

GOST R 52604-2012. Water Attractions. Safety in Operation. General Requirements

GOST R 52604-2012 Group U57

NATIONAL STANDARD OF THE RUSSIAN FEDERATION

Water Attractions

SAFETY IN OPERATION

General Requirements

Water attractions. Safety at operation. General requirements

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Preface

The purposes and principles of standardization in the Russian Federation are established by the Federal Law of December 27, 2002 No. 184-FZ "On Technical Regulation", and the rules for the application of national standards of the Russian Federation are established by GOST R 1.0-2004 "Standardization in the Russian Federation. Basic Provisions"

Information about the standard

1. DEVELOPED by the Non-profit Organization "Russian Association of Water Parks" (NO "RAW") with the participation of Closed Joint Stock Company "ECTIS"
2. SUBMITTED by the Technical Committee for Standardization TC 456 "Water Parks, Water Attractions and Pool Equipment"
3. APPROVED and INTRODUCED by Order of the Federal Agency for Technical Regulation and Metrology dated September 18, 2012 No. 332-st
4. This standard implements the provisions of Articles 8, 10 of the Federal Law of February 7, 1992 No. 2300-1-FZ "On Protection of Consumer Rights", Articles 1-6, 52, 53, 89, 90, 92, 95 of the Federal Law of July 22, 2008 No. 123-FZ "Technical Regulations on Fire Safety Requirements", and Articles 8, 30, 36 of the Federal Law of December 30, 2009 No. 384-FZ "Technical Regulations on Safety of Buildings and Structures"

5. REPLACES GOST R 52604-2006

1. Scope

This standard establishes general safety requirements for the operation of water attractions installed in water parks located in buildings, structures, or outdoors, as well as in all types of pools except for home pools. The requirements of this standard do not apply to water attractions installed on the banks of natural or artificial reservoirs.

2. Normative References

This standard references the following normative documents:

- Federal Law of the Russian Federation of February 7, 1992 No. 2300-1-FZ “On Protection of Consumer Rights”
- Technical Regulations on Fire Safety Requirements (Federal Law of the Russian Federation of July 22, 2008 No. 123-FZ)
- Technical Regulations on Safety Requirements for Buildings and Structures (Federal Law of the Russian Federation of December 30, 2009 No. 384-FZ)
- GOST R 12.4.026-2001 System of Occupational Safety Standards. Signal Colors, Safety Signs, and Signal Markings. Purpose and Rules of Application. General Technical Requirements and Characteristics. Testing Methods
- GOST R 51885-2002 (ISO 7001:1990) Information Signs for Public Places
- GOST R 52169-2012 Children’s Playground Equipment. Safety of Construction and Testing Methods. General Requirements
- GOST R 52603-2011 Water Attractions. Safety of Construction. General Requirements
- GOST R 53130-2008 Safety of Attractions. General Requirements
- GOST R 53491.1-2009 Pools. Water Treatment. Part 1. General Requirements
- GOST 2.601-2006 Unified System of Design Documentation. Operational Documents
- GOST 2.602-95 Unified System of Design Documentation. Repair Documents
- GOST 2.610-2006 Unified System of Design Documentation. Rules for Preparation of Operational Documents

- GOST 7473-2010 Concrete Mixes. Technical Conditions
 - GOST 16504-81 State Product Testing
- GOST 18322-78. Equipment Maintenance and Repair System. Terms and Definitions

GOST 20911-89. Technical Diagnostics. Terms and Definitions

GOST 23118-99*. Steel Building Structures. General Specifications

* This document is not valid in the Russian Federation. GOST 23118-2012 applies, hereinafter referred to as such. - Database Manufacturer's Note.

GOST 25866-83. Equipment Operation. Terms and Definitions

Note - When using this standard, it is advisable to check the validity of referenced regulatory documents in a public information system - on the official website of the Federal Agency for Technical Regulation and Metrology on the Internet or in the annually published information index "National Standards," which is published as of January 1 of the current year, and in the corresponding monthly information indexes published in the current year. If a referenced normative document is replaced (amended), then the replacement (amended) document should be used when using this standard. If a referenced document is cancelled without being replaced, the provision that referenced it applies to the extent that it does not affect the reference.

3 Terms and Definitions

This standard uses the terms and conditions of GOST R 52169, GOST R 53130, GOST R 53491.1, GOST R 52603, GOST 16504, GOST 18322, GOST 20911, and GOST 25866, as well as the following terms and definitions:

3.1 Administrator; Technical Director of the Water Park: The official responsible for ensuring the safe operation of water attractions.

3.2 Assistance for Ride-On and Swimming: Mats, rafts, etc., used on water attractions to minimize the risk of abrasions, bruises, and other harm to the user's health, to improve comfort, and to enhance the entertainment experience.

3.3 Instructor: An official with the necessary training who ensures user safety.

3.4 Visitor: A person present on the water park premises in accordance with a purchased ticket.

3.5 User: A person enjoying a water ride or other amusement device.

3.6 Operational State: A technical facility's condition in which the values of all parameters characterizing its ability to perform its intended functions comply with the requirements of regulatory and/or design and engineering documentation.

3.7 Inoperable State: A technical facility's condition in which the value of at least one parameter characterizing its ability to perform its intended functions does not comply with the requirements of regulatory and/or design and engineering documentation.

3.8 Operating Documents: Documents developed by the designer/manufacturer/operator containing the necessary information about the water ride and the rules for its safe operation, as well as information on its maintenance, repair, and modification during its specified service life.

4 Commissioning and Acceptance of Water Attractions

4.1 Completed water attractions subject to commissioning must be constructed in accordance with the approved design and any agreed upon amendments and additions thereto.

4.2 Acceptance testing of water attractions - in accordance with GOST R 52603, Section 12.

4.3 Commissioning of the water treatment system - in accordance with GOST R 53491.1, Subsections 10.4-10.5.

4.4 Commissioning of water attractions must be carried out by an acceptance committee in accordance with building codes and regulations [1].

4.5 The general contractor (construction and installation organization, subcontractors for certain types of work) must provide the acceptance committee with a set of documents in accordance with Appendix A.

5. Location of Water Attractions in the Water Park

5.1 The location of water attractions in the water park must comply with the requirements of this standard and GOST R 52603.

