****BRIDGE PROCEDURES MANUAL****

|  |
| --- |
| **Insert Photo of vessel** |

****M/V <Vessel Name>****

**M/V <Vessel Name>**

**IMO NUMBER: <XXXXXX>**

**PORT OF REGISTRY: <XXXXXX>**

# Section 0 - Document Description

0.1 DISTRIBUTION

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| **Copy Number** | **Recipient** |
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0.2 DOCUMENT INFORMATION

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| --- | --- |
| **Document Title** | **Bridge Procedures Manual** |
| **Document Identification** |  |
| **Replaces** | **New** |
| **Document File** |  |

0.3 REVISION STATUS

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|  |  |  |  |  |  |
| **Rev No.** | **Description** | **Prepared** | **Controlled** | **Approved** | **Date** |

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Section 1 - Introduction

1.1 Manual Purpose and Description

This Manual is intended to provide guidance for Deck Officers into the effective use of maneuvering controls and systems onboard.

The information contained in this manual, although in a common format, is specific to this vessel and should form part of the induction process of Deck Officers new or unfamiliar with the vessels characteristics.

It should also be kept available and easily accessible as a reference document for the bridge team.

The document is intended to be kept as up to date as possible and should be continuously developed to become a useful reference tool to the mariner.

#

# Section 2 - Vessel Specification

This **<Vessel Name>** has the following principal specifications;

**<Enter Summary Vessel Specifications>**

2.1 General Spec’s

**<Enter Detailed Vessel Specifications>**

# Section 3 - Maneuvering Control System

3.1 Maneuvering System – General

The **<Vessel Name>** main maneuvering systems comprise;

3.1.1 Main Engines

<Suggest insertion of suitable description of main machinery >

3.1.2 Main Propellers

<Suggest insertion of suitable dry-dock picture>

3.1.3 Bow Thruster

<Suggest insertion of suitable dry-dock picture>

* + 1. Stern Thrusters

<Suggest insertion of suitable dry-dock picture>

3.1.5 Azimuth thruster

<Suggest insertion of suitable dry-dock picture>

3.1.6 Rudders and Steering Gear

<Suggest insertion of suitable dry-dock picture>

3.2 Efficiency

3.2.1 Main Propellers

**<Suggest insertion of statement regarding astern propulsive efficiency>**

**3.2.2 Azimuth Thruster**

**<Suggest insertion of information regarding any operational peculiarities>**

3.2.3 Bow Thruster

**<Suggest insertion of statement regarding lateral propulsive efficiency>**

3.2.4 Stern Thrusters

**<Suggest insertion of statement regarding lateral propulsive efficiency>**

3.3 Time Lag

Time taken for the movement of engine & thruster pitch also the rudder movement

<Suggest inserting detail for each propulsion system such as for example:>

3.3.1 Main Propellers

Apply pitch from 0 to full ahead **XX** Seconds

Apply pitch from 0 to full astern **XX** Seconds

Apply pitch from full ahead to full astern **XX** Seconds

3.3.2 Azimuth Thruster

Rotate thruster 180 degrees **XX** Seconds

Rotate thruster 90 degrees **XX** Seconds

Zero pitch to full ahead **XX** Seconds

Zero pitch to full astern **XX** Seconds

Full ahead to full astern **XX** Seconds

3.3.3 Bow Thruster

Zero pitch to full Port **XX** Seconds

Zero pitch to full Starboard **XX** Seconds

Full over to full over **XX** Seconds

* + - 1. Stern Thrusters

 **No1 Fwd**

Zero pitch to full Port **XX** Seconds

Zero pitch to full Starboard **XX** Seconds

Full over to full over **XX** Seconds

 **No 2 Aft**

Zero to full port **XX** Seconds

Zero to full starboard **XX** Seconds

Full over to full over **XX** Seconds

3.3.5 Rudders

Mid-ships to hard over **XX** Seconds

Hard over to hard over **XX** Seconds

3.4 Initial Start-up Procedures

Always inform engine before you start any thrusters or other heavy power consumers.

