



## **DYNAMIC POSITIONING CONFERENCE**

### **TRAINING**

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**D.P. System Training....  
Meeting The D.P. Operators Needs ?**

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## **ABSTRACT**

The current recognized D.P. Operator training program is a process of acquiring basic knowledge and skills through shore based training followed by practical experience and evaluation on board a D.P. vessel. The program has been fairly successful, but, are we really meeting all the training needs of D.P. Operators ? Does the process fall short in some area's ? Maybe it is time to step back and take another look at the "big picture". This paper will focus on the program objectives as outlined by the Nautical Institute and the I.M.O., the quality of D.P.S. training programs and schools, effective "on board" training, the merits of refresher simulator training, knowledge and skills assessment, and finally the selection of D.P. Operator trainee's.

## **INTRODUCTION**

The purpose of a D.P. system training program is to reduce the number of incidents caused by operator error, resulting in serious injury, loss of life, damage to equipment, harm to the marine environment, or costly operational down time. Most people in the industry would agree that the operation and maintenance of a dynamic positioning system is a specialized skill, therefore common sense dictates that we view operator training in the same light as any other occupation requiring similar skill level and experience. D.P. training facilities should work closely with industry in determining and providing for any specialized training needs of D.P. operators.

## **CURRENT TRAINING PROGRAM & OBJECTIVES**

The program of training outlined, has been developed on professional principals, namely that training courses are based upon specific objectives and the practical elements are monitored and assessed on board the vessel. The following program has been officially acknowledged as a recommended course of training by governments, industry, and the International Maritime Organization ( I.M.O. ). Upon completion of the program, the “D.P. Operator Certificate” may be obtained from the Nautical Institute.

### **1. Attend and satisfactorily complete a four day “Induction Course”**

The Induction course offered at D.P. training facilities includes; basic theory of system operation, system components, control modes, position measurement systems, heading, motion, & environmental sensors, communications, thrusters & maneuvering systems, assessment of vessel capabilities, control console operation and display screens. Simulation equipment is used to give operators practice in basic system operation, including; maneuvering characteristics, control mode changes, basic system alarms, and vessel handling under various wind and current conditions, as well as experience the effects of major equipment casualties. A Nautical Institute D.P. Operator log book is issued for the purpose of documenting experience and training.

### **2. Undergo seagoing D.P. familiarization for a period not less than 30 days.**

The purpose of the “on board” familiarization is to allow the operator trainee time to experience the D.P. system in an operating environment, become familiar with the set up and operation of system input sensors, and signal processing, as well as thruster control equipment, and vessel power plant.

### **3. Attend and satisfactorily complete the D.P. “Simulator Course”.**

The Simulator course objective is to provide operators with the ability to plan in detail every stage of various types of D.P. operations, as well as experience a full range of simulator scenarios dealing with emergency situations, equipment failures, adverse wind and current conditions, and the conduct of normal D.P. operations. The Simulator course is generally four days in length.

### **4. Satisfactorily complete six months supervised D.P. operations.**

This phase allows sufficient time for the D.P. operator to become experienced with system operation and to develop self confidence. It also gives on board supervisory and management personnel time for evaluation of the operators capabilities and limitations, or for that matter suitability. This six months time generally assumes an equal work / off work schedule which equates to somewhere between 800 and 1000 hours of D.P. experience. Supervisory and

management personnel would be well advised to obtain feedback and evaluate trainee performance upon completion of each of the above program stages.

## **TRAINING PROGRAM AND SCHOOL QUALITY**

The Nautical Institute “validation” ( approval ) program for D.P. training centers is a very involved process and can amount to a substantial capital investment in equipment, facilities, and personnel. The final step in the process is a visit from an audit team who will observe the conduct of an actual class in session, and make appropriate recommendations. The validation program exists to ensure that a training facility meets professional standards.

Corporate training, personnel, and operations managers do have choices as to which D.P. training center their personnel will attend. Training costs money, and should be treated like any other investment, chose wisely !

