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**Impact of the New USCG Requirements on DP OSV
Operations in the Gulf of Mexico**

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SUMMARY

On 22nd January 2003 the 8th Coast Guard District (D8) issued Policy Letter 01-2003 entitled, "Use of Dynamic Positioning (DP) by Offshore Supply Vessels (OSVs) for Oil and Hazmat Transfers". The policy letter was targeted at owners and operators of OSVs, providing them with guidelines for the operation of OSVs in DP at offshore facilities and rigs on the Outer Continental Shelf of the Gulf of Mexico. The date for full compliance with the provisions of the guidelines is 22nd January, 2005. This paper considers the potential impact on the sector, while at the same time questioning some of the underlying premises on which the USCG have based their policy.

ANALYSIS OF THE REQUIREMENTS

BACKGROUND

USCG requirements on OSV operations have until now been limited to non DP vessels and have focused on mooring systems rather than other methods of position control. These mooring regulations are contained in 33 CFR 156.120(a) and impose requirements for conventional OSV mooring systems during oil and HAZMAT transfers. The recent rapid growth in the number of OSVs using dynamic positioning at offshore facilities and rigs in the Gulf of Mexico has resulted in a regulatory shortfall. There is neither national regulation nor guidance for this expanding sector. This USCG policy letter addresses the issue and fills the regulatory gap.

Quite simply, there are two main reasons for the growth in DP OSVs in the Deepwater Gulf of Mexico; demand and supply.

On the demand side the past few years has seen a relentless expansion in the area for oil and gas exploration and production. According to the most recent MMS report, "Deepwater Gulf of Mexico 2004: America's Expanding Frontier", by the end of 2003 a total of 93 structures had been installed in the Deepwater Gulf, 31 of which are surface structures, the majority having been installed in the last five years. Estimates from that same report predict that in the three years after 2003, a further 37 structures are to be installed, of which seven are surface structures. Water depths range from just over 1,000 feet through the mid range of 4 to 5,000 feet up to depths in excess of 10,000 feet for the latest exploration activities. OSVs constitute the most critical link in the supply chain for these production facilities and exploration rigs. At today's extreme depths conventional mooring and anchoring systems are no longer suitable. The only alternative is seen

to be the use of dynamic positioning as the primary means of maintaining position for all cargo and bulk transfers.

On the supply side dynamic positioning has, for several decades, been accepted as the primary method of position keeping in many parts of the offshore industry. Sectors such as offshore diving, deepwater drilling, construction, heavy lift, survey and accommodation embraced dynamic positioning many years ago. It is only recently, however, that the OSV sector has become a significant user of dynamic positioning. And, by comparison with other parts of the world, it is the Deepwater Gulf of Mexico that is blazing the trail for others to follow. This region has witnessed a more rapid growth in DP OSV operations than anywhere else in the world, with more new DP OSVs being built here and more old tonnage being upgraded.

This growth in the use of DP in all offshore sectors has been accompanied by the development of internationally accepted rules and standards against which DP vessels are designed and constructed. These same rules and standards are applied to all DP vessel types although systems are categorised according to capability. The most important of these international rules is the guidance contained in the International Maritime Organisation's (IMO's) MSC Circular 645, "Guidance for Vessels with Dynamic Positioning Systems". They were issued in 1994. The IMO Guidelines have been used by the Classification Societies as the basis for their own DP rules. Although there are some areas where there are minor differences between Class requirements and the IMO Guidelines, they are based on the same underlying principles affecting **equipment** and **redundancy**. At its simplest, the underlying principles follow the premise that, other things being equal, the more equipment there is, e.g. propulsion, power generation, distribution, position reference systems, then the greater level of redundancy there is, which, in turn, provides for safer DP operations. It is arguable that this concept of redundancy has become the Shibboleth of the DP world. In this paper the concept of redundancy is not called into question. It is accepted as the way things are. It is worth bearing in mind, however, that the concept of redundancy does not have such a high profile in all other areas of comparable technology¹.

