RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

RULES

Part B Class Surveys

2009 AMENDMENT NO.1

Rule No.19 15th April 2009

Resolved by Technical Committee on 4th February 2009

Approved by Board of Directors on 24th February 2009

Rule No.19 15th April 2009
AMENDMENT TO THE RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Rules for the survey and construction of steel ships" has been partly amended as follows:

Part B CLASS SURVEYS

Amendment 1-1

Chapter 5 SPECIAL SURVEYS

5.1 General

Paragraph 5.1.3 has been added as follows.

5.1.3 Survey for the Postponement of Special Surveys

Where postponement of the Special Survey for a ship is granted in accordance with the requirements in **1.1.5**, the content of the Special Survey is determined based on the original expiry date of the Classification Certificate of the ship.

5.2 Special Surveys for Hull, Equipment, Fire Extinction and Fittings

5.2.4 Internal Examinations of Spaces and Tanks

Sub-paragraph 5.2.4-2 has been amended as follows.

1 At Special Surveys, examinations of structures and fittings such as piping in tanks and spaces are to be carried out carefully paying due attention to items **(1)** through **(7)** below.

(1) Areas sensitive to corrosion (on parts such as structural members, piping, and hatch covers) in cargo holds where cargoes highly corrosive to steel such as logs, salt, coal, and sulphide ore have been loaded
(2) Areas sensitive to deterioration by heat such as plating under boilers
(3) Structurally discontinuous portions such as corners of hatchway openings on deck, openings (including side scuttles), cargo port, etc. on shell
(4) Condition of coating and corrosion prevention system if applied
(5) Condition of striking plates under sounding pipes
(6) Condition of deck covering (e.g. cement)
(7) Locations on which defects such as cracking, buckling, and corrosion have been found in similar ships or similar structures

2 At Special Surveys, internal examinations of tanks or spaces listed in **Table B5.1** are to be carried out paying attention to the items in **-1** above. ~~Where postponement of the Special Survey for a ship is granted in accordance with the requirements in **1.1.5**, the content of the Special Survey is determined based on the original expiry date of the Classification Certificate of the ship.~~

3 At Special Surveys for tankers and ships carrying dangerous chemicals in bulk, in addition to

-1 and **-2** above, an internal examination of tanks and spaces listed in **Table B5.2** is to be carried out. Tanks and spaces identified as suspect areas at previous surveys are to be examined. The examination of the coating condition in ballast tanks for oil tankers and ships carrying dangerous chemicals in bulk is to be based on the coating criteria defined by the Society. However, for ships carrying dangerous chemicals in bulk, stainless steel tanks may be exempted from internal examinations where deemed appropriate by the Society.

(Omitted)

Chapter 8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

8.1 Propeller Shaft and Stern Tube Shaft Surveys

Table B8.1 has been amended as follows:

Table B8.1 Ordinary Surveys of Propeller Shaft and Stern Tube Shaft

Items	Examinations
1 Propeller connection	
(1) Shafts having keyed propeller attachments	The aft shaft taper is to be examined from the end of the cylindrical part of the shaft (or from the aft edge of the liner, if any) for one-third of the length of the shaft taper by an efficient crack detection method.
(2) Shafts having keyless propeller attachments	The forward portion of the aft shaft taper is to be examined by an efficient crack detection method. When the propeller is force fitted to the shaft, it is to be ascertained that the pull-up length is within the upper and lower limits given in **7.3.1-1, Part D**.
(3) Shafts having coupling flange at the after end	The flange fillet and coupling bolts are to be examined by an efficient crack detection method. However, the crack detection examination may be dispensed with, provided that the Surveyor is satisfied with the condition after an external examination.
2 Propeller shaft, stern tube shaft, and coupling bolts	The sleeves, the fillet of the coupling flange to the intermediate shaft or to the stern tube shaft and the coupling bolts are to be examined with the shaft drawn from the stern tube bearings. However, coupling bolts are to be examined by an efficient crack detection method, in cases where Surveyors, based on the results of external examinations, deem such addition testing to be necessary. In addition, ~~(~~anti-corrosion covers are to be removed for shafts of Kind 2~~)~~.
3 Stern tube bearing	The stern tube bearings are to be examined.
4 After end of stern bush	The clearance between the propeller shaft or the stern tube shaft and the after bearing of the stern tube or the shaft bracket bearing or wear down of the bearing is to be measured.

