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DIFFERENCES IN THE CERTIFICATION OF DP OPERATOR'S CERTIFICATES ACCORDING TO THE NAUTICAL INSTITUTE AND DNV

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Abstract: Over the last few years, there have been many novelties in the labour market in the offshore sector, which have resulted in a number of events and changes in the DPO (Dynamic Positioning Operator) certification. The following work is aimed at presenting and comparing the DNV (previously: DNV GL – Det Norske Veritas Germanischer Lloyd, the name changed on 1st of March 2021) competitive offer in relation to the still recent monopoly on the offshore market - Nautical Institute. Within the next few years, we can expect a significant strengthening on the market of the certification system offered by DNV, which is more dispersed, specialised and attractive both for shipowners and future DPOs.

Keywords: certification differences, DP course, Nautical Institute, DNV GL, DP path.

1. INTRODUCTION

The time of dynamically positioned ships began in the early 1960s, when jack-up technology reached its limits. In 1961, Howard Shatto, a Shell engineer, built the first DP (Dynamic Positioning) prototype ship. It was equipped with a front and rear thruster, which allowed it to rotate 360°. It also had an analog controller and a primary tension cord, then known as a pitch gauge. By 1980, there were 65 DP-capable ships around the world. Meanwhile, the integration of satellite technology as one of the position reference systems meant that the number of DP vessels exceeded 150 in 1985. The drilling industry flourished. As the demand for maritime labour and training crew, the first DPO training program was adopted at a working conference in Aberdeen in September 1983. The Nautical Institute developed this initial standard and reigned in the DP certification world until 2012 when DNV introduced an alternative program. The lack of relevant publications available in the current literature and the articles that were no longer valid a few years ago [Dziewic 2013] created the need to write this study.

Table 1. DP Class with description

DP Class	Description
0	Manual position control and automatic heading control
1	Automatic and manual position and heading control. No redundancy – loss of position can occur in the event of a single fault
2	Automatic and manual position and heading control. Loss of position should not occur from a single fault of an active component or system such as generators, thrusters, swichboards, remote control valves etc. however, loss of position can occur after failure of static components such as cable, pipes, manual valves etc
3	Automatic and manual position and heading control. Loss of position should not occur from any single failure including a complete burn fire subdivision or flooded watertight compartment. Redundant and separated compartments

2. DP NAUTICAL INSTITUTE CERTIFICATION SYSTEM

From January 1, 2017, a new Accreditation and Certification System for Dynamic Positioning came into force, consisting of phases A - E.

Phase A: This is a DP introductory course also known as DP (Induction) Basic Training. Delegates study the principles of dynamic positioning; the main goals are: to examine the main elements of the systems, prepare to adapt DP operations to the current environmental conditions. The DP introductory course can be taken from any accredited training provider and ends with an online assessment. A minimum of 28 hours of classes – 80% theory, 20% practical training on a simulator.

Phase B: It is indeed a difficult task. Includes a minimum of 60 days of DP sea time on board a DP-certified vessel and completing tasks in the Nautical Institute logbook. A confirmation letter from the Company is also required. A lot of bad issues have arisen in the seafarers' community with Phase B due to the quality of the assignments and the required time of practice. However, the current total of 120 days is definitely a gift compared to the 210 days required by the old standard.

Phase C: After accumulating the required DP time at sea, the DPO returns to the DP simulator course. This is a hands-on training focusses on the operation of the DP system in various conditions, adopting different control modes and paying attention to contingency planning. The DP Simulator (Advanced) training ends with a practical assessment and an online theory exam. Minimum 28 hours of classes – 30% theory, 70% practical training on a simulator.

Phase D: When a seafarer completes the DP simulator course he/she has a choice. It is possible to go straight to sea to complete another 60 days of DP sea time on board a DP-certified vessel. In addition, the DPO will have to complete the special tasks section in his/her journal and receive a letter of confirmation from the Company during this time. Another way is to continue their education with the Sea DP Time Reduction Course, which will reduce the required DP time at sea to 30 days. The course is at least 37.5 hours.

