INSTRUCTIVE FOR THE REVIEW AND APPROVAL TANK CAPACITY PLAN

	POSITION	DATE	SIGNATURE
PREPARED BY			
REVISED BY			
APPROVED BY			

1.0   TITLE

INSTRUCTIVE FOR THE REVIEW AND APPROVAL TANK CAPACITY PLAN

2.0   OBJECTIVE

To establish an appropriate mechanism to accomplish and control systematically the surveys and completion of the corresponding reports and certificates.

3.0   RESPONSIBILITY

3.1   It is responsibility of the personnel of Technical Department to assure that all procedures contained in this instructive are fulfilled for the surveys and issuance of respective ertificate.

3.2   It is responsibility of the personnel of Technical Department to support in the monitoring for the compliance of the mechanisms for the surveys and issuance of the technical certificate.

3.3   It is responsibility of the surveyors to comply with the procedure contained in this instructive when carrying out the surveys for the technical certificate.

4.0   DEFINITIONS

4.1   **NASHA:** National Shipping Adjusters, Inc is a Maritime Organization authorized to carry out surveys and Certification on behalf of Maritime Administration of Flag State. In some cases also it is identify as a Recognized Organization (RO) or Recognized Security Organization (RSO).

4.2   **Classification Rules:** They are referred to those issued by a classification society with which NASHA has signed contractual agreement for sharing such rules in ship surveys and certification activities.

4.3   **Stand by**, to be waiting and ready to do something.

4.4   **IMO**, International Maritime Organization: It is a specialized agency of the United Nations devoted to maritime matters.

4.5   **"Anti-Fouling System"**, (AFS) means coating, paint, surface treatment, surface, or device that issued on a ship to control or prevent attachment of unwanted organisms.

4.6   **"International Voyage"** means a voyage by a ship entitled to fly the flag of one State To or from a port, shipyard, or offshore terminal under the jurisdiction of another State.

4.7   **Maritime Administration:** is the authority responsible to regulate all aspects related to the marine requirements of the flag.

4.8   **National Regulations**: are those established by each Maritime Administration to implement IMO Regulations or to adopt standards not envisaged in International Conventions.

5.0   ACTIVITIES

5.1   GENERAL

Review documentation provided by NASHA Technical Staff as:
- Patent
- Pre-certification
- Inspector's Pate Checklist
- Respective naval documentation (plans, manuals and respective books)

Below is the information provided by NASHA's technical staff; where the information needed to perform the review in the correct manner is shown.
Check the consistency of all the information in all the respective documents corresponding to the type of certificate.

5.2 RULES APPLIED WHEN REVIEWING OR MAKING A NAVAL PLAN

- ISO 128-20:1996 (Technical drawings)
- COMDTINST M9000.6 (USCG Naval Engineering Manual, Chapter 085)
- ANSI/ASME Y14.2-2005 (Line Conventions and Lettering)
- ANSI/ASME Y14.5-2009 (Dimensions and Tolerancing)
- ANSI/ASME Y14.35M (Revision of Engineering Drawings and Associated Documents)
- MIL-STD-25 (Ship Structural Symbols for Use on Ship Drawings (See Note))
  Note: Ship drawings shall comply with MIL-STD-25 except that steel symbol designations may conform to the current American Institute of Steel Construction (AISC) "Manual of Steel Construction."