The following table gives the IMO Equipment Class levels and their equivalent Classification Society DP notations.

¹ See "Review of Methods for Demonstrating Redundancy in Dynamic Positioning Systems for the Offshore Industry", Det Norske Veritas study for the HSE, UK, July 2003.

Table 1 – IMO Equipment and Equivalent Classification Society DP Notations

IMO Equipment Class	Lloyds	DNV	ABS	GL	BV
No equivalent	DP (CM)	Dynpos T	DPS-0	No equivalent	Dynapos SAM
No equivalent Class 1	No equivalent DP (AM)	Dynpos Aut Dynpos Aut	No equivalent DPS-1	No equivalent DP 1	No equivalent Dynapos AM/AT
Class 2	DP (AA)	Dynpos Autr	DPS-2	DP 2	Dynapos AM/AT R
Class 3	DP (AAA)	Dynpos Autro	DPS-3	DP 3	Dynapos AM/AT RS

The USCG policy letter uses the IMO Guidelines, the Classification Society rules and their underlying principles of equipment and redundancy as the basis for the ranking system which is being implemented for DP OSVs in the Deepwater Gulf.

In addition the USCG policy letter also requires owners and operators of DP OSVs to comply with two other sections of the IMO Guidelines, viz., operational requirements and, surveys and testing. One further area that the policy letter addresses is the training and qualification for DP Operators. However, the policy letter does not refer owners and operators to sources that could be used for achieving compliance on this human factor issue.

SCOPE OF APPLICATION

The USCG policy letter applies only to operations in support of exploration or exploitation of offshore oil and mineral resources on the OCS within the area covered by D8, Gulf of Mexico. Oil and HAZMAT transfers occurring in state waters will still require the use of conventional mooring in accordance with 33 CFR 156.120.

In addition the USCG policy letter applies only to the use of DP by OSVs transferring to and from an offshore facility or rig. It does not apply to other units, such as Floating Production, Storage and Offload (FPSOs) or to their supporting shuttle tankers. It should be noted of course

that, at time of writing, no FPSO/shuttle tanker offtake systems have been approved for the Deepwater Gulf. Neither does the policy letter apply to crew boats, a large number of which are equipped with DP systems.

REGULATORY ENFORCEMENT

The USCG have indicated in their policy letter that they do not intend to conduct any additional inspection activities to enforce the policy but they will consider the guidance contained in it when investigating any casualties involving OSVs using DP.

USCG POLICY LETTER - RANKING OF DP OSVS BY EQUIPMENT

As already indicated the USCG have followed the IMO and Classification Society line in applying the principle of equipment redundancy as the basis for ranking DP OSVs. Four sets of recommended criteria have been identified by the USCG and owners and operators are required to ensure that their DP OSVs are in compliance with at least one of the four Alternatives by 22nd January, 2005. The first three categories provide standards for DP equipment, the fourth category is for vessels that do not meet the DP equipment standards. Details are given in the table below.

The IMO Guidelines recommend that vessel operators and their customers, principally the oil companies, examine the risks associated with the DP operation so as to determine the DP equipment class that is appropriate to the risk. The underlying logic of this approach is that high risk operations, i.e. where the consequences of DP failure were high, should be carried out by DP vessels that have the highest level of DP equipment capability. This approach was developed by, among others, the Norwegians in their the NMD Consequence class, where, for example, DP diving and DP drilling require were considered high risk operations and therefore required to be conducted under DP equipment class 3 conditions. The risk based approach has been recognised by the USCG in their policy letter. The regime that is outlined in table 2 below comprises the four Alternatives, where Alternative #1 is more preferable to Alternative #2, and so on.