5.2 Water attractions must be located so as to ensure safe entry/exit and, if necessary, evacuation of users.

5.3 The relative position of attractions must prevent crushing of users and visitors in an emergency.

5.4 The location of water attractions in an outdoor water park must ensure the passage of emergency vehicles and evacuation routes for users and visitors in emergency situations.

5.5 The safety contours of different water slides (see GOST R 52603, subsection 9.3) must not intersect.

5.6 Children's water attractions must be located so that children cannot access the shallow water area of the children's amusement park from the deep water area of the adult amusement park.

5.7 The children's amusement park should not be adjacent to an area containing deep-water facilities, such as a wave pool, swimming pool, etc.

6 Personnel Requirements

6.1 General Provisions

Maintenance personnel responsible for the proper technical condition and operation of water attractions, water treatment equipment, utility systems, and communications at the water park must be integrated into the water park's technical services, which must provide the necessary conditions for safe user enjoyment.

Technical personnel servicing water attractions must include:

- Instructors who perform daily checks of the water attractions' readiness for intended use, monitor their safe operation, and observe and control user behavior on the water attractions;

- Specialists in the operation of water park utility systems, utilities, and communications, as well as the mechanical, electrical, and electronic systems of water attractions;

- Specialists in the operation of water treatment equipment.

6.2 Administrator

6.2.1 The official responsible for organizing and implementing the safe operation of the attractions is the water park administrator (technical director).

6.2.2 The administrator's responsibilities regarding ensuring the safety of water attractions include the following:

- recruiting and training personnel;
- organizing the safe use of water attractions for their intended purpose;
- organizing the maintenance, modification, and repair of water attractions;
- developing rules, instructions, and procedures for water park personnel in emergency situations (see Appendix B);
- monitoring compliance with the frequency, rules, and methods for inspecting the technical condition of water attractions;
- organizing production control, including, if necessary, through laboratory testing and testing, to ensure compliance with sanitary regulations [2];
- organizing acceptance testing of attractions newly installed in the water park (pool) or commissioned after major repairs (see GOST R 52603, Section 12);
- organizing the commissioning of newly constructed water attractions (see Section 4);

- storage, monitoring of timely and correct maintenance, and, if necessary, updating of operating documentation for water attractions.

The administrator may delegate some of their duties to an authorized person, while remaining responsible for the safe operation of the water attractions as a whole.

6.2.3 The administrator must provide water park personnel with job descriptions outlining their responsibilities for ensuring safety during the intended use and maintenance of the attractions.

6.2.4 The administrator must organize personnel training and regular testing of their knowledge and skills in the safe operation and emergency response.

Note: A knowledge assessment (examination) on the practical application of acquired skills is necessary to maintain the required level of competence for personnel responsible for safety.

6.2.5 The administrator may expand the operating manual for a specific water attraction based on operational experience, but within the limits of the use restrictions established by the designer/manufacturer of that attraction.

6.3 Instructor

6.3.1 General Provisions

6.3.1.1 The safety of users on water attractions is ensured by the presence of instructors who monitor user behavior and activity.

6.3.1.2 Each water attraction must be under the constant supervision of its assigned instructor(s) at all times while it is open to users.

Note: An instructor may leave their workstation only with the permission of their immediate supervisor, provided that a backup instructor is available to take their place.

6.3.1.3 No one other than the head of the instructor service and the water park administrator has the right to interfere with the instructor's actions while they are on duty.

6.3.1.4 Children's water attractions should only be operated in the presence of instructors trained in handling small children.

The instructor must prevent crowding, running, or children playing in the play area.

Note: Adults accompanying children should remain close to their children to observe their behavior and actions.

6.3.1.5 Water attractions that accommodate a significant number of users at a time and/or occupy a large area are typically operated by a team of instructors.

In this case, each instructor should be assigned an area of responsibility over which they supervise.

Note: Instructors of water attractions that accommodate a significant number of users at a time and/or occupy a large area must constantly monitor the compliance of the number of users with established standards.

6.3.1.6 The instructor should be in a position from which it is possible to provide assistance to anyone in need within 10 seconds of an incident or

6.3.1.7 The instructor must be equipped with means of communication with the head of the instructor service (the senior official of the water park work shift) and public address systems (such as a megaphone or bullhorn).

6.3.1.8 Given the monotonous nature of the instructor's work, which can lead to a decrease in attention when monitoring the behavior and condition of users, it is necessary to rotate instructors at least every two hours to ensure a change in the environment and the nature of their activities.

6.3.1.9 The water park staff work shift must include backup instructors.

Note: The backup instructors are used for scheduled and/or emergency replacements of amusement ride instructors and, if necessary, to increase their number on a specific attraction.

6.3.1.10 The instructor must identify the presence/absence of mechanical damage and other structural defects of the water attraction during a daily inspection of its technical condition, as well as during use.

If a malfunction is detected, the instructor must prohibit users from accessing the attraction (or stop operation) and immediately notify the senior official on the water park shift.

Note: Repair work is not permitted while the attraction is in operation.

6.3.1.11 The instructor must take all necessary measures to ensure users comply with the rules established for the safe operation of the specific water attraction.

6.3.1.12 If a conflict arises, the instructor is obligated to take the necessary measures to resolve it, explaining to the user that the restrictions are necessary to ensure safety.

6.3.2 Water Slide Instructor

6.3.2.1 As a rule, two instructors must supervise the water slide. One instructor must be stationed at the start of the slide, and another at the finish.

6.3.2.2 The instructor's responsibilities at the start include:

a) informing the user of the rules required for safe descent and, if necessary, providing assistance to the user;

b) informing the user of the need to maintain the initial position assumed for the descent while moving along the slide;

c) reminding the user to quickly leave the finish area;

d) preventing another user from entering the slide without visually confirming (or receiving a corresponding signal) that the finish area is clear;

d) preventing users whose physical/psychophysical characteristics and/or equipment do not meet safety requirements from entering the slide, such as:

- persons exhibiting inappropriate behavior or who are intoxicated;

- persons who meet age (height) or weight restrictions;

- Persons carrying foreign objects (keys, plastic cards, jewelry such as chains, bracelets, etc.);

- Pregnant women;

e) Be constantly ready to assist the user in the starting area.

6.3.2.3 Users who experience fear, discomfort, or uncertainty in the starting area should be given additional time to adapt.

