



RUSSIAN MARITIME REGISTER OF SHIPPING

CIRCULAR LETTER

No. 391-05-1609c

dated 10.08.2021

Re:

amendments to the Guidelines on Technical Supervision during Construction and Operation of Subsea Pipelines, 2020, ND No. 2-030301-002-E

Item(s) of supervision:

subsea pipelines

Entry-into-force date¹:

15.09.2021

~~Cancels / amends / adds Circular Letter No.~~

~~dated~~

Number of pages: 1 + 11

Appendices:

Appendix 1: information on amendments introduced by the Circular Letter

Appendix 2: text of amendments to the Guidelines on Technical Supervision during Construction and Operation of Subsea Pipelines

Director General

Konstantin G. Palnikov

Text of CL:

We hereby inform that the Guidelines on Technical Supervision during Construction and Operation of Subsea Pipelines shall be amended as specified in the Appendices to the Circular Letter.

It is necessary to do the following:

1. Bring the content of the Circular Letter to the notice of the RS surveyors, interested organizations and persons in the area of the RS Branch Offices' activity.
2. Apply the provisions of the Circular Letter when performing technical supervision of RS-classed subsea pipelines in operation.

List of the amended and/or introduced paras/chapters/sections:

Section 1: Table 1.6.1.2-2, paras 1.6.2.2 and 1.6.2.4, Table 1.6.5.1, para 1.11.6

Section 2: paras 2.5.1, 2.6.1.4, 2.7.1.1.5, 2.7.2.1.3, 2.7.3.1.4, 2.8.1.4, 2.10.1.3, 2.11.1.4, 2.14.1.4 and 2.16.1.3;

Section 3: paras 3.2.3 and 3.6.2.3 — 3.6.2.6

Section 4: paras 4.1.1.3, 4.1.2.1.11, 4.1.2.2.1, 4.1.2.3.26, 4.1.2.3.27, 4.1.3.3, 4.1.4 and 4.1.4.1, Table 4.1.4.1, para 4.1.4.7

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¹ Service remarks (*delete as appropriate*): ~~contains / does not contain mandatory international/national requirements / urgent implementation is required.~~

**Information on amendments introduced by the Circular Letter
(for inclusion in the Revision History to the RS Publication)**

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
1	Section 1, Table 1.6.1.2-2	Designations of material groups have been amended	391-05-1609c of 10.08.2021	15.09.2021
2	Section 1, para 1.6.2.2	Designations of material groups have been amended	391-05-1609c of 10.08.2021	15.09.2021
3	Section 1, para 1.6.2.4	Designations of material groups have been amended	391-05-1609c of 10.08.2021	15.09.2021
4	Section 1, Table 1.6.5.1	Designations of material groups have been amended	391-05-1609c of 10.08.2021	15.09.2021
5	Section 1, para 1.11.6	New para specifying requirements for audit of firms has been introduced	391-05-1609c of 10.08.2021	15.09.2021
6	Section 2, para 2.5.1	Requirements for delivery of valves have been specified	391-05-1609c of 10.08.2021	15.09.2021
7	Section 2, para 2.6.1.4	Requirements for delivery of flexible pipes have been specified	391-05-1609c of 10.08.2021	15.09.2021
8	Section 2, para 2.7.1.1.5	Designation of material group has been amended	391-05-1609c of 10.08.2021	15.09.2021
9	Section 2, para 2.7.2.1.3	Designation of material group has been amended	391-05-1609c of 10.08.2021	15.09.2021
10	Section 2, para 2.7.3.1.4	Requirements for delivery of galvanic anodes have been specified	391-05-1609c of 10.08.2021	15.09.2021
11	Section 2, para 2.8.1.4	Designation of material group has been amended	391-05-1609c of 10.08.2021	15.09.2021
12	Section 2, para 2.10.1.3	Designation of material group has been amended	391-05-1609c of 10.08.2021	15.09.2021
13	Section 2, para 2.11.1.4	Requirements for delivery of flanges have been specified	391-05-1609c of 10.08.2021	15.09.2021
14	Section 2, para 2.14.1.4	Requirements for delivery of insulating joints have been specified	391-05-1609c of 10.08.2021	15.09.2021
15	Section 2, para 2.16.1.3	Designation of material group has been amended	391-05-1609c of 10.08.2021	15.09.2021
16	Section 3, para 3.2.3	References to paras of SP Guidelines have been specified	391-05-1609c of 10.08.2021	15.09.2021