Phase E: The last DP ship turns out to be the most important because its captain has to issue a Statement of Suitability as required by the Nautical Institute. On board DP2 or DP3 ships, a minimum of 60 days of DP at sea must be completed and the last 30 days of DP at sea must be spent on board DP2 or DP3 class ships to be certified DP Unlimited. Otherwise, Nautical Institute DP Limited will be certified.

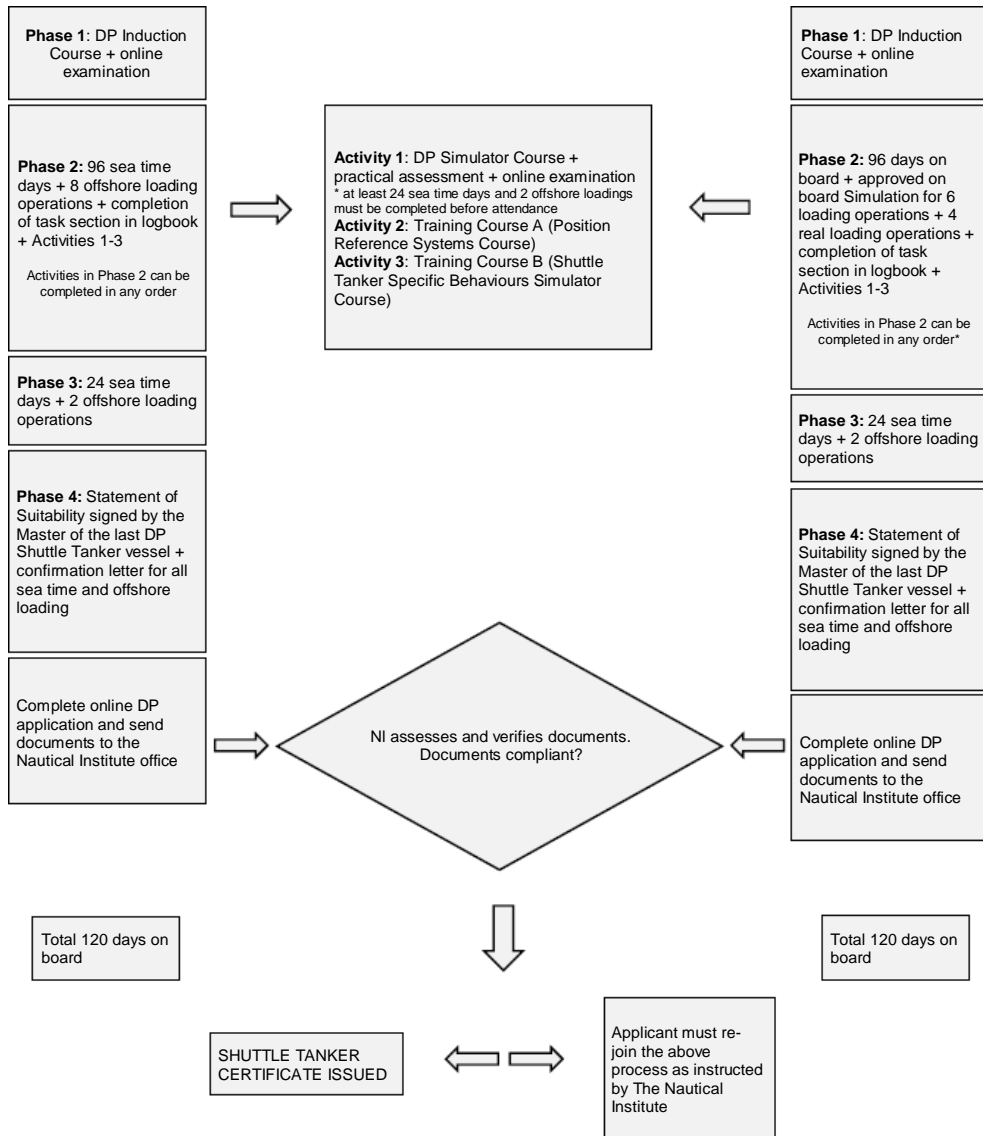


Fig. 2. Shuttle tanker path

Source: The Nautical Institute – Certification and Accreditation Standard Vol 24 1. – DPSTTC-V2-02/01/2020.

