

A prospective study on DPO training scheme for Korean seafarers

한국 선원들을 위한 DPO 양성과정에 대한 전망

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요 약 : DPO(Dynamic positioning Operator)는 Dynamic positioning 기능이 있는 선박에 승선하는 항해사로서 항해, 정박 당직 뿐만 아니라 Dynamic positioning이 요구되는 다양한 offshore 작업시에 DP 당직을 수행한다. 정식 DPO가 되기 위하여는 SCTW 항해사 면허뿐만 아니라 NI 혹은 NMD에서 규정한 training 과정을 이수하여 DP limited 혹은 DP unlimited certificate를 취득하여야 한다. 본 연구에서는 1982년부터 업계 표준 DPO의 training과 certification을 담당하고 있는 NI (Nautical Institute) 산하 DPTEG(Dynamic Positioning Training Executive Group)의 DPO 양성과정을 조사하였다. 특히 업계의 보다 현실적인 DPO training 과정에 대한 요구에 대응하여 2014년 3월에 발표되어 2015년 1월1일부터 발효될 더욱 강화된 training과 verification 절차를 담은 새로운 DPO training scheme을 분석하여 한국 해기사들이 DPO로서 offshore sector에 진출하기 위한 방안을 제시하였다.

핵심용어 : DP; DPO; NI; NMD; DPTEG; DPO training scheme; Offshore

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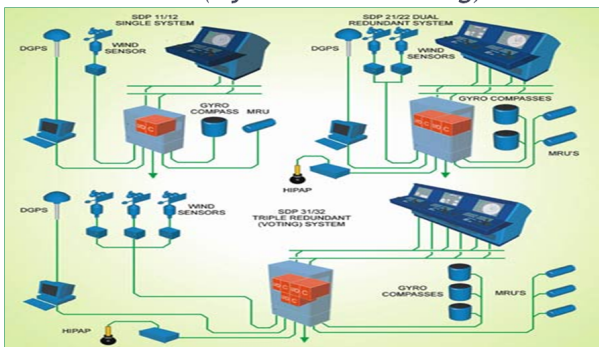
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What is the DP (Dynamic Positioning)?

Dynamic Positioning (DP) is a **vessel capability** provided via an integration of a variety of individual systems and functions. **A computer control system automatically maintains a vessel's position and heading by using her own propellers and thrusters.** Position reference sensors, combined with wind sensors, motion sensors and gyro compasses, provide information to the computer pertaining to the vessel's position and the magnitude and direction of environmental forces affecting its position.

(Nautical Institute)

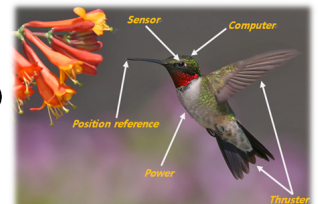
What is the DP (Dynamic Positioning)?



DP measures Roll, Pitch, and Heave ; controls Surge, Sway and Yaw.

7 elements of DP

- A modern dynamic positioning system consist of **7 main parts**:
 - Control unit with the computer
 - Position Reference System
 - Thrusters
 - Power supply
 - Sensors
 - Operator panels (MMI)
 - DP Operator

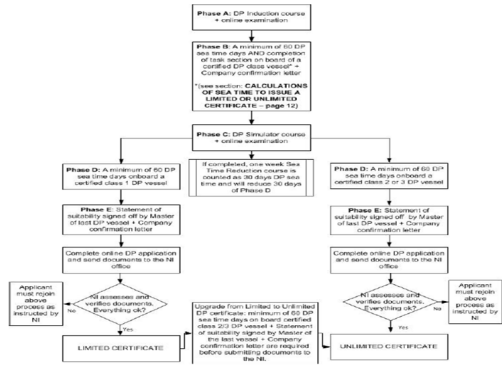


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DPO training scheme 2014 by NI



DPO training scheme 2014 by NI (Offshore)

