



## **OPERATIONS**

### **Revisions to the Guidelines for Safe Operations of Dynamically Positioned Offshore Supply Vessels**

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*The International Marine Contractors Association (IMCA)*

*October 7-8, 2008*

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International Marine Contractors Association

# **Revisions to the Guidelines for Safe Operation of Dynamically Positioned Offshore Supply Vessels**

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# Safe Operation of DP OSVs



International Guidelines for  
The Safe Operation of  
Dynamically Positioned  
Offshore Supply Vessels



# PSVs on order

	<b>2007</b>	<b>2006</b>	<b>% change</b>
<b>Europe &amp; Africa</b>	55	59	-7%
<b>Americas</b>	70	48	45%
<b>Middle East &amp; India</b>	32	24	33%
<b>Asia Pacific</b>	73	41	78%
<b>Total</b>	<b>230</b>	<b>172</b>	<b>34%</b>

# Multi-role PSV



- Supply
- Anchor Handling
- Cable Laying
- Flexipipe Laying
- Stand By
- Oil Recovery Operations
- ROV
- Towing
- Trenching

	<p><b>NORMAL OPERATIONS (Green)</b></p>	<p>Complies with appropriate DP OSV capability conditions</p>	<p>Position and heading excursions are within acceptable limits, and            Power and thrust outputs are within limits for capability of vessel, and            Environmental conditions are acceptable, and            Minimum risk of loss of position and/or collision, and            ÷For DP capability 2 and 3 vessels – DP equipment redundancy is intact and DP system is operating within ‘worst case failure’ limits, or            ÷For DP capability 1 vessel – DP equipment is intact and operating within acceptable limits.</p>
	<p><b>DEGRADED CONDITION (Yellow)</b></p>	<p>Not in compliance with appropriate DP OSV capability conditions</p>	<p>Position or heading excursions out of acceptable limits for more than brief or isolated periods, or            Power and thrust outputs are greater than the limits for capability of vessel for more than brief or isolated periods, or            Environmental conditions or other conditions are considered unsuitable for continuing DP operations, or            Increased risk of loss of position or collision, or            ÷For DP capability 2 and 3 vessels – failure in DP equipment that results in loss of redundancy and the vessel operating outside “worst case failure “limits, or            ÷For DP capability 1 vessels – failure in DP equipment that does not result in a loss of position</p>
	<p><b>EMERGENCY CONDITION (Red)</b></p>	<p>Emergency</p>	<p>For DP OSV capability 1, 2 and 3 vessels            ÷Unable to maintain position, or            ÷Imminent threat of collision, or            ÷Any other emergency situation</p>

## DP OSV Capability 1

- DP IMO equipment class 1 (class society equivalent DP class notation)
- Vessel operating within limits of intact thruster capability in existing environmental force conditions
- DP control location manned by at least one category A bridge watchkeeping officer and one other person clearly only relevant when DP is to be used on an OSV
- At least one position reference system operating and on line



## DP OSV Capability 2

- **DP IMO equipment class 2 or 3 (class society equivalent DP class notation)**
- **Vessel operating to identified ‘worst case failure’ limits in existing environmental force conditions**
- **DP control location manned by at least one category A bridge watchkeeping officer and one category B bridge watchkeeping officer**
- **Two totally independent position reference systems operating and on line. At least three position references should be immediately available of which two should be operating and online**

## DP OSV Capability 3

- **DP IMO equipment class 2 or 3 (class society equivalent DP class notation)**
- **Vessel operating to identified ‘worst case failure’ limits in existing environmental force conditions**
- **DP control location manned by two category A bridge watchkeeping officers**
- **At least three independent position reference systems operating and on line**

# Vessel positioning matrix

	DP OSV Capability 1	DP OSV Capability 2	DP OSV Capability 3
<b>Close Proximity 1 (low risk)</b>	✓	✓	✓
<b>Close Proximity 2 (medium risk)</b>		✓	✓
<b>Close Proximity 3 (high risk)</b>			✓

<b>Close Proximity 1 (low risk)</b>	<p>'x' metres from the offshore installation on lee side</p> <p>More than 'x' metres from the offshore installation on weather side</p>
<b>Close Proximity 2 (medium risk)</b>	<p>Less than 'x' metres from the offshore installation on lee side (for brief periods only)</p> <p>'x' metres from the offshore installation on weather side</p>
<b>Close Proximity 3 (high risk)</b>	<p>Less than 'x' metres from the offshore installation on lee side</p> <p>Less than 'x' metres from the offshore installation on weather side (for brief periods only)</p>