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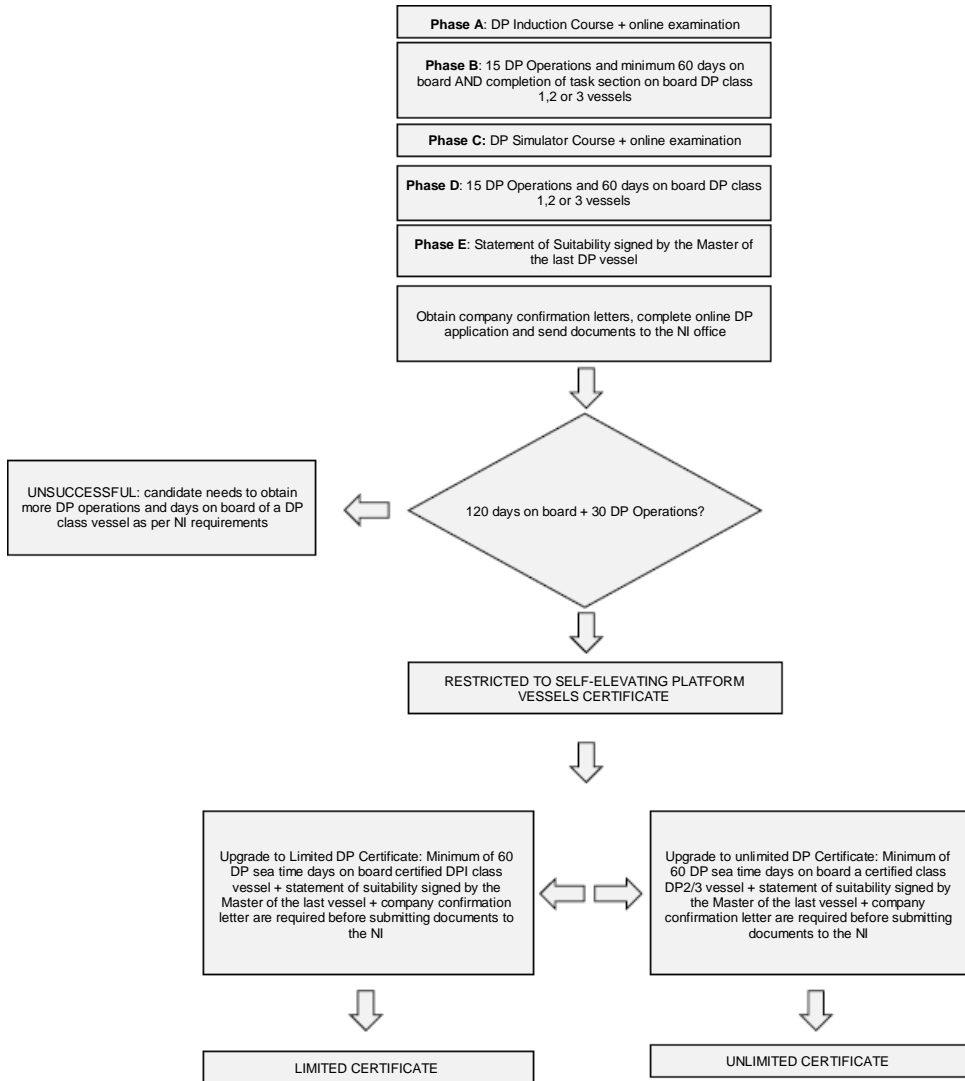


Fig. 3. Self-elevating platform vessel path

Source: The Nautical Institute – Certification and Accreditation Standard Vol 24 1. – DPSTTC-V2-02/01/2020.

