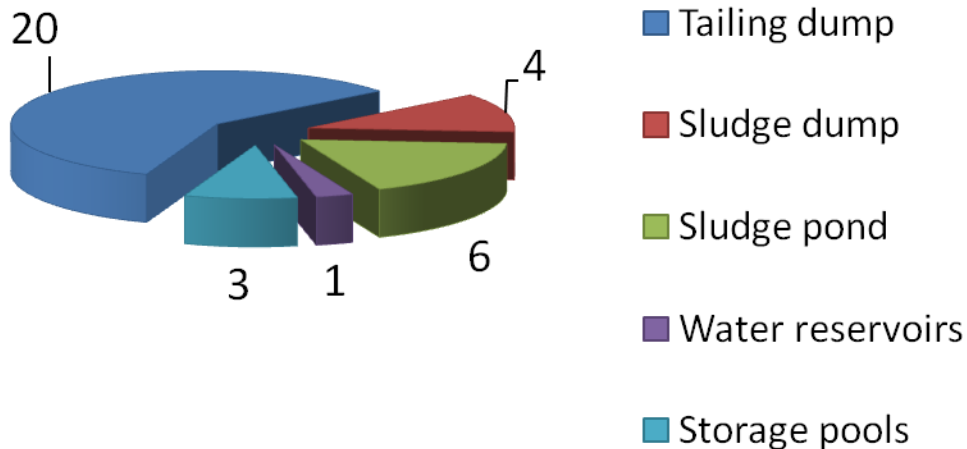


## The Permanent State Supervision Regime at Hydraulic Structures

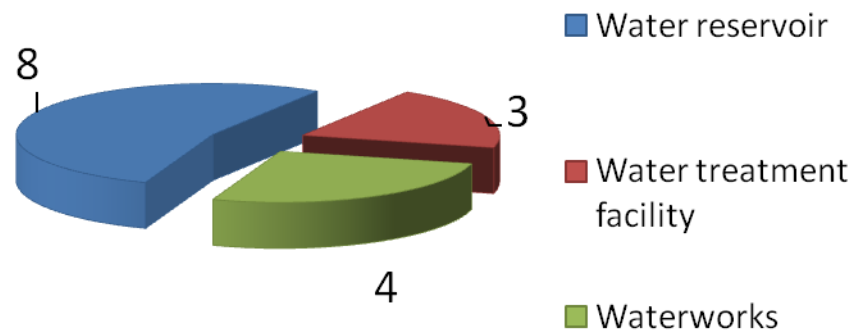
Energy facilities - 65



Industrial facilities - 34



Water supply facilities - 15





## Amendments to Federal Law No.117-FZ

Introduced by Federal law No.445-FZ of 28 December 2013

In Article 4: Powers of the Government of the RF have been modified:

- identifies federal executive authorities that set requirements to the content of the operating regulations for hydraulic structures;

- establishes the procedure for preserving and disposal of an HS.

In Article 5: Powers of executive bodies in the Subjects of the RF have been modified:

- develops and implements regional programs of ensuring HS safety, including orphan HSs;

- informs the population about the risk of accident occurrence at the HS which may entail an emergency;

- ensures safety of the HSs owned by the Subjects of the RF, and arranges for overhaul, preservation and disposition of HSs, including orphan HSs.



## Amendments to Federal Law No.117-FZ

Introduced by Federal law No.445-FZ of 28 December 2013

In Article 9: Powers of the owner or operating organization of the HS have been modified:

- ensures compliance with the mandatory requirements in the construction, reconstruction, overhaul, operation, preservation and disposition of HSs, as well as conducts their maintenance, in-service inspections and general repairs;

- provides for development and timely update of safety criteria and operational rules, requirements to the content of which are established by federal executive authorities within their competence;

- constitute financial and material reserves for the purpose of accident mitigation in a procedure envisaged by the Government of the RF. (The Decree No. 1340 of 10 November 1996 of the Government of the RF).





## Amendments to Federal Law No.117-FZ

A new Article 11.1 was introduced. *Technical Investigation of the Cause of the Accident at the HS.*

It envisages a procedure for technical investigation of the cause of the accident at the HS and drawing-up a report of the technical investigation of the cause of the accident by the federal executive authority empowered to exercise federal state supervision over safety of hydraulic structures. (Order of Rostekhnadzor No. 480 of 19 August 2011).

A new Article 12.1 was introduced. *Preservation and Disposition of an HS.*

In event of preservation of an orphan HS, the committee shall be formed by the executive authority in the Subject of the RF.

Article 14 has been modified as follows:

Should an orphan HS be found, the state supervision authorities shall conduct an inspection of such HS in a procedure envisaged by the Government of the RF.



## Amendments to Federal Law No.117-FZ

The Decree of the Government of the RF No. 837 of 21 August 2014 *On Amendment of Certain Regulations of the Government of the Russian Federation as Regards Ensuring Hydraulic Structures Safety* brings acts of the Government of the RF in line with Federal Law No. 117-FZ of 21 July 1997 *On Safety of Hydraulic Structures* (as amended by Federal law No. 445-FZ of 28 December 2013):

- HS commissioning, decommissioning and recover stages are discarded;
- powers of federal executive authorities in the field of ensuring HS safety were updated – delegation of powers to approve Harm Evaluation Methods from EMERCOM to Rostekhnadzor;
- powers of executive authorities in the Subjects of the RF and bodies of state supervision as regards ensuring safety of orphan HSs and conducting inspections of orphan HSs;



Together with federal executive authorities concerned and the expert community, Rostechnadzor has elaborated proposals to optimize the activity in the field of HS safety

**Result**

## **Action Plan of Federal Environmental, Industrial and Nuclear Supervision Service for 2014-2018**

*(approved by Order of Rostechnadzor No. 79 of 26 Feb 2014)*

Objectives in the field of HS safety:

**Enhancement of HS safety**

**Elimination of redundant administrative barriers in the exercise of control and supervisory activity**

**Encourage the innovative activity**



## Main Areas to Achieve the Set Objectives

### 1. HS accident risk and consequence level classification

- HSs divided into 4 hazard classes:
- Class 1- extreme hazard;
- Class 2- high hazard;
- Class 3- moderate hazard;
- Class 4- low hazard.

### 2. Hazard class differentiation of supervision in the field of HS safety

- **HS hazard class 1** - the permanent state supervision regime;
- **HS hazard class 2** - scheduled inspections not more frequent than once in a year;
- **HS hazard class 3** - scheduled inspections not more frequent than once in 3 years;
- **HS hazard class 4** - scheduled inspections not carried out.

### 3. Optimization of administrative procedures in the construction, reconstruction, overhaul and operation of HS

- Making amendments to the Administrative Procedures of Federal Environmental, Industrial and Nuclear Supervision Service.



**Thank you for Attention!**