5.3 VERIFICATION OF THE PLAN
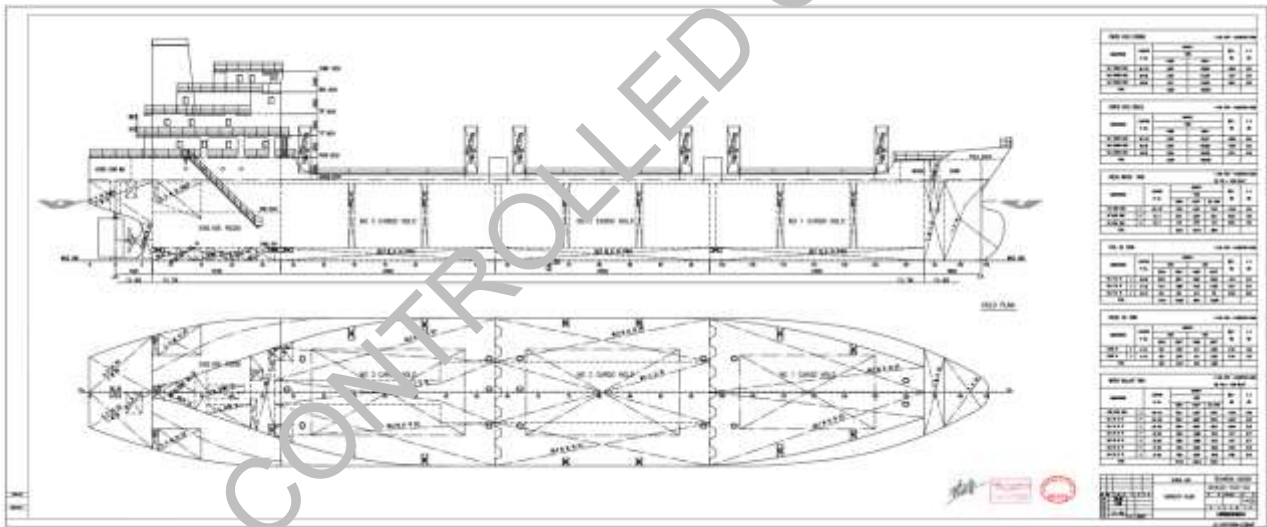
Points to check (Drawing):

- Verify the generalities of the ship which can be obtained from the checklist filled out by the inspector with the respective competence (length, beam, prop, etc.)

- Consistency of the views (consistency of the view from above, with lashings)

- Verify the length and location of the different accommodations which have to be congruent with those established in the certificate.

- Scale of the plan.

- Type of load, accommodations, superstructure, bulkheads, forecastle, engine room.

- Format of the plan which has to be in accordance with the norms mentioned in point 2 (Applied norms when revising or making a naval plan)

- Last revision of the corresponding plan.

- Verify if there are no structural modifications, which are not reflected in it, which will be taken from the checklist provided by the inspector with the relevant competence.

Points to check (Capacity):

- Verify that the location of the tanks (position according to the bulkheads)

- Check the capacity of each tank (must be placed on the drawing and table)

- Check the type of fluid, or transport element.

- Check the plan so that the tanks can be easily located in the different views (top and side). A very important point is that all the tanks placed in the capacity logging must have a respective view of the capacity plan.

5.4   VERIFICATION

The following steps are stipulated when verifying the tonnage calculations of a vessel, in order to verify its accuracy.

- **Step #1**
  Export the PDF drawing (supplied by the shipowner) to the AutoCad program, which will allow us to take the measurements more accurately and quickly.
  After exporting the plan, it must be scaled according to the generality of the ship.
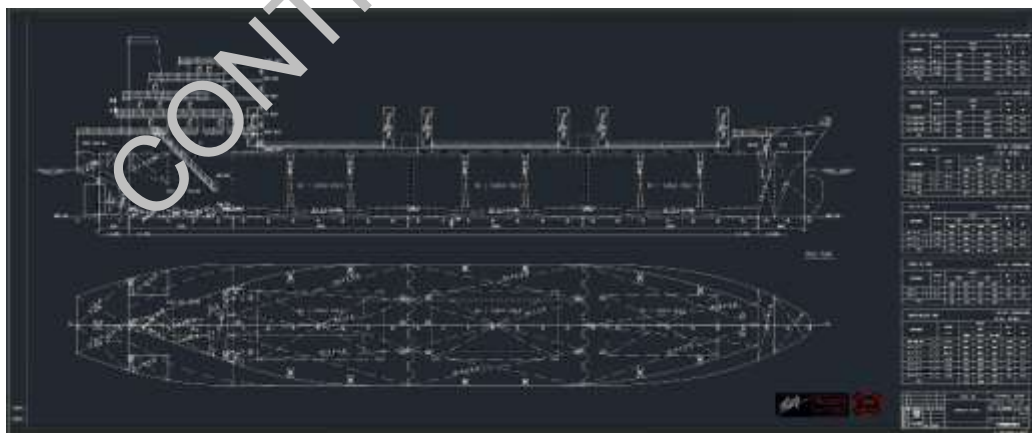
At the moment of scaling the corresponding plane it will allow us to measure in a more precise way the generalities highlighted in point 4 (Verification of the plane), a very relevant characteristic of this tool is its speed and pressure because it allows us to have the exact dimensions of the plane which have to be in accordance with the reality of the boat.

Note:
This step is the first one that must be done when verifying a naval document (tonnage, load line, stability book, capacity plan, fire plan.
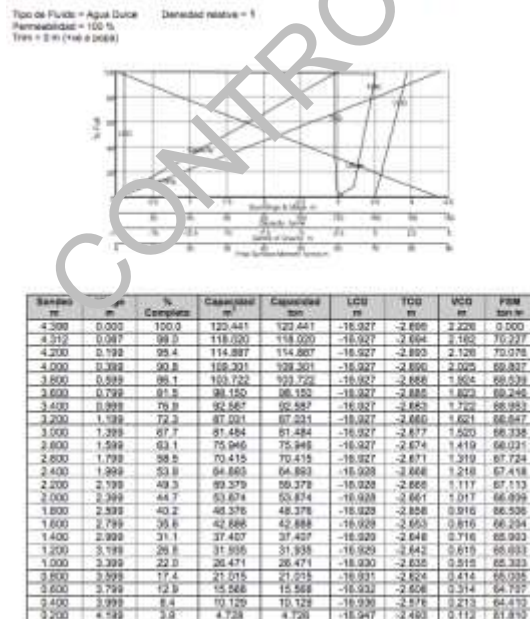
- **Step #2**