Since most management personnel want their D.P. Operators “internationally certified” consider only those schools who have been approved by the Nautical Institute. Call, or better yet visit the training center. View course descriptions, objectives, outlines, and samples of course manuals. Examine the classroom, equipment, and facilities. Ask for references, and / or contact the Secretary of the Nautical Institute should you desire additional information as to the history of the training center. Obtain information about Instructor Qualifications; training, as well as D.P. experience. Inquire as to how simulator exercises are conducted, whether or not student testing / evaluation, or course completion documentation is provided.

Above all, chose a D.P. training center that provides the “best training” regardless of D.P. system or manufacturer.

## **EFFECTIVE ON BOARD TRAINING**

An effective on board training program is very important not only for new trainee’s but also in maintaining the knowledge and skill level of experienced D.P. operators. As in most other occupations, it is very easy for D.P. operators to become complacent or lose some of the system operational skills that may be seldom used under normal operations. A well designed, documented, and scheduled on board training program will help reduce the risk of operator error and provide a more efficient operation.

The first step in developing a formal training program is to determine operator needs based upon the type of D.P. system installed and the scope of vessel operations. Next, develop a list of lecture / discussion topics such as; review of various sections of the vessels D.P. Operations Manual, System start up and shut down procedures, review of -

vessels “green”, “yellow”, and “red” alert conditions, functionality of various system control functions and components which may be infrequently used, review of standing orders / instructions, create operational scenario’s with “what if” situations, discuss past D.P. incidents of own or other vessels, review of alarm messages and corrective measures, etc.

A set of objectives, brief subject matter outline, and list of references should be developed for each lecture, demonstration, or discussion topic. Individual operators and supervisors should be assigned to research and deliver the presentation. This allows each member of the team to become involved in the training process. Training sessions should be scheduled and accomplished on a regular basis.

If separate on board simulation equipment is installed, scenarios can be created to allow operators practice in reacting to system failures under the vessels particular operational criteria.

### **“REFRESHER” SIMULATOR TRAINING**

When a large number of D.P. operators were questioned, as part of a course evaluation, upon completion of D.P.S Simulator training, “do you think refresher simulator training would be beneficial” almost all said yes ! Do they know something we don’t ? Or is it that they realize the need for maintaining their skill level in dealing with emergency situations, keeping up to date with the latest D.P. technology and equipment, or learning more about the maintenance and trouble shooting of D.P. systems, or input sensors.

The subject of refresher simulator training should be seriously considered under the following circumstances; a D.P. operator spends six months or more away from D.P. operations such as during vessel conversion projects etc., becomes involved in more demanding operations after having spent a great deal of time in lower risk operations, or a vessel up grades from an older to a newer D.P. system.

Refresher simulator training may also be considered as an extension of a formal on board training program, especially when simulation equipment is not available.

Most D.P. training centers should be able to accommodate a clients special needs.

## **KNOWLEDGE AND SKILLS ASSESSMENT**

There has been much discussion in recent years within various segments of the offshore industry concerning auditing and skills assessment. It is this authors belief that this should be handled within individual companies, by experienced and dedicated operating / training personnel, through on board or shore based training, testing, and evaluation. D.P. training centers may also be able assist through refresher simulator training and / or evaluation.

## **SELECTION OF D.P. OPERATOR TRAINEE'S**

Because of the current high demand for D.P. operators and the shortage of qualified / experienced personnel, most companies are forced to place a proportionately large number of trainee's with very little or no experience as operators aboard D.P. vessels. Quite often the only limiting factor in the selection process is whether the individual has a marine license or is an experienced technician. These qualifications may be important or even necessary, however there are other factors to take into account, and failure to do so may very well result in the loss of personnel after having invested a considerable amount of time and money in training. It is often said that D.P. work is "99% boredom and 1% panic"! It's not the boredom that most of us worry about, and hopefully the operator does not go into a panic mode. So maybe there are some additional qualities we should look at such as; how does the trainee handle crisis situations ? does the individual have a good attitude ? is the trainee easily motivated ? can the individual be trusted ? does the trainee have the basic skills necessary to learn a technical job ? is the individual a team player ? How will the trainee handle him or herself in the presence of the client ? and finally, how will the trainee deal with mistakes or errors in judgment ?

There is no guarantee that every trainee selection will be successful, but we can increase the odds if we take the time to thoroughly evaluate each prospective D.P. trainee.