



DYNAMIC POSITIONING CONFERENCE
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Competency Session

**Meeting the Training Demands of Continuing Professional
Development for The Dynamic Positioning Officer**

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Abstract

With changing technologies, workplace practices and constantly evolving demands in the offshore sector, the role of the DPO has always required training beyond that mandated by STCW.

At the same time, genre-specific operations are being introduced and there is a growing need for specialist skills in the renewable sector, walk-to-work arrangements and increasing activity in decommissioning.

The industry is faced with the conundrum that, as systems and operations develop in both sophistication and reliability, how do we ensure that the DPO remains properly trained and qualified in meeting the rigorous demands and is ready to respond to emergencies or system failures?

This paper explores the key role of Continuing Professional Development which can counter skill fade as well as enhance the DPO's overall capability and efficiency in a sector where barriers to entry are already significant. It identifies how training draws upon the experience of lessons learned through previous incidents and how mariners can benefit from case-study analyses to understand their own capabilities and limitations.

The paper also identifies how leading institutions and vessel operators are utilising advance simulation capabilities to improve operational effectiveness and safety.

Introduction

The marine industry operates in an ever-changing environment so it is imperative that our mariners are updated with changes affecting their workplace including new regulations and developments of the latest technology. Fulfilling the STCW qualification is only the basic, minimum, requirement in respect of competency. To be suitably qualified for a type-specific ship, the mariner must also:

- (a) have the requisite experience and
- (b) pursue additional qualifications and training.

Safe operation in the exploration and exploitation of our energy resources requires a significant investment in sophisticated and reliable equipment. Only with a corresponding investment in the people charged with the effective operation of this technology can we be assured of an effective result. In the hands of the novice or the poorly trained practitioner, sophisticated equipment is unlikely to be utilized to its full capability.

Here there is a conundrum. The better developed and more sophisticated the equipment, the more it is able to replace the routine operation by the watchkeeper. The more reliable the equipment, the less intervention will be required by the mariner.

In these circumstances it is clear that the exposure to skill-fade through lack of practice is a significant factor to be considered in addressing the professional development needs of our Dynamic Positioning Operators.

At the same time the tasks and operations are changing with an increase in activity in the renewable sector (such as offshore wind farms) and potentially, a decline in the more traditional carbon-based activities.

Continuing Professional Development in the context of Dynamic Positioning Operations

While it is not universally the case, evidence shows that the vast majority of Dynamic Positioning Operators are already qualified deck officers, typically holding an STCW Watchkeeping qualification or higher. To gain a specific qualification in the offshore sector working on specialist Dynamic Positioning vessels requires additional training and qualifications to become a formally recognized DPO.

This professional development training typically lasts a year or more though can be shortened by the determined operator and by maximizing the allowable use of simulation to reduce on board experience. The motivation to undertake this pathway of professional development is linked to the opportunities that emerge to work in a sector that utilizes the most modern technologies in some of the most modern tonnage. Work-leave ratios and remuneration are often attractive and, especially during good times, demand for DPOs is high.

In this context, the objectives of professional development (CPD) are quite clear. Investment of time and a little money can lead to substantial rewards.

Once qualified as a DPO though, it becomes clear the professional development journey has only just begun.

Guidance in documents such as IMCA's M117 and MTS Techops show that as well as a base-line qualification, DPOs should be properly trained for the specific activity they will be undertaking. Records can be kept in dedicated service record books such as the IMCA log-book or the documentation of The Nautical Institute. These records are important to the employing company which can demonstrate its own commitment to training and safe operations as well as having a tangible record of experience for reference when considering promotion of its staff.

Similarly, the records are important to the individual who may need to show a Master or prospective employer that they have experience in the specific operations or activities required.

Increasingly, commercial suppliers are innovating on-board assessment and record-keeping systems that are designed to provide statistical analysis of crew performance and can help in the identification of nascent talent. Importantly, these records should be available to the individual mariner as well as the system owner.

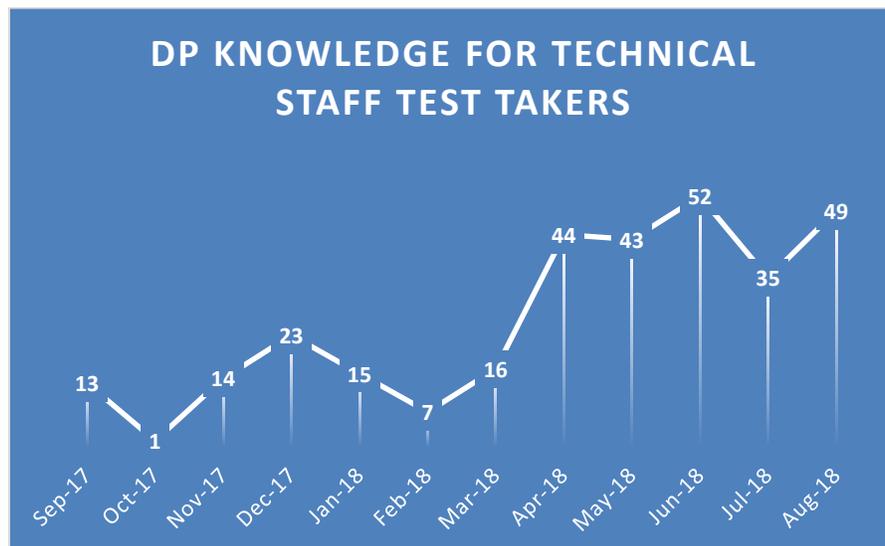
Identifying the need for Professional Development

