The Nautical Institute

Certification and Accreditation Standard

Volume 2: Accreditation

February 2026

The Nautical Institute

Certification and Accreditation Standard

Vol.2 – Accreditation

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Disclaimer

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Table of changes

Page	Subject	Original content v1 (February 2025)	New content v1 (February 2026)
10	Section I. 1.16, Cost of assessment		Note included
72	Annex 7 – The NI Travel expense policy		Amended travel expense
80	Annex 11 – RTP		1. Introduction, reworded

Page	Subject	Original content v1 (February 2026)	New content v2 (June 2026)
36, 38, 40, 43	Annex 4, DP Instructor requirement		Revalidation course included
72	The Nautical Institute travel expense policy		Travel expense amount changed

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1 The process for accreditation by The Nautical Institute

1.1 Requesting accreditation standard

Anyone interested in opening a DP training centre can request a copy of this document which is also available on The NI Alexis Platform website. Please refer to the latest version.

1.2 The Nautical Institute will provide the standard

The Nautical Institute (The NI) will provide the standard to anyone interested in opening a DP training centre.

1.3 Accreditation request

A training provider wishing to seek NI accreditation can do so by contacting The NI's Qualifications Marine & Offshore Accreditations department by email: accreditations@nautinst.org.

1.4 Contents of a formal request for accreditation

The formal request for accreditation should contain the following information:

- Details of the centre.
- Details of the contact person at the centre.
- The name of the course or programme (Induction and Simulator; Sea Time Reduction; Shuttle Tanker Courses; DP Emergency Shiphandling; DP Vessel Maintainer (DPVM); Revalidation; DP Refresher and Competency Assessment).
- Description and layout of the equipment.
- Instructor CVs, photographs and DP certificates.
- A copy of each instructor's training programme signed off by an experienced training DP instructor (see definition in Annex 6).
- Relevant forms such as the accreditation application, accreditation agreement, confidentiality agreement, non-disclosure, plagiarism and checklist should be signed and sent to The NI.

1.5 Timing of the request

The NI requires currently accredited centres to apply for reaccreditation with a minimum of four weeks' notice, and six weeks for centres seeking accreditation for the first time, before the date requested for assessment so that pre-assessment queries can be resolved and travel booked in advance.

1.6 Accreditation agreement

Before making further progress towards accreditation, the training provider must sign an Accreditation Agreement with The NI.

1.7 Setting an audit date

The NI and the training centre will agree on a date for the audit based upon availability of auditors and the schedule of courses at the centre. The audit (for new accreditation or reaccreditation) must take place while a Simulator Course is being run. If a full class of students is not available, suitably qualified individuals may sit the course at the time of the audit, so that the auditor can check on the simulator equipment, the teaching methodology and other elements of the course.

1.8 The auditors

At all times there will be a minimum of two auditors. One will audit the technical equipment and teaching methodology and the other, a trained auditor linked to The NI's administrative staff, will audit the centre's administrative and management procedures. Additional specialist assessors may be called in when appropriate. The Nautical Institute may at its discretion, use a single auditor.

1.9 Duties and conduct of accreditation team members

Team members will:

- Review and report on the materials submitted by training centres.
- Participate in accreditation visits and related activities in accordance with the guidelines, policy and procedures specified by The NI.
- Maintain confidentiality with respect to information gained from centres during the accreditation process. They will not discuss the training centre's activities, duplicate training materials received from the centre or discuss confidential information without appropriate permission.
- Return all training materials received from a centre either to the centre or The NI.
- Act in the best interest of The NI and in accordance with good professional conduct.

1.10 Documentation to submit to The Nautical Institute before the audit

Centres are to present the following documentation at least one month before for a pre-audit check:

- Instructor's manual for each course, including course timetable, lesson plans for each module and copies of PowerPoint presentations and exercises. This is for use by instructors.
- Student's manual for the above, which will contain relevant information of the course.
- Student handouts and materials such as industry documents and joining pack.
- Licence to operate a centre from the relevant local or national authority.
- Instructors CVs, photographs and DP certificates.
- A copy of each instructor's training programme signed off by an experienced training DP instructor.
- Copy of IMO 'train the trainer' or teaching certificate and copy of the IMCA or NI logbook for each instructor.
- Health and safety information.
- Attendance list, feedback forms and methods for assessing students.
- Template of the certificates to be issued by the centre.
- Administrative procedures, such as those covering registration/booking and logbook control.
- Management review policy.
- Performance appraisal policy for instructors.
- Complaints policy and appeal policy.
- Document control policy.