6.3.2.4 The responsibilities of the instructor stationed in the water slide finish area include:

- Be constantly ready to assist the user in the finish area;

- Give a signal (if necessary) authorizing the start of the next user;

- Ensure the safe exit of users from the finish area;

- Prevent potential collisions between users;

- Monitor the water level in the finish pool or in the designated receiving device;

- Remove foreign objects from the pool or designated receiving device (rafts, mats, etc.).

6.3.3 Recreational Pool Instructor

6.3.3.1 The instructor must constantly monitor the actions of users and be prepared to provide assistance and prevent excessive activity by individual children that may pose a danger to others.

6.3.3.2 The instructor must be trained to recognize and prevent dangerous situations arising from excessive activity by children.

6.3.3.3 If the number of users in the recreational pool exceeds the established limit, the instructor must restrict access to the pool until the situation returns to normal.

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Note: During periods of high occupancy, it is advisable to increase the number of instructors present in the water, near the children's play areas, or along the perimeter of the pool.

6.3.4 Wave Pool Instructor

6.3.4.1 The primary responsibility of a wave pool instructor is to be constantly ready to assist users.

Note: The instructor should be trained to recognize early signs of fatigue, such as changes in facial expression, loss of coordination, decreased physical activity, etc.

6.3.4.2 Particular attention should be paid to tired, inexperienced, and weakened swimmers, as well as children in the wave zone. Therefore, the need to establish a rotation regime (see 6.3.1.8) for wave pool instructors is especially relevant.

6.3.4.3 Instructor stations should be located so that they can observe all users in the pool (for this purpose, an elevated platform can be used, for example).

Notes

1. It is recommended that an instructor(s) be stationed in the most dangerous area of the pool—the wave zone.

2 A preventative measure to assist a user in need may include an audible signal (voice or whistle) or a gesture by the instructor indicating the path to shallow water.

6.3.4.4 The instructor must immediately respond to gestures from users requesting assistance or who find themselves in a dangerous situation while the wave is moving.

6.3.4.5 The instructor at the station must have an emergency shut-off device for the wave machine.

Notes

1 Resuming operation of the wave machine is beyond the instructor's control.

2 Operation of the wave machine may be resumed by order of the administrator (senior official on the water park shift).

6.3.4.6 The wave pool instructor's station must be equipped with water rescue equipment (lifebuoys, vests, masks, snorkels, etc.).

6.3.5 Water Ride Instructor

6.3.5.1 Depending on the track configuration and the structural and decorative elements of the ride, instructors must be positioned along the channel—on walkways, on towers, or in the water.

6.3.5.2 Regardless of the observation position, the instructor's actions must ensure the normal movement of users along the entire track.

6.3.5.3 In areas of the ride that feature devices creating special effects or functional equipment, including above or below water, instructor stations may be spaced more closely.

6.3.6 Interactive Ride Instructor

6.3.6.1 Interactive rides offer the opportunity for high levels of user activity, which requires proper supervision by the instructor.

The instructor must reasonably limit user activity and discourage children from engaging in mischief.

6.3.6.2 Instructors must be trained to interact with young children and be able to recognize the potential for dangerous situations arising from excessive activity by children.

6.3.7 Qualification Requirements for Service Personnel

6.3.7.1 Service personnel, in accordance with their job responsibilities, must be qualified to ensure:

a) the safe operation of water attractions:

- during normal operation;

- during maintenance of amusement equipment;

b) the clear and timely response to emergency situations (accidents, adverse weather conditions, etc.) and/or technical problems (breakdowns, equipment malfunctions, etc.).

6.3.7.2 Personnel who, as part of their job responsibilities, are in direct contact with amusement ride users, must be proficient in first aid techniques.

A certain number of instructors must have water rescue skills.

6.3.7.3 The instructor must have the technical training necessary to conduct daily inspections of the rides.

6.3.7.4 Specific qualification requirements for maintenance personnel ensuring the safe operation of rides are determined by the job responsibilities of the specific workplace, as well as by job descriptions and regulations developed by the water park administration.

6.3.7.5 Instructors must be at least 18 years of age.

6.3.8 Staff Uniforms

Providing staff with uniforms is an additional component of ensuring safety at the water park.

Staff uniforms generally have a disciplining effect on those who violate the rules of conduct within the water park and on the water attractions.

7. Intended Use of Water Attractions

When operating water attractions, the provisions of the Technical Regulations on Fire Safety Requirements (Federal Law of the Russian Federation of July 22, 2008, No. 123-FZ) and the Technical Regulations on Safety Requirements for Buildings and Structures (Federal Law of the Russian Federation of December 30, 2009, No. 384-FZ) must be observed.

7.1 Approval of Water Attractions

7.1.1 Approval for use of each water attraction is based on confirmation of the technical condition of the attraction itself, as well as the water park's utility equipment, utilities, and communications. In addition, confirmation of the qualifications of the service personnel responsible for safe operation is required.

7.1.2 The operability of water attractions and the qualifications of the service personnel are confirmed annually based on a complete inspection of the technical condition of the attractions and a qualification check of the personnel.

In seasonal water parks, inspections are conducted before the start of the season; in year-round water parks, inspections are conducted according to the schedule established by the administration.

7.1.3 Daily Technical Condition Inspection

7.1.3.1 Before allowing users to use the attraction, its technical condition must be inspected daily.

7.1.3.2 The primary method for daily inspection of water attractions is organoleptic testing (see 8.2).

7.1.3.3 During daily inspections of water attractions, primary attention is paid to the technical condition of components whose malfunction poses a high risk of injury to users.

The following must be inspected:

- Flooring, walkways, entrances, and exits - primarily for any damage to surfaces that could cause injury and the security of fastenings;
- The surface of the water slide down which the user slides - for cracks, delamination, chips, and foreign objects;
- Check the joints of the water slide's structural elements for the presence of dangerous "steps" (see GOST R 52603, clause 8.2.2) and foreign objects;
- Check the protective coatings of the ride structure that the user comes into contact with for mechanical damage;
- Swimming/slide aids - rafts, mats, etc.;
- Ensure the secure fastening of the covers on the inlet and outlet devices of the pools;
- Ensure the operability of the user access control system.