Nos.	Amended paras/chapters/sections	Information on amendments	Number and date of the Circular Letter	Entry-into-force date
17	Section 3, paras 3.6.2.3 — 3.6.2.6	New para 3.6.2.3 specifying requirements for scope of works when mobilizing a pipe-laying vessel/barge has been introduced. Existing paras 3.6.2.3 — 3.6.2.5 have been renumbered 3.6.2.4 — 3.6.2.6 accordingly	391-05-1609c of 10.08.2021	15.09.2021
18	Section 4, para 4.1.1.3	Requirements have been specified for contract for technical supervision of SP in operation	391-05-1609c of 10.08.2021	15.09.2021
19	Section 4, para 4.1.2.1.11	Objectives of electrometric inspection of SP have been supplemented	391-05-1609c of 10.08.2021	15.09.2021
20	Section 4, para 4.1.2.2.1	Objectives of external in-water survey of SP and its route have been amended	391-05-1609c of 10.08.2021	15.09.2021
21	Section 4, para 4.1.2.3.26	Umbrella term has been introduced for cathodic protection and galvanic anode systems	391-05-1609c of 10.08.2021	15.09.2021
22	Section 4, para 4.1.2.3.27	Objectives of electrometric inspection of SP have been supplemented	391-05-1609c of 10.08.2021	15.09.2021
23	Section 4, para 4.1.3.3	Requirements for verification of transported medium parameters have been introduced	391-05-1609c of 10.08.2021	15.09.2021
24	Section 4, para 4.1.4.	Para has been renamed	391-05-1609c of 10.08.2021	15.09.2021
25	Section 4, para 4.1.4.1	Requirements have been specified for carrying out of periodical surveys by the Register	391-05-1609c of 10.08.2021	15.09.2021
26	Section 4, Table 4.1.4.1	Table heading has been amended and requirements for scope of periodical surveys of subsea pipelines have been specified	391-05-1609c of 10.08.2021	15.09.2021
27	Section 4, para 4.1.4.7	New para has been introduced containing reference to procedure for suspension, withdrawal, reinstatement and reassignment of SP class	391-05-1609c of 10.08.2021	15.09.2021

GUIDELINES ON TECHNICAL SUPERVISION DURING CONSTRUCTION AND OPERATION OF SUBSEA PIPELINES, 2020,

ND No. 2-030301-002-E

1 GENERAL

1 **Table 1.6.1.2-2** is replaced by the following one:

"Table 1.6.1.2-2

Schemes of technical supervision during manufacture of materials

Stage of technical supervision	Type of survey/Issued document	Material groups										
		Group 1M		Group 2M ¹			Group 3M			Group 4M		Group 5M
		1.1M	2.1M	2.2M	2.3M	3.1M	3.2M	3.3M	4.1M	4.2M	5.1M	
Manufacturer recognition/type approval	Approval of technical documentation on material	+ ²	+	+	+	+	+	+	+	+	+ ²	
	Tests at initial survey	—	+ ³	+	+	+ ³	+	+	+	+	+ ³	
	Type of a recognition certificate for manufacturer or a type approval certificate on material issued by RS	—	—	COCM	CTO	CTO			СПИ		—	
Survey of serial materials	Survey of the firm's quality control system/periodical confirmation of СПИ/COCM	—	—	+	—	— ⁴	CKK 1	CKK 2	+	+	—	
	Type of the Quality Control System Certificate issued by RS	—	—	—	—	—	CKK 1 Cert.	CKK 2 Cert.	—	CKK 1 Cert.	—	
	Survey of material by RS	—	+	—	—	+	+	—	+	—	+ ⁵	
	Certificate issued by RS	—	C	—	—	C	C3	—	C	C3	C	
	Document issued by manufacturer	M	M	MC	MC	M	M	MC	M	M	M	

¹For welding materials, stages of technical supervision as for material groups 2.1M or 2.2M shall apply, for other materials — 2.1M or 2.3M.

