



On approval of the Rules for navigational and hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea

Unofficial translation

Decree of the Government of the Republic of Kazakhstan dated February 22, 2018 No. 75.

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In accordance with subparagraph 31-3) of paragraph 2 of article 4 of the Law of the Republic of Kazakhstan dated January 17, 2002 "On merchant shipping", the Government of the Republic of Kazakhstan DECIDES:

1. To approve the attached Rules for navigational and hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea.

2. This Resolution shall be enforced ten calendar days after the day of its first official publication.

*Prime Minister
of the Republic of Kazakhstan*

B. Sagintayev

Approved
by the Decree of the Government
of the Republic of Kazakhstan
dated February 22, 2018 No. 75

Rules for navigational and hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea

Chapter 1. General Provisions

1. These Rules for navigational and hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea (hereinafter referred to as the Rules) are developed in accordance with subparagraph 31-3) of paragraph 2 of Article 4 of the Law of the Republic of Kazakhstan dated January 17, 2002 "On merchant shipping" and determine the procedure for navigation - hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea.

The Rules are aimed at ensuring the safety of navigation in the implementation of maritime activities by state bodies and organizations in the Kazakh sector of the Caspian Sea (hereinafter - KSCS).

2. Navigation and hydrographic support of maritime activities in the KSCS is carried out by:

- 1) installation and operation of aids to navigation;
- 2) informing seafarers about changes in the navigation situation;

3) carrying out hydrographic surveys in KSCS.

3. The following concepts are used in these Rules:

1) hydrographic research - research of water bodies of the sea and land, their shape, size, nature of the coast, depths, topography and bottom soils;

2) hydrophysical studies - studies of the processes of interaction between the sea and the atmosphere, the dynamics of surface, tidal and internal waves, water circulation, turbulence, meso- and microstructure of the physical fields of the sea (temperature, salinity, density, speed and direction of currents, optical and acoustic properties, magnetic fields, sea chemistry);

3) geophysical studies - studies of the relief, composition, physical and mechanical properties and corrosion activity of soils; position, dynamic characteristics and properties of groundwater; changes over time as a result of human activities;

4) hydrographic service - a republican state institution of the Ministry of Defense of the Republic of Kazakhstan, authorized to perform the tasks of navigational and hydrographic support of sea routes;

5) floating fencing system - a system for placing marine floating warning signs with the assignment of a certain color, nature of fire, shape and color of top figures in order to ensure conspicuity and uniformity in the fencing or designation of navigational hazards, waterways (fairways , canals and various water areas and places);

6) prohibited area for navigation - an area of the sea in which navigation is prohibited or which is restricted for navigation, anchoring, harvesting marine mammals, fishing with bottom tools for the extraction (catch) of aquatic biological resources, underwater explosions, navigation with an etched anchor chain, overflight, hovering and landing (splashdown) of aircraft and other activities;

7) an area temporarily dangerous for navigation - an area of the sea in which navigation is prohibited for a certain period or which is restricted for navigation, anchoring, harvesting marine mammals, fishing with bottom tools for the extraction (catch) of aquatic biological resources, underwater explosions, swimming with etched anchor chain, flight, hovering and landing (splashdown) of aircraft and other activities;

8) lateral signs - floating warning signs that protect the sides of sea channels and fairways, as well as to indicate the places where channels (fairways) are separated, indicate the direction of the main (preferred) channel (fairway) and their turning points;

9) sailing directions - an information guide describing the conditions of navigation in the area, allowing the navigator to identify a geographical point on the ground and recommending the choice of a route;

10) navigation information - information about changes in the navigation situation, transmitted to the hydrographic service by the commanders of the ships of the Naval Forces of the Armed Forces of the Republic of Kazakhstan (hereinafter - the NAF) and the Border Guard Service of the National Security Committee of the Republic of Kazakhstan (hereinafter

– BGS NSC RK), as well as ship captains operating in the KSCS, for issuing a notice to seafarers and including it in the sailing directions and manuals;

11) navigational situation - the situation in the sea, determined by the physical and geographical conditions (depth, nature of the soil, noticeable landmarks on the coast, navigational dangers), the presence and condition of the means of navigational equipment of the sea and recommendations regulating the movement of ships;

12) navigational and hydrographic support - the performance of hydrographic, hydrophysical and geophysical studies of the sea in order to maintain up-to-date marine navigation charts, navigation manuals and manuals, provide sea routes in the KSCS with navigational equipment, as well as inform sailors about changes in the navigational situation;