7.1.3.4 The daily inspection of the water slide must end with three instructor-led test runs.

Notes

1 Instructor-led test runs are not required on children's water slides of types 1.1 (d), 1.2 (d), 2.1 (d), and 2.2 (d).

2 From here on, water slide types are specified in accordance with GOST R 52603.

7.1.3.5 Daily inspections of engineering and technical equipment, electrical equipment, water treatment equipment, etc., are conducted in accordance with the operating documents for these systems.

7.1.3.6 Users may be admitted to the attraction only after all adjustments and corrections determined necessary by the daily inspection have been completed.

7.1.3.7 Information on the daily inspection of the water attraction must be recorded in the daily inspection log (see Appendix B).

7.1.3.8 If the daily inspection is successful (after any identified faults have been corrected), the head of the instructor service (senior instructor) or the senior official of the water park work shift signs the "I authorize user access to the attraction" column in the log.

7.1.3.9 All columns of the log must be completed in ink or with a ballpoint pen. Erasures are not permitted. Corrections must be certified by the administrator's signature.

7.2 Preventing Fall Risks on Slippery Surfaces

7.2.1 The entry and exit areas of water attractions are wet and pose a risk of falls for users walking barefoot. If the existing rough-surface flooring or the surfaces of steps and stairwells do not provide sufficient anti-slip properties, additional fall protection measures (additional flooring, handrails, drainage, etc.) are required.

7.2.2 Materials used to further enhance the anti-slip properties of surfaces must not degrade the quality of water during water treatment, nor serve as a breeding ground for microorganisms or pose a risk of infection to users (see GOST R 53491.1).

7.2.3 During operation, special attention should be paid to approaches to the starting areas of water slides due to the increased risk of falls on slippery surfaces. The technical condition of all means provided to ensure user stability must be the subject of constant attention by maintenance personnel.

7.3 Access to Water Attractions

Water park visitors have free access to water attractions, subject to the following safety restrictions:

- Access to specific attractions may be restricted based on age, weight, and height;
- Persons with obvious signs of illness, inappropriate behavior, or carrying foreign objects are not permitted on attractions;
- Use of outdoor attractions in the water park is restricted by adverse weather conditions (winds exceeding 15 m/s, rain, or thunderstorms);

- Access to the wave pool and play pool must be restricted if there is excessive crowding;
- Children under 8 years of age may only access attractions with deep-water areas (e.g., the wave pool) if they are wearing a life jacket;
- Access to the water attraction must be terminated in the event of a technical malfunction or a situation that disrupts normal operation.

Note - The age of children requiring a life jacket may be increased by the decision of the water park administration.

7.4 Safety Requirements for Water Slide Operation

7.4.1 One of the main hazards for water slide users is the loss of body stability while moving along the slide, resulting in a collision with the walls of the slide, as well as the risk of collision with other users or unattended slide aids (rafts, mats) on the slide or in the finish area.

The risk of user collisions must be minimized by instructors ensuring compliance with the safety rules for the specific water slide.

7.4.2 Only one user at a time is allowed on a slide up to 50 m long for slides of types 3(c), 4(c), 5(e), and 8(e).

7.4.2.1 On longer runs of slides of types 3(c), 4(c), 5(e), and 8(e), two or more users may be present at the same time. Rules must be developed to prevent collisions between users and establish procedures for instructors in the start and finish areas. Intervals between starting users must also be established, including taking into account the instructions in the operating documents for the slide.

7.4.2.2 On a slide of type 10(e) with an acceleration section of any length, only one user may be present at a time.

7.4.3 On slides where the use of assistive devices is not provided, the instructor located in the start area must regulate the start taking into account:

- the user's physical characteristics (height, weight);
- the quality of the user's clothing (the speed of a user wearing coarse fabric is slower than that of a user wearing synthetic fabric).

7.4.4 Before starting a ride down a waterslide, the user must assume an approved position and maintain it from the start until they stop completely or land in the finish pool. Changing position during movement may cause the user to tip over or collide with the sides of the slide.

Approved positions must be communicated to the user by the instructor before the ride begins.

7.4.5 In most cases, the preferred positions are "lying on your back with your feet forward" or "sitting facing forward."

7.4.6 The "lying on your stomach with your head forward" position is permitted on waterslides specifically designed for this position. This position may be permitted provided that the design of the slide, the slide assist device, the braking section, and the layout of the finish pool ensure the required level of user safety. This position may only be approved for use by the designer/manufacturer of the water attraction.

7.4.7 The standing position is permitted only on slides specifically designed for this type of riding. This position may only be approved by the ride designer/manufacturer.

7.4.8 On slides with age restrictions, it is recommended to install height control templates manufactured in accordance with GOST R 52603, paragraph 3.11.

7.4.9 The instructor located in the finish area must prevent collisions between users, remove unattended descent aids in the finish pool or special receiving device, and quickly clear any blockages caused by lingering users.

Instructors must be assertive and willing to resolve blockages with proactive action.

7.4.10 The instructor located at the finish pool must:

- prevent unauthorized access to the pool;
- ensure the safe movement and exit of users within it.

7.4.11 In a finishing pool where users of multiple slides land, movement toward the pool exit must be organized to prevent intersections of exit trajectories and collisions between users (see GOST R 52603, Section 9.2.2 and Appendix B).

7.5 Communication Equipment

7.5.1 The water park must be equipped with means for both internal communication between service personnel and interaction with visitors. Depending on the tasks performed and the size of the water park, simple means (loudspeakers, whistles, shortwave two-way communication devices) or more complex means (wired communication systems, loudspeakers, etc.) may be used.

7.5.2 Localized information notification systems (loudspeakers, whistles, etc.) may be used by instructors to communicate with individual users. Public address systems are effective for traffic control in areas where users congregate (e.g., at the start and finish areas of water slides, wave pools, and fun play areas). Devices with pre-recorded audio messages allow for effective and timely informational delivery of safety instructions to water park visitors.

Video monitors are recommended for informing users of safety instructions for specific water attractions.

8 Requirements for Technical Inspections, Maintenance, Repair, and Modification of Water Attractions

8.1 General Provisions

Technical inspections and scheduled maintenance of a specific water attraction must be performed by specialists trained or experienced in performing maintenance on such attractions; maintenance may be performed under the direct supervision of such specialists.

Scheduled maintenance consists of the following types, differing in the scope of work and timing:

- Maintenance during a daily inspection (see 7.1.3);
- Periodic maintenance (see 8.3);
- maintenance during a full technical inspection (see 8.4).