²Review of technical documentation on material is carried out simultaneously with approval of technical documentation on the item of technical supervision where the material is applied (item of application).

³Tests are carried out in the scope prescribed by the SP Rules and the SP Guidelines considering 1.8.5 or 2.2.2.8.

⁴Firm is checked for availability of a documented manufacturing quality control system that is subject to type approval.

⁵Survey is carried out in the scope prescribed by the RS-approved technical documentation on the item of technical supervision.

Note: "+" means "Required". "—" means "Not Applicable" or "Not required".

2 **Para 1.6.2.2** is replaced by the following text:

"**1.6.2.2** Serial products and materials shall be supplied with the RS certificates and documents of the firm indicated in Table 1.6.1.2-1 and Table 1.6.1.2-2 depending on the technical supervision group (1 — 5) or (1M — 5M) of an item and the scheme of technical supervision applicable to the group."

3 **Para 1.6.2.4** is replaced by the following text:

"**1.6.2.4** Materials and products included in group 1 or 1M of technical supervision may be surveyed by the Register to confirm their compliance with the specified characteristics or technical documentation. The document confirming compliance is the Statement of Compliance (form 6.3.27)."

4 **Table 1.6.5.1.** Group of item of technical supervision for codes 23002001 and 23002002 is modified to "4.1M", and group of item of technical supervision for codes 23008011, 23008021, 23008022, 23008023, 23009021, 23009022 is modified to "3.1M".

5 **New para 1.11.6** is introduced reading as follows:

"**1.11.6** Upon request of the customer, Certificate of Firm Conformity (CCП, form 7.1.27) may be drawn up for a pipe-laying vessel/barge with indication of the composition and parameters of process equipment."

2 TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS AND PRODUCTS FOR SUBSEA PIPELINES

6 **Para 2.5.1** is replaced by the following text:

"**2.5.1** SP valves shall be manufactured according to the international (for example, ISO 14723) and/or national standards and the RS-approved technical documentation at the firms with the Register Type Approval Certificate (CTO) (form 6.8.3) for this type of products, issued by RS with regard to the requirements of 1.8.3 to 1.8.5.

According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-1), the SP valves shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4. In case of a single approval of SP valves the requirement specified in 1.8.6 shall be considered."

7 **Para 2.6.1.4** is replaced by the following text:

"**2.6.1.4** According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-1), flexible pipes shall be delivered with the copy of Type Approval Certificate (CTO) and with certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4. In case of a single approval of flexible pipes for subsea pipelines the requirement specified in 1.8.6 shall be considered."

8 **Para 2.7.1.1.5** is replaced by the following text:

"**2.7.1.1.5** According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-2), steel pipes for subsea pipelines with corrosion-protection coatings applied shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C) and document (M).

In case of a single approval of corrosion-protection coatings for steel pipes for subsea pipelines without obtaining type approval the scheme of technical supervision 5M as per Table 1.6.1.2-2 shall be used."

9 **Para 2.7.2.1.3** is replaced by the following text:

"**2.7.2.1.3** According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-2), sleeves shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4.

In case of a single approval of sleeves for subsea pipelines without obtaining type approval the scheme of technical supervision 5M as per Table 1.6.1.2-2 shall be used."

10 **Para 2.7.3.1.4** is replaced by the following text:

"**2.7.3.1.4** According to Table 1.6.1.2-1 galvanic anodes for subsea pipelines shall be delivered with the copy of Type Approval Certificate (CTO) and with certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4. In case of a single approval of galvanic anodes for subsea pipelines the requirement specified in 1.8.6 shall be considered."

11 **Para 2.8.1.4** is replaced by the following text:

"**2.8.1.4** According to Table 1.6.1.2-2, concrete coated pipes for subsea pipelines shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C) and document (M).

In case of a single approval of concrete coated pipes for subsea pipelines without obtaining type approval, the scheme of technical supervision 5M as per Table 1.6.1.2-2 shall be used."

12 **Para 2.10.1.3** is replaced by the following text:

"2.10.1.3 According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-2), thermal insulated pipes for subsea pipelines shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4.