The USCG encourages DP OSV owners and operators to engage in discussions on risk so as to determine the most appropriate DP equipment classification, yet in so doing, they recognise that the discussion may not take place in every case. Hence, the policy letter establishes the minimum requirements for DP transfers of oil and HAZMAT. The outcome of the USCG policy is that vessels with minimum requirements, Alternatives #3 or #4, will be considered acceptable for DP

OSV operations at offshore facilities and rigs in the Deepwater Gulf. The USCG has not shut the door on vessels that have the most basic DP system.

It is arguable that, as far as the regulatory regime is concerned, the USCG has taken a minimalist approach in keeping the field open to such a wide range of vessel types and that owners and operators who have invested heavily in high capability vessels, in particular Alternative #2, may not benefit from their investments. The validity of that opinion will be answered in the fullness of time.

Table 2 – USCG Table of Alternatives for DP OSVs

Category	Reference	Comments
Alternative #1	IMO Class 2 or IMO Class 3	<p>This is the preferred alternative by the USCG and, in IMO Class 3, it provides the greatest level of equipment redundancy.</p> <p>However, in practice, IMO Class is not given as a class notation, neither is the IMO Flag State Verification Document (FSVAD) used as evidence that the DP system meets the standards set by the IMO Guidelines.</p> <p>Few, if any, DP OSVs will achieve this preferred DP equipment standard.</p>
Alternative #2	Classification Society – IMO “equivalent” Class 2 or Class 3	<p>This is the second best alternative and applies to “equivalent” DP equipment standards as given by the following three Classification Societies;</p> <p>American Bureau of Shipping (ABS) – DPS-2 or DPS-3</p> <p>Det Norsk Veritas (DNV) – AUTR or AUTRO</p> <p>Lloyds Register (LR) – DP(AA) or DP(AAA)</p> <p>All of these DP Class notations are acceptable for DP OSVs. Many DP OSVs on the OCS, especially the newbuilds have an appropriate DP Class notations.</p> <p>This standard does not cover DP class notations that are given by other recognised Classification Societies that have “equivalent” DP equipment standards. For example, BV and GL each have appropriate DP class notations.</p>

Category	Reference	Comments
Alternative #3	Minimum DP requirements where the OSV does not meet the above DP equipment standard	<p>This is the third best alternative and acknowledges that there are many DP OSVs on the OCS that do not meet the higher standards, yet are considered by the USCG as acceptable for DP OSV operations.</p> <p>This alternative requires redundancy on selected items of DP equipment. The main focus of this alternative is that sufficient redundancy is required to ensure safe termination of oil and HAZMAT transfer operations before the OSV drifts off location.</p> <p>No account is taken of driving on or driving off location, either in position or heading, all of which are reasonably foreseeable failure modes.</p> <p>The policy letter does not offer guidance on the measures required to demonstrate safe termination of operations following equipment failure.</p>
Alternative #4	Use of breakaway fitting with QCVs where the OSV DP system does not meet any of the three above categories	<p>This is the fourth best alternative and provides owners with an option where DP OSVs are still considered by the USCG as acceptable, even where DP equipment standards are inferior to the minimum DP requirements in the above categories.</p> <p>This alternative is not based on DP equipment redundancy but on the DP OSV making a safe withdrawal following a DP equipment failure.</p> <p>As in Alternative #3 above, this alternative is based on the premise that DP failure will result in the OSV drifting away.</p> <p>No account is taken of driving on or driving off location, either in position or heading, all of which are reasonably foreseeable failure modes.</p>

Strictly, in seeking to control oil and HAZMAT transfers by ensuring that OSVs engaged in these activities are to comply with at least one the Alternatives above, the USCG appear not to have applied the same standards for other types of OSV/installation transfers, which, potentially, have equally hazardous consequences. There is a long list of such transfers with varying levels of hazardous outcomes for personnel safety, materials damage, OSV and installation integrity, etc.

