
Survey Arrangements based on "Planned Maintenance System"

1. Generally

The planned maintenance systems are usually comprehensive preventive maintenance programs including machinery, workshops, accommodation etc.

This type of survey arrangement can be granted to any type of ship.

Presently, the survey arrangement based on planned maintenance might include machinery and automation equipment.

Machinery Parts **not acceptable** for surveys by Chief Engineer under the Planned Maintenance Scheme are shown in Annex 2.

2. Requirements to Planned Maintenance Systems

All maintenance work carried out is to be documented by the planned maintenance system. A maintenance system documenting the maintenance of the category "Classification Survey" only is considered as insufficient.

A Planned Maintenance System is to include:

- Inventory content, i.e. items/systems included in the maintenance program.
- Maintenance time intervals, i.e. time intervals at which the maintenance jobs are to take place.
- Maintenance instructions, i.e. maintenance procedures to be followed.
- Maintenance documentation and history, i.e. documents specifying maintenance jobs carried out and their results.
- Reference documentation, i.e. performance results and measurements taken at certain intervals for trend investigations from delivery stage.
- Organisation chart, i.e. chart showing flow and filling of maintenance documents as planing cards, job cards etc.

Documentation on maintenance of the category "Classification Surveys" carried out on items/ systems covered by the Rules is to be signed by the Chief Engineer. With computerised systems the access to updating the maintenance documentation and the maintenance program should be possible for the Chief Engineer only.

The description and documentation of the planned maintenance system are to be in the English language. The maintenance instructions and maintenance history on job cards may, however, be in the language most practical and suitable for the maintenance crew. In such cases the maintenance history and job cards is to be given a summary in English in the maintenance documentation.

For ships trading in specific areas, e.g. ferries, planned maintenance systems using other languages than English may be accepted. This arrangement is automatically cancelled in case of change of trade.

The maintenance system is to produce a documentation which is useful as a basis for the annual survey of the PMS.

Computerised systems are to include back-up files which are updated at regular intervals.

3. Approval Procedures

A Planned Maintenance System obtains approval in two steps.

- 1) The Owner must obtain an approval of his planned maintenance system by a formal request to the Society's Head Office. The request should contain documentation on items/systems as listed in para. 2. The organisation chart should show flow of all documents involved including document copies, document circulation and filling, including where and how long the maintenance documentation is filed on board.
- 2) The last step is the approval of the system on board as basis for granting this survey arrangement to the ship, the so called Implementation Survey.

4. Implementation Survey

Implementation survey is to be carried out when the system has been used on board for at least 6 months. The purpose is to verify that the PMS is implemented in accordance with the approval documentation and is adapted to the type and complexity of the machinery components/systems on board. Further that the planned maintenance system is producing the documentation required for the annual PMS survey by the Society and that the Society's requirements to surveys and testing for retention of class are complied with.

During the implementation survey, the Surveyor will verify that the crew is motivated towards using planned maintenance system as an important tool for improving safety. He will verify that the Chief Engineer by his signature confirms all maintenance and surveys carried out on components/systems covered by the class under the survey arrangement. With computerised systems this may be achieved by having in the system a classified code giving only the Chief Engineer access to updating of the classification program.

He will also check that the vessel is manned with a Chief Engineer holding a valid licence issued by the respective authorities. He shall hold this licences at minimum for a year already.

The Surveyor will send to the Head Office a report describing the system in use on board and will, when relevant, recommend a survey arrangement based on planned maintenance for the ship in question. The approval for the ship is then issued by the Head Office.

5. Annual Survey (Retention of the Approval)

An annual survey is required to prolong the validity of the approval. This survey becomes due on the date of nominal due date of the Annual Class Survey with a time window of three month +/-.