In case of a single approval of thermal insulation coatings for steel SP pipes without obtaining type approval, the scheme of technical supervision 5M as per Table 1.6.1.2-2 shall be used."

13 **Para 2.11.1.4** is replaced by the following text:

"2.11.1.4 According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-2), the flanges for subsea pipelines shall be delivered with the copy of Type Approval Certificate (CTO) and with certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4. In case of a single approval of flanges for subsea pipelines, the requirement specified in 1.8.6 shall be considered."

14 **Para 2.14.1.4** is replaced by the following text:

"2.14.1.4 According to Table 1.6.1.2-1, the insulating joints for subsea pipelines shall be delivered with the copy of Type Approval Certificate (CTO) and with certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4. In case of a single approval of insulating joints for subsea pipelines, the requirement specified in 1.8.6 shall be considered."

15 **Para 2.16.1.3** is replaced by the following text:

"2.16.1.3 According to the SP Nomenclature (Table 1.6.5.1 and Table 1.6.1.2-2), steel pipes for subsea pipelines with anti-friction coating applied shall be delivered with the copy of Type Approval Certificate (CTO), certificate (C/C3) and document (M) or document (MC). In addition, the firm's quality control system shall be surveyed by the Register in accordance with 1.6.3 or 1.6.4.

In case of a single approval of internal anti-friction coating for SP steel pipes without obtaining type approval, the scheme of technical supervision 5M as per Table 1.6.1.2-2 shall be used."

3 TECHNICAL SUPERVISION DURING CONSTRUCTION OF SUBSEA PIPELINES

16 **Para 3.2.3** is replaced by the following text:

"3.2.3 While carrying out the technical supervision of SP construction in compliance with 8.1.2, Part I "Subsea Pipelines" of the SP Rules and 3.1.6 of the SP Guidelines, the Register shall examine and approve the relevant technical documentation (refer to 3.3.3, 3.4.1, 3.4.3, 3.5.1, 3.6.1.3, 3.6.2.6, 3.7.1.2 — 3.7.1.4, 3.7.2.2 — 3.7.2.4, 3.7.3.1, 3.7.3.2, 3.7.4.2)."

17 **New para 3.6.2.3** is introduced reading as follows:

"3.6.2.3 When mobilizing a pipe-laying vessel/barge, the following shall be performed before starting the SP construction:

.1 testing of the abandonment and recovery winch for emergency abandonment/recovery of the pipeline string with calibration of the load cell and cable length measuring device;

.2 testing and calibration of tensioners, whereby:

load cells shall be calibrated for each tensioner and for combined action of tensioners;

tests for the absence of slippage of the design type and size of pipes shall be carried out in order to determine the clamping force of the tensioner to ensure the required pulling force of the pipeline string;

- .3 testing of positioning system anchor winches, comprising testing of braking/holding and with the use of local/remote control, including emergency stop, with calibration of load cells and cable length measuring devices;
- .4 checking of the roller supports of the processing line and stinger (calibration of the load cells if there are load control sensors);
- .5 checking of the pipe handling system, including the internal line-up clamp and equipment for hoisting and movement of pipes;
- .6 subject to availability of a system of davits for tie-in, testing of the davits using local and remote control of each davit and their combined action with calibration of the load cell and cable length measuring device.

As agreed with RS, other tests of process equipment may be conducted using pipes of given type and size (up to trial laying) to confirm the readiness of the pipe-laying vessel/barge and its personnel to lay the SP with the parameters stipulated by the design and detailed design documentation approved by the Register."

18 Existing paras 3.6.2.3 — 3.6.2.5 are renumbered 3.6.2.4 — 3.6.2.6 accordingly.

4 TECHNICAL SUPERVISION OF SUBSEA PIPELINES IN OPERATION

19 Para 4.1.1.3 is replaced by the following text:

"4.1.1.3 The contract concluded by the Register with the SP owner/operator provides for the Register the basis for carrying out the SP technical supervision. Plans for the surveys specified in 4.1.2.1.11 are recommended to be developed as annexes to the contract, at least for the period until the next periodical survey. The requirements of 4.1.4 shall be followed for assigning the scope of the surveys to be carried out."