REQUIREMENT	OLD SCHEME	NEW SCHEME
Training model	<p>(30 days prior DP sea time +)</p> <ul style="list-style-type: none"> ● DP Induction course + ● 30 days sea going DP familiarization + ● DP Simulator course + ● 180 days DP sea going experience (30 days can be reduced with Sea time reduction course) + ● Section F declaration + ● Company confirmation letter <p>⚡ Total number of sea time : 210 (or 150) days</p>	<ul style="list-style-type: none"> ● DP Induction course + ● Online examination + ● Minimum 60 days DP sea time + ● Completion of task book ● DP Simulator course + ● Online examination + ● Minimum 60 days DP sea time (30 days can be reduced with Sea time reduction course) + ● Section F declaration + ● Company confirmation letter <p>⚡ Total number of sea time : 120 (or 90) days</p>

DPO training scheme 2014 by NI (Offshore)

REQUIREMENT	OLDScheme	NEWScheme
DP experience	DP familiarization / DP watch keeping experience	DP sea time
Definition of DP sea time	These are the dates worked when the vessel was actually engaged on DP operations (a minimum of one hour per day)	One DP sea time day can be counted if the trainee DPO is involved with Active or Passive DP training for a minimum of two hours per day
Mode of DP sea time	N/A	A maximum of 25% DP sea days can be Passive mode . (Training on in-built ship-based DP simulator) 75% of the total DP sea time claimed must be done in Active mode (Using DP system to control ship)

DPO training scheme 2014 by NI (Shuttle tanker and offshore)

REQUIREMENT	OLDScheme	NEWScheme
Entry requirements	STCW CoC – Deck or Engineer or MVQ (Marine Vocational Qualification) on case by basis	Added Electro Technical Officers (ETOs)

Marine Vocational Qualification (MVQ) : a non-STCW Certificate of Competency issued by a white list Maritime Administration for use in the administration's local waters only.

Due to the fact that there are countries that have certificate of proficiency instead of competence and that covers training for non-STCW people, the Institute will print all DP certificates with the following sentence:

'Certificate valid for use in accordance with the privileges of the holder's Certificate of Competence or Certificate of Proficiency'.

DPO training scheme 2014 by NI (Shuttle tanker and offshore)

REQUIREMENT	OLDScheme	NEWScheme
Cadet's training	Can start the DP scheme and complete the Induction course + 30 days DP sea time and task section or Phase 2 of the Shuttle tanker scheme. Then complete DP training scheme after obtaining STCW certificate.	Kept the same

Reasons for limitation:

Trainee DPO requires knowledge and experience to make the best use of DP training.

DPO training scheme 2014 by NI (Shuttle tanker and offshore)

REQUIREMENT	OLDScheme	NEWScheme
Prior - Induction course sea time	Nautical Institute will continue to accept up to a maximum of 30 days DP sea time recorded before the Induction course for those who entered into the DP scheme prior to 1st January 2015 .	DP sea time obtained prior to the Induction course will not be acceptable and not counted towards the DP sea time claimed by the trainee DPO.
Time to complete the training scheme	ALL components of the program (shore-based courses, DP sea time, task sections, Statement of Suitability form and other elements) must have been completed within the previous 5 years .	4 years
Revalidation of DP certificates	No revalidation required	Every 5 years

DPO training scheme 2014 by NI (Shuttle tanker)

TRAINING MODEL FOR SHUTTLE TANKERS

REQUIREMENT	OLD SCHEME	NEW SCHEME
Training model	<ul style="list-style-type: none"> (30 days prior DP sea time +) ● DP Induction course ● 30 days sea going DP familiarization ● DP Simulator course ● 180 days DP sea going experience (30 days can be reduced with Sea time reduction course) ● Section F Sign Off + Company Assessment 	<ul style="list-style-type: none"> ● Induction Course + Online Assessment ● 24 days sea time AND 2 offshore loading operations ● Completion of Task Book ● Simulator course ● 24 days sea time AND 2 offshore loading operations ● Training course (one of A, B or C) ● 24 days sea time AND 2 offshore loading operations ● Training course (one of A, B or C) ● 24 days sea time AND 2 offshore loading operations ● Training course (one of A, B or C) ● 24 days sea time AND 2 offshore loading operations ● Section F Sign Off + Company Assessment

General requirements for DPO (An example of one offshore drilling company)

Education

- Minimum High School certificate/diploma or equivalent.
- Completed Marine Officers training program.
- Completed all ancillary training courses as required by STCW95.
- In possession of licenses & certificates as detailed below.