5 Sealing device	Major parts of the stern tube sealing devices (including shaft bracket sealing devices, if any, hereinafter referred to as the same in this Chapter.) are to be opened and examined.
6 Propeller boss	The propeller boss bore in way of the propeller shaft taper section is to be examined.
7 Controllable pitch propeller	The pitch control gear and working parts are to be examined and the propeller blade fixing bolts are to be examined by an efficient crack detection method.
8 Water lubrication line	Where water-lubricated stern tube bearings are adopted, the sea water piping for lubrication is to be examined.
9 Oil lubrication line	Where oil-lubricated stern tube bearings are adopted, the low oil level alarms of the lubricating oil tanks, oil temperature measuring devices and oil circulation pumps are to be examined.
10 Lubrication oil	Where oil-lubricated stern tube bearings are adopted, the lubricating oil record book is to be examined.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2009.

Amendment 1-2

Chapter 5 SPECIAL SURVEYS

Table B5.10-2 has been amended as follows.

Table B5.10-2 Requirements of Thickness Measurements for Ships Carrying Liquefied Gases in Bulk

Special Surveys	Structural members and so forth subject to thickness measurement
Special Survey for ships up to 5 *years* of age (Special Survey No.1)	1. Suspect area 2. One transverse section of deck plating for the hull beam of the ship within 0.5*L* amidships in way of a ballast tank, if any 3. Structural members subject to close-up survey for general assessment and recording of corrosion pattern
Special Survey for ships over 5 years and up to 10 *years* of age (Special Survey No.2)	1. Suspect area 2. Within the cargo area: (1) Each deck plate (2) One transverse section within 0.5*L* amidships in way of a ballast tank, if any 3. Structural members subject to close-up survey for general assessment and recording of corrosion pattern 4. Selected wind and water strakes outside the cargo area
Special Survey for ships over 10 *years* and up to 15 *years* of age (Special Survey No.3)	1. Suspect area 2. Within the cargo area (1) Each deck plating (2) Two transverse sections. At least one section is to include a ballast tank within 0.5*L* amidships, if any. (3) All wind and water strakes 3. Structural members subject to close-up survey for general assessment and recording of corrosion pattern 4. Selected wind and water strakes outside the cargo area 5. Internals in fore peak tank and after peak tank
Special Survey for ships over 15 *years* of age (Special Survey No.4 and subsequent Special Surveys)	1. Suspect area 2. Within the cargo area: (1) Each deck plate (2) Three transverse sections. At least one section is to include a ballast tank within 0.5*L* amidships, if any. (3) Each bottom plate (4) Duct keel plating and internals 3. Structural members subject to close-up survey for general assessment and recording of corrosion pattern 4. All wind and water strakes 5. Internals in fore peak tank and after peak tank 6. All exposed main deck plating outside the cargo area 7. Representative exposed superstructure deck plating (poop, bridge and forecastle deck) 8. All keel plates, full length, and an appropriate number of bottom plates in way of cofferdams, machinery space, and aft end of tanks outside of the cargo area 9. Plating of sea chests, and shell plating in way of overboard discharges (as deemed necessary by the Surveyor)

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2009.

2. Notwithstanding the amendments to the Rules, the current requirements may apply to the surveys for which the application is submitted to the Society before the effective date.

GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

GUIDANCE

Part B Class Surveys

2009 AMENDMENT NO.1

Notice No.18 15th April 2009

Resolved by Technical Committee on 4th February 2009

Notice No.18 15th April 2009
AMENDMENT TO THE GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS

"Guidance for the survey and construction of steel ships" has been partly amended as follows:

Part B CLASS SURVEYS

Amendment 1-1

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

Sub-paragraph -5 has been amended as follows.

5 Occasional surveys specified in **1.1.3-3(5), Part B of the Rules** are as specified below:

(1) ~~General Requirements for Fire Protection, Detection and Extinction~~Fire-Extinguishing Mediums and Deep-fat cooking equipment

~~For ships which had been at the beginning stage of construction before 1 July 2002, a survey is to be carried out to verify compliance with the requirements below. For details, refer to the relevant provisions and **Chapter 21** in **Part R of the Rules**.~~ New installations of fire-extinguishing mediums and deep-fat cooking equipment on or after 1 July 2002 are to comply with the requirements of **10.4.1-3** or **10.6.3, Part R of the Rules**, as applicable. Deep-fat cooking equipment is to be confirmed at the time of the installation.