If the documentation is not received in a timely manner The NI may cancel the arranged audit, with the resulting loss (such as travel and accommodation costs) borne by the training centre. To maintain high audit standards, The NI auditors need time to review documentation before arriving at the centre.

All documents are to be uploaded as per NI instructions.

1.11 Provisional accreditation

Prior to the audit, a training provider may request provisional accreditation. This is restricted to selected courses and is given after submission of all the course documentation and instructor qualifications, provided they are of an acceptable standard. The maximum allowance is the delivery of two courses prior to the audit day, which requires approval in writing from The NI. This enables the course provider to advertise and supply courses pending the formal accreditation and to test the systems at the centre.

If the accreditation is successful the provider will be accredited for three years, subject to the provider submitting an annual report.

Where an application for accreditation is unsuccessful, the provider will be told the reasons and invited to resolve the non-conformities. The NI aims to be supportive throughout this period.

The licence will be temporary (in case of having non-conformities) or permanent if there are no non-conformities, or if non-conformities are fully closed within the deadline given.

1.12 What will be assessed and validated during the audit

Validation of originals of some of the documentation listed above in:

- Contents of a formal request for accreditation.
- Documentation to submit to The NI before the audit.
- Training Standard, Instruction manuals.

Auditors will also assess/verify:

- The correct use of equipment, particularly in relation to simulator exercises.
- Practical exercises and how they are conducted.
- Record-keeping and administrative arrangements (such as logbook control, issuance of certificates of completion and control of documents).
- Accommodation, lecture rooms, equipment and safety considerations.
- Assessment methods and how results are used to monitor student understanding and thus instructor performance as well as trigger preventive/corrective actions in relation to course materials/content/delivery.
- A formal student feedback system concerning the content and conduct of the course.
- Maintenance arrangements and records, including a copy of the equipment maintenance certificate.

1.13 The audit plan

In most instances the audit will proceed according to the following schedule:

- Pre-audit - all materials submitted to The NI by the training provider will be reviewed.
- Day 1 of audit - opening meeting; auditors split up with one assessing the administrative/record – keeping and facility side of the training centre and the second assessing the technical side; course delivery will be observed.
- Day 2 of audit - any items outstanding are assessed; course delivery will be observed; a closing meeting will be held to discuss the audit findings.
- Post-audit - all audit findings will be documented and discussed with The NI Accreditation Team; a decision will be made regarding the accreditation status of the training provider; this decision will be conveyed to the centre.
- Additional days may be required for centres seeking accreditation of further courses such as sea time reduction and Shuttle Tanker courses.

Results of accreditation

The NI will write formally to award accreditation at three levels:

- Accredited: the centre will be accredited to deliver courses for three years and will be required to submit annual reports to The NI throughout this period.
- Accredited subject to minor or major improvements:
  i. Minor improvements: the centre must make minor improvements during which time the centre will usually be allowed to continue delivering courses. Depending on the nature of the improvements to be made, written and/or photographic evidence of the improvement may be all that is required by The NI from the centre. In certain instances, a follow-up visit may be required by the auditor/s. Once the improvements have been completed and validated, the centre will be accredited to deliver courses for three years from the date the initial audit was carried out and will be required to submit annual reports to The NI throughout this period.
  ii. Major improvements: Accredited on completion of significant improvements which must be confirmed by due dates; the centre must make significant improvements during which time the centre may have to suspend the delivery of courses. In most cases where significant improvements are required a follow-up audit will be required. This is at the expense of the training centre. Once the improvements are completed and validated, the centre will be accredited to deliver courses. However, a shorter period than the usual three years may be stipulated. During the period for which accreditation is granted the training provider will be required to submit annual reports to The NI.
- Failure: with reasons and invitation to re-submit.

1.14 Withdrawal of accreditation

Accreditation may be cancelled or withdrawn for any of the following reasons:

- Failure to settle the accreditation/re-accreditation invoice within 90 days.
- Failure to be re-accredited within three months of the expiry date of the existing accreditation (unless agreed with The NI).
- Bankruptcy/receivership or liquidation of the accredited training provider or its parent organisation.
- Failure to notify The NI of significant changes to the management, training delivery or instructors.
- Misrepresentation, misuse, abuse or misdemeanour relating to the accreditation by the accredited training provider.
- Failure to comply with The NI's policies for accreditation and certification.
- Failure to submit an annual report.
- Engaging in any illegal activity.
- End of partnership or joint-venture between two accredited organisations.
- Outstanding invoices in relation to logbooks/books for over 90 days.
- Failure to settle annual DPTEG fees within 90 days.
- Inappropriate behaviour toward The Nautical Institute or its staff.