20 Para 4.1.2.1.11 is replaced by the following text:

"4.1.2.1.11 The SP survey is aimed at:

- .1 general external in-water studies of SP and its route;
- .2 SP in-line inspection;
- .3 technical condition inspection of SP or its section (SP fault detection):
which requires in-line inspection results to be specified;
for which in-line inspection is impossible or impractical;
- .4 verification of transported medium parameters."

21 Para 4.1.2.2.1 is replaced by the following text:

"4.1.2.2.1 External in-water survey of SP and its route shall be aimed at:

- .1 detection of any exposure along the route (anchoring tracks, use of fishing gear, wave effects and currents, ice gouging, seabed soil drift/erosion, etc.);
- .2 detection of SP external defects including explicit damages to integrity of pipeline or its coatings and/or their consequences (leakage of transported medium);
- .3 checking of horizontal location and elevation of SP including seabed soil protective layer depth/berm above the pipeline top (for SP buried into seabed soil/berm);
- .4 monitoring of parameters of free span SP sections relative to sea bottom (for SP not buried into seabed soil);
- .5 determination of parameters of bottom ice gouging, seabed soil erosion/drift, if any;
- .6 monitoring of hydrological characteristics (water temperature, current velocities and directions, bathymetry, etc.);
- .7 photographing and video filming along the SP route;
- .8 drawing up of the report on SP conditions and data archiving."

22 **Para 4.1.2.3.26** is replaced by the following text:

"4.1.2.3.26 The electrochemical protection system (cathodic protection or galvanic anode system) of steel subsea pipelines shall be examined for identification and/or measurements of the following:

- cathodic potential at SP sections (particularly at those with corrosive damages);
- anodes condition, anode voltage and anode current density;
- condition of galvanic anodes and their connections;
- condition of insulating joints or flanges and measuring electrical insulation resistance;
- condition of underwater electric cables of anode lines and components of their connection.

The cathodic protection and galvanic anode system parameters shall correspond to the design data agreed with the Register with regard to changes of these parameters specified in the project as well as to the specific SP service life."

23 **Para 4.1.2.3.27** is replaced by the following text:

"4.1.2.3.27 The electrometric inspections of SP in addition to that specified in 4.1.2.3.26 are aimed at the following:

- .1 measurement of polarization potentials of unburied SP with detachable equipment application for ROV or for diver's examination;
- .2 check of electrochemical protection system monitoring parameters at the test stations (if any);
- .3 searching of areas of defective corrosion-protection coatings with the use of SP induced electromagnetic field recording equipment when connected to the special purpose AC generator;
- .4 searching of areas of defective corrosion-protection coatings based on "object-soil" potential difference when cathodic protection is operative, based on protective current density and/or "object-water" transient resistance;
- .5 checking of parameters of corrosion rate measurement system (if any)."

24 **New para 4.1.3.3** is introduced reading as follows:

"4.1.3.3 Verification of transported medium parameters.

4.1.3.3.1 During periodical surveys of SPs, the Register shall be provided with information on compliance of the transported medium parameters with the RS-approved design and operational documentation, including the following parameters:

- .1 temperature, pressure, phase and component composition, viscosity, density of the main transported product, etc. depending on the purpose of the pipeline;
- .2 dosages of processing reagents used (depressant additives, inhibitors of asphalt-resin-paraffin deposits, etc. depending on the purpose of the pipeline);
- .3 dosages of corrosion inhibitors (if used).

This data shall be submitted by the SP owner/operator in a certificate or an information statement for the period between surveys, with the form of the documents being subject to agreement with the Register.

4.1.3.3.2 The parameters of processing purpose transported media (water for injection, gas lift, methanol, etc.) shall correspond to the RS-approved design and operational documentation, which shall be confirmed by the SP owner/operator in a certificate or an information statement for the period between surveys, with the form of the documents being subject to agreement with the Register.

4.1.3.3.3 When transporting any corrosive media specified in the design and/or operational documentation, the SP owner/operator shall submit information on control of media parameters (corrosion rate control, supply of corrosion inhibitor, ionic content, oxygen concentration, content of water, including sea water, or carbon dioxide, etc) for prevention of pipeline internal corrosion.