13) notice to seafarers - an information bulletin periodically published by the hydrographic service on changes in the navigational situation for inclusion in navigational aids (maps, sailing directions);

14) hydrographic survey of the sea - the process of collecting information on water bodies for the needs of navigation, marine geology and marine construction;

15) maritime activity is the activity of the Republic of Kazakhstan in the field of study, development and use of the Caspian Sea in the interests of security, sustainable economic and social development of the state, including: shipping activities, provision of port (berthing) services, construction and repair of ships, provision of shipboard operations, operation of offshore oil and gas facilities, extraction of aquatic biological resources, marine scientific research;

16) marine local differential station - a complex of radio electronic and technical means located at a point with known spatial coordinates, with the help of which navigation signals are received and processed, differential corrections are calculated and transmitted as part of corrective information via communication channels to the consumer of the Global Navigation Satellite System (hereinafter referred to as GNSS) to improve the accuracy of determining its spatial coordinates when the GNSS consumer is within the range of differential corrections;

17) cardinal signs - floating warning signs designed to protect navigational hazards located in the sea (banks, shoals, ridges of stones, artificial underwater obstacles) or extending from the coastline (reefs, shoals, spits, pipes);

18) organizations - legal entities engaged in maritime activities in the KSCS.

Chapter 2. Procedure for navigation and hydrographic support of maritime activities in the Kazakh sector of the Caspian Sea

Paragraph 1. Procedure for installation and operation of aids to navigation

4. Aids to navigation (hereinafter - AN) organizations are included in the general system of navigation equipment of the KSCS and are designed to ensure the safe navigation of ships on the approaches to seaports and objects of maritime activity.

5. Aids to navigation are divided into coastal and floating:

1) coastal aids to navigation include beacons, maritime navigational marks and maritime local differential stations.

Coastal aids to navigation are designed to identify a certain section of the sea or coastline and determine the position of the vessel within the declared visibility range of the sign;

2) floating aids to navigation include floating warning signs (hereinafter - FWS) - buoys and milestones.

Floating aids to navigation are designed to protect navigational hazards, channel edges and sides of fairways, recommended routes, seaport waters, underwater quarries, soil dumps, pipelines and cables that go into the sea, landfills.

6. To improve the identification of aids to navigation, they are equipped with passive radar reflectors (hereinafter -PRR), radar beacons-responders and a sound signal device.

7. Organizations that have and operate aids to navigation submit information to the hydrographic service, in accordance with Appendix 1 - 4 to these Rules, for issuing notices to mariners and including them in manuals (maps, sailing directions).

8. The establishment (removal) of the FWS, the switching on (off) of the lights of navigation signs in connection with the opening (closing) of navigation is carried out by organizations within the time period agreed with the hydrographic service and the captain of the seaport.

9. In the northern part of the KSCS, the installation of marine FWS is carried out after the complete clearance of the fenced area from ice, and their removal, except for ice buoys and milestones, with the onset of ice formation.

In freezing ports, the FWS are set at the beginning of navigation, when the port water area is completely clear of ice, and removed at the end of navigation with the first signs of ice formation, taking into account hydrometeorological conditions.

10. During the navigation period, the lights of coastal navigational signs are turned off, and the watermarks are removed for urgent repairs with a simultaneous notification of the hydrographic service to issue a notice to mariners.

11. Changes in the agreed schemes for the placement of AN signs are allowed after agreement with the hydrographic service.

12. Heads of organizations and captains of ships check the correct placement and operation of the FWS, as well as the compliance of their declared characteristics with the navigation charts.

13. In case of detection of drifting RPS, ship captains send a report to the Harbor Master and to the hydrographic service, if the weather conditions and the technical capabilities of the vessel allow, they lift the FWS on board or take it in tow and deliver it to the port.

14. The captain of the ship that has caused any damage to the FWS immediately informs the captain of the seaport and the hydrographic service about this, indicating the coordinates, the name of the FWS and the nature of the damage.

15. Coastal aids to navigation are day and night landmarks and are installed on the shore and at sea on hydraulic engineering foundations and provide the required range of visibility of fire at night and structures in the daytime, required by navigation conditions.

16. To increase the reflectivity of coastal aids to navigation, as well as to designate individual points located on a low-lying coast that do not have characteristic radar landmarks, passive radar reflectors are used.

