

Minutes of Coast Guard teleconference with international DP assurance providers

January 14, 2013

In the context of Coast Guard consideration of the possibility of requiring DP MODUs and other DP vessels to obtain surveys from an "organization highly qualified in DP system assurance," the Coast Guard discussed what "highly qualified" would mean with several companies that conduct DP assurance internationally. These companies all agreed that any organization would have to demonstrate competency and effectiveness in FMEA and survey. They communicated that some of the criteria the Coast Guard currently uses to recognize classification societies under 46 CFR 8.230 could also be applicable to DP assurance organizations, such as having quality systems based on industry standards, and financial independence from MODU and other vessel owners and builders. They suggested that additional criteria could include a minimum amount of experience conducting DP assurance (5 years), a documented history of providing FMEA and survey services on a wide variety of MODUs and other vessels with various industrial missions, and a documented history of providing high quality, effective DP assurance such as recommending enhancements to design or operational measures. If the Coast Guard were to propose a rule that required MODUs and other vessels to obtain surveys from an "organization highly qualified in DP system assurance", the Coast Guard should consider requiring an organization to be accepted by the Coast Guard after demonstrating they meet minimum criteria to be eligible to conduct surveys the Coast Guard required.

Minutes of Coast Guard teleconference with Drilling Contractors

January 24, 2013

In the context of the FR Notice recommending MTS Guidance and if the CG proposed a rule under OCSLA as a coastal state for Dynamic positioning, the CG discussed the costs and benefits of the MTS Guidance with several members of representing drilling companies operating on the U.S. OCS and the International Association of Drilling Contractors (IADC). In particular, the possibility of requiring MODU owners/operators to meet MTS DP operations guidance and have a master and navigational watch trained in relevant portions of STCW were discussed as well as various compliance options and the relative risk between various OCS activities. The focus of the discussion was the potential benefit and cost of possible/hypothetical proposed CG DP requirement.

Drilling companies expressed a preference towards a requirement for industry to self certify compliance with MTS DP Operations Guidance rather than a requirement for a Classification society with DP rules or other CG accepted organization to certify compliance. Some drilling companies expressed reservations where they have analyzed and disagreed with specific portions of the MTS Guidance, such as specific position reference sensor recommendations. Drilling companies also had questions about how the CG would incorporate MTS DP Operations guidance. The Coast Guard could refer to certain requirements from the MTS Guidance as specific requirements such as the ones referred to in as voluntary recommendations in the May 2012 FR Notice. For example, the Coast Guard could require that MODU owners and operators must: develop and maintain a WSOG, develop and maintain a CAMO and use it for Critical OCS Activities and report certain DP incidents. The Coast Guard discussed the possibility of requiring MODU owners/operators to generally meet MTS guidance in such a way that there is substantial flexibility; e.g. an incorporation that would not change any “should” in the MTS guidance to “shall or must”. Under such a proposed requirement MODU owners/operators could determine appropriate WSOG, CAM content based on their assessment of risk, their consideration of MTS Guidance and their analysis of post WCF capability from the FMEA. IADC offered that another document, API Bulletin 97, could be considered by a MODU owner/Operator when developing a WSOG. The portion on riser analysis may be especially useful and could be considered by the Coast Guard as guidance that could be either incorporated by reference or discussed in the preamble as a reference to be considered in determining the point of disconnect and watch circles, a critical element of the WSOG. One company raised the idea that if the MTS guidance were rewritten as a standard or code (e.g. “shoulds” changed to “shalls”) it would provide more clarity. That company’s view was that leaseholders was that if a “shall” requirement was not met prescriptively drilling companies could demonstrate an equivalent level of safety. Other companies supported this view and added that under these conditions “grand fathering” should be strongly considered. One company stated that a requirement to conduct full FMEA trials every five years, as recommended in the MTS guidance

and the 1994 IMO guidelines, is unnecessary. One company also raised a concern that having Class stamp the FMEA would be a cost burden for companies that currently have no stamped copy. Some companies stated that a closed bus configuration is more reliable than an open bus configuration (MTS Guidance states CAM “may” require open bus). These companies believe a closed bus configuration provides increased plant stability allowing large loads to be connected and disconnected to the bus without special consideration to the existing load and that an open bus configuration limits the opportunity to perform planned maintenance of equipment.