~~(a) Confirmation of compliance with the requirements of **13.3.3** and **13.4.4** and provisions in **Chapters 14, 15 and 16** (except **16.3.2-2** and **16.3.2-3**), **Part R of the Rules**, as appropriate, to be carried out not later than the date of the first survey after 1 July 2002~~

~~(b) New installations of fire-extinguishing mediums and deep-fat cooking equipment on or after 1 July 2002 are to comply with the requirements of **10.4.1-3** or **10.6.3, Part R of the Rules**, as applicable. Deep-fat cooking equipment is to be confirmed at the time of the installation.~~

~~(2) Protection of Cargo Pump Rooms of Tankers and Similar Vessels~~

~~For tankers, ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk which are carrying liquid cargoes having a flash point not exceeding 60°C, are not less than 500 *gross tonnage*, are engaged on international voyages and had been at the beginning stage of construction before 1 July 2002, a survey is to be carried out to verify compliance with the following requirements by the date of the first scheduled dry-docking after 1 July 2002, but not later than 1 July 2005.~~

~~(a) Installation of systems specified in **4.5.10-1(1)** and **(4), Part R of the Rules**.~~

~~(b) Installation of systems that continuously monitor the concentration of hydrocarbon gases and comply with the following requirements.~~

~~i) Sampling points or detector heads are to be located in suitable positions in order that potentially dangerous gas leakages are readily detected.~~

~~ii) When the hydrocarbon gas concentration reaches a pre-set level which is not higher than 10% of the lower flammable limit, a continuous audible and visual alarm signal is to be automatically effected in the pump room and cargo control room to alert personnel to the potential hazard. However, existing monitoring systems already fitted having a pre-set level not greater than 30% of the lower flammable limit may be accepted.~~

~~iii) For details of the system, refer to the provisions of **R4.5.10-2**.~~

~~(3) Secondary Means of pressure/vacuum relief for Controlled Tank Venting System~~

~~For ships carrying dangerous chemicals in bulk not less than 500 *gross tonnage* which had been at the beginning stage of construction before 1 July 2002, a survey is to be carried out to verify compliance with the requirements of **8.2.3, Part S of the Rules** by the date of the first scheduled dry-docking after 1 July 2002, but not later than 1 July 2005.~~

(~~4~~2) Cargo Hoses

For cargo hoses installed on board ships carrying liquefied gases in bulk and ships carrying dangerous chemicals in bulk on or after 1 July 2002, a survey is to be carried out to verify compliance with the requirements of **5.7.3, Part N of the Rules** or **5.7.3, Part S of the Rules**, as applicable, at the time of the installation.

~~(5) Protection of High-pressure Fuel Lines~~

~~For ships not less than 500 *gross tonnage* which are engaged on international voyages and had been at the beginning stage of construction before 1 July 1998, a survey is to be carried out to verify that high-pressure fuel lines comply with the requirements of **4.2.2(5)(b)**, **(5)(c)** and **(6)(a)**, **Part R of the Rules** by 1 July 2003. However, high pressure fuel lines having a suitable enclosure and delivering for engines with a maximum continuous output of 375 *kW* or less and with fuel injection pumps serving more than one injector are exempt.~~

(~~6~~3) For ice class ships with *IA Super* and *IA* defined in **1.2.5-2, Part A of the Rules**, which had been at the beginning stage of construction before 1 September 2003, a survey is to be carried out to verify compliance with the requirements of **5.4.1-2, Part I of the Rules** by 1 January 2005 or 1 January in the year 20 *years* since the year the ship was delivered, whichever is later.

(~~7~~4) Additional Requirement for Fittings on Exposed Fore Deck

For bulk carriers, general dry cargo ships (excluding container vessels, vehicle carriers, Ro-Ro ships and woodchip carriers), and combination carriers (e.g. OBO ships, Ore/Oil Carriers, etc.) of length (L_1) 100*m* or more (where, L_1 is the length of ship specified in **15.2.1-1, Part C of the Rules**) which have been contracted for construction prior to 1 January 2004, a survey is to be carried out to verify compliance with the requirements specified in **(a)** and implementation schemes specified in **(b)**.