1.15 Recognition and certification

On successful accreditation, The NI will issue a certificate to the provider with authorisation to add The NI's logo and the words *Accredited by The NI* to its course literature. Centres should ensure they only use the approved NI 'Accredited Centre' logo.

1.16 The cost of assessment

The NI will carry out the assessment at full cost recovery plus administrative overheads. Typical costs of an accreditation or re-accreditation audit are as follows, based on induction and simulator courses. For additional courses, audit days are proportionately increased.

- Pre-audit review and assessment of documents. Half day each by two auditors.
- Auditing of centre for induction and simulator courses. Two days each by two auditors.
- Post-audit review, making of official report and dealing with non-conformities. Half day each by two auditors**.
- Travel days for two auditors.
- Travel and accommodation costs.
- Air fares.
- Other incidentals (meals, local transport, visa fee).

Further details are provided in the accreditation agreement.

****Note:** If a training centre is unable to address the audit's non-conformities (NCs) in a single review, additional charges may apply.

1.17 When a centre changes location or simulator

If a training centre changes location/premises, simulator or ownership it must notify The NI of that fact. A date will be arranged and a new audit will be carried out at the cost of the training centre.

1.18 Spot audit

The NI retains the right to visit any accredited training centre at any time to carry out a spot audit for the purpose of maintaining accreditation standards. No notice to the centre is required and the cost for such a spot audit will be borne by the training centre.

1.19 Bribery act

The NI, being a charity registered in the UK, is subject to the latest version of the UK Bribery Act. The penalties for committing a crime under the act may include imprisonment, unlimited fine and the potential for the confiscation of property as well as disqualification of directors. It has a near-universal jurisdiction, allowing for the prosecution of an individual or company with links to the UK, regardless of where the crime occurred.

1.20 Harmonisation of standards

The policy of The NI is:

- To ensure that courses conducted by different establishments for the same purpose meet the same standards.
- When blended learning or other techniques are used as a means of preparation or delivery, the programmes are harmonised with the course objectives.
- When courses cover several different disciplines, the appropriate people with the required experience and qualifications are utilised for each section.

1.21 The Nautical Institute's quality standards and audit procedure

The procedures in this standard have been approved by The NI's Executive Board, which has delegated their detailed application to The NI's DP Training Executive Group (DPTEG). The group is kept informed of DP accreditation activities and keeps the accreditation and certification process under review. DPTEG is maintained by an annual fee, which is paid by every accredited training centre in April of each year.

A1 Training Centre Arrangements

1. Training standard

Accreditation is given for both the induction course and the simulator course together. When the training center applies for the accreditation, it must submit all required materials for both courses. A centre may request accreditation for courses more than the minimum two.

1.1 Instructor's manual

Each course must be supported by an instructor's manual. The purpose of this manual is to provide a means of tracking changes to the documentation used in delivering training, to provide a reference for all trainers at a particular centre to train to the same standard and to act as an induction tool when new instructors join the centre.

The instructor's manual for each course should contain as a minimum:

- A statement of the centre's teaching methodology (for guidance see below).
- Course overview and purpose.
- Course aims and objectives.
- Course timetable with breakdown of time assigned for each module and coffee/lunch breaks.
- Details of the simulator equipment used for the course including a plan of the simulator layout.
- Materials and other equipment required for each course module.
- Copies of slide presentations.
- Copies of student handouts.
- The model the centre uses for planning a simulator exercise (see below for an example).
- Lesson plans for each module and exercise (see below for an example) with the objectives to be achieved by the exercise stated.
- Practical exercises (both student and instructor versions).
- Explanation of the centre's assessment system including master copies of the form/forms that will be used to provide written evidence of each student's performance on individual simulator exercises and for the course overall.

In most cases training organisations hold copyright of their training materials and prefer to have control of all manuals on site. The Nautical Institute (The NI) supports this approach and requires at least one controlled master copy of the instructor's manual for each course taught should be maintained by the Centre Coordinator. This master copy may be kept electronically.

1.2 Student manual

The student manual for each course should contain as a minimum:

- Course overview and purpose.
- Course timetable.
- Course aims, objectives and competencies.
- Explanation of how they will be assessed.
- Health and safety information for the particular centre.
- Complaint/appeal procedure.