The use of WSOG was recognized as having substantial benefit and has been implemented by nearly all MODUs operating in GoM. Most, while generally categorizing MTS DP Operations guidance as having overall value/benefit, expressed some concern over a possible proposed CG requirement to develop and maintain a CAMO and use it for Critical OCS Activities. Depending on what the Coast Guard considered to be a Critical OCS Activity, this possible proposed requirement may involve substantial costs by lowering the availability of MODUs and other vessels to operate in environmental conditions that exceed the post WCF capability in CAM. The Coast Guard has described its understanding of a critical OCS Activity, both at the 2012 MTS DP Conference and the November 2012 NOSAC meeting, as “an OCS Activity where a loss of position may result in a subsea spill”. Some drilling companies suggested this may be too expansive and may eliminate OCS Activities where TAM may be appropriate. One company stated that not every loss of location results in a spill and may not even cause wellhead damage. Some specific OCS activities that may be critical OCS activities were discussed such as well testing, non-shearables through the stack and dead man testing. This was also the input on the relative risk between vessels and operations; the drilling companies focused on the risk between different MODU OCS Activities rather than B\vessel types. With regard to incident reporting, drilling companies agreed that the immediate reporting to the Coast Guard of the most critical DP incidents - reactive change of DP Status from “green” to “red” as described in the May 2012 FR Notice – would have benefit and not overburden MODU owner/operators.

There was significant discussion of a possible CG proposed requirement for a Master and a Navigational watch on a MODU. The Coast Guard stated its position that a MODU that used DP to conduct OCS Activities should be considered a self-propelled vessel underway and referred to a legal memo it attached to its Deepwater Horizon investigation. The Coast Guard noted that on self propelled vessels there should be a Master and sufficient number of qualified officers to maintain safe navigational watches in accordance with regulation VIII/2 of the STCW Convention as amended. One drilling company stated the 2009 IMO MODU Code recognizes “on location” (paragraph 1.3.41) and “engaged in drilling operations” (paragraph 14.8.2) as recognized mode of operations. The Coast Guard clarified that a possible proposed requirement should be considered as under OCSLA as a “Coastal State”, and thus could be applicable to a MODU that conducted OCS activities on the US OCS regardless of flag. The Coast Guard referred drilling companies to the 2012 OTC presentation/paper by Mr. Jeff Lantz, noting a principle of “One Gulf (or shelf), One Standard”, and the several FR Notices published by the CG applicable to MODUs that were consistent with that principle. IADC noted

that this was a change in the Coast Guard's approach from setting requirements by flag, but not one without precedent. IADC and several drilling companies commented that manning should be considered holistically, (e.g. consider all OCS units instead of only MODUs and consider the training in the industrial missions of those units and not only safe navigation, marine emergency management and vessel integrity of units such as MODUs that happen also to be vessels). The Coast Guard agreed but noted it had the option of addressing the holistic picture in separate rules; e.g. it could possibly propose a requirement that considered only OCS units such as MODUs that are also self-propelled vessels and only propose requiring Masters and officers trained in safe navigation, marine emergency management and vessel integrity principles such as those in STCW. In the event that the Coast Guard proposed a partial requirement in a rule applicable to MODUs that conducted OCS activities using DP Systems, it could note its intent to address the holistic picture in a separate rule. Several drilling companies noted recommended that if training and manning requirements were proposed by the Coast Guard, the Coast Guard should consider the IMO Resolution A.891 (21) as amended by IMO Resolution A.955 (23), "Recommendations on Training of Personnel on Mobile Offshore Units" which is referenced by the MODU Code and contains training and drill requirements specific to a MODU's industrial mission (such well control) in addition to safe navigation, marine emergency management and vessel integrity principles. The Coast Guard noted the value of this recommendation and offered to conduct a separate teleconference on this and the holistic manning and training issued across all OCS units and their industrial missions. Most drilling contractors agreed that if the Coast Guard proposed a requirement applicable to only MODUs and other self-propelled vessels that conducted OCS activities using DP systems for a Master and a navigational watch trained in safe navigation, marine emergency management and vessel integrity principles such as those in STCW it would have benefit. One Drilling company stated that a person other than a Master or an Officer in Charge of a Navigational Watch (e.g. an OIM) could be trained in marine emergency management and vessel integrity principles. The Coast Guard noted a disparity in manning and training levels currently operating on the U.S. OCS and it was recognized that a possible proposed requirement could impose a cost on MODU owner/operators who would not meet it, such as those whose flag does not consider certain MODUs that use DP to conduct OCS activities to be "self-propelled." One drilling company, supported by others stated that what is missing is for the Coast Guard to combine applicable STCW requirements with the guidance in IMO Resolution A.891 (21) as amended by IMO Resolution A.955 (23). One company stated that it is preferable to have separate DP and marine crews. They believe that although mariners can become excellent DPOs, marine training is not particularly applicable or valuable for operating DP because marine watchstanding skills do not directly correlate to DP operator skills. This company stated that DPOs should be required to demonstrate their abilities to handle a DP system emergency situation in addition to the existing minimal certifications.