8.2 Methods for Inspecting the Technical Condition of Water Attractions

8.2.1 The primary method for inspecting the technical condition of all water attractions is organoleptic (including visual) inspection.

8.2.2 Organoleptic inspection may be supplemented by non-destructive testing using instrumental methods.

8.3 Periodic Maintenance

8.3.1 Periodic maintenance and inspections of water attractions should be carried out in accordance with the requirements of this standard, as well as the requirements, frequency, and scope established in the operating documents for the specific water attraction.

8.3.2 Periodic maintenance of the attraction is performed by maintenance personnel consisting of a mechanic, electrician, and water treatment equipment specialist.

8.3.3 The technical condition of metal structures should be inspected monthly for damage (cracks, deformations, mechanical wear, etc.).

The condition of threaded and other detachable connections must be checked with the same frequency for loose connections, damage, or loss of fasteners (bolts, nuts, cotter pins).

Note: The time between inspections may be shortened by the water park administration.

8.3.4 A monthly inspection of the technical condition of auxiliary equipment for riding/sliding (rafts, mats) consists of inspecting them for damage and determining the excess air pressure in the casing, which should be in the range of 8 to 10 kPa (0.08 to 0.1 atm).

8.3.5 The technical condition of the gelcoat coating on water slides should be checked as thoroughly as possible due to the high risk of injury to users from any mechanical damage to the surface (cracks, chips, delamination, deformation, etc.).

8.3.6 The technical condition of the joints between sections of water slides should be checked for damage (cracking) in the flange areas, as well as looseness of the bolted connections of the section flanges.

8.3.6.1 The height of the "step" at the joint of two adjacent sections of the slide along the user's trajectory should be no more than 3.0 mm in the direction of descent.

8.3.6.2 The reliability of the threaded connections at the attachment points of the sections of the slide to the support brackets, which are typically located in the area where the sections of the slide meet, should be checked.

8.3.7 Inspections and Maintenance of Electrical Equipment

Inspections, testing, and maintenance of electrical equipment for water attractions must be conducted in accordance with the requirements, frequency, and scope established in [3] and [4].

8.3.8 Inspections and Maintenance of Water Treatment Equipment

8.3.8.1 All pumps, control equipment, and instrumentation (pressure gauges, flow meters, etc.) must be accompanied by installation/dismantling, maintenance, and operating instructions.

8.3.8.2 Water treatment system equipment must be inspected and maintained in accordance with the operating documentation for the water treatment system and the requirements of GOST R 53491.1, Section 10.

8.3.8.3 Information on periodic maintenance of the water attraction, including information on the elimination of any detected defects, must be recorded in the maintenance log (see Appendix G).

8.3.8.4 All columns of the logbook must be completed in ink or with a ballpoint pen. Erasures are not permitted. Corrections must be certified by the administrator's signature.

8.3.8.5 If necessary, a maintenance report must be prepared and kept with the water attraction logbook.

8.4 Complete Technical Inspection

8.4.1 General Provisions

Each water attraction in operation must undergo an annual complete technical inspection.

At seasonal water parks, a complete inspection is conducted before the start of the season; at year-round water parks, a complete inspection is conducted according to the schedule established by the administration.

Complete technical inspections may be conducted more frequently due to repairs or modifications to the water attraction, or if reasonable doubts about its safety arise.

8.4.2 A full technical inspection of water attractions should be conducted by:

a) specialized organizations and organizations from related technical fields with experience in the use, maintenance, and repair of similar structures, mechanisms, and systems;

b) water park technical services.

Note: A full technical inspection by water park technical services is generally conducted if the water attractions are certified according to the rules of the national GOST R Certification System and have valid certificates of conformity with the requirements specified in the technical regulations and national standards of the Russian Federation.

8.4.3 Key items to be inspected:

a) load-bearing metal structures of the water attraction (support posts, brackets, connections, etc.);

b) fences, walkways, decks, entrances, and exits, primarily for the presence of hazardous surface damage and the reliability of fastenings;

c) threaded and other detachable connections of structural elements - for loosening, damage, or loss of fasteners (bolts, nuts, cotter pins);

d) handrails and other supporting devices, as well as anti-slip coatings that protect users from falling on a wet surface;

d) protective coatings of the ride structures with which the user comes into contact - for damage;

e) the surface of the water slide descent track along which the user slides, and the joints of the structural elements of the descent track;

g) the reliability of the fastening of the flange joints of the composite structural elements of the water slide descent track;

i) the reliability of the fastening of the water slide descent track at the attachment points to the metal structure of the ride;

j) pool equipment (inlet and outlet covers, overflow channels);

k) auxiliary devices for swimming and descent (see 8.3.4);

l) maintaining safe distances and dimensions to reduce the risk of injury to users;

n) electrical equipment (see 8.3.7);

p) water treatment system equipment (see 8.3.8);

p) means of communication for service personnel, monitoring the behavior and alerting users of attractions and water park visitors;

c) availability and completeness of information for users on ensuring safety on the water attraction.

8.4.4 The operational readiness of electrical installations of water attractions must be confirmed by a technical report on testing of electrical installations and equipment, conducted by an electrical laboratory duly registered with Rostekhnadzor.

The technical report on testing of electrical installations of water attractions must be attached to the report under 8.4.7.

8.4.5 Inspection of water treatment system equipment - see 8.3.8.2. The results of the inspection of water treatment system equipment must be documented in a report.

The inspection report on water treatment system equipment must be attached to the report under 8.4.7.

8.4.6 Qualification of the technical condition of a water attraction

8.4.6.1 Based on the results of a complete inspection, the technical condition of a water attraction is classified as "operational" or "inoperable" (see 3.6 and 3.7, respectively).

8.4.6.2 Operation of the water attraction is permitted if it is in good working order, meaning that all its components and systems are capable of ensuring trouble-free operation when used for its intended purpose and subject to the operating and maintenance rules specified in the water attraction's operating documents.

8.4.6.3 If, as a result of a complete inspection, the technical condition of the water attraction is determined to be inoperable, a decision must be made to repair it, which must be carried out in accordance with 8.5, or a decision must be made to dispose of the attraction.

8.4.7 The results of the complete technical inspection must be documented in a report, which must be kept with the water attraction's operating manual.