3.4.1 Main Engines

**<Suggest inserting operating step-by-step instructions for the starting of, and taking control of, engines including annotated photographs of consoles where appropriate>**

3.4.2 Bow Thruster

**<Suggest inserting detailed layout description and operating step-by-step instructions for starting and taking control of thrusters including annotated photographs of consoles where appropriate>**

* + 1. Azimuth Thruster

**<Suggest inserting detailed layout description and operating step-by-step instructions for starting and taking control of azimuth thrusters including annotated photographs of consoles where appropriate>**

3.4.4 Stern Thrusters

**<Suggest inserting detailed layout description and operating step-by-step instructions for starting and taking control of stern thrusters including annotated photographs of consoles where appropriate>**

3.4.5 Steering Gear

**<Suggest inserting detailed layout description and operating step-by-step instructions for starting and taking control of steering motors including annotated photographs of consoles where appropriate>**

* + 1. Main Steering Panel

**<Suggest inserting detailed layout description including annotated photographs of consoles where appropriate>**

3.5.3 Forward Thrusters control panel

**<Suggest inserting detailed layout description including annotated photographs of consoles where appropriate>**

3.5.4 Controls aft

**<Suggest inserting detailed layout description including annotated photographs of consoles where appropriate>**

3.5.5 Joystick Control System

**<suggest providing detailed description of joystick system including all functions>**

3.5.6 Centre of Rotation

It is possible to alter the center of rotation of the vessel in joystick mode.

You can alter the center of rotation by **<xxxxxxxxxx>**

C.O.R. Fore = center of rotation forward.

C.O.R. Mid = center of rotation amidships.

C.O.R. Aft = center of rotation aft.

3.5.7 Heading Priority

**<suggest a check of validity>** It should be remembered that the available maximum thrust to some propulsion and thrust units may be lessened through the use of the joystick, the system will give priority to vessel heading so may not apply full thrust to a particular unit.

The **<xxxxxxxxxx>** joystick control system fitted to this vessel will give priority to heading, that is to say, the maximum available thrust will be limited or reduced until the unit has brought the heading of the vessel to within defined limits. You may find that the **<xxxxxxxxxx>**is not doing what you want it to do, it may ignore or limit commands from the joystick when heading is outside of set limits, the unit will prioritise heading until the heading is brought back to within defined limits.

Normally any manoeuvring operations at offshore installations are controlled using the manoeuvring station located at the aft end of the bridge. This position also has a full suite of communications systems and cargo system controls.

3.6 Variable Thrust Power Configurations

**<suggest including a description on whether it is possible to alter power settings of main propulsive units on the vessel>**

Pushing the low gain button on the **<xxxxxxxxxx>** control unit, will reduce the available thrust to 50%

Reference should always be made to the “Guidelines for the Safe Management of Offshore Supply and Anchor-Handling Operations (NW European Area)” current edition in particular the section on Collision Risk Avoidance and Adverse Weather Working when choosing the power configuration. The vessel must at all times be able to manoeuvre to a safe position so should always have sufficient reserve power available to achieve this particularly in strong tidal or marginal weather conditions.

**For manual operation set-up and changeover procedures refer to Section 4 of this manual**

3.7 Dynamic Positioning System (DP)

**<Suggest including a detailed description of the DP system and capabilities if fitted and a layout description including annotated photographs of DP consoles where appropriate for example>**

This is a very sophisticated automated maneuvering control system which accepts information from various sources such as;

Gyro Compass

Motion sensors

Anemometer

Fanbeam or Cyscan position reference system

DGPS, GLONASS or DGNSS position reference system

RADIUS or RADASCAN position reference system

Taut-Wire position reference system

HPR position reference system

The system compares and analyses information from the various reference systems and applies power to the various thrust systems automatically to maintain the required position. Conflicting information is generally taken care of by the use of several inputs such that where 3 inputs are supplied and 2 agree the system will believe that information and discount the erroneous data. The system also learns from its previous manoeuvers in that it becomes more accurate and efficient the longer it is required to maintain that position.