Table 2. Advantages and disadvantages of the DP Nautical Institute certification program

	Pros	Cons
1	A system with a long tradition, coherent educational program and proven results	Long sea DP period, so it may take a long time to accumulate the required experience
2	Good reputation among major oil companies	Complexity of formalities required by the Nautical Institute
3	Nautical Institute courses are available worldwide	Claims are sometimes unreasonably long or even lost
4	Various simulator suppliers such as Kongsberg, Rolls-Royce, Transas, Navis, etc. You can choose the manufacturer that is installed on the bridge of your ship. In the meantime, DNV only works with Kongsberg Maritime, which is also a good choice	For the certification scheme for shuttle tankers, the Nautical Institute will only be conquered by the most persistent candidates because it resembles a classic mission. It consists of 11 phases, in which courses are combined with 5 x 24-days maritime and compulsory practice tasks from the logbook

3. DPO DNV CERTIFICATES

The Nautical Institute has fought to maintain the high standards of DPO training, while allowing professionals from around the world to obtain certification. Unfortunately, it was soon found that they were unable to meet the growing demand in the still-growing offshore market as the number of complaints grew exponentially. As a result, in 2012 another certification company, DNV, in cooperation with Kongsberg Maritime, developed its own DNV DPO certification system. Their system consists of 4 levels and focusses on competence development and specialisation.

Level 0: The DPO Preparation Course provides a basic understanding of dynamic positioning; teaches about the structure of the system, its possibilities and limitations. The training lasts 4–5 days and ends with an online assessment.

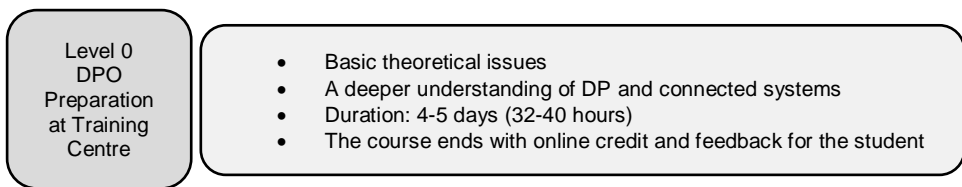


Fig. 4. Basis of Level “0” by DNV

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

Level 1: DPO Start Course that can be attended by NI (Nautical Institute) DP Induction students after their Level “0” test. The main purpose of this training is to practice DP operations (cable, pipe laying, ROV, diving support, etc.) in different conditions in different modes (Joystick, Autopos, Manual, etc.). There is also an assessment at the end of the course.

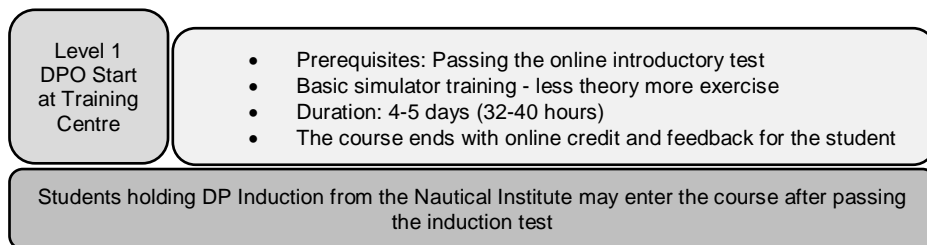


Fig. 5. Basis of Level “1” by DNV

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

Level 2: After this course, seafarers must meet the program’s practical time requirements of 270 hours of DP watch or 6 supervised operations (for feeder tankers) recorded in the IMCA (International Marine Contractors Association) logbook. It is possible to shorten the time of 270 hours and 6 operations by the DP Sea Time Reduction course which can reduce the onboard exercise time by 30% (81 hours / 3 operations). The DPO Nautical Institute can join the DNV Level “2” program after completing the DP Simulator course and complete an internship in line with DNV Standards if they pass the Level “1” exam.