Centres are encouraged to make some or all of the manual available to students digitally. At least one controlled master copy of the student manual for each course taught should be maintained by the Centre Coordinator. This master copy may be kept electronically.

It is suggested that the material given to students also contains examples of DP incidents that have occurred along with an overview of The NI DP Operator certification process and information/links to relevant industry websites (IADC, ICS, IMCA, ISOA and OCIMF).

Note: Instructor and student's manuals shall be marked with the date and version number as part of the quality management system and document control (Annex 2).

2. Training methodology

In preparing this guidance for NI accredited DP training centres, The NI intends to promote a consistently high and verifiable standard of delivery across all centres and courses.

DP training is a complex undertaking. A student must not only acquire a great deal of knowledge but be able to translate that knowledge into physical responses in what sometimes may be very stressful conditions. In other words, DPOs must develop an attitude based on their knowledge that allows them to act appropriately in a given situation.

2.1 Preparing your training methodology statement

To enhance the likelihood of success in such a complex undertaking, The NI requires that training centres provide a written statement of the centre's training methodology. This requires the centre's managers to develop a written statement explaining the system of methods and principles that they intend to follow as they plan, design, assess and evaluate the effectiveness of the training/learning that takes place at their centre.

As with any model course published by IMO, this Accreditation and Certification Scheme Standard needs to meet certain non-negotiables: the amount of teaching time required for each course; student/instructor/equipment ratios; the learning objectives for each course and standardised assessments. However, a centre's choice of training methods depends on what suits that centre, including its' educational philosophy, classroom demographic and mission statement and the teaching skills of its instructors.

This will possibly require some research and thought by the centre's managers. By the nature of simulator-based training with adults, there are certain choices that are inevitable. for any centre. The training it provides will most likely be student-centered, using inquiry-based and cooperative learning to varying degrees.

However, centre managers can decide the framework in which these activities are carried. They may choose to base their training on the universally-known Bloom's Taxonomy. Or they might decide that the SOLO or Fink's taxonomies suit their particular centre better.

The nature of simulator training lends itself to formative assessment, as the instructor must continually gauge student reaction to the exercises they have prepared in order to continuously adapt them to students' performance levels. If a centre uses formative assessment, how does it document this and ensure objectivity across all the instructors? As all DP students are adults, what strategies does the centre employ to address the specific needs of adult learners? In addressing this question, instructors should become familiar with adult learning theory, known as the term 'andragogy'.

Brief descriptions of these terms are provided below, with links to references where appropriate, along with a list of recommended reading and references.

This information is not exhaustive; centres are free to use learning taxonomies and training methods that are not mentioned here, but details should be provided in a written statement. This serves not only to inform The NI auditors who visit the centre but is valuable for the instructors who work at the centre.

2.2 Important terms

2.2.1 Student-centred learning

While teachers are authority figures in this model, they and their students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessment are connected; student learning is continuously measured during teacher instruction.

2.2.2 Inquiry-based learning

Inquiry-based learning is a teaching method that focuses on student investigation and hands-on learning. In this method, the teacher's primary role is that of a facilitator, providing guidance and support for students through the learning process. Inquiry-based learning falls under the student-centered approach, in that students play an active and participatory role in their own learning process.

2.2.3 Cooperative learning

Cooperative learning refers to a method of teaching and classroom management that emphasises group work and a strong sense of community. This model fosters students' academic and social growth and includes teaching techniques such as reciprocal teaching. Cooperative learning falls under the student-centered approach because learners are responsible for their learning and development. This method focuses on the belief that students learn best when working with and learning from their peers.

2.2.4 Bloom's taxonomy

https://bloomstaxonomy.net/ offers an explanation of Bloom's Taxonomy (it also mentions SOLO Taxonomy; see below) and provides links to reference materials.

Bloom's Taxonomy underpins the classical knowledge, attitude, skills structure and evaluation of learning methods and is one of the most widely used systems of its kind in education. It is a simple, clear and effective model, both for explanation and application of learning objectives, teaching and training methods, and the measurement of learning outcomes.

Bloom's Taxonomy model has three domains, which may overlap:

- Cognitive domain (intellectual capability, ie knowledge, or 'thinking').
- Affective domain (feelings, emotions and behaviour, ie attitude, or 'feeling').
- Psychomotor domain (manual and physical skills, ie skills, or 'doing').