8.5 Repair

8.5.1 When repairing a water attraction, special care must be taken to ensure that the technical specifications of the repaired product do not deviate from the original design. For example, increasing the rigidity or strength of one element of the attraction's structure may lead to increased stress in adjacent elements, which may, in turn, lead to damage. The use of welding in the repair of attraction structures is considered a modification (see 8.6) provided it is used to create welded assemblies or joints between structural parts that were not included in the original design of the water attraction.

8.5.2 Routine repairs are performed by the water park's technical staff under the supervision of the water park's technical service managers or the administrator.

8.5.3 Medium or major repairs are carried out in accordance with repair documents developed with the participation of, or in agreement with, the designer/manufacture of the water attraction. If the attraction manufacturer's participation is not possible, the participation or agreement of a specialized organization is permitted.

Note: In addition to specialized organizations, organizations from related technical fields with experience in the use, maintenance, and repair of similar structures, mechanisms, and systems may be engaged for the repair and restoration of attraction equipment.

8.5.4 Repair documents must, at a minimum, include repair specifications and repair drawings in accordance with GOST 2.602.

8.5.5 When performing repair work, personnel qualifications, the quality of materials and components used, and work procedures must be met, similar to those required for the manufacture of water attractions.

8.5.6 When using materials, parts, and components different from those being replaced, such replacement must be considered a modification, and the requirements of 8.6 must be met.

8.5.7 For a water attraction that has undergone a major overhaul, the service life is reset, taking into account the conditions of its previous operation.

8.5.8 After completing repair work, surfaces accessible to users of the water attraction must be washed and disinfected.

The composition of aqueous solutions for preventive disinfection is in accordance with [5]. The procedure and rules for preparing the water treatment system for operation are in accordance with GOST R 53491.1.

8.5.9 After major repairs, the water attraction must be tested in accordance with GOST R 52603, Section 12.

8.5.10 Repair information must be recorded in the water attraction repair log (see Appendix D).

8.5.10.1 All columns in the log must be completed in ink or with a ballpoint pen. Erasures are not permitted. Corrections must be certified by the administrator's signature.

8.6 Modification

8.6.1 Changes made to the component parts of the attraction (structures and mechanisms) are considered modifications and must be carried out only after consultation with the attraction designer/manufacture. If the manufacturer of the specific attraction is unable to participate, the participation or approval of a specialized organization is permitted.

If, following such consultation, a decision is made that the modification is permissible, it is carried out according to a program that also includes the necessary inspection methods and scope.

8.6.2 Before being put into operation after modification, the attraction must undergo a complete technical inspection in accordance with 8.4.

8.6.3 A report on the modification performed must be kept with the water attraction logbook.

9 User Safety Information

9.1 General Provisions

9.1.1 An important element of ensuring the safety of water park visitors and water attraction users is the availability of appropriate graphic and textual information.

Information must be provided in Russian and, at the discretion of the water park administration, in the official languages of the constituent entities of the Russian Federation and the native languages of the peoples of the Russian Federation.

Note: The use of audio and video information is permitted.

9.1.2. The water park administration must:

9.1.2.1. In accordance with Federal Law of the Russian Federation No. 2300-1-FZ "On the Protection of Consumer Rights" of February 7, 1992, develop, produce, and post at ticket offices necessary and reliable information for visitors about the water park and the services provided.

Note: It is recommended to also post information for visitors in changing rooms and throughout the water park.

9.1.2.2. Produce and post information on user safety rules for water attractions at water attractions.

Note: The design of information boards with user safety rules for water attractions is based on materials provided by the designer/manufacturer of the specific attraction.

9.1.3 Information for water park visitors must include:

- water park operating hours;
- list of water attractions;
- ticket prices in rubles and terms and conditions;
- child access to the water park;
- requirement for constant parental or accompanying adult supervision of children under 8 years of age while on the water park grounds or enjoying water attractions;

- rules of conduct within the water park;
- general rules for safe behavior on water attractions;
- force majeure circumstances that will result in the termination of the rides;
- list of items and visitor actions prohibited within the water park;
- list of free water park services;
- list of paid water park services;
- emergency phone numbers.

Notes

1. The water park administration may decide to increase the age of children within the water park who require constant supervision by parents or accompanying adults.

2. It is recommended that information regarding the need for constant supervision of children under 8 years of age be broadcast over the water park's public address system every 10-15 minutes.

9.1.4. The water park administration must develop and communicate to each user safety rules for each water attraction.

9.1.5. It is recommended to create a map (plan) of the water park indicating the location and photographs of all graphic and textual information within the water park and on all water attractions.

9.1.6. Information boards with graphic and textual information must be checked daily to ensure they are not damaged and the information is not distorted.

9.1.7. Mandatory and prohibitory signs, signal colors, and signal coloring - in accordance with GOST R 12.4.026.

9.1.8 Information signs for public places (tickets, lost and found, shower, trash bin, fire extinguisher, toilet, etc.) - in accordance with GOST R 51885.

9.1.9 Graphic and text information must be placed in user-friendly locations, at a distance from the supporting surface of at least:

- 1.5 m - for adult users;

- 1.0 m - for children.

9.2 Information for Water Slide Users

9.2.1 The attraction designer/manufacturer, along with the operating documentation, must provide (in the form of mock-ups, tablets, etc.) the following informational materials:

- a mock-up of an information board with text information on safety rules and instructions for water slide users (see Appendix E);

- a mock-up of an information board with mandatory and prohibitive signs, as well as instructional signs for water slide users (see Appendix G).

9.2.2 The water park administration, guided by the mock-ups of the informational materials in 9.2.1, must produce information boards with graphic and textual information and install them on the water slide (see 9.2.8).

9.2.2.1 Based on an analysis of user risks for a specific slide and taking into account local conditions, the water park administration may develop and place additional graphic and textual information on the information boards.

9.2.3 Mandatory blue signs shall be used to depict permitted descent positions and user behavior. Graphic symbols shall be white (see Appendix I).

9.2.4 Prohibitory red signs shall be used to depict prohibited descent positions and user behavior. Graphic symbols shall be black (see Appendix K).

9.2.5 A black-and-white sign in the form of a square with rounded corners shall be used to depict user instructions (see Appendix K).