It is important that all operators of the DP system read and fully understand the DP operator manual and the FMEA such that they are fully conversant with the benefits and limitations of the system. Whenever the system is in use there must always be at least one fully trained and qualified DP operator on the bridge. All company DP procedures must be followed when using the system.

3.7.1 DP operator desk

**<Suggest inserting detailed layout description including annotated photographs of consoles where appropriate>**

3.7.2 DP reference station

**<Suggest inserting detailed layout description including annotated photographs of consoles where appropriate>**Section 4 - Changeover Procedures

The following procedures shall be followed when changing over control;

4.1.1 Manual Steering to Autopilot

<Suggest entering a detailed step by step procedure for changing modes>

4.1.2 Autopilot to Manual Steering

<Suggest entering a detailed step by step procedure for changing modes>

4.1.3 Manual Steering to Emergency Steering

<Suggest entering a detailed step by step procedure for changing modes>

4.1.4 Emergency Steering to Manual Steering

<Suggest entering a detailed step by step procedure for changing modes>

4.1.5 Normal pitch control to Emergency pitch control

<Suggest entering a detailed step by step procedure for changing modes>

4.1.6 Forward Maneuvering Station to Aft Maneuvering Station

<Suggest entering a detailed step by step procedure for changing modes>

4.1.7 Aft Maneuvering Station to Forward Maneuvering Station

<Suggest entering a detailed step by step procedure for changing modes>

4.1.8 Manual Controls to Joystick Controls

<Suggest entering a detailed step by step procedure for changing modes>

* + 1. Emergency Pitch Control of the tunnel Thrusters

<Suggest entering a detailed step by step procedure for changing modes>

* + 1. Emergency Control of the Azimuth Thruster

<Suggest entering a detailed step by step procedure for changing modes>

4.1.11 Joystick Control to Manual Controls

<Suggest entering a detailed step by step procedure for changing modes>

* + 1. To Pass Control to the DP Desk

<Suggest entering a detailed step by step procedure for changing modes>

* 1. Power Failures (Blackouts)

<Suggest entering a detailed description of what types of and what to expect following blackouts caused by different failures going into detail about recovery from such outages via step by step procedures>

# Section 5 - Manoeuvring Data

The following data can be found posted on the bridge.

**<suggest inserting copies of swing circles, crash stop info etc….>**

#

# Section 6 -FMEA (Effect of failure of critical components)

**<Suggest providing an explanation of the reason for an FMEA, how they do it and what it tells the operators. Stress the importance of all operators fully understanding the report and consequences of all identified failures so as to be ready to deal with any surprise events in the correct manner but also to configure the systems to take account of these possibilities to prevent a loss of position-keeping following such an identified failure.>**

Section 7- Record of Incidents**.**

7.1 Purpose

On every occasion that an incident or failure of equipment occurs, even if this incident does not result in injury to personnel or damage to equipment or to the vessel, an incident investigation must take place. The purpose of the investigation is to ascertain the reason for the failure so that, hopefully, future occurrence can be avoided. It will also give an indication to the likely sequence of events following the failure of such equipment and the best course of action to take.

No matter how small the incident it must be investigated and the findings recorded in BPM section 7.

The corrective measures taken to prevent re-occurrence must also be included in the incident log.

I am sure that you can see the benefits of having the past history of incidents recorded in this manual; it will alert new crew and your opposite number of the likely outcome of failures of equipment and how to deal with such failures and what to expect if failure does occur. It will also give an indication of what actions should be avoided.

This is also to include incidents involving human error, for example pressing the wrong button or pulling the wrong lever, anything that we can learn from.

**7.2 Incident Log**

**Incident Log**

|  |  |  |
| --- | --- | --- |
| Date : | Time : | Location :  |
| Wind : | Sea : | Current : |
| What happened : |
| Result of Incident : |
| Corrective measures / how to avoid re-occurrence |
| Date:  | Name: | Signature: |

# Section 8 Appendix

**<suggest including any supporting materials such as checklists, standing instructions, industry guidance etc…>**