



DYNAMIC POSITIONING CONFERENCE
September 18-19, 2001

TRAINING SESSION

The DP Operator
Training Continuum Concept

Angel Rodriguez, Instructor
Kongsberg Simrad Inc, Houston

Abstract

Since the late 1980's formalized DP operator training has been conducted under the well-established guidelines of the Nautical Institute's DP operator training scheme. DP technology has advanced rapidly over the years and the demands placed on the operator continue to increase in scope and complexity. The time has arrived to further develop DP operator training aimed at not only supplementing, but complementing the already existing Nautical Institute DP operator training scheme and take DP operator training to a whole new level. This new level in DP operator training is the *DP Operator Training Continuum Concept*.

Introduction

The Nautical Institute's DP Operator Training Scheme was established over 15 years ago and the goal of the training scheme is to bring a prospective DP Operator to a level of professional competency through the completion of the training scheme and obtaining a DP Operator Certificate. The Nautical Institute DP Operator Training Scheme and DP Operator Certificate continues to be widely recognized by both the DP Industry and Governmental Institutions for the purpose of a prospective DP operator attaining a requisite level of professional competence.

Presently, numerous DP systems can be found on board a myriad of vessels and employed in a vast array of applications to include but not limited to: Deepwater Drilling, Shuttle Tankers, Cable Laying vessels, R.O.V. vessels, Dive Support vessels, Supply vessels and Cruise ships. Each of these types of DP operations presents their own unique challenges and operational requirements that a DP operator is faced with while standing a DP watch.

Over the years the DP Operator Training Scheme has been adapted to meet the needs of the industry as well as advances in DP technology, but now it's time to take DP Operator Training to a whole new level and complement the Nautical Institute DP Operator Training Scheme.

DP Operator Training Continuum Concept

This new concept in DP operator training is intended to complement the Nautical Institute's DP Operator training scheme by expanding DP operator training and combining the vast amounts of training resources of the DP training centers and the DP operational experiences of various industries. The DP Operator Training Continuum Concept is a pro-active approach in tailoring the DP operator's training needs specifically to the industry. We recognize that a vast amount of DP systems are in the market today and these system are being operated in a wide array applications that include but not limited to: Offshore Drilling platforms/vessels, Cable Laying vessels, Offshore Supply/Work Boats, and Cruise ships. We understand that the various industries just mentioned have unique DP operator training needs with respect to the types of DP operations and the ever-growing complexity and scope in conducting these operations safely and effectively.

To illustrate this example, let's examine the Deepwater Drilling Industry. With the proliferation of new build DP Drilling vessels in the offshore industry today, the DP operator is faced with operating and managing a complex integrated DP system. These integrated DP Systems maybe comprised of several ancillary vessel management and position reference systems that are equally as important to the operation of the DP system. Some examples from the Kongsberg Simrad's Dynamic Positioning, Position Reference and Vessel Automation systems product range are: Simrad Dynamic Positioning (SDP), Hydroacoustic Position Reference System (HPR), Riser Management System (RMS), Differential Positioning System (DPS) Simrad Planning Station (SPS), Simrad Vessel Control (SVC), and Simrad Safety System (SSS). By the nature of Deepwater Drilling Operations, the DPO may be limited to just monitoring a DP system for several days or months without ever experiencing a system fault or incident. The DP operator may have very little "on hands" time in actively using the DP system. If there is a major fault in the DP system to where vessel positioning and/or heading control is adversely affected, then the DPO may not have enough "hands on" experience to instinctively make the right decision and take effective action in controlling a DP system fault. This situation could be applicable in other industries that have DP systems such as Supply Vessel/Work boats, Cruise ships, and Cable laying vessels, where by the nature of their respective operations present unique challenges and demands placed on the DP operator.

Training can be part of the solution in addressing these unique operational challenges. DP Training Centers and the industry can both take a pro-active step and work closely together in meeting a growing demand for industry specific DP operator training by applying the *DP Operator Training Continuum Concept* in the following five-point process.

1. Completion of the Nautical Institute (N. I.) DP Operator Training Scheme

The prospective DP operator will be required to complete the training scheme and attain the widely recognized N. I. DP Operator Certificate. This training scheme will ensure that the prospective operator receives a requisite level of DP knowledge and can apply it through practice in the performance of their jobs. Satisfying the N. I. DP Operator Training Scheme and issuance of a N. I. DP Operator Certificate demonstrates that the DP candidate has met a baseline level of professional competency. Completing this professional milestone is the first step in a **continuous training path** in the operator's career.

2. Vessel System Specific Training

DP Operators are faced with not only operating a DP system, but also several other ancillary systems that are equally important to the overall performance of the DP System. DP Operators need follow-on system specific training focused on the types of systems they are expected to operate on board their respective vessels. DP training centers can provide systems specific training for its customers. DP operators will benefit from this type of training because they can receive more in depth system knowledge and can apply that systems knowledge once they return back to their vessels.