The following colors shall be used to depict the slope's difficulty level (see Appendix K, Figure K.1):

- Blue - Easy slope [slides of types 2.1 (d), 2.2 (d), 3 (c), H1 (d)];
- Red - Medium slope [slides of types 4 (c), 6.1 (c), 6.2 (c), 7 (c), H2 (c)];
- Black - difficult descent [slides of types 5 (e), 8 (e), 9 (e), 10 (e)].

9.2.6 The following minimum required information must be displayed on the graphic information board:

- a) descent difficulty;
- b) minimum height/age, and for slides of types 1.1 (d), 1.2 (d), 2.1 (d), 2.2 (d), H1 (d) - maximum height/age of the user;
- c) drop height into the water at the end of the descent, if greater than 200 mm;
- d) water depth in the finish area;
- e) instructions to leave the finish area immediately;
- e) prescribed safe positions for the descent.

9.2.7 The following minimum required information must be posted on the text information board:

- a) minimum height/age, and for slides of types 1.1 (d), 1.2 (d), 2.1 (d), 2.2 (d), and H1 (d), the maximum height/age of the user;
- b) requirement for parents or accompanying adults to constantly supervise children under 8 years of age [for slides of types 1.1 (d), 1.2 (d), 2.1 (d), 2.2 (d), 3 (s), and H1 (d)];
- c) prescribed safe riding positions;

d) water depth in the finish area;

e) instruction to leave the finish area immediately;

e) presence of special effects;

g) contraindications for use (pregnancy, cardiovascular disease, acute chronic diseases, etc.);

i) entry with foreign objects (keys, credit cards, jewelry) is prohibited;

k) entry by persons under the influence of alcohol or drugs is prohibited.

9.2.7.1 The size of the text information board is at least A1 format (841 x 594 mm).

9.2.8 Information boards are placed at the entrance to the water slide and at the launch pad of the water slide.

If the launch pad contains multiple slides, information boards are placed at the starting point of each slide.

Note: In the area where slides of types 1.1 (d), 1.2 (d), 2.1 (d), and 2.2 (d) are located, it is recommended to place additional information boards requiring accompanying adults to constantly supervise children.

9.3 Information for Users of Recreational Play Pools

9.3.1 Information posted near recreational play pools is intended for adults accompanying children.

9.3.2 Minimum Necessary Information:

- a) Requirement for accompanying adults to maintain constant supervision of children;
- b) Minimum age and, if necessary, maximum age of children;
- c) Pool depth;
- d) Warning about the need to limit children's mischief;
- d) Specific information - depending on the children's attractions and other recreational equipment installed.

9.3.3 Information boards must be installed around the perimeter of the recreational play pool.

9.4 Information for Users of Wave Pools

9.4.1 Information boards installed near the wave pool must be visible both from the pool and from the area surrounding the pool.

9.4.2 Minimum required information:

- a) a requirement for adults accompanying children to maintain constant supervision, even in the shallowest part of the pool;

- b) a requirement for children under 8 years of age to wear life jackets;
- c) a minimum age for children;
- d) a requirement for non-/poorly skilled swimmers to use swimming aids and a recommendation not to swim in the deep end of the pool;
- d) depth markings throughout the pool;
- e) a warning that a section of the pool is significantly deep and should only be used by experienced swimmers;
- g) a list of permitted/prohibited swimming aids (rafts, life rings, life jackets, floats, fins, etc.).

9.5 Information for Users of Water Rides

9.5.1 Minimum Required Information:

- a) Requirement for adults accompanying children to maintain constant supervision of children;
- b) Requirement to enter/exit the ride only in designated areas;
- c) Depth marks along the entire route;
- d) List of permitted/prohibited swimming aids (rafts, life preservers, life jackets, floats, fins, etc.).

9.6 Information for Users of Interactive Rides

9.6.1 Information for adults accompanying children regarding the need for constant supervision of children must be posted near freestanding interactive rides.

9.6.2 Specific information may be posted on the information board, depending on the type of interactive ride installed.

Appendix A (recommended). List of documents attached to the water ride acceptance certificate

Appendix A

(recommended)

A.1 The following documents must be attached to the water ride acceptance certificate:

a) a list of organizations involved in the design, construction, and installation work, indicating the types of work performed;

b) a set of working and as-built drawings for the ride being submitted for acceptance;

c) documents certifying the quality of steel structures in accordance with GOST 23118;

d) interim acceptance certificates for individual critical structures (steel supports for the water slide, bolted flange connections for the supports, load-bearing reinforced concrete structures, etc.);

d) a document certifying the quality of the concrete mix in accordance with GOST 7473;

e) hidden work inspection certificates;

g) electrical installation and network test certificates;

i) work log;

k) pile driving log (if necessary);

l) acceptance test report for the attraction, completed in accordance with GOST R 52603, Section 12;

l) an acceptance certificate for the amusement ride, prepared in accordance with GOST 2.610.

A.2 A set of documents confirming the acceptance of the water treatment system in accordance with GOST R 53491.1, subsection 10.4, must be presented.

A.3 A set of operating documents for the amusement ride and water treatment system must be presented:

a) an amusement ride form (FO), prepared in accordance with GOST 2.601, GOST 2.610, and GOST R 52603;

b) an amusement ride operating manual (OM), prepared in accordance with GOST 2.601, GOST 2.610, and GOST R 52603;

c) operating instructions for the water treatment system.

A.4 Passports, instructions, etc., for the associated equipment, mechanisms, units, and measuring instruments must be presented. A.5 Certificates of conformity for components and equipment subject to mandatory certification must be presented.

Note - When accepting water attractions installed in water parks located in a building (structure), the list of documents submitted to the acceptance committee may be modified in accordance with the requirements for accepting buildings (structures).

Appendix B (recommended). Water Park Personnel Actions in Emergencies

Appendix B

(recommended)

B.1 The water park must develop a personnel action plan for the following emergency situations:

- the presence of victims (visitors, staff) in serious condition (loss of consciousness, severe bleeding, convulsions, etc.);

- obvious signs of drowning;

- heart attacks (visitors, staff);

- power outages, water supply interruptions, or other equipment failures resulting in an emergency shutdown of the attraction;

- disruption of the normal operation of the water treatment system;

- change in weather conditions (thunderstorm, lightning strike, gale-force winds, etc.);
- disappearance of people (e.g., children leaving unnoticed by accompanying adults);
- fire, conflagrations;
- disturbances of public order by water park visitors (conflicts, fights, etc.).