- The purpose of this survey is to verify that the scheme is being correctly operated and that the machinery has been functioning satisfactorily since the previous survey. General examination of the items concerned will be carried out.
- The performance and maintenance records will be examined to verify that the machinery has functioned satisfactorily since the previous survey or action has been taken in response to machinery operating parameters exceeding acceptable tolerances and the overhaul intervals have been maintained.
- Written details of break-down or malfunction are to be made available.
- Description of repairs carried out will be examined. Any machinery part, which has been replaced by a spare one, due to damage, is to be retained on board - if possible - until examined by a Society's surveyor.
- At the discretion of the surveyor, function tests, confirmation surveys and random check readings, where condition monitoring equipment is in use, will be carried out as far as practicable/reasonable.

In case of sale of the vessel or change of management, the survey arrangement is automatically cancelled. The new Owner/Manager must then apply for a new approval according to the specified procedure.

The Society reserves the right to cancel this survey arrangement, usually with 12 months' notice. If, however, it should be evident that the conditions for granting the survey arrangement is not adhered to or complied with, cancellation can be given with immediate effect.

The Owner/Manager may at any time revert to the Continuous Survey or normal Class Renewal procedure.

6. Class Renewal (Special Survey)

The class renewal/special survey will be carried out in the scope of at least an annual survey.

The purpose for this survey is to verify that the scheme is being correctly operated and that all items/part covered by the PMS were correctly maintained and credited as required by the Society.

7. Damages and Repairs

Damages which may be presumed to lead to recommendation against the ship, are to be reported to a Society Surveyor. Survey will then be carried out as found necessary by the Society.

Repairs of any significance, that is repair work beyond pure routine maintenance and normal exchange of spare parts, are to be surveyed by a Society's Surveyor in accordance with the Rules.

8. Harmonising of Surveys

With adoption of the planned maintenance system the intermediate machinery and the automation surveys will be carried out by annual surveys. With this system therefore a harmonisation with other surveys should be easily obtained.

All annual surveys, including the survey of the operation of the planned maintenance system, have "time window" of +/- 3 months whilst 21/2- yearly surveys have a "time window" of +/- 6 months.

ANNEX 1 – Surveyor Checks during PMS Surveys according to F 234

1. Implementation Survey

- 1.1 Check whether the Chief Engineer is familiar with the system and motivated toward using it.
- 1.2 Check the compliance of the system on board with the approved system.
(An approved system description will be available aboard).
- 1.3 Check the Approval Certificate of the Planned Maintenance System
(Certificate no. to be checked).
- 1.4 Verify that the Chief Engineer holds a valid licence as Chief Engineer for this type and size of vessel for at minimum a year already. (Name and date of licence to be checked).
- 1.5 Random check to be carried out for compliance of job descriptions and class requirements.
- 1.6 Maintenance history to be checked for sufficiency.
- 1.7 Check that all PMS documentation is properly updated and easily accessible.
- 1.8 Verify that measurement forms (when applicable) for crank web deflections, clearances etc. are in use.
- 1.9 For computerised systems, verify that satisfactory back-up routines are established.

2. Annual Survey

- 2.1 Check whether the Chief Engineer is familiar with the system.
- 2.2 Check the approval certificate of the system.
- 2.3 Check the Chief Engineer's licence.
- 2.4 Carry out function test and random check of the system.
- 2.5 Examine performance and maintenance records to verify that the machinery has functioned satisfactorily since the previous survey.
- 2.6 Check that all jobs had been carried out at their due dates, and no overdue jobs are present.
- 2.7 Check whether break-downs or malfunctions appeared since the last survey and examine the repair job description, check the retained damaged/worn parts.
- 2.8 General examination of the items concerned.
- 2.9 General check.

ANNEX 2 - Machinery Parts not acceptable for Survey by Chief Engineer

1. Main steam boilers and steam turbines
2. Auxiliary steam boilers and steam turbines
3. Apparatus under pressure
4. Main drive gears
5. Steering Gear
6. Propellers
7. Propeller shafting including bearings
8. Surveys for Class Notations like AUT, INERT etc.