Historically the maritime sector has relied upon 'case history' in the development of regulations and requirements for ships and personnel. Examples include the introduction of SOLAS in response to the TITANIC disaster and the advent of MARPOL following the TORREYCANYON grounding.

Today onboard inspections, requirements of charterers, guidance on best practice and interviews with professionals go some way to identify areas in which the seafarer can benefit from additional training. One example that has proved to be increasingly popular is the demand for specific training for technical staff working on dynamic positioning vessels.

Of course, these professionals already hold the requisite license for service on board the ship. What is missing is specific contextual professional development that addresses the application of that knowledge in the context of the vessel type and the vessel's operation.

Since its implementation in July 2017 the Training for Technical Staff on board Dynamic Positioning Vessels has seen the preparedness of ships' engineers, technicians and electro-technical officers improved. This course was developed by The Nautical Institute in consultation with industry experts from around the world with input from training centres already accredited to run DP Induction and Simulator courses. The course uses an online examination system, which is administered centrally from The Nautical Institute office in London.



TestReach Data Capture August 2018 © The Nautical Institute

Consistency of delivery is assured by allowing only approved training centres to deliver, assess and certificate the training which is identified as 'recognised' by The Nautical Institute. As well as providing updating training for the individual the course provides an income opportunity for the training centres.

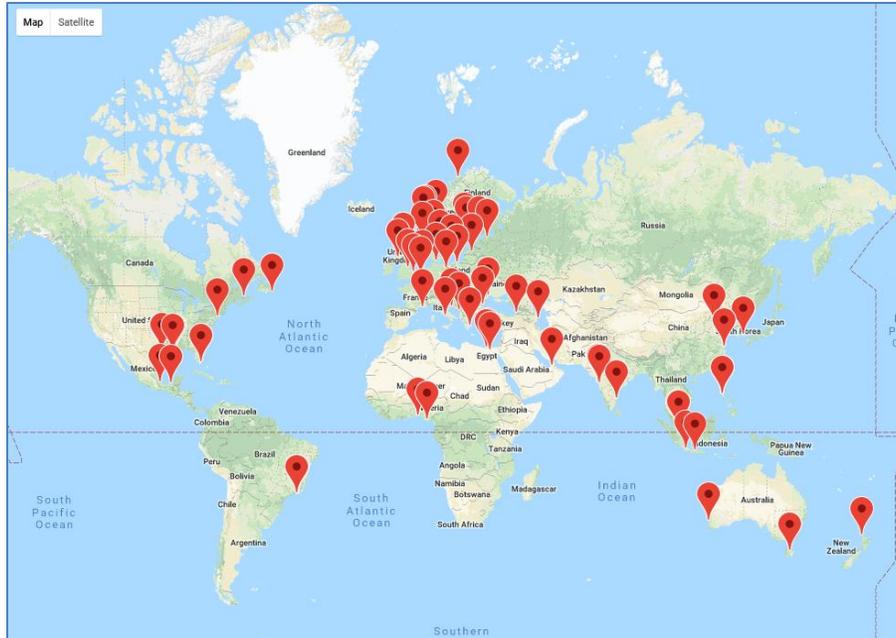


Nautical Institute approved Centres offering the course for Technical Staff (August 2018)

Engaging with the right professionals helps to identify emerging need identified by senior officers who observe first-hand the skills and capabilities of officers working under their direction. One area where this type of research has led to improved understanding is in practical shiphandling. The feedback increasingly showed that senior officers were concerned about skill-fade of operators to deliver safe Dynamic Positioning operations in case of equipment failure. In fact, the more reliable the equipment, the less exposure DPOs have to manoeuvring the vessel manually and hence the greater exposure to fading skills, a factor also identified in the aviation industry.¹

Analysis of incidents such as the BIBBY TOPAZ seems to confirm the danger of skill-fade when DPOs are not regularly exposed to manual ship handling requirements. To address this shortfall, industry now has access to a specific professional development course – Emergency Ship handling for Dynamic Positioning Vessels to help ensure DPOs have the competence and the confidence to react, promptly and effectively to a failure in the DP system.

¹ Pilot training review – task 3 interim report: gap analysis and risk assessment report



DP Centres accredited by The Nautical Institute, August 2018

These courses can be delivered by approved training centres – the current distribution is shown in the schematic above.