OPERATIONAL PROCEDURES

The USCG requires owners and operators of DP OSVs to have appropriate DP operational procedures in place. This requirement applies in all cases regardless of the equipment category. The basis of the requirement is compliance with the relevant sections of the IMO Guidelines, Section 4 - Operational Requirements and Section 5 - Surveys and Testing.

Operational Requirements

There are two main operational requirements.

DP Capability Plots

DP OSVs are to be operated within the environmental limits set out in the vessel's DP capability plots. The purpose of the DP capability plots is to determine by calculation, based on assumed propulsion power, the position keeping ability of the vessel in fully intact and, in certain degraded conditions and, in various environmental conditions of wind and current.

DP capability plots do not show vessel excursions when in DP. They show the likely environmental limits within which a DP vessel will return to the target position when an excursion takes place caused by external environmental forces, in intact and in degraded conditions, including, for DP equipment class 2 and 3 vessels, after worst case failure. There are a number of interpretations of the term, "worst case failure". In the author's opinion the most concise and meaningful definition is that worst case failure is *the identified single fault in the DP system resulting in maximum effect on DP capability*.

Compliance with the IMO Guidelines requires DP equipment class 2 and 3 operations to be limited to the vessel's capability following worst case failure. This means that environmental monitoring is required to determine conditions when the vessel will be unable to maintain position following a worst case failure and that for DP equipment class 2 and 3 operations, automatic consequence analysis is required.

DP equipment class 1 operations are, by their definition, less demanding than class 2 or 3 operations, hence for vessels engaged in class 1 operations the limiting factor is the vessel's capability in intact condition. The DP capability plots for DP equipment class 1 vessels should take account of the intact condition as well as selected single point failures.

Extrapolating these requirements to the four categories of DP OSV as given in the USCG policy letter gives the following requirements for DP capability plots.

Table 3 – DP Capability Plot Requirements for Alternatives #1 to #4

USCG Category	Maximum Intact Condition	Allowable Degraded Condition	DP Capability Monitoring	DP Capability
Alternative #1	Yes	Worst case failure	Automatic consequence analyser	High
Alternative #2	Yes	Worst case failure	Automatic consequence analyser	High
Alternative #3	Yes	Selected single point failure	Automatic consequence analyser (possible) and/or Monitoring environmental envelope	Medium
Alternative #4	Yes	Selected single point failure, where appropriate	Monitoring environmental envelope	Low

Explanation of the Table

Column 1 lists the four USCG DP equipment categories in descending order of preference.

Column 2 shows that DP capability plots should be in place for all maximum intact conditions and for all categories of vessel, i.e. that the environmental limits within which each vessel is able to maintain position are known. Maximum intact condition means that all propulsion and power generation units are fully operational and working to required specification. It should be noted that the DP capability plots do not show the accuracy of the vessel's position keeping. The purpose of DP capability plots is to show that the vessel has sufficient thrust and power to regain position if forced off position by environmental forces.

Column 3 shows that the DP capability plots should take account of certain failed conditions, and that the plot should show the environmental envelope within which each vessel can operate in these degraded equipment conditions. For Alternative #1 and #2 vessels the allowable degraded condition is the identified worst case failure, such that vessels should only operate to the environmental limits established for that situation where the worst case failure has occurred. All

Classification Societies make it a DP class notation requirement that the worst case failure is identified for each class 2 or class 3 vessel.

The situation for Alternative #3 and #4 vessels is more complicated, since many will have multiple single point failures which, if occurring, will totally incapacitate the DP system. DP capability plots for these vessels should take account of single point failures if it is appropriate to do so. In the case of Alternative #3 vessels there will be some redundancy in thrusters. Therefore, in the case of Alternative #3 vessels, thruster configurations following single thruster failure should be subject to DP capability plotting. Where appropriate, thruster failure conditions should also be subject to DP capability plotting in the case of Alternative #4 vessels.