The Coast Guard received support to hold a workshop with the drilling industry to discuss the definition of "critical OCS activities" in regards to MODUs. However, one company expressed concern with adding a definition to the MTS DP Operations Guidance Part 1 because "OCS activity" is considered to be an evolving

term and providing a strict definition may quickly become obsolete. IADC recommended the workshop be undertaken in conjunction with the Bureau of Safety and Environmental Enforcement.

Minutes of Coast Guard teleconference with Designated Leaseholders

January 18, 2013

In the context of the FR Notices recommending MTS Operations Guidance and if the CG proposed a DP rule, the CG discussed the benefits of the MTS DP Operations Guidance with several designated leaseholder companies operating on the U.S. OCS who have adopted MTS DP Operations Guidance and require MODUs and other vessels they contract to follow. These companies stated the MTS Guidance provided tangible benefits in supplement to a DP equipment class 2 notation from a classification society, which they also require for MODUs and other vessels that they contract. The most tangible benefits it provides are a common process that facilitates efficiency and repeatability and enhances the ability of DP personnel to operate a MODU or other vessel within its design limits. One leaseholder company explained that MTS DP Operations guidance:

- is a highly useful consolidated compilation of decades of industry best practice that fills a gap identified by industry
- facilitates DPO competence, the most significant DP challenge industry faces, by creating a common standard across any platform
- increases industry understanding of risk through the common DP incident reporting provided by the ASOG/WSOG
- provides simultaneous DP operations (SIMOPS) guidance that curbs risk of vessel collision
- Is compatible with other risk management systems such as Offshore Vessel Inspection Database (OVID) and Offshore vessel Management and Self Assessment (OVMSA)

These companies generally expressed that the benefit of following MTS DP Guidance, particularly implementing ASOGs/WSOGs, outweighs the cost of implementation because it substantially reduces the probability of a process safety incident. The leaseholder companies discussed several process safety concerns, such as a vessel

collision with a production riser on a facility or a MODU drive off while conducting a critical well control operation. The leaseholder companies agreed that a requirement to meet MTS DP Operations guidance by the Coast Guard would have minimal cost for MODUs and other vessels they contract because they require already it. Leaseholder companies generally expressed support for a workshop that includes leaseholder companies, drilling companies and support vessel companies to discuss which OCS Activities are critical (in the context of which OCS activities it is least desirable for a DP MODU or DP support vessel to lose position).

Minutes of Coast Guard teleconference with Offshore Support Vessel (OSV) companies

January 28, 2013

In the context of the October 2012 FR Notice recommending MTS DP Operations for non-drilling vessels and stating intent to publish DP rule, the CG discussed the costs and benefits of a potential DP rule with several members representing support vessel companies operating on the U.S. OCS. In particular, the possibility of requiring support vessel owners/operators to meet MTS DP operations guidance, develop FMEAs, ASOGs and CAMs, use CAM for critical OCS Activities, the relative risk between various OCS Activities, which OCS Activities are critical, reporting DP incidents, and various compliance options were discussed. The focus of the discussion was the potential benefit and cost of any proposed CG DP requirement.

In general, support vessel companies expressed a preference towards risk-based requirements based upon industry self certification to applicable portions of the MTS DP Operations Guidance rather than a requirement for the Coast Guard, or designated third party, to certify compliance. For example, rather than base compliance upon a classification society's work to certify compliance with Coast Guard requirements similar to the Alternate Compliance Program under 46 CFR Part 8 Subpart D, compliance could be based upon a support vessel companies self-inspection similar to the Streamlined Inspection Program under 46 CFR Part 8 Subpart E.