(a) Requirements

(i) **20.2.10, Part C of the Rules** applies to hatches on the exposed deck giving access to spaces forward of the collision bulkhead that also extend aft over this line.

(ii) **23.6.8, Part C of the Rules** applies to ventilator pipes and their closing devices on the exposed deck serving spaces forward of the collision bulkhead that also extend aft over this line.

(iii) **13.6.5, Part D of the Rules** applies to air pipes and their closing devices on the exposed deck serving spaces forward of the collision bulkhead that also extend aft over this line.

(b) Implementation Scheme

(i) For ships which will be 15 *years* of age or more on 1 January 2004: by the due date of the first intermediate or special survey after that date

(ii) For ships which will be 10 *years* of age or more but less than 15 *years* of age on 1

January 2004: by the due date of the first special survey after that date

(iii) For ships which will be less than 10 *years* of age on 1 January 2004: by the date on which the ship reaches 10 *years* of age (Where the due date of the first intermediate or special survey is not until after the ship reaches 10 *years* of age, then the due date of the first intermediate or special survey)

~~(8) Water Level Detection and Alarm Systems and Dewatering Arrangements for Bulk Carriers and Ore Carriers~~

~~For bulk carriers defined in **1.3.1(13), Part B of the Rules**, of 500 *gross tonnage* and above engaged on international voyage, which had been at the beginning stage of construction before 1 July 2004, a survey is to be carried out to verify compliance with the following requirements.~~

~~(a) Water level detection and alarm systems specified in **13.8.5, Part D of the Rules** are to be provided not later than the date of the first periodical survey of the ship to be carried out after 1 July 2004. Notwithstanding the above, water level detectors specified in **13.8.5-1(1)(a), Part D of the Rules** or water level detectors specified in **13.8.5-1(1)(b), Part D of the Rules** may be dispensed with for ships provided with water ingress detectors in accordance with **C31B.2.1-2(4)** or for ships provided with bilge well high water level alarms in accordance with **C31B2.1-2(2)**, respectively. For the application of this requirement, the position described as "as close to the centre line as practicable" in **D13.8.5** may be of an area within a distance less than or equal to *B*/6 from the centre line. Notwithstanding the above, the requirements of **D13.8.5** may not apply to water level detection and alarm systems which had been already provided before 1 July 2004 in accordance with the approval by the Society.~~

~~(b) Dewatering arrangements specified in **13.5.10, Part D of the Rules** are to be provided not later than the date of the first intermediate or special survey of the ship to be carried out after 1 July 2004, but in no case later than 1 July 2007. Notwithstanding the above, the requirements of **D13.5.10-2(1)** may not apply. In addition, all requirements of **D13.5.10** may not apply to dewatering arrangements which had been already provided before 1 July 2004 in accordance with the approval by the Society.~~

~~(9) Ship Identification Number~~

~~For cargo ships not less than 300 *gross tonnage* engaged on international voyage which had been at the beginning stage of construction before 1 July 2004, a survey is to be carried out to verify compliance with the requirements of **1.1.24, Part C of the Rules** by the date of the first scheduled dry-docking after 1 July 2004.~~

(~~10~~5)Water Level Detection and Alarm Systems on Single Hold Cargo Ships

For cargo ships having a single cargo hold below the freeboard deck or cargo holds below the freeboard deck which are not separated by at least one bulkhead made watertight up to that deck, a survey is to be carried out to verify that the water level detection and alarm systems specified in **13.8.6, Part D of the Rules** are provided not later than the date of the first intermediate or special survey of the ship after 1 January 2007. Notwithstanding the above, the following ships are not required to have such a system.