In each of the three domains Bloom's Taxonomy is based on the premise that the categories are ordered in degree of difficulty. An important premise 'is that each category (or level) must be mastered before progressing to the next. As such, the categories within each domain are levels of learning development and these levels increase in difficulty.

The simple matrix structure enables a checklist or template to be constructed for the design of learning programmes, training courses and lesson plans. Effective learning should arguably cover all levels of each of the domains, where relevant to the situation and the learner. The learner should benefit from development of knowledge and intellect (cognitive domain); attitude and beliefs (affective domain); and the ability to put physical and bodily skills into effect – to act (psychomotor domain).

This combines well with the structure of The NI DP scheme. The Induction Course must be passed initially and the task sections completed successfully before undertaking the Simulator Course. This then must be successfully completed before beginning ship-specific training and practice.

2.2.5 SOLO taxonomy

For a description of SOLO taxonomy, see http://www.johnbiggs.com.au/academic/solo-taxonomy/

The Structure of the Observed Learning Outcome (SOLO) is a means of classifying learning outcomes in terms of their complexity; as learning progresses it becomes more complex. This view enables the assessment of students' work in terms of its quality rather than according to how many elements are correct.

SOLO taxonomy comprises of the following:

- Pre-structural – the student has missed the point and does not have any understanding.
- Uni-structural – one or a few aspects of the task are focused upon.
- Multi-structural – several unrelated aspects are focused upon.
- Relational – the aspects are integrated to achieve an understanding as a whole.
- Extended abstract – integrated understanding is used as a concept to generalise new areas of learning.

There is a diagram available at the associated link above to help illustrate the concept.

SOLO can be used not only in assessment, but also in designing the curriculum in terms of the learning outcomes intended, which is helpful in implementing constructive alignment. In constructive alignment, start with the outcomes students are intended to learn and align teaching and assessment to those outcomes. The outcome statements contain a verb and a learning activity that students need to perform to best achieve the outcome, such as "apply expectancy-value theory of motivation" or "explain the concept of..."

The verb conveys what the relevant learning activities are that the students need to undertake to attain the intended learning outcome. Learning is constructed by what activities the students carry out; learning is about what they do, not about what teachers do. Likewise, assessment is about how well they achieve the intended outcomes, not about how well they report back what they have been told.

SOLO taxonomy helps to map levels of understanding that can be built into the intended learning outcomes and to create the assessment criteria or rubrics. Constructive alignment can be used for individual courses, for degree programmes and, at the institutional level, for aligning all teaching to graduate attributes.

2.2.6 Fink's taxonomy

This is an article by L. Dee Fink, the creator of the taxonomy: http://www.wcu.edu/WebFiles/PDFs/facultycenter_SignificantLearning.pdf

This article explains how the taxonomy was used to create a course: http://www.psychologicalscience.org/index.php/publications/observer/2011/september-11/using-finks-taxonomy-in-course-design.html

Fink encourages instructors to create learning goals based on his taxonomy of significant learning rather than relying on a content-driven method of course design. Fink's approach switches the emphasis away from content toward the goals and skills instructors want their students to retain after the course is completed.

2.2.7 Formative assessment

Formative assessment is a range of formal and informal assessment used by teachers during the learning process in order to modify teaching and learning activities to improve student attainment. It typically involves qualitative feedback (rather than scores), for both student and teacher, which focuses on the details of content and performance.

2.2.8 Andragogy

Andragogy is the term that refers to the methods or techniques used to teach adults.

A one-page summary of Andragogy: http://www.instructionaldesign.org/theories/andragogy.html

A summary of the characteristics of adult learners: The Adult Learning Theory - Andragogy - of Malcolm Knowles - eLearning Industry

2.3 Further reading

As simulator training plays such an integral part in The NI DP training scheme, it is imperative that this training is as well planned and relevant as possible. Therefore, The NI recommends the following:

- A Simulation Instructor's Handbook: The Learning Game by Jillian Carson-Jackson Med MNI AFRIN, published by The NI.
- Model Course 6.10 Train The Simulator Trainer and Assessor 2012 Edition, published by the IMO. This is a 142-page document that discusses technical aspects of teaching using simulators in the MET environment.
- Bridge Resource Management, Simulation and Experiential Learning "A Loaded Gun" by Captain George Sandberg USMS FNI, Director of Nautical Science Simulation, US Merchant Marine Academy, Kings Point, New York. Though it discusses BRM courses the principles are directly relevant to any type of simulator training. The paper can be found here: https://www.nialexisplatform.org/media/1452/educational-summitt-paper-v6.pdf

Capt Sandberg argues that there is a misconception that experiential learning is free choice or learning by chance that focuses solely on the student and the role of the instructor is minimised or totally eliminated. The danger of teaching bad practice, unacceptable risk taking, developing overconfidence, destroying confidence and creation of "non-educative experiences" are explained. The importance of the instructor in preventing undesired teaching results is discussed.