17. When installing coastal aids to navigation:

1) the coordinates of the place of installation of navigation marks (centers of marks) are determined by the geodetic method;

2) the height mark of the base of the sign is determined using a level;

3) when replacing a navigation mark with a new one, the preservation of the center of the mark is checked using a theodolite;

4) the longitudinal axis of the alignment mark is aligned with the centerline of the alignment;

5) the plane of the front side of the backboard and the top figure is perpendicular to the alignment line;

6) the sign must be clearly visible from any point of the undercarriage of the alignment. When choosing the color of the sign, the greatest contrast of the sign with the background of the area is created.

18. Navigational marks are divided into identification and leading marks equipped with shields from the sides from which they are visible from a passing vessel, or port navigational marks having a distinctive color.

19. Light-optical devices and passive radar reflectors are installed on identification navigation marks.

20. The coloring of coastal aids to navigation, depending on the background of the terrain, is carried out in colors in accordance with Appendix 5 to these Rules.

21. Leading marks installed in a port, populated area or other places with a large number of extraneous lights shall be equipped with an electric light path, which ensures a sharp difference between the leading lights from all others.

22. When installing leading signs in ports or other areas where the visibility of signs against the background of a large number of cranes, buildings and other high-rise structures and structures in the daytime is difficult, additional light-optical devices are installed on the signs for their use during daylight hours.

23. After the installation of coastal aids to regular places, before putting them into operation, they are checked by observation from the sea with the involvement of specialists from the hydrographic service.

24. Based on the results of observations of the operation of the coastal AN from the sea, the hydrographic service issues a conclusion on its acceptance into operation or carrying out

additional work to improve the quality of the operation of the coastal AN, after which the check by observation from the sea is repeated.

25. Marine local differential station (hereinafter - MLDS) receives navigation signals, transmits, processes and stores (including redundancy) service information, as well as presents data to MLDS users in real time.

26. MLDS provides determination of the coordinates of objects with "meter" and "decimeter" accuracy when solving the following tasks:

- 1) reception of GNSS signals;
- 2) calculation of differential corrections and generation of corrective information for GNSS navigation signals;
- 3) transmission of corrective information in real time;
- 4) formation and issuance of information about the quality of navigation fields and the quality of corrective information;
- 5) continuous quality control of the functioning of the MLDS components in the operating mode.

27. In order to ensure the safety of ships navigating in KSCS, captains of ships that are GNSS users use corrective information to accurately determine position coordinates.

28. KSCM uses the unified system of fencing navigational hazards with floating warning signs adopted by the International Association of Lighthouse Authorities (hereinafter referred to as IALA) (hereinafter referred to as the IALA Region A floating barrier system).

29. Under the IALA Region A floating fencing system, signs and lights are red for fencing the left side of fairways and canals (red for the left) and green for the right side. At the same time, the direction of fairways and channels and the name of their sides are considered from the sea, and in some cases they are negotiated specifically.

30. The IALA Region A floating fencing system provides for five types of BPP:

- 1) lateral signs;
- 2) cardinal signs;
- 3) signs of individual dangers of small sizes;
- 4) axial signs (signs of safe passage);
- 5) signs for special purposes.

31. Depending on the characteristics of the setting area and the type of danger to be guarded, the listed types of signs are used both individually and in various combinations, including all or several types at the same time.

32. On luminous and non-luminous floating signs, passive radar reflectors, radar responder beacons, radio beacons, howlers are used. In each specific case, the composition of the sign equipment is announced in navigation manuals.

33. The choice of types of FWS set up according to the IALA Region A floating fencing system, and their required number is determined by the navigational and hydrographic

features of the area, the conditions and modes of navigation, as well as the position, size and types of protected hazards.

34. Lateral signs are installed on both sides of the channel (fairway), as the most common option for fencing the channel (fairway), facilitating visual assessment of the position of the vessel relative to the crests.

35. The direction of the canal (fairway) protected by lateral signs and the names of its sides "left" and "right" are taken relative to the vessel going from the sea to the port, in exceptional cases the direction of the channel (fairway) is negotiated separately.

36. Signs on the left side are assigned even numbers, signs on the right side are assigned odd numbers. In some cases, serial numbering is carried out in a way that is convenient for local conditions. The adopted numbering order is announced in the navigation manuals.

37. Lateral signs indicating the places of separation of unequal channels (fairways) are set at the place (point) of separation, on the left or right side of the main channel (fairway), and in accordance with the name show the position of the main channel (fairway) relative to the sign (counting from the sea).