(a) Ships of less than 500 *gross tonnage*

(b) Ships not engaged on international voyages

(c) Bulk carriers as defined in **1.3.1(13), Part B of the Rules** which had been at the beginning stage of construction before 1 July 2006

(d) Bulk carriers as defined in **31A.1.2(1), Part C of the Rules** which had been at the beginning stage of construction on or after 1 July 2006

(e) Ships having a length (L_f) of not less than:

i) 80 *m*, for ships that had been at the beginning stage of construction on or after 1 July

1998

ii) 100 *m*, for ships that had been at the beginning stage of construction before 1 July 1998

(f) Ships complying with the requirements of **13.8.5, Part D of the Rules**

(g) Ships having watertight side compartments each side of the cargo hold length extending vertically at least from inner bottom to freeboard deck and breadths of which are not to be less than 760 *mm* measured perpendicular to the side shell

(~~11~~6) Secondary Means of pressure/vacuum relief for Controlled Tank Venting System for small chemical tanker

For ships carrying dangerous chemicals in bulk of less than 500 *gross tonnage* which had been at the beginning stage of construction before 1 July 2002, a survey is to be carried out to verify compliance with the requirements of **8.2.3, Part S of the Rules** by the date of 1 January 2007.

(~~12~~7) With respect to the provisions of **5.1.2-3, Part I** of the Rules, ships built before 1 July 2007 and whose summer load line is located at a higher level than the *UIWL*, are to be provided with a warning triangle and with an ice class draught mark at the maximum permissible ice class draught amidships~~, not later than~~ by the date of the first scheduled dry docking after 1 July 2007. In such cases, the engine output and the maximum and minimum ice class draught fore, amidships and aft are to be indicated in the classification certificate.

Sub-paragraph -6 has been added as follows.

6 With respect to the provisions of -**5** above, for ships at beginning stage of construction, such construction began before the effective date of each Occasional Survey requirements and such ships are delivered after these effective date, the Classification Survey of such ships is regarded as either their “first survey” or their “first scheduled dry docking”; therefore, these ships need to comply with each of the requirements of Occasional Surveys by the completion date of their Classification Survey.

B8 PROPELLER SHAFT AND STERN TUBE SHAFT SURVEYS

B8.1 Propeller Shaft and Stern Tube Shaft Surveys

B8.1.1 Ordinary Surveys

Sub-paragraph -1 has been amended as follows:

1 “An efficient crack detection method” stipulated in item 1 and 2 of **Table B8.1, Part B of the Rules** generally refers to the magnetic particle method.

2 When the clearance and/or wear down at the aft end of the stern tube or the shaft bracket bearing exceed the value given below, the bearing is to be replaced or repaired.

(1) Clearance for water lubricated bearings:

Propeller shaft diameter, d (*mm*): Clearance (*mm*)

$d \leq 230$: 6.0

$230 < d \leq 305$: 8.0

$305 < d$: 9.5

(2) Wear down for oil lubricated bearings:
As a rule, 0.3 *mm*, but factors such as the characteristics of the lubricating oil, the temperature fluctuation history of the lubricating oil or bearing material are to be taken into account.

B9 PLANNED MACHINERY SURVEYS

B9.1 Planned Machinery Surveys

B9.1.3 Planned Machinery Maintenance Scheme (PMS)

Sub-paragraph -4(7) has been amended as follows:

4 Approval of PMS
Conditions for approval of PMS are as follows:
((1) to (6) are omitted.)

(7) Computer
Computers used for condition monitoring and diagnosis systems are to satisfy the following requirements specified in **(a)** through **(e)**:
(a) Computers are to be configured so that the effects of a system failure in part of the circuits or devices can be limited to a certain range as far as possible.
(b) Each system component is to be protected against overvoltages (electrical noise) likely to enter through input/output terminals.
(c) Central processing units and important peripheral devices are to have a self-monitoring function.
(d) Important programmes and data are not to be deleted in the event of a temporary failure of the external source of power supply.
(e) Spare parts for important system components that require specialist services for repairs are to be supplied in readily replaceable part units.
(f) It is recommended that the software is approved in accordance with **Annex B9.1.3-4 "PROCEDURES FOR APPROVAL OF PMS MANAGEMENT SOFTWARE"**.

Annex B9.1.3-4 has been added as follows:

Annex B9.1.3-4. PROCEDURES FOR THE APPROVAL OF PMS MANAGEMENT SOFTWARE

1.1 General

1.1.1 Scope

1 These procedures apply to the tests, examinations, etc. of the computer software required by ships adopting the Planned Machinery Maintenance Scheme (hereinafter referred to as "PMS") in accordance with the requirements given in **B9.1.3-4(7)(f)**.