Support vessel companies asked questions about how the Coast Guard could incorporate the MTS DP Operations Guidance. One possibility presented by the Coast Guard was to have certain aspects of the MTS Guidance be called out as specific requirements, for example the requirements referred to as voluntary recommendations in the October 2012 FR Notice. The Coast Guard could require that support vessel owners/operators must: develop and maintain an ASOG, develop and maintain a CAMO and use it for Critical OCS Activities/SIMOPS, and report certain DP incidents (similar to the May 2012 DP Notice for MODUs). The Coast Guard discussed the possibility of requiring support vessel owners/operators to meet MTS guidance in such a way that there is substantial flexibility; e.g. an incorporation that does not change each "should" in the MTS guidance to "shall or must". Under such a proposed requirement support vessel owners/operators could determine appropriate ASOG, CAM content based on their assessment of risk, their consideration of MTS Guidance, and their analysis of post WCF capability from the FMEA. Support vessel companies stated that ASOGs are a good guide for OCS activities using DP and some support vessel companies already

implement them. They also stated CAMOs are a good guide that complements an ASOG. However, the companies noted that ASOGs are only useful if the operator is thoroughly trained in how to use and apply the ASOG. They expressed concern that the cost of implementing ASOGs/CAMOs could have more of an impact on smaller support vessel operators. Additionally, it was mentioned that the FMEA requirement would not be applicable to DP0s or DP1s, thus owners of smaller vessels would have trouble completing an associated ASOG or CAMO. Some support vessel companies stated that a proposed Coast Guard requirement to create a FMEA and conduct associated FMEA proving tests would incur significant cost. Some support vessel companies stated periodic FMEA proving tests would provide little value, e.g. those described in par 5.1.2 of IMO MSC/Circ.645 where there had been little change from the initial FMEA proving test. Other companies believed that FMEAs and associated proving tests do have value. However the consensus on the call was that the schedule of proving trials be no more aggressive than those required by the 1994 IMO MSC Circ.645 (20 percent every year, full trial every five years). However, it was suggested that perhaps a better FMEA trial system be based on when alterations to the vessel are conducted instead of a time-based standard. The Coast Guard stated that without a FMEA and associated proving tests define a support vessel's design limits and post WCF capability, and it would be more difficult to create an effective ASOG and CAMO without them.

Some support vessel companies expressed interest over what would be considered a "critical OCS activity". The Coast Guard has characterized a critical OCS Activity, both at the 2012 MTS DP Conference and the November 2012 NOSAC meeting, as "OCS activity within the 500m zone around a production facility or MODU" or "Diving Operations". Several companies do not consider every activity conducted within a 500 meter zone to be a critical OCS activity (recommended in MTS DP Operations Guidance Appendix 3, Paragraphs 4.1, 4.9 & Appendix C). One company sought to remind the Coast Guard that non-DP vessels are performing the same activities as DP vessels both inside and outside of the 500-meter zone. One example of a non-critical activity was an OCS activity within the 500m zone on the "drift off" side, meaning an activity where a zero thrust condition would result in a support vessel merely drifting away from the MODU or facility. A drive off, however, could result in a collision even when an OSV is on the drift off side. Another example was an OCS activity with divers where "time to terminate" was "within normal operating circumstances" (see definition of Critical Activity in MTS DP Operations Guidance, Part 1, paragraph 4.16, Note 1, dated September 2012). One company stated it may not be known whether it is a critical activity until you arrive on-scene and conduct a job safety analysis. Another company noted that defining every OCS activity conducted

within a 500 meter zone as a “critical OSC activity” could lead to increased manning requirements, if the MTS DP Operations Guidance is applied (2 unlimited DPOs (in addition to the Master) on the bridge capable of operating the vessel in both DP and manual mode) and noted that the MTS guidance itself says that meeting such manning requirements “will be challenging” (Critical Activity in MTS DP Operations Guidance, Part 1, paragraph 4.16, Note 3).