The signs "Main channel (fairway) on the right" are placed on the left side of the main channel (fairway) at the place (point) of its division.

The signs "Main channel (fairway) on the left" are placed on the right side of the main channel (fairway) at the place (point) of its division.

The types of signs and the places of their installation in each specific case are determined by the relative position of the channels (fairways) at the points of separation (connection).

38. Separate dangers lying in the zone of the channel (fairway) are protected by signs of separate dangers of small sizes or the corresponding cardinal signs.

39. Cardinal signs are placed around the danger according to the principle of fencing it relative to the cardinal points (in the four main compass directions). The horizon around the protected danger is conditionally divided into four sectors:

- 1) northern, between NW (northwest) and NE (northeast) points;
- 2) eastern, between the points NE (northeast) and SE (southeast);
- 3) southern, between the points SE (southeast) and SW (southwest);
- 4) western, between points SW (southwest) and NW (northwest).

40. The name of the cardinal sign indicates the side from which the guarded danger should be bypassed.

41. Cardinal signs are used in areas where the navigation of ships is not regulated by certain directions.

42. Cardinal marks, together with lateral marks, are used in areas of restricted navigation and on canals (fairways) at the places of their bends (turns), separation and connection, as well as when danger is adjacent to the edges of the canal (fairway).

43. Places for placing cardinal signs, their name and the required number when fencing sunken ships are determined by the size of the ship, its location and the side from which it should be bypassed.

44. The position of each displayed cardinal sign relative to the protected danger and the distance from the danger to the sign are indicated in navigational aids.

45. Signs of individual dangers of small size are designed to protect separate dangers of small size, surrounded on all sides by depths that ensure safe navigation in terms of navigation.

46. Danger is considered small if it fits into a circle with a radius of up to 100 meters.

47. Signs of individual dangers of small sizes are placed directly above the protected danger. If it is not possible to place a sign over a danger, then it is placed at the minimum possible distance from it. In this case, the danger and the sign enclosing it must fit into a circle with a radius of up to 100 meters (the center of the circle is taken to lie at the point where the sign is placed).

48. If the conditions and depth do not allow placing a sign directly above the danger or the danger, together with the sign enclosing it, does not fit into a circle with a radius of up to 100 meters, then instead of a sign of a separate small danger, appropriate cardinal signs are used.

49. Signs of individual dangers of small sizes are used to protect sunken ships. In this case, a prerequisite for their application is the fulfillment of the requirements regarding the size of the sunken ship and the location of the sign specified in the previous paragraphs.

50. Axial signs are intended to indicate the axes of fairways and recommended routes.

51. Axial signs when marking fairways and recommended courses are placed in such a way as to ensure navigation from sign to sign. The places of turns of the axes of fairways and recommended courses are also indicated by axial signs.

52. Axial signs are used as receiving ones, which are set at the approach (initial) points to the channel (fairway), as well as to indicate:

- 1) places of separation and connection of several recommended routes;
- 2) the position of the run line in measured miles;
- 3) the middle of the safe passage or its deepest part;
- 4) the center of the roundabout.

53. Signs of special purpose are intended for fencing or designation of special areas or objects to which there are references in navigation aids and the position of which is shown on maps.

54. Signs for special purposes are put up for fencing or designation:

- 1) floating and stationary objects carrying scientific equipment;
- 2) special areas and polygons;
- 3) soil dump areas;
- 4) cables and pipelines;
- 5) anchor places;

6) traffic separation lines and zones;

7) places of exposed fishing gear.

55. When fencing or marking landfills, areas of soil dumps, special-purpose signs are placed along their borders. The number of characters is determined by the value of the protected area (polygon), its configuration and area. If the distance from the edge of the fenced area (polygon) to the center of the installation of a special-purpose sign is two times less than the visibility range of the fire of the sign being installed, then one special-purpose sign is installed in this area (polygon).

56. The fencing of such places is carried out by organizations engaged in maritime activities in the area in agreement with the hydrographic service.

57. Cables and pipelines are protected by special signs along the cable or pipeline laying line.

58. Fencing of places of exposed fishing gear with signs of special purpose is carried out by the relevant fishing organizations in agreement with the hydrographic service. Upon agreement, the layout of signs and the required number are determined.

59. Instead of signs for special purposes, special signs are also used for fencing places of exposed fishing gear, which differ from those adopted in the IALA Region A floating fencing system in shape and color.

60. The arrangement scheme, the type of signs enclosing the places of exposed fishing gear are announced in notices to seafarers.