2 The approval of system software developed to manage all internal ship operations is to follow these procedures.

1.2 Application for Approval

1.2.1 Application Form

Applicants for software approval are to submit an application form (**Form 1**) to the Society.

1.2.2 Documents to be Submitted

The documents listed below are to be submitted together with the application form specified in **1.2.1**:

(1) Software: 1 set (demonstrational software may be submitted. In cases where a dedicated installer is necessary to install such software, the installer is to be submitted together with the software)

(2) Operation manual which indicates the following contents in detail: 3 sets (1 set of the manual may be submitted in the case of an electronic manual)
  (a) System requirements (central processing unit, operating system, required capacity of the hard disc and memory, etc.)
  (b) Procedure to install and uninstall the software
  (c) Function of the software
  (d) Operating method

(3) Other documents deemed necessary by the Society

1.3 Function

1.3.1 Planned Maintenance Function

Software is to have the following planned maintenance functions:

(1) It is to be capable of registering the maintenance plans not only for those survey items required by the machinery maintenance scheme (PMS) but for all machinery.

(2) It is to be capable of specifying the time schedule of maintenance or running hours for each item of machinery and equipment including their parts.

(3) It is to be capable of displaying a list of at least the following items. The list is to classify the registered machinery, equipment and their parts and to be displayed in a tree structure format, etc.

(a) Names of machinery, equipment and their parts
(b) Maintenance items
(c) Maintenance interval (next inspection date or running hour)
(d) Maintenance schedule (It is to be able to directly input the inspection date or calculate from the maintenance interval)
(e) Person in charge of maintenance

(4) Maintenance intervals are not, in principle, to exceed five years. Maintenance intervals are to be capable of being displayed on the list of maintenance within a term which is arbitrarily designated.

(5) In cases where there are maintenance items which expire after the maintenance period, such items are to be easily identified.

1.3.2 Maintenance Records Function

The software is to have the following maintenance record functions:

(1) It is to be capable of managing and recording the results of the maintenance conducted by the planned maintenance specified in **1.3.1**. The items regarding management and record are to be included the following:
(a) Names of machinery, equipment and their parts
(b) Maintenance items and results (including an exchange of parts)
(c) Maintenance completion date
(d) Total running hour
(e) Next inspection date
(f) Measurement data (including original design dimensions and allowable tolerance) However, such data is only required in cases where measurements are taken.
(g) The condition of damage and the repair method in cases where damage was found.

(2) List of the maintenance items within the designated term is to be displayed. Such lists are to include the name of machinery, equipment and their parts together with the maintenance items and the maintenance completion date.

(3) Past maintenance records are to be displayed in cases where machinery, equipment and their parts are arbitrarily selected.

1.3.3 Condition Monitoring Function

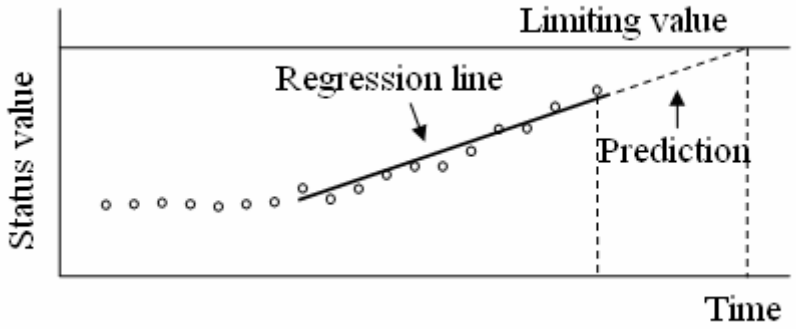
1 The software is to have a function for the condition monitoring of machinery, equipment and their parts as necessary. Such condition monitoring is to be capable of trend analysis if necessary. In cases where trend analysis is adopted, the following requirements are to be satisfied:

(1) In cases where measurement data is affected by temperature, running speed, load, etc., the data is to be standardized and trend analysis is to be conducted against the index except in those cases where trend analysis is conducted against measurement data obtained during steady operating conditions.