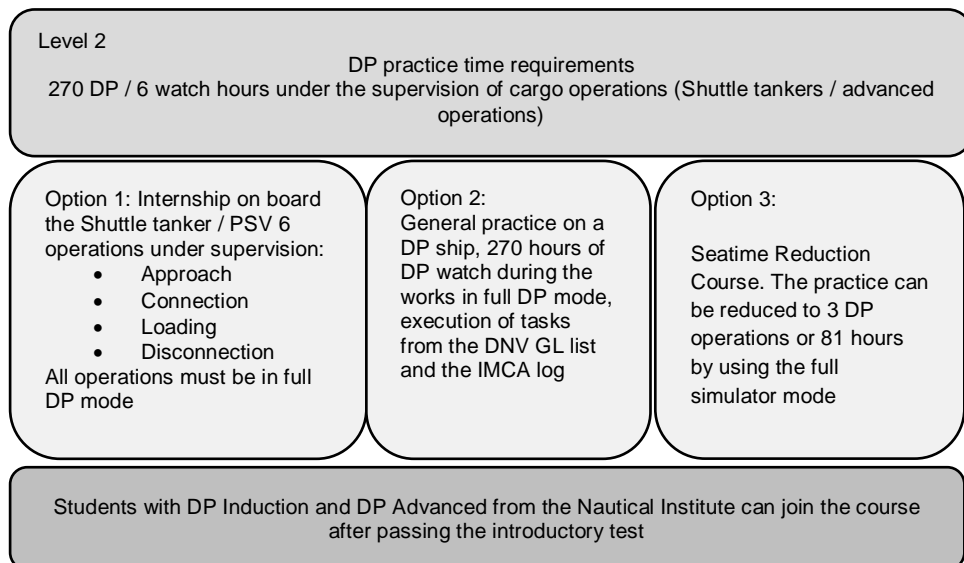


Fig. 6. Basis of Level “2” by DNV

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

Level 3: At this stage, DP Operators must choose their future specialisation. Currently, DNV offers three alternatives:

- DNV DPO Advanced Operations specialisation – a 4-day course including Autopos & Joystick, Follow target and Autotrack, which are the key modes necessary for sea operations. Students train maneuvering on cable, OCV (Offshore Construction Vessel), ROV (Remotely Operated Vehicles) and other sea vessels;
- DNV DPO specialisation Shuttle Tanker – a 3-day training course that focusses on Autopos & Joystick, Weather Vane and Approach, which are the key modes for feeder tanker operations;
- DNV DPO specialisation Auth – this is a specially designed course for DP operators of non-classified DP vessels, e.g. cruise ships and megayachts.

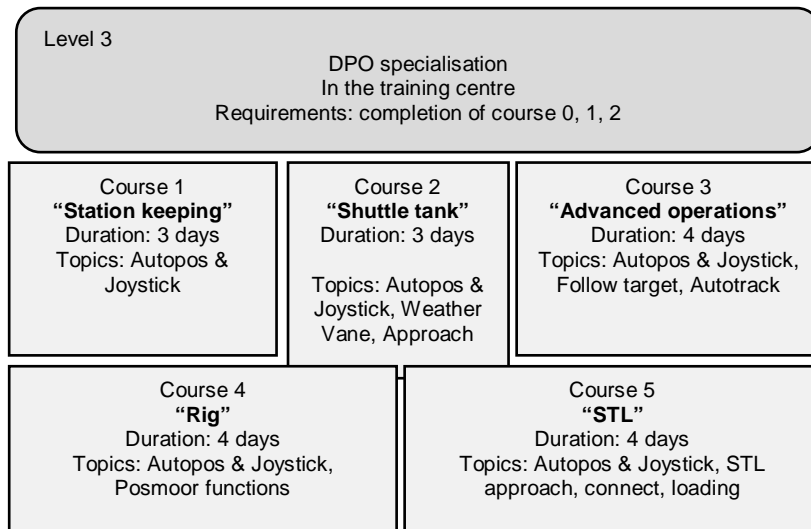


Fig. 7. Basis of Level "3" by DNV

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

Level 4: After completing the specialisation classes, the student takes a theoretical and practical exam. The new DP certificate is valid for 5 years. Experienced DP operators can join the Level 4 assessment and receive DNV certification that bypasses the entire training procedure.