## Category A – Master or navigating officer

- STCW 95 navigating officer certificate appropriate to class of vessel
- NI DP certificate
- Fully competent in operating the OSV in manual control when in close proximity to an offshore installation
- Adequate experience of the DP control system type and equipment classification – recommend 14 days

## Category A – Master or navigating officer

- Knowledge of the vessel's FMEA, together with a detailed understanding of the implications of all identified failure modes.
- Detailed knowledge of the vessel's DP operations manual and adequate knowledge of the contents of the vendor manuals.
- Consideration should also be given to providing manufacturers' courses for masters and officers in this category, in particular for the DP control system and position reference systems.

## **Category B – Navigating officer or “other officer”**

- STCW 95 navigating officer certificate appropriate for class of vessel or other appropriate certification, as required by the DP OSV owner ( such as engineer, crane driver and so on).
- Received on board training of the vessel’s DP system, using the NI DPO logbook to record training received.
- Competent in taking control of the vessel in manual control and moving away from the installation.

# The issues

- DP FMEA & Annual Trials
- DP OSV capability
- Close proximity situations
- DP Operators
- DP operational procedures
- IMO or Class
- Unmanned engine space



# Food for thought ?

- The vessel is operated by the Master, the crew and the company and the guidelines should complement rather than restrict this.
- Regional or charterer's guidelines may take precedence.
- Power consumption & thruster output limits put DP1 vessels at an advantage.

# The answers



# Solutions?

- Limit use of DP Class 1 vessels
- Use DP Class 2 vessels

IMCA Station Keeping Incident reporting is being reviewed and so that section in the guidelines will need reviewing

Incident reports are being received from offshore supply vessel owners/operators

Guidance on RADius position reference system is being prepared

IMCA M103 Guidelines for the Design and Operation of Dynamically Positioned Vessels is about to undergo a major overhaul

Common Marine Inspection Document is also being revised

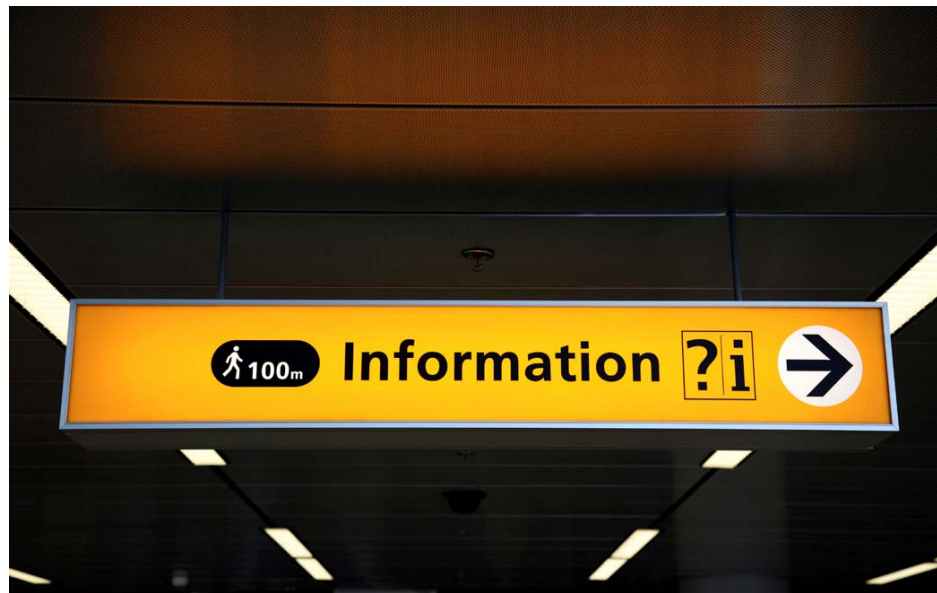
# On the horizon...?

Possible further IMO Guidance on Offshore Support/Supply vessels and their operation

# Final questions

- Is there anything missing from the guidelines?
- Is there anything in the guidelines that could or should be removed?
- Will these guidelines work well with the new generation of offshore supply vessels?
- Will these guidelines improve offshore supply operations?

Thank you



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