(2) The upper limit and lower limit values of measurement data are to be determined in accordance with the recommended values of the manufacturer or through statistical processing based on initial values. In cases where such values are determined by statistical processing, limit values are to be automatically calculated based on accumulated data. However, these values may be determined by other methods deemed appropriate by the Society.

(3) Trends of measurement data together with relevant limiting values are to be able to be displayed by a simple operation. (See **Fig. 1.3.3-1**)

Fig. 1.3.3-1 Trend Display



2 Maintenance management based on the condition monitoring specified in **-1** above is to satisfy the following:

(1) Planned maintenance

(a) Machinery, equipment and their parts are to be capable of being registered apart from those which are periodically during open up examination.

(b) The registration of the machinery, equipment and their parts which apply to condition monitoring are to include the following items:

i) Names of machinery, equipment and their parts

ii) Kind of measured signal

iii) Measurement interval

iv) Limiting value (This value is to be set up for each measured signal)

(2) Measuring process and recording

(a) Measurement date and measurement value are to be recorded.

(b) In cases where open up examinations are conducted, it is to be capable of recording the same results of the maintenance specified in **1.3.2**.

1.4 Administration of Software

1.4.1 Administration of Revision

System manufacturers and administers are to handle any software revisions caused by changes in the system. Specific information related to software revisions are to be verified on main displays or menus.

1.4.2 Administration of Backup

System manufacturers and administers are to specify proper procedures for backing up administrated maintenance data.

1.5 Verification Test

In principle, the Society will conduct verification tests of those functions specified in **1.3** after examining the documents specified in **1.2**.Verification tests may be conducted under the conditions that the systems are actually used at either the ship management company or onboard the ship. However, in cases where the relevant functions can be verified by the software which has been submitted, verification tests may be omitted.

1.6 Approval

1.6.1 Notification of Approval

In cases where the documents specified in **1.2** and verification test records specified in **1.5** are considered appropriate, the Society will approve the issue of a new certificate. In cases where the software has a function specified in **1.3.3** or other optional functions, these functions are stated on the certificate.

1.6.2 Term of Validity

The term of validity of the "Certificate of Approval" will be 5 *years* from the date of approval. In cases where renewal of approval is carried out in accordance with **1.6.3**, the term of validity will be 5 *years* from the next day after the expiration date of the previous period of validity.

1.6.3 Renewal of Validity

In the case of renewing validity, manufacturers are to submit the Society an application Form (**Form 1**) along with the previously issued certificate. Changes of specification, if any, are to be described on the application form.

1.6.4 Changes in the Contents of Approval

1 In the case of specification changes of approved software, applicants are to submit a "Certificate of Approval" (original) and those documents specified in **1.2.2** according to the content of changes together with an application form (**Form 1**).

2 The Society requires the verification test specified in **1.5** as necessary.

3 In cases where the documents specified in **-1** and verification test records specified in **-2** are considered appropriate, the Society will issue a new certificate.

4 In cases where approval is given for a design with a partial modification, the expiration date will not be renewed in principle.

1.6.5 Revocation of Approval

In cases where any of the following is relevant, the Society may revoke its approval and give notice of such revocation to manufacturers.

(1) In cases where the approval renewal procedures given in **1.6.3** were not followed.
(2) In cases where requests for revocation are made by applicants or manufacturers.
(3) In cases where the approved condition was changed without the permission of the Society.
(4) In cases where applicants or manufacturers do not pay approval fees.

Form 1

APPLICATION FOR THE APPROVAL OF PMS MANAGEMENT SOFTWARE

(☐Initial, ☐Renewal, ☐Modification)

To: Machinery Department, NIPPON KAIJI KYOKAI
4-7, Kioi-cho, Chiyoda-ku, Tokyo 102-8567, JAPAN

Ref. No.:
Date:

Name of Applicant: _____

Address: _____

TEL: _____

FAX: _____

E-mail: _____

We hereby apply for the approval of the following software in accordance with the requirements given in Annex B9.1.3-4, Part B of the Guidance for the Survey and Construction of Steel Ships.

Name of product	
Revision No.	
Name of Manufacturer and Address of Manufacturer	
Documents Attached	
Note	

Notes:
1. One copy of this application is to be submitted.
2. ☐check where appropriate.