In response to Coast Guard comments on the draft minutes, one company expressed the opinion that “critical OCS activity” should be defined as “Critical activities are those activities where the consequences of equipment failure or loss of position are greater than under normal operating circumstances” (Critical Activity in MTS DP Operations Guidance, Part 1, paragraph 4.16, Note 1). Another company questioned if MTS DP Operations Guidance, Appendix 3, Para. 4.1, 4.9 and Appendix C provides an adequate and OSV-appropriate definition of “Critical OCS Activity.” This company suggested a more appropriate definition is found in IMCA M-182 “the Safe Operations of DP OSV’s.” For more detail, please see the extended quote below:

Foot note #2 in 4.1 [of MTS DP Operations Guidance, Appendix 3] recommends “The suggested default mode for Logistics vessels, performing its stated industrial mission (provide logistics support) is to be set up and operated in CAM when within the 500m zone of fixed or floating structures/facilities.” The CAMO or critical activity mode of operation is a rather new term introduced to industry for what was previously referred to as the SMO or safest mode of operation, both of which establish the maximum redundancy mode of a given vessel, and really has nothing to do with a risk assessment of the proposed task. There is really no specific guidance on what a critical OCS activity is, other than perhaps an inferred "all activities inside of the 500m zone" which is very broad in nature.

This one size fits all approach to all activities inside the 500 m zone as suggested by the MTS guidance is problematic in that there is a wide range of risk profiles encountered with work inside of the zone. IMCA M-182 “The Safe Operations of DP OSV’s” uses a “Vessel Positioning Matrix” (section 3.2 & 3.5) Risk Assessment Model specifically developed for OSVs. The model is based on the capability of a vessel and the close proximity of the work. Because of the nature of close proximity work on OSVs and

installations each task is risk assessed from two related perspectives 1) Separation distances (or the planned CPA for each activity) and 2) whether the vessel is to be operated on the weather side or lee side. These factors are categorized into three levels of criticality based the specifics of the proposed job. An additional defining factor should be the time necessary to terminate (TTT) the contemplated activity (less time- less risk. more time-more risk) this TTT factor would be used in vessel specific pre-determined matrix with the guidance from IMCA M-182 to define the risk assessment process. The product of this "Vessel Positioning" risk assessment would be fully integrated into the development of ASOG for each job as recommended by the MTS guidance. This model would serve as a far better model for evaluating risks of OSV activities inside and outside the 500 meter zone than a modified Drill Ship or MODU system where the risk profiles, criticality of station keeping integrity and operational management practices are very different than those of an OSV.

The Coast Guard could define “Critical OCS Activity” specifically in a proposed regulation, require each owner/operator to determine “Critical OCS Activity” or use a hybrid approach (e.g. overarching definition, specific examples & “any other Activity deemed by owner/operator after JSA/risk assessment). Most companies favored a rudimentary definition with the specifics filled in through owner/operator plans and on-scene risk-based determinations. However, it was noted by one company that whatever definition and implementation scheme arrived at should not saddle the operator an overabundance of onboard paperwork or fail to improve safety by a measurable amount. The companies all agreed that a workshop between the Coast Guard and the supply vessel industry was necessary to create a definition of “Critical OCS Activity.” Call participants also agreed such a workshop should be held before the release of a Notice of Proposed Rulemaking.

Some support vessel companies stated that reporting DP incidents as described in the May 2012 FR Notice for MODUs may be costly and not provide sufficient benefit. They stated a “reactive green to red” real time reporting requirement to the Coast Guard would often just highlight an example of the safe termination of an OCS activity and a properly executed DP operations plan. Moreover, the companies questioned if a real time reporting requirement was enacted would it also require proof of corrective action be provided to the Coast Guard before the vessel was allowed to return to the OCS activity using DP? If so, how would this system be streamlined, if not, how would real time reporting to

the Coast Guard be useful? Thus, the industry consensus on the call was green to red incidents would not rise to the level of Coast Guard consideration and the support vessel companies suggested the Coast Guard should establish reporting thresholds in 46 CFR Part 4. Another possible requirement discussed was for support vessel owners/operators to keep track of DP incidents (such as those recommended in section 4.11 of the MTS DP ops guidance Appendices 2, 3), investigate/analyze them and use them to continuously improve/develop their ASOGs and CAMs. Support vessel companies saw value in this, but as an internal process rather than something actively reported by the company and reviewed by the Coast Guard. In the event of such a requirements they expressed a preference for the Coast Guard to require DP incident investigation/analysis be “pulled” (by request) instead of periodically “pushed” to the Coast Guard.