Column 4 shows the monitoring requirement, principally that for Alternative #1 and #2 vessels there is to be an automatic consequence analyser, which should give a warning in the event of the monitored environmental conditions exceeding the worst case failure. According to the USCG policy letter, Alternative #3 vessels should also have automatic consequence analysers, but that requirement is waived for vessels that can demonstrate two years of satisfactory operational history without a consequence analyser. The means of demonstrating satisfactory history so as to take advantage of this relaxation are not given.

Checklists, Test Procedures and Instructions

The IMO Guidelines also require a range of DP operational controls. This takes the form of checklists, test procedures and instructions. Test procedures are considered later in this paper. This section considers checklists and instructions.

Checklists

DP location and watchkeeping checklists are required.

A DP location checklist should be developed specifically for every DP vessel. The purpose of the DP location checks is to make sure that the DP system is functioning correctly and that the system has been set up properly for the appropriate DP equipment class. For example, Class 2 or 3 operations will require that, for example, thrusters and propulsion units, power generation and distribution units are appropriately configured and will, in certain cases require split switchboards. In addition Class 2 or 3 operations will require two or more DP position reference units to be on line and supplied from different power sources.

The IMO Guidelines do not provide details on the checks that should be carried out. However, they should be comprehensive and should, as a minimum, include active function checks of the following;

- All propulsion units, inc., individual pitch and rotational controls
- All power generation units and standby units
- DP control console, including all control modes, joystick and manual controls
- Position reference systems, noting that fanbeam, where fitted, is unlikely to be useable outside 500 metres
- Environmental and vessel sensors, wind, gyros and VRU/MRUs
- DP message and alarm printer
- Communications systems, internal and external to offshore installation

Defects found during these DP location checks are liable to have an adverse affect on the capability and performance of the DP vessel. The potential downgrading of the vessel's capability and performance should be fully considered before proceeding with the DP operation. In practical terms this will inevitably call for communications between the vessel and the facility or rig to assess the risks of continuing operations.

The IMO Guidelines also require watchkeeping checklists.

A DP watchkeeping checklist should be developed specifically for each DP vessel. The purpose of a watchkeeping checklist is principally to ensure that there are regular checks of the DP system and, in particular, that there is an appropriate transfer of information between the watchkeepers.

The IMO Guidelines do not give details of the items that should be checked as part of the watchkeeping procedure, however the following, based on the DP location checklist above, is given as typical.

- All propulsion units - status, running condition and percentage thrust output
- All power generation units and standby units - status, running condition and output
- DP control console - control mode

- Position reference systems – type and number in use, status and performance
- Environmental and vessel sensors, wind, gyros and VRU/MRUs – status and average and peak values
- DP watch circle – position and heading performance, warning and alarm settings
- Environmental conditions – wind direction and force, seastate, current

There is no guidance on the frequency of checking. Clearly, in any case, all of the variables above should be monitored constantly by the DP watchkeeper. The DP watchkeeping checklist is a formalized way of recording the information.

In addition there is a separate need for checking at shift changes. Ideally, shift changes should only be carried out when the vessel is in a steady state condition and it is settled in position. However, this may not always be possible. As a minimum the following information should be communicated at shift changes.

- Status of the vessel's operations at the facility or rig
- General performance and operation and status of the DP system
- Position keeping performance
- Power consumption performance
- Propulsion output performance
- Details of recent messages, warnings and alarms
- Environmental conditions
- Communications with the facility or rig

Instructions

IMO Guidelines require there to be DP operating instructions. The scope of these instructions is not defined in the IMO Guidelines. Each of the Classification Societies has interpreted this requirement in its own way. Of the three major Classification Societies, ABS and Lloyds Register make the following requirements, reproduced in full below.