EFFECTIVE DATE AND APPLICATION (Amendment 1-1)

1. The effective date of the amendments is 15 April 2009.

Amendment 1-2

B9 PLANNED MACHINERY SURVEYS

B9.1 Planned Machinery Surveys

B9.1.2 Continuous Machinery Surveys (CMS)

Sub-paragraph -6 has been amended as follows:

6 Confirmatory Survey

In ships deemed by the Society as maintaining their machinery and equipment well, ~~it is confirmed that the machinery and equipment specified in **(2)** below are in good order. O~~overhaul inspections by the shipowner (or the ship management company) may forgo the open-up examination performed in the presence of Surveyors by conducting the following confirmatory surveys, ~~where deemed by the Society,~~ provided that the machinery and equipment are overhauled as part of the ship's maintenance practices ~~at sea~~ and the records from such overhauls are kept in good order. In this case, the date of the next open-up examination is to be within a 5-*year* period from the date of its last overhaul and inspection. ~~The same applies for machinery and equipment overhauled in a port where it is difficult to call in the Surveyor.~~

(1) Procedure of the confirmatory survey

(a) ~~When~~In the case of any machinery ~~or~~and equipment specified in **(2)** below ~~was~~ overhauled ~~at sea~~ and inspected by the Chief Engineer as routine maintenance work, one copy of the inspection report including the items mentioned below is to be submitted to, and reviewed by the attending Surveyor. Also, the Chief Engineer's profile is to be confirmed by the attending Surveyor.

i) Signature of the Chief Engineer and license number
ii) Date and place of the inspection
iii) Inspection items and their results
iv) Operating conditions before and after the inspection

(b) Parts replaced with spares or repaired are to be verified by visual examinations on by photographs.

(c) Visual examinations are to be carried out for main propulsion machinery, and examinations under operating conditions, as well as visual inspections are to be carried out for other machinery.

(d) As a result of the confirmatory survey stipulated in **(a)** to **(c)** above, open-up examinations and/or re-examinations may be required when deemed necessary by the Surveyor.

(2) Items applicable to the confirmatory survey

Items of machinery and equipment applicable to the confirmatory surveys are as follows.

(a) Main diesel engines

However, crankshafts, main bearings, crank pin bearings, crank pin bolts, camshafts, and camshaft driving gears are to be excluded. Note that the number of items of the confirmatory surveys is to be restricted to half the number of total survey items for the main diesel engine within one cycle of the CMS.

(b) Diesel engines used for driving generators, auxiliary machinery essential for main propulsion or auxiliary machinery for manoeuvring and safety of the ship

However, an open-up examination of the diesel engine for driving the main generator is to be carried out in the presence of the Surveyor ~~is to be carried out at least for one of the diesel engines used for driving main generators within one cycle of the CMS~~in cases where a single unit of such engines is fitted on ship.

(c) Auxiliary machinery (air compressors, pumps, heat exchangers, deck machinery and distilling plants)

(3) Timing of the confirmatory survey

A confirmatory survey is to be carried out by the time of next periodical survey from the day the item of the machinery ~~or~~and equipment intended for the confirmatory survey was overhauled and inspected at sea.

EFFECTIVE DATE AND APPLICATION (Amendment 1-2)

1. The effective date of the amendments is 15 April 2009.

2. Notwithstanding the amendments to the Guidance, the current requirements apply to the surveys for which the application is submitted to the Society before the effective date.

Amendment 1-3

B1 GENERAL

B1.1 Surveys

B1.1.3 Intervals of Class Maintenance Surveys

Sub-paragraph -5(8) has been added as follows.

5 Occasional surveys specified in **1.1.3-3(5), Part B of the Rules** are as specified below:
(Sub-paragraphs (1) to (7) are omitted)

(8) Safety Practice of Fixed Carbon Dioxide Fire-extinguishing Systems

For fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces and cargo pump-rooms installed on ships which had been at the beginning stage of construction before 1 October 1994, a survey is to be carried out to verify compliance with the requirements of **25.2.2-2(1)** and **(2), Part R of the Rules** by the date of the first scheduled dry-docking after 1 January 2010.

EFFECTIVE DATE AND APPLICATION (Amendment 1-3)

1. The effective date of the amendments is 1 January 2010.