61. Installation and maintenance of the necessary FWS are carried out in the water area:

1) sea routes of the KSCS by the hydrographic service;

2) artificial islands and oil and gas production facilities by organizations operating offshore oil and gas production facilities;

3) ports and on approaches to them by the port administration;

4) offshore and onshore facilities by the owners of offshore and onshore facilities.

62. The installation of a water protection zone in the water area specified in subparagraphs 2) - 4) of paragraph 61 is carried out in agreement with the hydrographic service.

63. Before the installation of the FWS in regular places and putting them into operation, they are checked with the involvement of specialists from the hydrographic service.

64. During the period of operation, the existing offshore FWS:

1) retain a regular place during the entire period of validity;

2) provide the declared visual range;

3) retain the shape of the top figure (if any), the regular color of the exterior painting, the characteristic and uninterrupted operation of the fire.

65. Floating AN fencing approach channels and fairways port water areas are established in accordance with the scheme of navigational fencing approved by the head of the port and coordinated with the hydrographic service.

66. The FWS is set so that the navigator sees ahead of the vessel:

- 1) on channels - at least two pairs of buoys or milestones;
- 2) on fairways - at least one pair of buoys or milestones;
- 3) when designating the axes of fairways or recommended courses, two or one sign.

67. The intervals between adjacent pairs of characters are calculated using formulas in accordance with Appendix 6 to these Rules.

68. Calculated by these formulas and rounded up to 0.5 kilometers, the intervals between signs, depending on the range of their visibility, with an atmospheric transparency coefficient $T = 0.8$ per mile, are defined in Appendix 7 to these Rules.

69. Fencing navigational danger in each individual case is carried out after a preliminary study and consideration of the following factors:

- 1) navigation, hydrographic and hydrometeorological conditions of the navigation area;
- 2) established routes for the movement of ships;
- 3) types of vessels sailing in the given area;
- 4) the nature and characteristics of the navigational hazard.

70. All hazards located:

- 1) in areas of coastal navigation with heavy vessel traffic;
- 2) near the approach points of channels, fairways and recommended courses;
- 3) at sea, near fairways or recommended courses of movement of ships;
- 4) in areas of special work, fishing or other trade.

71. The initial data for the choice of FWS and their location relative to navigational danger are:

- 1) vessel traffic pattern in the given area (presence of fairways, recommended courses, traffic separation zones) and navigation conditions (day, night, summer or all year round);
- 2) position, boundaries (dimensions) and other features of navigational danger;
- 3) meteorological visibility range characteristic for the given area;
- 4) maximum draft, speed, length, radius of circulation of vessels navigating in the area;
- 5) depth, bottom relief and nature of the bottom soil in the area and at the hazard;
- 6) maximum wave height, sea level fluctuations, direction and speed of currents;
- 7) the accuracy of determining the location in the given area.

72. PPP is established with respect to danger, providing:

- 1) the mariner's ability to timely detect the sign at the declared range of action in the daytime and at night, identify it and evade danger;
- 2) creation of a continuous zone of visibility of signs around the danger and overlapping between them by at least 30%.

73. When installing FWS, the following options for fencing navigational hazards are provided:

1) dangers in the form of spits and shoals extending from the coastline into the sea at a distance of up to 2 kilometers are fenced with one cardinal sign (if there is a passage between the coast and the danger, it is fenced on four sides with cardinal signs);

2) dangers extending from the coast into the sea for more than 2 kilometers are fenced off on three sides, and if there is a passage between the coast and the danger - on four sides with cardinal signs;

3) if the danger is fenced off by a sign, the visibility range of which exceeds the required range from all directions, then the boundaries of the danger to ensure the navigation of small craft are additionally fenced with milestones;

4) on individual banks with a length of not more than half the visibility range of a floating sign, it is allowed to set up one luminous buoy with a PRR and milestones detailing the position of danger.

74. The buoy is installed from the side of the fairway, the recommended course or the way of movement of ships.

75. The required number of signs for fencing canals or fairways is calculated using the formulas in accordance with Appendix 8 to these Rules.

76. Assignment of the numbering of the FWS is carried out in agreement with the hydrographic service.

77. To ensure normal operation and exclude the possibility of damage to pipelines and cables, security zones are established in the form of sections of water space at the entire depth from the water surface to the bottom, enclosed between parallel planes spaced at a distance of :

1) for the sea communication cable route - 500 meters on each side;

2) for an electrical network cable - 100 meters on each side;

3) for underwater pipeline crossings - 100 meters from the axes of the extreme pipelines on each side.

