



RUSSIAN MARITIME REGISTER OF SHIPPING

HEAD OFFICE

CIRCULAR LETTER

№ 314 - 13.4 - 580c

dated 6.08.2012₂

Re: Cancellation of IACS Procedural Requirement No. 34 and amendment of IACS Unified Interpretation SC223 (Corr. 1 July 2012) concerning application of the IMO Performance Standard for Protective Coatings (PSPC), IMO resolution MSC. 215(82)

Item of supervision:

Anticorrosive protective coatings of ballast tanks

Implementation Upon receipt

Valid until: 01 July 2012

Validity extended until -

Circular Letter № - cancelled / amended / supplemented

Date -

Number of pages: 1

Appendices: Amended version of the Rules – 10 pages

First Chief Operating Officer

Igor A. Baranov

Amended document Rules for Technical Supervision During Construction of Ships and Manufacture of Materials and Products for Ships, 2012, ND No. 2-020101-040

We hereby inform you that IACS Procedural Requirement (PR) No. 34 was cancelled on 01 July 2012. The document in question regulated the application of IMO resolution MSC.215(82) to the ships covered by the IACS Common Structural Rules for Double Hull Oil Tankers and for Bulk Carriers. PR No. 34 substantially duplicated IACS Unified Interpretation (UI) SC223 that regulated the application of IMO resolution MSC.215(82) to all types of ships (including double-side skin spaces of bulk carriers).

Additionally we hereby inform you that a new revision of UI SC223 (Corr. 1 July 2012) related to the changes introduced into the coating pre-qualification tests comes into force since 01 July 2012.

In connection with cancellation of IACS PR No. 34 and coming into force of a new revision of UI SC223 (Corr. 1 July 2012), Part III "Technical Supervision During Manufacture of Products" of the Rules for Technical Supervision During Construction of Ships and Manufacture of Materials and Products for Ships has been amended as per the Annex to the Circular Letter.

The following is to be done:

Apply the amendments to the RS Rules given in the Annex to the Circular Letter.

Person in charge:

S.M. Kordonets

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Amendments to the Rules for Technical Supervision during Construction of Ships and Manufacture of Materials and Products for Ships (2012)

PART III. TECHNICAL SUPERVISION DURING MANUFACTURE OF MATERIALS

Para 3.2 has been amended to read:

"3.2 APPLICATION OF PERFORMANCE STANDARD FOR PROTECTIVE COATINGS FOR DEDICATED SEAWATER BALLAST TANKS IN ALL TYPES OF SHIPS AND DOUBLE-SIDE SKIN SPACES OF BULK CARRIERS IN COMPLIANCE WITH SOLAS-74 REGULATION II-1/3-2 (IMO RESOLUTION MSC.215(82))

3.2.1 This Chapter supplements provisions of the Performance Standard for Protective Coatings for Dedicated Seawater Ballast Tanks in all Types of Ships and Double-Side Skin Spaces of Bulk Carriers in compliance with SOLAS-74 Regulation II-1/3-2 adopted by IMO resolution MSC.215(82) (hereinafter referred to as "PSPC").

This Chapter shall be read in conjunction with PSPC.

3.2.2 Interpretations to para 2.6, Section 2 "Definitions" of PSPC.

3.2.2.1 "GOOD" condition is defined as condition with spot rusting on less than 3 per cent of the area under consideration without visible failure of the coating. Rusting at edges or welds shall be on less than 20 per cent of edges or welds in the area under consideration.

3.2.2.2 Coating Technical File (CTF) is a term used for the collection of documents describing issues related to the coating system and its application from the point in time when the first document is provided and for the entire life of the ship, including the inspection agreement and all elements of PSPC 3.4.

3.2.3 Interpretations to 3.2, Section 3 "General Principles" of PSPC.

3.2.3.1 Inspection of surface preparation and coating processes agreement shall be signed by shipyard, shipowner and coating manufacturer and shall be presented by the shipyard to the Register for review prior to commencement of any coating work on any stage of a new building and at least shall comply with PSPC.