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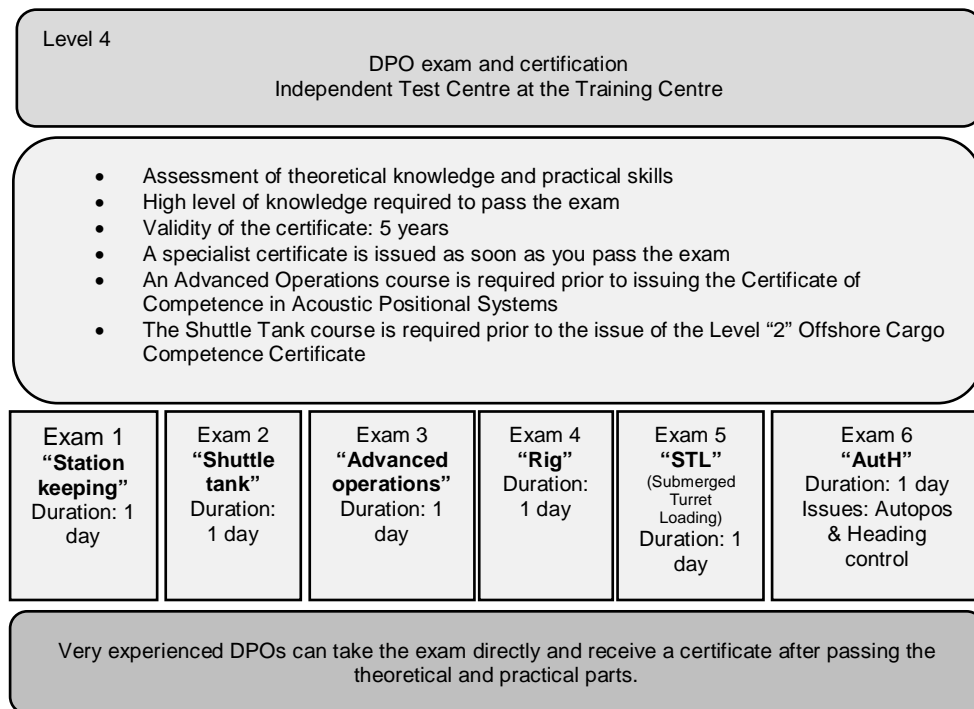


Fig. 8. Basis of Level "4" by DNV

Source: *Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.*

Table 3. Types of the certificates of the DNV DPO certification program

Notation code	Competent in the use of the following DP systems	Example of operations
AJ/S	Autopos, Joystick	Stationkeeping: Supply, Standby, Anchorhandling, Cruise, Well service, Accommodation, Lifting Operations, Construction, Diving
AJ/DPA/WV	Autopos, Joystick, DP Approach Mode, Weather Vane	Offshore Loading: Shuttle tankers. Loading systems: SPM, OLS, Tandem, FSL, SAL, DSL
AJ/FT-AT	Autopos, Joystick, Follow Target, Autotrack	ROV Operations, Cable laying, Pipe laying, Trenching, Dredging, Rock dumping
AJ/DPA-STL	Autopos, Joystick, DP Approach Mode, STL Approach, Connect, Loading	Submerged Turret Loading Operations
AJ/POS	Autopos, Joystick, Anchor handling, Posmoor, Drilling, Riser-Management	Drilling Rig, Production Rig, use of DP while anchored and during drilling operations
Auth	Autopos & Heading Control	Cruise vessels, Yachts, Pleasure crafts, Fish farming, DP class "0" operations