4.1.3.3.4 The Register shall be provided with information on launched cleaning pigs at the required frequency in accordance with the design and operational documentation approved by the Register."

25 **Para 4.1.4** is replaced by the following text:

"4.1.4 Schedule and scope of subsea pipeline classification surveys."

"4.1.4.1 The basic requirements for the RS periodical classification surveys shall comply with 1.4.4, Part I "Subsea Pipelines" of the SP Rules and are specified for steel subsea pipelines in Table 4.1.4.1. The requirements of national technical supervision authorities, as well as standards of firms, normative documents developed by the SP owner/operator and approved by the Register shall be considered.

The scope of examinations, measurements, tests and checks (refer to Table 4.1.4.1) performed during periodical surveys shall be determined taking into account:

annual examinations of the SP route to carry out 4.1.2.2.1.1, 4.1.2.2.1.2 with documentation of suspect sections of the route according to 4.1.2.2.1.7, where the revealed global and/or local SP defects are to be measured later;

in-line inspections according to 4.1.2.3 carried out at least 2 times during the five-year period between special surveys. The frequency of in-line inspections may be adjusted upon agreement with the Register taking into account assessment of permissible service life with detected defects in accordance with 4.1.3.1.2;

external examinations and/or measurements of the components of buried into seabed soil and backfilled SPs shall be conducted as and when they are accessible (when the protective soil layer is removed during repair, when a scheduled repair, maintenance is needed, etc.) or using, in addition to in-line inspections, remote diagnostic means (for example, according to 4.1.2.3.27.2, 4.1.2.3.27.3 or 4.1.2.3.27.4). It is recommended to equip the buried into seabed soil and backfilled SPs with such means for remote monitoring of the technical condition of their structural components and with corrosion control systems;

external examinations of all types of coatings and ballasting shall be performed depending on their accessibility during external SP in-water surveys, including with the use of ROV;

other conditions for examinations, measurements, tests and checks shall be in accordance with the note and footnotes 1 — 10 in Table 4.1.4.1."

Scope of periodical classification surveys of subsea pipelines

O — examination with access, opening-up or dismantling, and also use of means for locating of buried SPs, where necessary;

C — external examination:

M — measurements (of thicknesses, insulation resistance, global and local defects dimensions, etc.);

H — pressure tests;

P — operation tests (of drives, alarms, etc.):

E — check of the availability of valid documents and/or brands of instrumentation calibration.

SP item to be surveyed	SP surveys																			
	1st annual	2d annual	Intermediate	4th annual	1st special	1st annual	2d annual	Intermediate	4th annual	2d special	1st annual	2d annual	Intermediate	4th annual	3rd special	1st annual	2d annual	Intermediate	4th annual	4th special
SP service life, years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20, etc.
1 SPs buried into seabed soil																				
1.1 In-line inspection including that on the item specified in 1.13			M ¹ E		M ¹ E			M ¹ E		M ¹ E			M ¹ E		M ¹ E			M ¹ E		M ¹ E
1.2 Hydraulic tests including those on items specified in 1.3, 1.4, 1.5, 1.13					OH ² E					OH ² E					OH ² E					OH ² E
1.3 Valves	O	O	OM ³ EP	O	OM ³ EP	O	O	OM ² EP	O	OM ³ EP	O	O	OM ³ EP	O	OM ³ EP	O	O	OM ³ EP	O	OM ³ EP
1.4 Flanged joints	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
1.5 Fittings/bends/spool pieces	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
1.6 Electrochemical protection	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E
1.7 Ballasting	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1.8 Alarm and automatic control systems	O	O	OP	O	OP	O	O	OP	O	OP	O	O	OP	O	OP	O	O	OP	O	OP
1.9 Corrosion-protection coatings	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E
1.10 Thermal insulation coatings	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
1.11 Electrical insulating joints and flanges	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
1.12 General survey of SP route	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E
1.13 Shelter, riser and/or SP shore approach	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E
1.14 SP position at the route, SP burial depth	O	O	OM ⁸ E	O	OM ⁸ E	O	O	OM ⁸ E	O	OM ⁸ E	O	O	OM ⁸ E	O	OM ⁸ E	O	O	OM ⁸ E	O	OM ⁸ E
1.15 Verification of transported medium parameters	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹
2 Unburied SPs																				
2.1 In-line inspection including that on the item specified in 2.13			M ¹⁰ E		M ¹⁰ E			M ¹⁰ E		M ¹⁰ E			M ¹⁰ E		M ¹⁰ E			M ¹⁰ E		M ¹⁰ E
2.2 Hydraulic tests including those on items specified in 2.3, 2.4, 2.5, 2.13					OH ² E					OH ² E					OH ² E					OH ² E
2.3 Valves	O	O	OM ³ EP	O	OM ³ EP	O	O	OM ³ EP	O	OM ³ EP	O	O	OM ³ EP	O	OM ³ EP	O	O	OM ³ EP	O	OM ³ EP
2.4 Flanged joints	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
2.5 Fittings/bends/spool pieces	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
2.6 Electrochemical protection	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E	O	O	OM ⁴ E	O	OM ⁴ E
2.7 Ballasting	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