3.2.3.2 To facilitate the review, the following documents from CTF shall be available:

coating specification including selection of areas (spaces) to be coated, selection of coating system, surface preparation and coating process;

Type Approval Certificate for the coating system.

3.2.3.3 The agreement shall be included in CTF and shall at least cover:

inspection process, including scope of inspection, list of persons carrying out the inspection, qualifications of the coating inspector and appointment of a qualified coating inspector (responsible for verifying that the coating is applied in accordance with PSPC). Where more than one coating inspector is involved, then their areas of responsibility shall be identified (for example, multiple construction sites);

language of the agreement shall be identical to the language used in CTF.

3.2.3.4 Any deviations in the procedure relative to PSPC noted during the review shall be raised with the shipyard, which is responsible for identifying and implementing the corrective actions.

3.2.3.5 A Passenger Ship Safety Certificate or Cargo Ship Safety Certificate or Cargo Ship Safety Construction Certificate shall not be issued until all the corrective actions required are implemented to the Register satisfaction.

3.2.4 Interpretations to 3.4 "Coating Technical File", Section 3 "General Principles" of PSPC.

3.2.4.1 The shipyard is responsible for compiling CTF either in paper or electronic format, or a combination of the two.

3.2.4.2 CTF shall contain all the information required by Section 3.4 of PSPC and the inspection of surface preparation and coating processes agreement (refer to PSPC 3.2).

3.2.4.3 CTF shall be reviewed for content in accordance with PSPC 3.4.2.

3.2.4.4 Any deviations found under 3.2.4.3 shall be raised with the shipyard, which is responsible for identifying and implementing the corrective actions.

3.2.4.5 Para 3.2.3.5 shall apply.

3.2.5 Interpretations to 3.5 "Health and safety", Section 3 "General Principles" of PSPC.

3.2.5.1 In order that the document should meet the provisions of PSPC 3.5, it is recommended to supplement CTF with the manufacturer's relevant documentation relating to health and safety aspects, such as the Material Safety Data Sheet.

3.2.6 Interpretations to 4.3 "Special application", Section 4 "Coating Standard" of PSPC.

3.2.6.1 The guidelines of the IMO MSC.1/Circ.1279 of 23 May 2008 "Guidelines for Corrosion Protection of Permanent Means of Access Arrangements" shall be taken into consideration.

3.2.7 Interpretations to the Table 1, PSPC.

3.2.7.1 Reference standards.

Reference standards in Table 1, PSPC are mandatory.

3.2.7.2 Paragraph 1.3 "Coating prequalification test".

3.2.7.2.1 Procedure for coating system approval.

Type Approval Certificate showing compliance with the PSPC Section 5 requirements shall be issued if the results of either method A + D, or B + D, or C + D (see below) are found satisfactory by the Register.

The Type Approval Certificate shall indicate the product and the shop primer tested. The Type Approval Certificate shall also indicate other type approved shop primers with which the product may be used and which have undergone the cross over test in a laboratory meeting the requirements specified in 3.2.7.2.2.1.

The Technical Data Sheet showing all the information required by PSPC 3.4.2.2 shall be attached to the Type Approval Certificate.

For winter type epoxy a separate pre-qualification test is required, including shop primer compatibility test according to Annex 1 to PSPC. Winter and summer type coatings are considered different, unless infrared (IR) identification and specific gravity (SG) data demonstrate that they are the same.

3.2.7.2.2 Method A: laboratory test.

3.2.7.2.2.1 Coating pre-qualification tests shall be carried out, as noted below, by a test laboratory, which is recognized by the Register and meets the requirements of Section 8, Part I "General Regulations for Technical Supervision".

3.2.7.2.2.2 The results of pre-qualification testing (refer to 1.3, PSPC Table 1) for the coating system shall be documented and submitted to the Register.

3.2.7.2.2.3 Type approval tests shall be carried out for the epoxy based system with the stated shop primer in accordance with PSPC Annex 1. If the tests are satisfactory, a Type Approval Certificate will be issued to include both the epoxy and the shop primer. The Type Approval Certificate will allow the use of the epoxy either with the named shop primer or on bare prepared steel.