B.2 When developing an emergency action plan, the following relevant issues that arise in most cases should be considered and described:

- what actions are taken by employees who first discover (arrive at the scene of) the emergency;
- what must be done at the scene of the emergency and which employees should perform which actions in certain types of emergencies;
- what actions are required of employees occupying a particular position;
- which employees decide whether to call emergency services or other organizations for assistance;
- what to do with visitors in a state of affect;
- Which staff members document the emergency?

B.3 The emergency action plan must establish a comprehensive, detailed procedure for staff actions.

B.4 Staff job descriptions must describe the actions required of employees in emergency situations.

B.5 Staff must be trained in emergency response.

B.6 To maintain staff preparedness for emergency situations, it is necessary to conduct training sessions under simulated emergency conditions and first aid classes.

Appendix B (recommended). Sample Water Attraction Daily Inspection Log

Appendix B (recommended)

WATER ATTRACTION DAILY INSPECT LOG

Water Attraction Name _____

Installation Location _____

Manufacturer _____

Manufacture Date _____

Commissioning Date _____

Service Life _____

Date	The attraction has passed the required inspections			I authorize user access to the attraction. Last name, initials, signature
	Number of inspection runs*	Comments	Last name, initials, signature of the inspector	

* This column is filled in for water slides.

Appendix G (recommended). Sample Water Attraction Maintenance Log

Appendix G (recommended)

MAINTENANCE LOG

Water Attraction Name

Installation Location

Manufacturer

Manufacture Date

Commissioning Date

Service Life

Date	Maintenance work content or reference to the relevant operating document (section, item, and sub-item numbers), or reference to the item in the maintenance report.	Report No., preparation date*	Last name, initials, position, and signature of the responsible person.

* This column is filled in if a maintenance report is available.

Appendix D (recommended). Sample Water Attraction Repair Log

Appendix D

(recommended)

REPAIR LOG

Water Attraction Name

Installation Location

Manufacturer

Manufacture Date _____

Commissioning Date _____

Type of repair. Summary of work performed.	Reasons for repair.	Name of organization that performed the repair.	Start/end dates of repair.	Last name, initials, position, and signature of the responsible person	
				who performed the repair	accepted the item from repair.

Appendix E (recommended). Information board layout with text information

Appendix E

(recommended)

<p style="text-align: center;">Водная горка «КРАСНАЯ РЕКА»</p> <p style="text-align: right;">Время спуска 14 секунд Средняя скорость спуска 18 км/ч Глубина воды в бассейне 1,2 м</p> <p style="text-align: center;">РАЗРЕШЕННЫЕ ПОЗЫ СПУСКА</p> <ul style="list-style-type: none">• на спине «головой назад»• сидя «лицом вперед» <p style="text-align: center;">ЗАПРЕЩАЕТСЯ</p> <ul style="list-style-type: none">• Доступ на горку детям младше 8 лет• Спуск на спине или животе «головой вперед»• Доступ на горку лиц с посторонними предметами (ключами, пластиковыми карточками и т. п.)• Доступ на горку лицам, страдающим сердечно-сосудистыми заболеваниями, заболеваниями опорно-двигательного аппарата, беременным женщинам• Доступ на горку лицам в состоянии алкогольного или наркотического опьянения
--

Appendix G (recommended). Layout of an information board with graphic information

Appendix G

(recommended)

Водная горка «КРАСНАЯ РЕКА»

Время спуска	14 секунд
Средняя скорость спуска	18 км/ч
Длина трассы спуска	70,3 м

ЛЕГКИЙ

СРЕДНЕЙ СЛОЖНОСТИ

СЛОЖНЫЙ

ОБЩАЯ ИНФОРМАЦИЯ



1,2 м



20 см



-8

РАЗРЕШЕННЫЕ ПОЗЫ СПУСКА





ПРАВИЛА ПОВЕДЕНИЯ









Appendix I (mandatory). Mandatory Signs

Appendix I

(mandatory)



Figure I.1 - Supine position, head back



Figure I.2 - Prone position, head forward



Figure I.3 - Sitting position, facing forward



Figure I.4 - Sitting position, child in front of adult, facing forward



Figure I.5 - Immediately leave the finish area



Figure I.6 - Immediately leave the designated receiving device



Figure I.7 - Use a single-person raft



Figure I.8 - Use a multi-person raft



Figure I.9 - Use a mat



Figure I.10 - Keep your distance



Figure I.11 - Keep your distance



Figure I.12 - Maximum height for a specific slide



Figure I.13 - Minimum height for a specific slide



Figure I.14 - Supine position, head back, legs crossed, hands behind your head

Appendix K (mandatory). Prohibitory signs

Appendix K

(mandatory)



Figure K.1 - Sitting on your stomach head-first is prohibited.



Figure K.2 - Descending in a chain is prohibited.



Figure K.3 - Descending is prohibited for children over 8 years old.



Figure K.4 - Descending is prohibited for children under 8 years



Figure K.5 - Holding onto the sides of the descent is prohibited.



Figure K.6 - Descending with foreign objects is prohibited.

Appendix L (recommended). User Guidelines

Appendix L

(recommended)



Figure L.1 - Descent Difficulty Figure



L.2 - Descent in the Dark



Figure L.3 - Drop Height into the Water at the End of the Descent

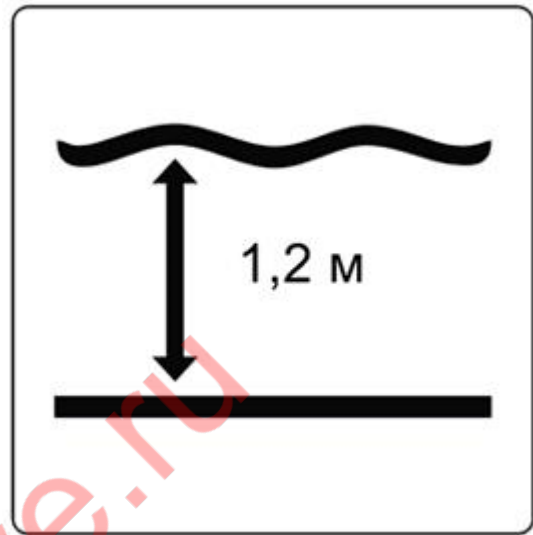


Figure L.4 - Water Depth in the Finish Area

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