  After clarifying the ship's measurements to its real dimensions, they must be exported to the MaxSurf naval program, which will allow us to verify the volumes of the different tanks (cargo, fuel, ballast, oil, drinking water, etc.).
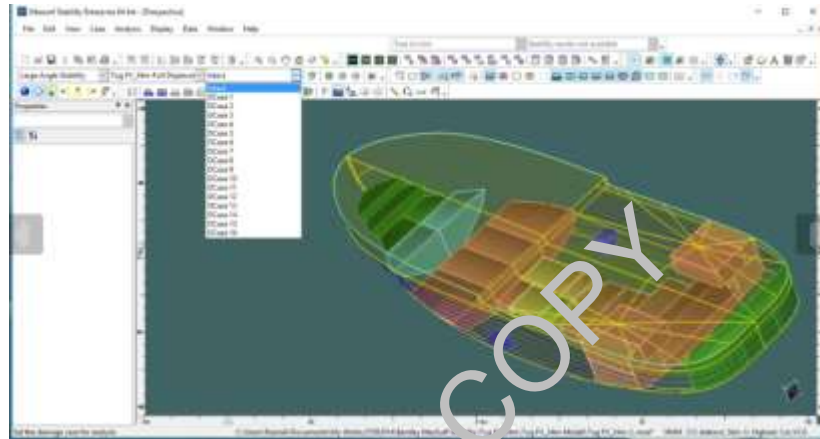
- **Step #3**

  After modelling the ship in the Maxsurf program, the analysis of the reports delivered by the program is carried out in order to compare the data obtained.

The results obtained will allow us to know the corresponding volumes of all the parts of the ship in order to corroborate that the values delivered in the capacity plane are correct.
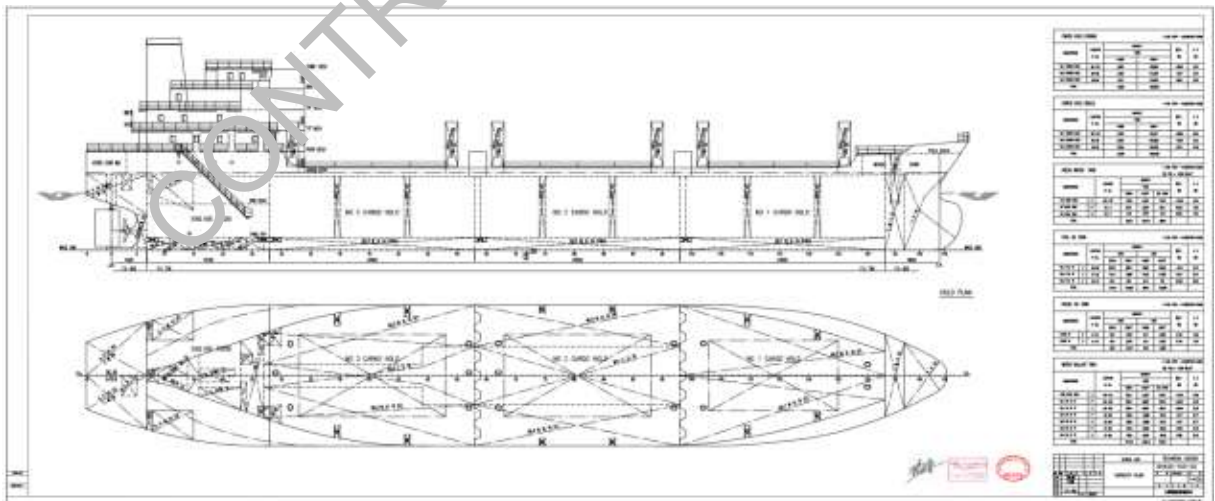
5.5   MANUAL PLAN CHECK

In case the competent staff has no knowledge of the computer tools, they have the option to carry out the revision manually. For this you will need the help of a scale, which will allow us to approximate the measurements to reality, in this case you have to use special use of the ANSI/ASME Y14.5-2009 standard (Dimensions and Tolerancing).
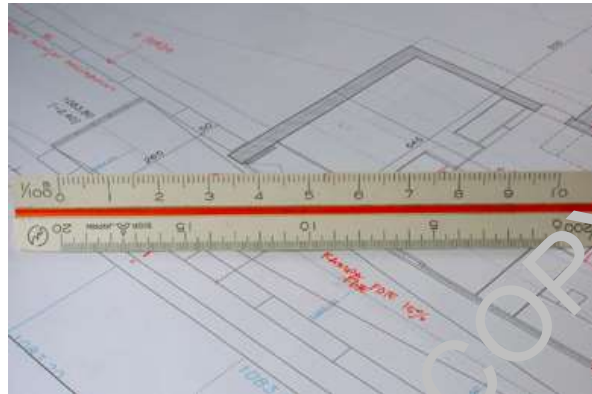
5.6   ANNEXES