3.2.7.2.2.4 An epoxy based system may be used with shop primers other than the one with which it was originally tested, provided that the other shop primers are approved as part of a system, 2.3 and 3.2, PSPC Table 1 and have been tested to 1.7, Annex 1 to Appendix 1, which is known as the "Crossover Test". If the test or tests are satisfactory, a Type Approval Certificate shall be issued. In this case the Type Approval Certificate will include the epoxy details and a list of all shop primers with which it has been tested that have passed these requirements. The Type Approval Certificate will allow the use of the epoxy either with the named shop primer or on bare prepared steel.

3.2.7.2.2.5 Alternatively the epoxy can be tested without shop primer applied on bare prepared steel to the requirements of Annex 1 to PSPC. If the test or tests results are satisfactory, a Type

Approval Certificate will be issued. In this case the Type Approval Certificate will just record the epoxy. The Certificate will allow the use of the epoxy on bare prepared steel only. If in addition crossover tests are satisfactorily carried out with the shop primers which are approved as part of the system, the Type Approval Certificate shall include the details of the shop primers, which have satisfactorily passed the crossover test. In the latter case, the Type Approval Certificate will allow the use of the epoxy either with the named shop primer or on bare prepared steel.

3.2.7.2.2.6 The Type Approval Certificate is invalid if the formulation of either the epoxy or the shop primer is changed. It is the responsibility of the manufacturer to inform the Register immediately of any changes to the formulation.

3.2.7.2.2.7 For the coating pre-qualification test, the measured average dry film thickness (DFT) on each prepared test panels shall not exceed a nominal DFT (NDFT) of 320 microns plus 20 per cent unless a paint manufacturer specifies a NDFT greater than 320 microns. In the latter case, the average DFT shall not exceed the specified NDFT plus 20 per cent and the coating system shall be certified to the specified NDFT, if the system passes the tests according to Annex 1 of IMO resolution MSC.215(82). The measured DFT shall meet the "90/10" rule and the maximum DFT shall be below the maximum DFT value specified by the manufacturer.

This paragraph shall apply to tests carried out on 1 July 2012 or later.

3.2.7.2.3 Method B: 5 years field exposure.

3.2.7.2.3.1 Coating manufacturer's records, which shall at least include the information indicated in 3.2.7.2.3.2, shall be examined to confirm coating system has 5 years field exposure, and the current product is the same as that being assessed.

3.2.7.2.3.2 The following manufacturer's records shall be submitted:

- original application records;
- original coating specification;
- original technical data sheets;
- current formulation's unique identification (code or number);
- if mixing ratio of the base and curing agent has changed, a statement from the manufacturer is needed confirming that the composition of the mixed product is the same as the original composition. It shall be accompanied by an explanation of the modifications made;
- current technical data sheets for the current product;
- SG and IR identification of the original product;
- SG and IR identification of the current product;
- statement from the manufacturer confirming that the current product is the same as the original, if SG and IR identification data cannot be provided.

3.2.7.2.3.3 Either class survey records from the Register or a joint (coating manufacturer/Surveyor to the Register) survey of all ballast tanks of a selected ship shall be carried out for the purpose of verification of compliance with the requirements of 3.2.7.2.3.1 and 3.2.7.2.3.7. The reporting of the coating condition in both cases shall be in accordance with Section 2 of IACS Recommendation No. 87.

3.2.7.2.3.4 The ship selected for testing shall have ballast tanks in regular use, of which:

- at least one tank is approximately 2000 m³ or more in capacity;
- at least one tank is adjacent to a heated tank;
- at least one tank contains an underdeck exposed to the sun.

3.2.7.2.3.5 In case the selected ship does not meet the requirements specified in 3.2.7.2.5.3, the limitations shall be clearly stated in the Type Approval Certificate. For example, "The coating cannot be used in tanks adjacent to heated tanks or underdeck or tanks with volume greater than the size surveyed".

3.2.7.2.3.6 In all cases of approval by Method B, the shop primer shall be removed prior to application of the approved epoxy based system coating, unless it can be confirmed that the shop primer applied during construction is identical in formulation to that applied in the selected ship used as a basis of the approval.