Professional Experience

- Experience as licensed DPO total on DP2 or DP3 vessels - > 2 years.

Other Requirements:

- Valid STCW95 Unlimited license
- Valid STCW95 Unlimited license Flag State endorsement
- Unlimited Dynamic Positioning Operators license.
- Valid STCW95 A-IV/2 GMDSS Operator Certificate.
- Valid annual home & Flag State Medical Fit-for-Sea Certificates.
- Valid annual Colour Eye Sight Test Certificate.
- Valid ancillary certificates as required by Home & Flag State STCW95 licenses.

Non Training Related Certification:

- Medical Certificates needed as required by local regulations.
- Must Pass Company Medical Examinations and random drug tests.

Market situation of DP fleet and DPO

DP vessel in service

YEAR	2013
DP1	1,213
DP2	1,788
DP3	188
TOTAL	3,189

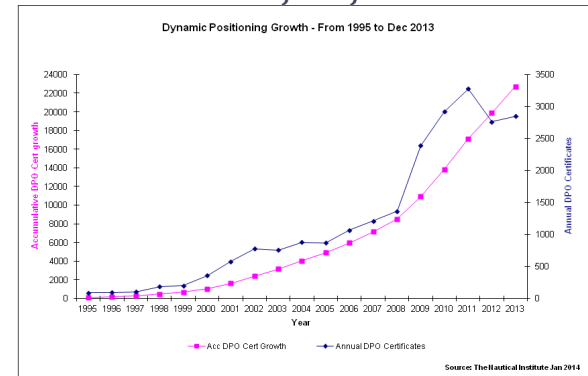
One or two certified DPOs are required for one watch of DP class 2, 3 vessel.

Order book & Delivery schedule

YEAR	2013	2014	2015	2016
DP1	34	33	7	0
DP2	194	204	65	1
DP3	29	49	32	35
TOTAL	257	286	104	36

Source: Clarkson Research Services, August 2013

Market situation of DP fleet and DPO



Strength of Korean seafarers for offshore

- High standard of training / certification.
- Marine license + onboard experience.
- Jobs available only for who has marine background. (STCW certification)
eg. Master, Chief mate, DP mate, SDPO, DPO, ADPO, Maintenance supervisor (C/E), 1st, 2nd, 3rd Engineers

Weakness of Korean seafarers for offshore

- Language.
- Cultural gap.
- Food.
- Loneliness + Stress.
- Not many precedent of Korean offshore workers so far.
- Insignificant scale of Korean offshore business. (Have to go abroad)
- Frequent traveling. (It means suffering from Jet lag, Fatigue)
- Have to do everything by our own efforts. (Sea service report, Tax...)

Possible ways to Korean seafarers advance into offshore sector

Typical ways into offshore sector

1. Possess high quality of technology and business know how for offshore sector which are resulted from pioneering effort for many years.
eg. UK, Norway, America, France, Italy, Japan.
2. Become Oil & gas producing country then obtaining operating know how.
eg. Brazil, Malaysia, Nigeria, India, China, Vietnam.

Possible model for Korea

1. Invest into Offshore business
eg. Purchase or new build offshore vessel.
⇒ Operating vessel/rig by own hand, take counsel from offshore expert.
⇒ Obtain operating technology and business know how.
⇒ Apply and upgrade that for next project.
⇒ Re-export the know-how.
2. Establish 'Local contents' regulation like North Sea, US-GOM, Brazil, Nigeria
⇒ Korea also have large amount of potential drilling field for Gas / Gas-hydrate in East Sea.