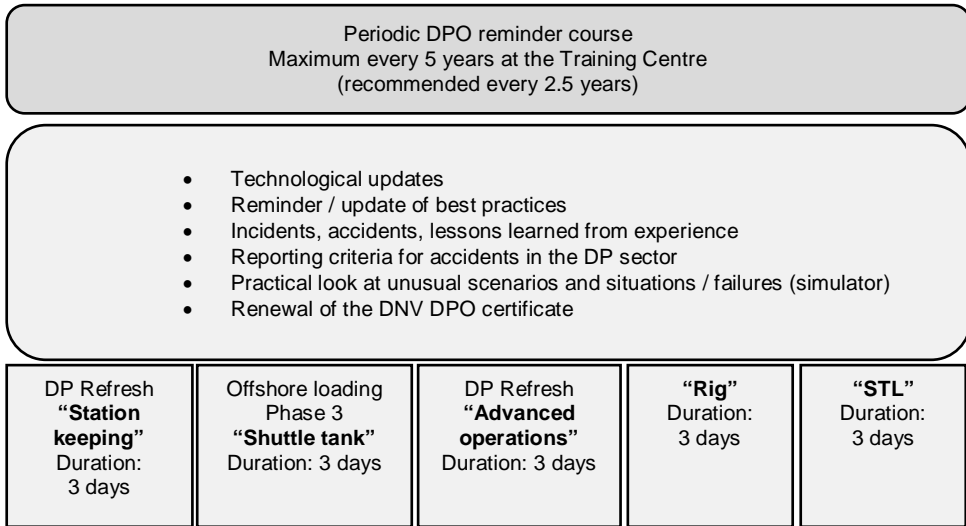


Fig. 9. Refresher course by DNV

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

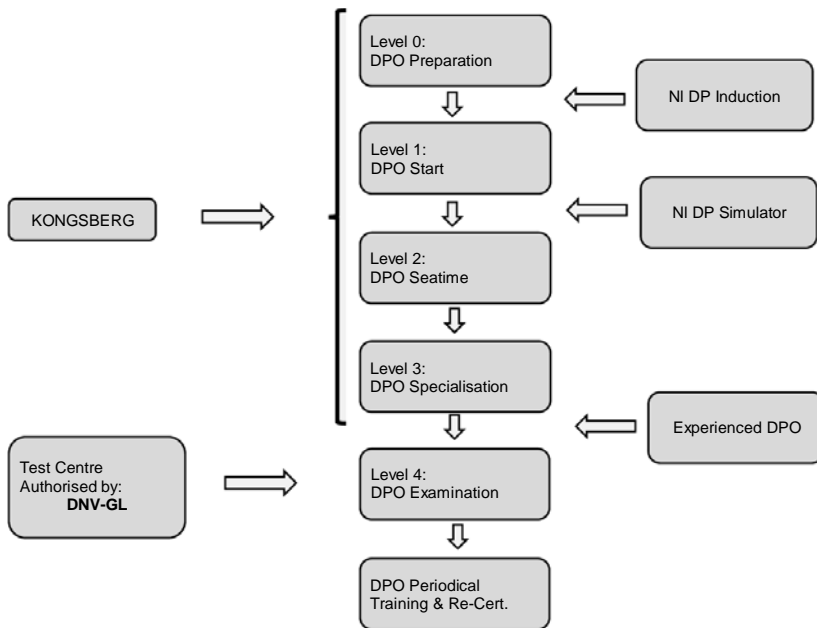


Fig. 10. General scheme of DNV certification path

Source: Certification Scheme for Dynamic Positioning Operators, Recommended Practice – DNVGL-RP-0007: 2017-04.

Table 4. Advantages and disadvantages of the DNV DPO certification program

	Pros	Cons
1	Less DP sea time is required to obtain DP certification	So far, courses are available in very few training centres
2	All courses are held on state-of-the-art A-class Kongsberg simulators	The certification system is still very young and developing, so there is a strict framework and incomplete procedures
3	The standard is more flexible as it can cover Nautical Institute students and current DPOs of any level	Some shipowners may prefer the Nautical Institute accredited DP operator to the newly certified DPO DNV due to the deeper certification process
4	The DP certificate is issued immediately upon successful completion of the theoretical and practical exams at level "4"; there is no extended approval period	

4. CONCLUSIONS

As it results from the above work, the future of DPO certification development is very interesting and may take many forms. This is due to, among other things, the position of the Nautical Institute, already well-established on the labour market and with shipowners, and a simpler alternative proposed by DNV. Currently, many shipowners still recognise the certificates issued by the Nautical Institute, but DNV as a classifier recognised around the world may in the near future push through its certification system, which seems to be much more attractive and diverse.

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