3.2.7.2.3.7 All ballast tanks shall be in "GOOD" condition excluding mechanical damages, without touch up or repair in the prior 5 years of operation.

"GOOD" condition is defined as condition with spot rusting on less than 3 per cent of the area under consideration without visible coating damage. Rusting at edges or welds shall be on less than 20 per cent of edges or welds in the area under consideration (refer to 3.2.2.1).

Examples of how to report coating conditions with respect to areas under consideration shall be as those given in IACS Recommendation No. 87.

3.2.7.2.3.8 If the applied NDFT is greater than required by PSPC, the applied NDFT shall be the minimum to be applied during construction. This shall be prominently reported in the Type Approval Certificate.

3.2.7.2.3.9 If results of the survey are satisfactory, a Type Approval Certificate shall be issued to include both the epoxy based system and the shop primer. The Type Approval Certificate will allow the use of the epoxy either with the named shop primer or on bare prepared steel. The Type Approval Certificate shall reference the survey report, which shall also form part of CTF.

3.2.7.2.3.10 The Type Approval Certificate is invalid if the formulation of either the epoxy based system or the shop primer is changed. It is the responsibility of the manufacturer to inform the Register immediately of any changes to the formulation.

3.2.7.2.4 Method C: existing Marintek¹ B1 approvals.

3.2.7.2.4.1 Epoxy based coating systems with existing satisfactory Marintek test reports minimum level B1, including relevant IR identification and SG, issued before 8 December 2006 can be accepted. If original SG and IR documentation cannot be provided, then a statement shall be provided by the manufacturer confirming that readings for the current product are the same as those of the original.

3.2.7.2.4.2 The Marintek test report with IR and SG information shall be reviewed and if satisfactory, a Type Approval Certificate shall be issued. The Type Approval Certificate shall allow the use of the epoxy either with the named shop primer, unless there is evidence to indicate that it is unsuitable, or on bare prepared steel.

3.2.7.2.4.3 The epoxy based systems approved by this method may be used with other shop primers if satisfactory crossover tests are carried out with shop primers, which are approved as part of a system (refer to 3.2.7.2.2.4). In this case the Type Approval Certificate will include the details of the epoxy based system and a list of all shop primers, which have passed these requirements. Type Approval Certificate will allow the use of the epoxy either with the named shop primer or on bare prepared steel.

3.2.7.2.4.4 Such coatings shall be applied in accordance with PSPC Table 1 rather than the application conditions used during the approval test, which may differ from PSPC, unless these are more stringent than PSPC Table 1 (for example if NDFT is higher or high pressure water washing and or sweep blasting of the shop primer is used). In such cases these limiting conditions shall be added to the Type Approval Certificate and followed during coating application at the shipyard.

3.2.7.2.4.5 The Type Approval Certificate is invalid if the formulation of either the epoxy based system or the shop primer is changed. It is the responsibility of the manufacturer to inform the Register immediately of any changes to the formulation.

¹Marintek — Norwegian Marine Technology Research Institute.

3.2.7.2.5 Method D: coating manufacturer.

3.2.7.2.5.1 The coating /shop primer manufacturer shall meet the requirements specified in Section 7, Part I "General Regulations for Technical Supervision" and in 3.2.7.2.5.2–3.2.7.2.5.16, which shall be verified by the Register.

3.2.7.2.5.2 Extent of engagement – production of coating systems in accordance with IMO resolution MSC.215(82) and 3.2.

3.2.7.2.5.3 These requirements apply to both the main coating manufacturer and the shop primer manufacturer where both coatings form part of the total system.

3.2.7.2.5.4 The coating manufacturer shall provide to the Register the following information:

a detailed list of production equipment (facilities);

names and location of raw (basic) material suppliers;

a detailed list of the test standards and equipment to be used (in scope of approval);

details of quality control procedures employed;

details of any sub-contracting agreements;

list of quality manuals, test procedures and instructions, records, etc;

copy of any relevant certificates with their issue number and/or date (e.g. quality management system certification).

3.2.7.2.5.5 Inspection and audit of the manufacturer's facilities shall be based on requirements of IMO resolution MSC.215(82).