78. Routes of offshore cable lines and pipelines are indicated in a notice to mariners and marked on sea charts.

79. In order to ensure the safety of cables and pipelines for various purposes, the owners of cables and pipelines laid in the sea set up a FWS in places agreed with the hydrographic service.

80. At outlets to the sea of treatment facilities or pipelines for other purposes, as well as cable lines on the shore, a prohibition sign "Do not drop anchors" is installed, indicating underwater crossing zones where it is forbidden to drop anchors, lower chains, drags, lots. At the seaward end of the outlet, a FWS is set.

81. The axis of the route of the cable, pipeline is indicated by the alignment of the indicated signs with a range of action not less than the length of the outlet and a yellow constant light.

Paragraph 2. Procedure for informing seafarers about changes in the navigational environment

82. According to their urgency and importance, navigational information is divided into extraordinary - notification of the most urgent and important changes in the navigation situation - and regular, less urgent and important information that does not contain information about the immediate danger to navigation.

83. Extraordinary information includes information about the following hazards:

- 1) malfunctions of lights, fog signals and buoys on main shipping lanes;
- 2) wrecks on or near main shipping lanes and their fencing, if any;
- 3) new aids to navigation or significant modifications to old aids to navigation, when their installation or modifications are misleading to mariners;
- 4) the presence of large unmanaged tugs in areas of intensive navigation;
- 5) drifting mines;
- 6) areas in which search and rescue operations or measures to combat marine pollution are carried out (to bypass these areas);
- 7) newly discovered rocks, banks, reefs and sunken ships that pose a danger to navigation, as well as their fencing, if any;
- 8) sudden changes or temporary prohibition of navigation on established routes (routes);
- 9) work on laying cables or pipelines, as well as other underwater work that poses a danger to navigation and is carried out on shipping lanes or near them;
- 10) installation of structures at sea, on shipping lanes or near them;
- 11) significant violations of the operating mode of radio navigation equipment;
- 12) special actions that affect the safety of navigation in large areas (naval exercises, rocket or artillery firing).

84. The commanders of the ships of the Naval Forces of the Armed Forces and the BS of the CNS, as well as the captains of the ships that have met or discovered the dangers for navigation listed in paragraph 83, immediately send a notification about this:

- 1) all ships at sea;
- 2) duty officer of the hydrographic service;
- 3) to the captain of the seaport.

85. Navigational information that does not contain information about the immediate danger to navigation, but significantly improves the quality of charts and sailing guides, includes information:

- 1) about route measurements in areas where the depths are shown sparsely ("white spots") or have signs of doubt, unreliability;
- 2) about objects noticeable from the sea;
- 3) on changes in the work of regular aids to navigation;
- 4) about recommended courses, instructions for sailing and anchoring;

- 5) changes in ports;
- 6) on port regulations and pilotage ;
- 7) announcements and warnings concerning navigation issues;
- 8) about discrepancies found between maps and sailing manuals and the terrain.

86. Paragraph 85 collected by the commanders of the ships of the Naval Forces of the Armed Forces and the PS of the National Security Committee, as well as the captains of the ships, is sent to the hydrographic service as soon as possible.

87. The boundaries of areas prohibited for navigation are shown on navigation charts and manuals for navigation in the Caspian Sea.

88. Changes relating to prohibited navigation and temporarily dangerous for navigation areas are published in advance by the hydrographic service in a notice to mariners.

89. In cases of changes in navigation conditions and navigation regime of vessels in the KSCS, the hydrographic service issues a notice to seafarers, and organizations bring the specified information to seafarers.

Paragraph 3. Procedure for conducting hydrographic surveys in KSCS

90. Hydrographic survey of the sea is carried out by carrying out hydrographic, geophysical, hydrophysical research and survey work.

91. The Hydrographic Service carries out hydrographic, hydrophysical and geophysical studies of the sea, coordinates such studies carried out by other organizations, and interacts within its competence with the hydrographic services of the Caspian states.

92. Survey work is carried out by organizations for navigational and operational purposes.

93. Survey work for navigation purposes is a set of works leading to obtaining information about the nature of the relief and the state of the depths in order to create a cartographic image of water areas.

94. Measurement work for operational purposes is carried out to detect the state of the dimensions of navigable sea lanes, determine the volume of dredging, identify the magnitude and intensity of congestion of shipping lanes, and ensure design work for the construction or reconstruction of hydraulic structures.