3. Internal Company DP Training

DP vessel owners should have in place an internal DP training program focused on training its DP operators on company standard operating procedures pertaining to their vessels. Company standardized DP Operator training is an effective training tool that gives the DP Operator guidance in the way the company wants its' vessels to be operated under various types of operational conditions.

4. Industry Specific Training

The “ next level in DP operator training.” The DP operator can receive additional training focused on their respective industries. The DP operator needs this level of training in order to gain more depth in knowledge in handling unique DP operational situations they are faced within their own particular industry. An industry specific course can simulate a wide range of scenarios, thus enabling the operators to train and prepare for potential operational situations with widely varying environmental conditions and system faults that the operator may encounter in real life.

5. DP Operator Refresher Training

From time to time, DP Operators need to brush up on certain skills not often used. For example, deploying and calibrating a Long Base Line (LBL) transponder array to be used as a position reference system in a deepwater drilling operation. Periodic refresher training can provide the operator with the opportunity to “brush up” on their skills and maintain their proficiency in LBL calibration, for example.

The Steps Kongsberg Simrad have taken in support of the DP Operator Training Continuum Concept

Kongsberg Simrad has taken the initiative in supporting the DP Operator Training Continuum Concept.

With respect to the **Nautical Institute DP Operator Training Scheme**, Kongsberg Simrad Training Center in Houston has received the Nautical Institute Validation to conduct both Basic DP Operator and Advance Simulator courses to our various customers. This is our main source of customer training services and we will continue to provide operator-training services to our customers.

Kongsberg Simrad is offering **system specific training** to our customers, for example, DPGS operator and maintenance courses, Hydro-acoustic operator courses, Simrad Vessel Control (SVC) operator courses tailored to our customers such as Transocean Sedco Forex and Tycom. These system courses can extensively cover the system specific applications based on real life operations. This part of the DP training process can be devoted towards vessel specific software versions and applications of the DP system and ancillary systems. The DPO can receive a total systems packaged course where the aim of the course is to train operators on the fine points of how to operate DP systems and other ancillary systems specific to what they will encounter on board their respective vessels.

Kongsberg Simrad has assisted several companies in **analyzing their own internal DP training needs** and have sold a range of training systems to companies that want to provide training to their personnel. Kongsberg Simrad has provided assistance in developing a company DP training program tailored to meet company specific DP procedures and operations. Companies have played a major role in this process to ensure that their own DP operators are trained according to company specific DP Policies and Operational Procedures.

Kongsberg Simrad, in cooperation with Transocean Sedco Forex, have developed a Drillship simulator for the purpose of providing **industry specific DP Operator training** for their operators. Kongsberg Simrad in addition to the Drillship simulator has a Semi-Submersible simulator; Shuttle Tanker simulator and a multipurpose vessel simulator that can be configured in several types operations ranging from cable laying, pipe laying, ROV, Diving and offshore supply vessel operations. Kongsberg Simrad in Norway have developed industry specific training for shuttle tankers and anchor handling vessels, and can develop and offer a similar course for the drilling industry within three to six months, if the drilling industry is interested.

Lastly, with regards to **DP Operator Refresher Training**, Kongsberg Simrad offers Familiarization courses that are designed to give the DP Operator an overview the latest software version and functionality for a particular DP system as well as other ancillary systems. The familiarization training keeps the DP Operator abreast of the latest innovations in DP technologies and systems theory. This type of course provides a forum whereby DP operators can readily exchange ideas and share their operational experiences. The feedback received from the DP operators attending familiarization courses has proven to be invaluable to improving these courses and continuing to meet operator-training needs.

Conclusion

In conclusion, DP training centers have the expertise to lead in the DP operator training process and the time has come to provide a new level of DP Operator training service to the industry. DP operator training **is a continuous process** requiring both DP training centers and industry to combine their vast amounts of DP training resources and operational experiences. One of the major roles of a DP training center is to pay close attention to the client's training needs and adapt their respective training programs to meet company training goals and expectations. But it is also important that the industry communicates their needs to the DP training centers.

Developing industry specific DP training will serve to reinforce the pre-existing DP operator's knowledge base and take the operator further in the training path. As DP systems and operations continue to grow in complexity and scope, the industry will realize the need for continuous DP training and further professional development of its operators as a measure to ensure operators continues performing their jobs safely and effectively. Having the industry and DP training centers actively involved in the DP operator-training process will pay off future dividends in DP operational performance and safety.

To realize the DP Operator Training Continuum Concept requires a strong commitment in time and available DP training resources from both Industry and DP Training Centers. We, at Kongsberg Simrad, are involving the industry in the training process to create a new vision in DP operator training. Completion of Nautical Institute DP Training Scheme and obtaining a N.I. DP Operator Certificate is the initial step in training and professional development of a DP Operator, and is just the beginning in an operator's career. In today's DP operational environment where advancement in DP systems and their applications are ever increasing in scope and complexity a continuous DP operator training process can produce highly trained operators and increase overall DP operational safety and performance.

This axiom stills holds true today: ***“The most expensive training is the training that was never given.”***