3.2.7.2.5.6 With the exception of early "scale up" from laboratory to full production, adjustment outside the limitations listed in the quality control instruction referred to below is not acceptable, unless justified by trials during the coating system's development program, or subsequent testing. Any such adjustments shall be agreed by the formulating technical centre.

3.2.7.2.5.7 If formulation adjustment is envisaged for during the production process, the maximum allowable limits shall be approved by the formulating technical centre and clearly stated in the quality control working procedures.

3.2.7.2.5.8 The manufacturer's quality control system shall ensure that all current production is the same formulation as that supplied for the Type Approval Certificate. Formulation change is not permissible without testing in accordance with the test procedures in IMO resolution MSC.215(82) and issue of a Type Approval Certificate by the Register.

3.2.7.2.5.9 Batch records, including all quality control test results, such as viscosity, specific gravity and airless spray characteristics shall be accurately recorded. Details of any additions shall be also included.

3.2.7.2.5.10 Whenever possible, raw material supply and lot details for each coating batch shall be traceable. Exceptions may be where bulk supply such as solvents and pre-dissolved solid epoxies are stored in tanks, in which case it may only be possible to record the supplier's blend.

3.2.7.2.5.11 Dates, batch numbers and quantities supplied to each coating contract shall be clearly recorded.

3.2.7.2.5.12 All raw material supplies shall be accompanied with a supplier's Certificate of Conformance. The Certificate shall include all requirements listed in coating manufacturer's quality control system.

3.2.7.2.5.13 In the absence of a raw material supplier's Certificate of Conformance, the coating manufacturer shall verify conformance to all requirements listed in the coating manufacturer's quality control system.

3.2.7.2.5.14 Drums shall be clearly marked with the details specified in the Type Approval Certificate.

3.2.7.2.5.15 Product Technical Data Sheets shall comply with all the PSPC requirements. The quality control system shall ensure that all Product Technical Data Sheets are current.

3.2.7.2.5.16 Quality control procedures of the originating technical centre shall verify that all production units comply with the above stipulations and that all raw material supply is approved by the technical centre.

3.2.7.2.5.17 In case that a manufacturer wishes to have products manufactured in different locations under the same name (trademark), then IR identification and SG shall be used to demonstrate that they are the same coating, or individual approval tests will be required for the paint manufactured in each location.

3.2.7.2.5.18 The Type Approval Certificate is invalid if the formulation of either the epoxy based system or the shop primer is changed. It is the responsibility of the manufacturer to inform the Register immediately of any changes to the formulation. Failure to inform the Register of an alteration to the formulation will lead to cancellation of the Type Approval Certificate for that manufacturer's product.

3.2.7.3 Paras 1.4 "Job specification" and 1.5 "NDFT (nominal total dry film thickness)".

Wet film thickness (WFT) shall be regularly checked during application for the quality control. PSPC does not state who shall check WFT. DFT shall be checked as the part of the inspection according to PSPC Section 6.

Stripe coats shall be applied as coherent film showing good film formation and no visible defects. The application method employed shall ensure that all areas that require stripe coating are properly coated by brush or roller. A roller may be used for scallops, rat holes, etc. but not for edges and welds.

3.2.7.4 Para 2 "PSP (Primary surface preparation)".

3.2.7.4.1 The conductivity of soluble salts shall be measured in accordance with ISO 8502-6 and ISO 8502-9 or using the equivalent method, such as NACE SP0508-2010, and compared with conductivity of 50 mg/m² NaCl. If the measured conductivity is less than or equal to 50 mg/m² NaCl, the result is acceptable. Minimum readings to be taken shall be one reading per block/section/unit prior to applying coating or one per plate in case of manually applied shop primer. In case where an automatic process for application of shop primer is used, the means shall be provided to demonstrate compliance with PSPC through a quality control system, which shall include a monthly test.