95. The heads of organizations operating offshore hydraulic structures carry out survey work for navigation purposes in a timely manner in the subordinate water areas of ports, berths, terminals and navigation channels and ensure the maintenance of guaranteed depths in these water areas.

96. Measurement work for operational purposes is carried out depending on the size, intensity and workload of offshore objects. The frequency of soundings is established by organizations operating offshore hydraulic structures.

97. In the course of survey work, non-specialized enterprises transfer the study materials to the hydrographic service for expert evaluation, and only after such evaluation are used in the future to correct maps, manuals and manuals.

98. In order to study the factors that can affect the safety of navigation in the KSCS, organizations planning to conduct marine scientific research, work at sea or ashore, timely coordinate the projects of such work and research with the hydrographic service and the authorized body in the field of protection, reproduction and use of the animal peace.

99. For the timely issuance of notices to seafarers, organizations at least 10 days before the start of work or research shall submit to the hydrographic service information on:

- 1) the nature and objectives of the project;
- 2) the method and means to be used, including the name, tonnage, type and class of vessels and description of the scientific equipment;
- 3) the exact geographical areas in which the project will be carried out;
- 4) estimated dates of commencement and completion of work;
- 5) the name of the organization under whose auspices the project is being carried out, the manager and the person responsible for the project.

100. Organizations that conducted marine scientific research, within a month after the completion of work, send reports to the hydrographic service on the results of:

- 1) study of the hydrodynamics of the aquatic environment and ice conditions;
- 2) study and forecasting fluctuations in the level of the Caspian Sea and its impact on offshore, oil and gas field, hydraulic structures and coastal oil and gas infrastructure;
- 3) hydrographic, hydrophysical, geophysical, hydrobiological, ichthyological and geotechnical studies;
- 4) other scientific research related to the physical field of the sea (temperature, salinity, density, speed and direction of currents, optical and acoustic properties, magnetic and gravimetric fields, study of the bottom topography).

101. The results of the research are processed by the hydrographic service, which accumulates information, includes their changes in manuals and carries out work to maintain navigational sea charts at a modern level.

Appendix 1
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

(name of organization)

(address)

**FORM-CARD of
luminous/non-luminous buoy (To be completed in two copies:
1st copy - for the hydrographic service, 2nd copy - for the organization)**

Name of the buoy _____

Location: latitude _____ longitude _____

Name of the water area _____

Name of the hazard to be protected _____ Type of buoy _____

Manufactured by _____ Year of construction _____ Color of the buoy _____

Main dimensions of the buoy: diameter _____ Draft _____

Height of the superstructure from the water level _____

Weight of the buoy without equipment _____ Type of light-optical apparatus _____

Color of fire _____

Characteristics of fire: _____ flashes per minute _____

Optical range of visibility of fire _____ Light source _____

Type of flashing apparatus _____ No. _____

Additional equipment _____

Power sources _____ Number of them _____ duration of the year _____

Period of operation of the buoy when fully charged _____

Setting depth, meters _____

Ground _____ Anchor type _____

Filled in by _____

(position, surname, signature)

Drawing of a buoy with main dimensions
Scale 1 : 100

Photo of the buoy afloat
(9×12)

Scheme of the location of landmarks relative to the
location of the buoy

Carried out repairs
(when, what, by whom)

Appendix 2
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

(name of organization)

(address)

FORM-CARD

milestones (regular) (To be completed in two copies:

1st copy - for the hydrographic service, 2nd copy - for the organization)

Milestone name _____

Location: latitude _____ longitude _____

Name of water area _____

Name of protected danger or passage _____

Milestone type _____

Depth of setting, meters _____ Ground _____

Anchor type _____ Anchor mass _____

Anchor chain: caliber _____ length _____

Compiled on " ____ " _____ 20 ____.