The following tables and formats are relevant to verifying a general arrangement plan, which will assist NASHA Technical staff in performing this activity.
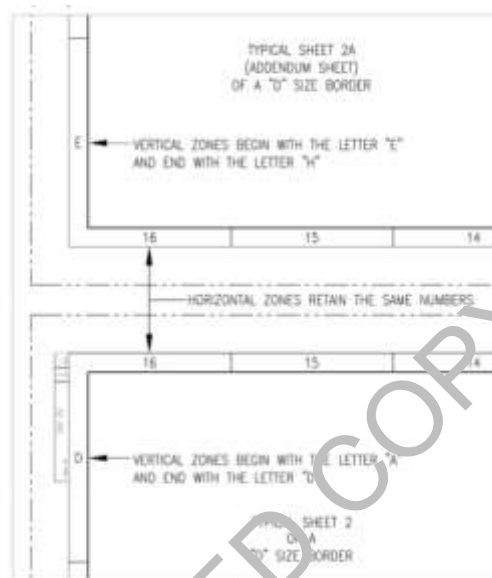
Note: This manual may be a first impression of how to perform a plan review, but much depends on the skill of the respective technical staff.

Presentation format of a capacity plan

Drawing area requirements

1. All drawing sheets, except size A and B drawings, must include vertical (alphabetical) and horizontal (numerical) areas for reference purposes.

- The alphabetical (vertical) letters shall begin with "A" with the exception that the appendix sheets shall have alphabetical (vertical) zone designators which shall continue with the lettering scheme of the sheet inserted next (e.g. if sheet 2 of a size D border is divided into 9-A to 16-D zones, then sheet 2A shall be divided into 9-E to 16-H zones).

- Numerical (horizontal) entries will begin with "1" in the lower right-hand corner of the first sheet and continue with consecutive numbering throughout the drawing (e.g. in an H panel drawing size 8, sheet one will begin with 1 and move to 8, sheet two 9 to 16, sheet three 17 to 24, etc.).

Mandatory and conditional blocks or tables

1. Mandatory blocks or tables can be found in the drawing edge templates

- Coast Guard Title Block
- Drawing number block
- Class Approval Block
- Command or contractor block
- Scientific technical information block
- Revision History Table
- Applicability table
- Leaf revision status table
- Table of Special Annotations
- Weight control table
- Reference plane table

The linear reduction scaling block is mandatory for every graphic window with scalable geometry. Only one scale is required for a sheet containing multiple graphic windows with the same scale. The block is not required for geometry drawn on a 1:1 scale.

5.7 PROCEDURE FOR FINAL APPROVAL OF PLANS

5.7.1 Coordinate with technical department for the issue of permanent certificate of approval for plans, manuals and booklets that demonstrate compliance with applicable IMO guidelines and national requirements. The head office to preparer the final certificate approval and stamping the first page of manual.

6.0 RECORD OF INFORMATION

6.1 Request of Survey
6.2 Quotation
6.3 Approval

6.4   Authorization for survey
6.5   Original copy Tank capacity plan

7.0   CRITERIA FOR EVALUATION

The Control of Documentation form will be used to verify and evaluate the procedures and stages that have been executed pursuant to the established requirements.

7.1   ACCORDANT PROCEDURE

When the survey and Certification procedure has been fulfilled completely, the Control of Documentation form will be filled together with all the respective documentation in the vessel file.

7.2   NOT ACCORDANT PROCEDURE

When the survey and Certification procedure does not fulfill some of the demanded requirements, the documentation that has been received and the Control of Documentation form, will be maintained on standby until requirements are fulfill, according to the Review Procedure, Full Term Certificate and Endorsement P-RS-02.

8.0   RELATED DOCUMENTATION

8.1   P-RS-01 Procedure for the Survey and Interim Certification
8.2   P-RS-02 Review Procedure, Full Term Certificate and Endorsement
8.3   P-RS-03 Procedure for Cases of Ships with Deficiencies
8.4   Documents of External Support (IMO, ILO, Administrations)

9.0   REFERENCE

9.1   P-RS-01 Procedure for the Survey and Interim Certification
9.2   P-RS-02 Review Procedure, Full Term Certificate and Endorsement
9.3   P-RS-03 Procedure for Cases of Ships with Deficiencies