3.2.7.4.2 Shop primers not containing zinc or not silicate based are considered to be "alternative systems" and therefore equivalency shall be established in accordance with Section 8 "Alternative Systems" of PSPC with test acceptance criteria for "alternative systems" given in 3.1 "Acceptance criteria for alternative systems" (right column), Section 3 "Acceptance criteria" of Appendices 1 and 2 to Annex 1 (PSPC) of IMO resolution MSC.215(82);

3.2.7.4.3 Procedure for review of quality control of automated shop primer plants.

3.2.7.4.3.1 It is recognized that the inspection requirements of PSPC Section 6.2 may be difficult to apply to automated shop primer plants and a quality control approach would be more practical way of enabling compliance with the PSPC requirements.

3.2.7.4.3.2 As required in PSPC, it is responsibility of the coating inspector to confirm that the quality control procedures ensure compliance with PSPC.

3.2.7.4.3.3 When reviewing the quality control system for automated shop primer plants the following procedures shall be included:

- procedures for blasting grit management, including measurement of salt content and contamination;

- procedures for recording steel surface temperature, relative humidity and dew point;

- procedures for control or monitoring surface cleanliness, surface profile (roughness), oil, grease, dust and other contamination;

- procedures for recording/measuring of salt content on steel surfaces;

- procedures for verifying shop primer thickness and curing degree to conform values specified in the Coating Technical Specification.

3.2.7.5 Paras 3.2 "Sa 2 1/2 on damaged shop primers and welds", 3.3 "Surface treatment after erection", 3.4 "In case of full or partial blasting 30-75 urn, otherwise as recommended by the coating manufacturer".

Methods such as, but not limited to UHP water jetting may be considered for secondary surface preparation, where it can be demonstrated that the surface conditions specified by PSPC Table 1, Section 3 can be achieved before the application of the main coatings.

Usually, the fillet welding on tank boundary watertight bulkhead is left without coating on block stage (because not yet be leakage tested), in which case it can be categorized as erection joint ("butt") to be power tooling to St3.

3.2.7.6 Para 3.6 "Water soluble salts limit equivalent to NaCl after blasting/grinding".

The conductivity of soluble salts shall be measured in accordance with ISO 8502-6 and ISO 8502-9 or using equivalent method, such as NACE SP0508-2010, and compared with conductivity of 50 mg/m² NaCl. If the measured conductivity is less then or equal to, then it is acceptable.

All soluble salts have a detrimental effect on coatings to a greater or lesser degree. ISO 8502-9 standard does not provide the actual concentration of NaCl. Percentage of NaCl in the total soluble salts content will vary from site to site . Minimum readings to be taken are one reading per block/section/unit prior to applying coating.

3.2.7.7 Para 4.3 "Testing of coating ".

All DFT measurements shall be measured. Only the final DFT measurements need to be measured and reported for compliance with the PSPC by the qualified coating inspector. The Coating Technical File may contain a summary of the DFT measurements which typically will consist of minimum and maximum DFT measurements, number of measurements taken and percentage above and below required DFT. The final DFT compliance with the 90/10 practice shall be calculated and confirmed (see PSPC 2.8).

3.2.8 Interpretations to PSPC Section 5 "Coating system approval".

Para 3.2.7.2 shall apply.

3.2.9 Interpretations to PSPC Section 6 "Coating inspection requirements".

Procedure for assessment of coating inspectors' qualifications.

3.2.9.1 Coating inspectors required to carry out inspections in accordance with PSPC Section 6 shall be qualified to NACE¹. Coating Inspector Level II, FROSIO². Inspector Level III, or equivalent qualification.

Equivalent qualifications are described in 3.2.9.3 below.

3.2.9.2 Only coating inspectors with at least 2 years of relevant experience and qualified to NACE. Coating Inspector Level II or FROSIO. Inspector Level III, or with an equivalent qualification, can write and/or authorise procedures, or decide upon corrective actions to eliminate non-compliances.

3.2.9.3 Equivalent qualification.

3.2.9.3.1 Equivalent qualification is the successful completion, as determined by course tutor, of an approved course.

3.2.9.3.1.1 The course tutors shall be qualified with at least 2 years of relevant experience and qualified to NACE. Coating Inspector Level II, FROSIO. Inspector Level III or with an equivalent qualification.