ABS *“For each vessel a dynamic positioning systems operations manual is to be prepared and submitted solely for verification that the information in the manual relative to the dynamic positioning system is consistent with the design and information considered in the review of the system. One copy is to be kept on board.”*

Lloyds *“Operations manuals, including details of the dynamic positioning system operation, installation of equipment, maintenance and fault finding procedures together with a section on the procedure adopted in an emergency are to be submitted. A copy of the manual is to be placed on board the ship.”*

The third major Classification Society, DNV, issues more detailed and specific requirements, in particular referring to them as Instruction Manuals. In complying with DNV requirements these manuals do not just cover the operation of the DP control system but also cover operating instructions. The following is an abbreviated list of DNV’s requirements.

DNV *Detailed system description, including design, function and mode of operation, operating instructions for normal and emergency conditions, monitoring, performance testing, etc.*

Functional description, including detailed description of back up functions

Operating instructions, including adjustments and limit values, presentation modes, starting and stopping systems, different operational modes, transition between modes

Fault finding, description of fault symptoms, recommended corrective actions, instructions for tracing faults

Spares and suppliers

There are differences between each of the Classification Society requirements with the ABS requirements being significantly less than Lloyds and, especially DNV. However, none of them fully covers the scope of the requirements of the ISM Code, requirement 7 of which calls on owners and operators to develop plans for key shipboard operations, such as DP operations. There is no definitive standard for DP operating instructions, however the list below gives an indication of what would constitute a reasonable table of contents for a DP Operations Manual.

Organisation and Responsibility including job descriptions for key positions, such as master, DP watchkeepers, engineers. Lines of command and communication.

Vessel Data	including basic information about the vessel, such as location of thruster, deck plan, bulk cargo offtake points.
DP Philosophy	description of the company's philosophy of DP operations
DP System Description	including an overall description of the system, line diagram of DP system, reference to manufacturer's manuals, power generation, distribution and management, UPS, monitoring and alarms, communications systems, DP system operation.
Standing Orders re DP Operations	including DP watchkeeping arrangements, actions in emergency situations, DP control mode changes, close proximity to offshore installations, vessel moves in DP, allowable excursions, safe working locations, escape routes, DP alert status changes, loss of redundancy.
DP Capability Plots	Presentation of calculated DP capability plots for intact and degraded situations.
DP Checklists	including DP location checks, watchkeeping checks, shift change checks
DP System Verification	including DP Failure Mode and Effects Analysis (FMEA), initial and periodic DP proving trials, management of change procedures, annual verification procedures.
Incident Reporting Policy	including detailed reporting procedure to be followed after a DP incident. Definition of a DP incident, responsibility for reporting, investigation and close out procedures.

Although not strictly a USCG requirement, neither is it an IMO or Classification Society, it is, however, considered good practice for owners and operators of DP OSVs to put in place DP operations manual and instructions along the lines given in the above list. Generally,

knowledgeable charterers, in particular, oil companies, need to be satisfied that the DP operation is effectively controlled at all levels of management and operations.

Survey and Testing

Owners and operators of DP OSVs are also required to comply with the IMO Guidelines on surveying and testing as given in section 5 of the Guidelines. These survey and testing requirements are considered in four groups, as set out in the table below.

Table 4 – DP Surveys and Testing

Requirement	Frequency	IMO Guidelines	Interpretation
Initial survey	Once only	Complete survey and test of the DP system and components. Verification of DP equipment class. Documented in FSVAD ² .	Theoretical DP Failure Modes and Effects Analysis (FMEA) and DP FMEA proving trials. Each Classification Society has developed its own rules for theoretical DP FMEA and DP FMEA proving trials.
Periodical survey	Not exceeding five years	Repeat of above complete survey and testing of the DP system and components and verification of DP equipment class. Documented in FSVAD.	Repeat of the DP FMEA proving trials to verify that the theoretical DP FMEA is still relevant.

² Although compliance with the IMO Guidelines would require a Flag State Verification Document (FSVAD), this part of the IMO Guidelines has not been applied by Flag States. The USCG have also indicated that FSVADs will not be required for DP OSVs in the Deepwater Gulf.