Filled in by _____

(position, surname, signature)

Appendix 3
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

(name of organization)

(address)

FORM-CARD

of a navigation mark _____

(To be completed in two copies:

1st copy - for the hydrographic service, 2nd copy - for the organization)

Latitude _____ Longitude _____

Compiled on " ____ " _____ 20 ____ . Commission consisting of _____

(full name, position held)

on the following: _____

PART I

1. Put into operation _____

(name and position, latitude, longitude, description, height of the structure from the base)

PART II

2. The leading sign was put into operation _____

(name)

front _____

(latitude, longitude, description, height of the structure from the base)

rear _____

(latitude, longitude, description, height of the structure from the base)

PART III

A fire was put into operation, located _____

(name) (island, cape, bay)

and having the following characteristics: _____

color of fire _____ flash _____ seconds, darkness _____ seconds, _____ period _____
seconds

(type)

Light filter _____

(color, diameter, height)

3. Power source of the light-optical apparatus _____

4. The beacon light is provided with gas or electricity by _____ 20__.

5. Passive radar reflector type _____ pieces _____

6. During the commissioning of AtoN, the following maintenance work was carried out:

Signatures:

Appendix 4
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

(name of organization)

(address)

**FORM-CARD of a
luminous / non-luminous navigational DIRECTION**

(To be completed in two copies:

1st copy - for the hydrographic service, 2nd copy - for the organization)

Name of the alignment _____ No. _____

Hydrographic area _____ Plot _____

Name of the water area

FRONT SIGN

Location: latitude _____ longitude _____ from Greenwich

Description

of the sign _____

Year of construction _____ Year of fire _____

Main dimensions: height of the base of the sign from the water level _____

height of the structure from the base _____

height of the center of the fire above the water level

_____ Sign material _____

Type of light-optical apparatus _____ Flashing apparatus _____ No. _____

Color of fire _____ Characteristic _____ flashes per minute _____

Optical range of visibility of fire _____

Daytime visibility of the structure _____

Additional equipment _____

Power sources _____ Number of them _____

Duration of fire when fully charged _____

Sector of visibility of fire from the sea _____

Who observes the effect of fire _____

REAR SIGN

Location: latitude _____ longitude _____ from Greenwich

Description of the sign _____

Year of construction _____ Year of lighting _____

Main dimensions: height of the base of the sign from the water level _____

height of the structure from the base _____

height of the center of fire above the water level _____

_____ sign _____

Type of light-optical apparatus _____ Flashing apparatus _____ No. _____

Color of fire _____

Optical range of visibility of fire _____

Daytime visibility of the structure _____

Additional equipment _____

Power sources _____ Number of them _____

Duration of fire when fully charged _____

Sector of visibility of fire from the sea _____

Distance between leading marks _____

Day sensitivity of the target at the end of the undercarriage _____

Distance of the end of the undercarriage of the alignment from the front mark _____

Channel width _____

Night sensitivity of the alignment at the end undercarriage _____

When and by whom the alignment was calculated _____

Who observes the action of fire _____

Compiled on _____ 20 _____

Years Filled in by _____

(position, surname, signature)

front sign

Schematic drawing of the structure with main dimensions Photograph of the sign from the sea (9×12)

Rear sign

Schematic drawing of the structure with main dimensions Photograph of the sign from the sea (9 × 12)

Repairs carried out on leading signs _____

(date of repair, nature of the repair, who made the repair)

Appendix 5
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

Coloring of coastal aids (AN)

Terrain background	Painting color
green vegetation	White, orange
Sky	Red Black
Sea	White, orange
Sand yellow	Black White
Dark colored rocks	White yellow
Snow	Red, orange, black

Appendix 6
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

Formulas

for calculating the intervals between adjacent pairs of characters

The intervals between adjacent pairs of signs are calculated according to the following formulas:

1) for channels equipped with gates:

$$a = 0.65D;$$

2) for channels not equipped with gates:

$$a = 0.5D;$$

3) for fairways equipped and not equipped with sections:

$$a = D;$$

where a is the interval between signs on one side, kilometer;

D - daytime range of visibility of signs with a transparency coefficient characteristic of the area, kilometer.

Appendix 7
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

Character spacing

Channel equipment	Intervals between signs at daytime range of visibility of a sign, kilometer								
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
With entrance gate	1.5	1.5	2.0	2.0	2.5	3.0	3.0	3.5	4.0
Without entrance gate	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.5

Appendix 8
to the Rules for Navigational
and Hydrographic Support
of Marine Activities
in the Kazakh Sector of the
Caspian Sea

Formulas

for calculating the required number of signs for fencing canals or fairways

The required number of signs for fencing canals or fairways is calculated by the formulas:

1) for straight canals or fairways with double-sided fencing:

$$n = 2 \left(1 + \frac{L}{a} \right)$$

2) straight canals or fairways with one-sided fencing:

$$n = \left(1 + \frac{L}{a}\right)$$

where n is the required number of characters, pieces;

L - length of the straight section of the canal or fairway, kilometer;

a - the distance between the signs of one side, kilometer.

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