3.2.9.3.1.2 Approved course is a course that has a syllabus based on the documents associated with PSPC, including the following:

- health, environment and safety;
- corrosion;
- materials and design;

¹NACE– National Association of Corrosion Engineers.

²FROSIO– Norwegian Professional Council for Education and Certification of Inspectors for Surface Treatment.

- international standards referenced in PSPC;
- curing mechanisms;
- role of inspector;
- test instruments;
- inspection procedures;
- coating specification;
- application procedures;
- coating failures;
- pre-job conference;
- MSDS and product data sheet review;
- CTF;
- surface preparation;
- dehumidification;
- water jetting;
- coating types and inspection criteria;
- specialized application equipment;
- use of inspection procedures for destructive testing and non-destructive testing instruments;
- inspection instruments and testing methods;
- coating inspection techniques;
- cathodic protection;
- practical exercises, case studies.

Approved courses may be run by coating manufacturers or shipyards, etc.

3.2.9.3.1.3 Such a course shall have an acceptable measurement of performance, such as examination with both theoretical and practical elements. The course and examination shall be approved by the Register.

3.2.9.3.2 The equivalent qualification is conferred on the basis of practical experience to the persons who:

- have minimum 5-years of practical work experience as a coating inspector of ballast tanks during new construction within the last 10 years;

- have successfully passed the examination tests specified in 3.2.4.3.1.3.

3.2.9.4 Assistant coating inspectors.

3.2.9.4.1 If the coating inspector requires assistance from other persons to do the part of the inspections under the coating inspector's supervision, those persons shall be trained to the coating inspector's satisfaction.

3.2.9.4.2 Such training shall be recorded and endorsed either by the coating inspector, the shipyard's training organization or inspection equipment manufacturer to confirm competence in using the measuring equipment and confirm knowledge of the measurements required by PSPC.

3.2.9.4.3 Training records shall be available for verification, if required.

3.2.10 Interpretations to PSPC Section 7 "Verification requirements".

3.2.10.1 The requirements of PSPC Section 7 shall be verified by the Register.

Monitoring implementation of the coating inspection requirements, as specified in PSPC Section 7.5, means sample checking that the inspectors are using the correct equipment, techniques and reporting methods, as described in the inspection procedures reviewed by the Register.

3.2.10.2 Any deviations from the PSPC provisions shall be raised initially with the coating inspector who is responsible for identifying and implementing the corrective actions.

3.2.10.3 In the event that corrective actions are not acceptable to the Register or in the event that corrective actions are not carried out, then the shipyard shall be informed.

3.2.10.4 Para 3.2.3.5 shall apply.

3.2.11 Interpretation to Section 8 "Alternative systems".

3.2.11.1 Definition of alternative systems:

Typical coating systems (not alternative systems);

- epoxy-based systems applied according to Table 1 of PSPC.

Alternative systems can be coating systems which are:

- epoxy-based systems, but not applied according to Table 1 of PSPC;

- non-epoxy-based systems, but applied according to Table 1 of PSPC;

- non-epoxy-based systems, but not applied according to Table 1 of PSPC;

3.2.11.2 The requirement to coating system approval for alternative systems.

Type Approval Certificate shall be issued subject to satisfaction of the test procedure given in Annex 1 to PSPC, evaluated according to the acceptance criteria for alternative systems.

3.2.11.3 The inspection of application of alternative systems.

The coatings shall be inspected according to PSPC Section 6.

3.2.11.4 The application of alternative systems.

The conditions necessary for application, especially for difference from conventional epoxy coating system, shall be specified in the CTF according to PSPC 3.4.

It is recommended that the work for confirmation of the suitability of application (workability, coating quality, worker's skill and so on) is demonstrated before the project starts.

3.2.12 Interpretations to Annex 1 "Test procedures for coating qualification for dedicated seawater ballast tank of all types of ships and double-side skin spaces of bulk carriers" to PSPC.

3.2.12.1 Reference standards in Annex 1 to PSPC are mandatory.”.

Para 3.3 has been deleted.

Paras 3.4 and 3.5 have been renumbered 3.3 and 3.4 accordingly.