Developing a CPD Course

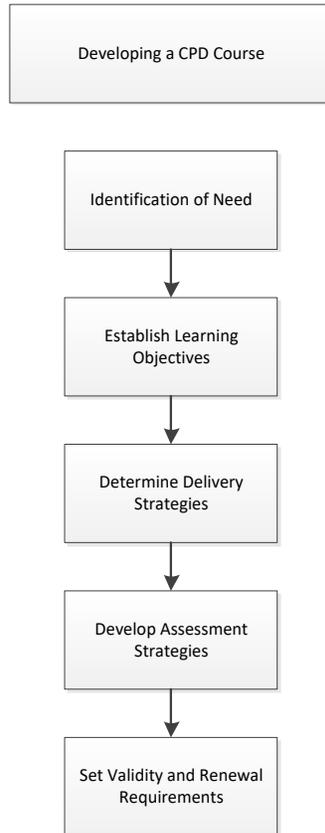
By their very nature CPD courses are usually discretionary either on the part of the DPO or the company considering their need. There is no fixed regulation that says the specific course **MUST** be done. It follows that any such course must be very focused on a definable need and must have a specification and integrity that is internationally consistent, meets the industry need and enhances safety if it is to be widely adopted.

Developing such a programme requires extensive customer consultation and development in order to consider the needs and expectations of the sector.

There are a number of key phases to be addressed in the development of a CPD course. These include:

- Identification of the need
- Establishing learning outcomes
- Determining delivery strategies
- Developing assessment Strategies

- Setting validity and renewal requirements



The process of identifying the need has been identified earlier in this paper and the other steps are explained in further detail below:

Establishing the learning outcomes

This body of work determines the learning syllabus required to be covered by the student and which must be delivered by the learning resources. Typically training centres, operators and employers will be engaged with during this phase of development.

Once the scope and a scale has been established the training centres are then usually best placed to advise on the delivery strategies. The learning outcomes may be knowledge-based but in key operational areas are likely to include an important components of practical competency-based outcomes.

Delivery Strategies

These are typically developed utilizing the experience of the training centres and may be classroom-based activities, Computer-based learning, simulation activities or a combination of these and other learning methodologies.

This phase is critical in establishing the resources required for delivery and also inform discussion about the assessment strategies.

Delivery and 'student experience' should be established in the context of the Quality Management System with provision for learner feedback and opportunities for improvement noted and implemented through course management procedures.

Assessment Strategies

Assessment strategies complement the learning and ensure that 'learning has taken place'. Training centres will often be best placed to offer advice on effective techniques for assessment. Often an independent test such as a remotely-managed on-line assessment can form a component of the assessment regime.

In the case of The Nautical Institute, candidates log-in using their unique identifiers and their assessment results form part of their personal DP training records.

Statistical analysis of the results provides feedback on student performance, centre delivery and curriculum focus.

Validity and Renewal Requirements

The NI and industry will discuss and establish how centres can demonstrate their eligibility to deliver the course and any centre approvals required. The guidance will establish for how long a course qualification will be valid and any obligations for further training or repeat training.

It is also important to consider 'barriers to entry'. It is key that the professional development solution does not rely so heavily on bespoke equipment or a manufacturer that costs and accessibility will become problematic. At the same time, it should be recognised that some aspects of technical support and maintenance cannot be delivered in a 'generic course' and must draw upon the knowledge and expertise of the OEM.

Learning from others – Case Studies

The maritime community puts a great deal of effort into noting accidents and incidents with a view to developing safer operations. There are numerous excellent resources available in this regard including the Mariners' Alerting and Reporting Scheme (MARS) run by The Nautical Institute, the CHIRP (Aviation and Maritime Confidential Incident Reporting programme) as well as safety bulletins issued by IMCA. MTS issues guidance in a number of formats often based on best practice learned from incidents and accidents.

The importance of case studies should not be underestimated. Indeed, at IMO's HTW 5/7 this was raised by China who proposed that:

“following consideration by the HTW and III Sub-Committees, HTW might consider a number of relevant elements and develop guidance on the application of marine casualty cases and lessons learned to seafarers' training and education such as:

- 1. Select suitable casualty cases and lessons learned for maritime academies;*
- 2. Use human factors of any casualties in different teaching sessions of the training courses;*
- 3. Identify the happening process and root causes of applicable casualties;*
- 4. Train seafarers at management level, operational level or support level in different ways and using different key points accordingly”*

Conclusion

Continuing professional development is the marque of the professional mariner. A focus on constant improvement, engagement with peers and sharing of best practice helps elevate safety and understanding in a complex environment.

As technology continues to move at a greater pace than regulations can match, the responsibility of industry to train its practitioners reaches a higher level of importance.

For CPD to be effective it must meet the needs and expectations of both the individual and the employer or sponsor and at the same time be accessible and affordable to the individual.

Courses and programmes monitored on an international scale by an independent organisation of high standing, experience and professionalism helps ensure consistency of expectation and delivery.

References

IMCA M117, International Marine Contractors Association (2017)

MTS TechOps (Various)

Testreach data from The Nautical Institute (Various)

Pilot training review – task 3 interim report: gap analysis and risk assessment report, Civil Aviation Authority (UK) (2017)