Requirement	Frequency	IMO Guidelines	Interpretation
Annual survey	Annually plus or minus 3 months of anniversary date	Survey to ensure that DP system has been maintained in good order and complies with applicable parts of IMO Guidelines. Test of system and components to ensure vessel complies with DP equipment class. Documented in FSVAD.	Experience has shown that annual DP survey and testing is a vital component in ensuring safe DP operations. The conventional approach is to prepare an annual DP trials programme based on one-off testing. See below for further interpretation.
Occasional targeted survey	As required	Survey after defects or accidents or significant repairs or alterations are made. Testing of system to ensure that vessel complies with DP equipment class. Records to be kept on board.	Experience has shown that this area, if neglected, can be a recurring source of DP problems. Compliance requires effective incident response and close out procedures as well as effective management of change procedures.

There are a number of additional relevant points that emerge from these survey and testing requirements.

Firstly, it has become common practice in the DP sector for an independent third party to be engaged by owners and operators to carry out DP tasks, such as preparing DP FMEAs and witnessing DP FMEA proving and annual DP trials. Many owners and operators find it helpful to engage third parties, since they may not have the specialist DP knowledge and expertise in house. However, there is no requirement in the IMO Guidelines for this, neither is it seen by the USCG as a requirement in their policy letter. Owners and operators can carry out these DP technical processes without the involvement of outside agencies.

Secondly, the method of conducting DP FMEAs and their proving trials has been developed gradually over the years. For example, IMCA's Marine Division published Guidelines on

FMEAs in 2002. Also each of the Classification Societies has included FMEA requirements in their DP Class rules. The most recent development in this area is by ABS, who in November 2003 prepared Draft Guidance Notes for FMEAs with a specific section dealing only with FMEAs for DP systems. There are other sections in the ABS Guidelines for FMEAs for propulsion systems, high speed craft and propulsion remote control systems.

Thirdly, Classification Societies have not made specific rules for annual surveys and testing of the DP system and components. They have incorporated annual DP system and component survey issues into the annual machinery survey programme. However, an approach has been developed in the DP sector, whereby compliance with this IMO Guideline is achieved by carrying out an annual DP trials programme, which is done in a discrete set of tests, witnessed by an independent third party and done at a time that has been specifically set aside by the owner or operator. In many cases this can mean the DP vessel being taken out of service for a period of time. Not all owners and operators will favour this approach. Compliance with the IMO Guideline for an annual survey of the DP system and components can equally be achieved by integrating the DP survey and testing requirements into a planned maintenance regime that is under the control of the vessel's technical managements and onboard staff.

TRAINING AND QUALIFICATION FOR DP OPERATORS

USCG Requirements

The policy letter requires owners and operators to ensure that licensed deck officers on watch during DP operations involving oil and HAZMAT transfers must be suitably trained and qualified to operate the DP system. There is a further requirement to ensure that they are capable of responding to any alarm or emergency that might arise while the vessel is in DP. The policy letter does not identify the standard against which compliance with this requirement will be assessed.

The relevant IMO standard is given in MSC Circular 738 issued in June 1996, "Guidelines for Dynamic Positioning System (DP) Operator Training". This IMO guidance was not the product of a special working group made up of representatives from a wide range of interested bodies. In this case the Marine and Safety Committee chose to adopt IMCA's document, "Training and Experience of Key DP Personnel (Issue 1, Rev 1) as IMO guidance.

The relevance of these IMO and IMCA guidelines to the training of masters and watchkeepers on DP OSVs has been questioned on many occasions, even more so now that there is rapid growth of DP OSVs. Questions of the relevance of these training guidelines typically focus on the many differences that exist between the OSV sector and other DP sectors, such as DP diving, drilling, accommodation, etc. For example, for many OSV masters and bridge navigating officers, dynamic positioning is a tool to maintain position. Equally, there are normal operational circumstances when vessel position can be maintained using joystick or manual control. This difference has implications for the existing training and certification regime.