SP item to be surveyed	SP surveys																			
	1st annual	2d annual	Intermediate	4th annual	1st special	1st annual	2d annual	Intermediate	4th annual	2d special	1st annual	2d annual	Intermediate	4th annual	3rd special	1st annual	2d annual	Intermediate	4th annual	4th special
SP service life, years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20, etc.
2.8 Alarm and automatic control systems	O	O	OP	O	OP	O	O	OP	O	OP	O	O	OP	O	OP	O	O	OP	O	OP
2.9 Corrosion-protection coatings	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E	C	C	CM ⁵ E	C	CM ⁵ E
2.10 Thermal insulation coatings	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
2.11 Electrical insulating joints and flanges	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E	C	C	CM ³ E	C	CM ³ E
2.12 General survey of route	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E	C	C	CM ⁶ E	C	CM ⁶ E
2.13 Shelter, riser and/or SP shore approach	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E	C	C	CM ⁷ E	C	CM ⁷ E
2.14 Determination of SP spatial position on seabed soil and free spans	C	C	CM ¹¹ E	C	CM ¹¹ E	C	C	CM ¹¹ E	C	CM ¹¹ E	C	C	CM ¹¹ E	C	CM ¹¹ E	C	C	CM ¹¹ E	C	CM ¹¹ E
2.15 Measurements of thicknesses and local defects at sections without in-line inspection			OM ¹⁰ E		OM ¹⁰ E			OM ¹⁰ E		OM ¹⁰ E			OM ¹⁰ E		OM ¹⁰ E			OM ¹⁰ E		OM ¹⁰ E
2.16 Verification of transported medium parameters	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹	M ⁹
¹ measurements of defect dimensions according to 4.1.2.3; ² hydraulic tests shall be carried out after repairs, modification, modernization and expiration of the estimated service life, in case of assignment/confirmation/reassignment of class when the SP fault detection is not performed (incomplete performance); ³ measurements of defect dimensions in non-destructive testing (considering accessibility); ⁴ measurements according to 4.1.2.3.27.1, 4.1.2.3.27.2 and 4.1.2.3.27.5; ⁵ measurements according to 4.1.2.3.27.3 and 4.1.2.3.27.4, or measurements of coating thicknesses in accessible locations; ⁶ measurements according to 4.1.2.2.1; ⁷ fault detection as agreed with the Register considering accessibility; ⁸ measurements of SP burial into seabed soil and according to 4.1.2.2.5 and 4.1.2.2.8; ⁹ data is provided by operator/owner according to 4.1.3.3; ¹⁰ methods of defects measurements (in-line inspection or external fault detection) are agreed with the Register; ¹¹ measurements according to 4.1.2.2.5 and 4.1.2.2.8. Note: Items of buried SPs specified in 1.3 — 1.7, 1.9 — 1.11, 1.13 shall be surveyed at unburied sections or in a trench without backfilling, or when protective soil layer is removed (for repair, maintenance, etc.).																				

28 **New para 4.1.4.7** is introduced reading as follows:

"**4.1.4.7** Confirmation, suspension, withdrawal, reinstatement and reassignment of SP class according to the results of the above periodical surveys shall be performed in accordance with the requirements specified in 4.1.2.1."