2.4 Guidance documents for training centres

Example A – model for designing and delivering DP simulator training exercises
Typical set up of a training scenario using a simulator:

- Scenario objectives.
- Required knowledge and skills level (pre-requisites).
- Start information (such as environmental and traffic factors)
- Training material necessary (such as paper charts)
- Briefing consisting of two parts:
  - Scenario objectives that are Specific, Measurable, Assignable, Realistic, Time-related (SMART)
  - Feedback criteria (how to confirm the participant obtained the correct level).
- Theoretical explanation (clearing up questions, reminders).
- Definition of the starting conditions (such as course, heading, speed, engines running).
- Definition of roles and responsibilities in the bridge team.
- Task preparation.
- Actual run; all events must be connected to a scenario objective (all others just divert attention from the real goals of the course).
- Debriefing; consisting of two parts;
  - Feedback of participant and/or peers on performance.
  - Feedback of instructor, focusing on the scenario objectives, hand-in-hand with the competence checklist.

Example B – sample lesson plan

DSV air dive general objectives

Perform drift and alert light and e-stop test. DP practice covering safe operation, communication and reporting during manoeuvring and static DP, operations to support diving, procedures inside and outside the 500m zone and bringing the vessel to the platform for dive operations. Create alert agreement.

Exercise environment

Area	South China Sea Gulf of Thailand Open Sea. Early morning to daylight, visibility reduced by rain.
Wind	4 to 6 knots/NE-SW
Current	1.5'/E-ESE
Waves	1.2-1.8m E/ + Swell SE - (see detailed weather forecast)
Own vessel	DSVDP2
Targets	Platforms, wellheads and pipelines
Worksite	DPCS oilfield

Description: All students will control a model vessel, performing diving operations on DP in DP2 compliant mode as per the alert agreement. They shall carry on the bridge watchkeeping following all the procedures for a safe operation and following the alert agreement once they are in position.

Instructor's guidelines
Issue each student with the Diving Exercise work book (consisting of exercise instructions, field drawing, charts, pilot and tide NP books, safe zone location, pre-DP checklist and DP setup settings and drift test recording form). Instructor to run through operation scenario and allocate vessel and job task to students (instructor would have loaded required vessel prior to starting the class; it will be outside the 500m when it starts). Instructor to run through safety plan, pre-DP checklist (drift test instructions are on the form) and communications protocol as contained in the student's course manual and the safety procedures to do the operation. The instructor assists with any questions. The students then start the exercise by moving into position and carrying out exercise as per the instructions. Time allocated is approx. 180 minutes, after which the instructor carries out questions and answer session (time allocated approx. 15 minutes), instructor asks students to rotate DPO position to the next student. The student moves the vessel to the next leg of the operation and repeats the procedure then advises the instructor. The exercise will require the full use of communications (phone/VHF) and the alert lights and possibly the e-stops. Instructor to hold open discussion with students as a debrief during which time the instructor will raise observations they may have noted during the exercises with the recorded data. Evaluation forms to be completed for each student.
Evaluation
Instructors shall fill in the evaluation report for each console (vessel)

Method of instructions	Students on their own, instructor in simulator control room on the phone for all calls and to send equipment faults and environment changes to the consoles and record key points for the exercise.
Resources to be used	DP NMS 6000 software and hardware -DP1 and DP2 set up and chart screen.
Total time spent	3 1/2 hours for two students.
Student reference	Course material handouts, FMEA, charts 3963 and 66, NP 203 and 30, UTM subsea and worksite diagrams and the Nav chart screen data loaded.

Example C – Sample template for recording student performance

Summary of Simulation

Team 1	Team 2	Team 3
Team Members	Team Members	Team Members
Wind:	Wind:	Wind:
Current:	Current:	Current:
Final Approach Heading:	Final Approach Heading:	Final Approach Heading:
500m Checklist Completed:	500m Checklist Completed:	500m Checklist Completed:
Dive Checklist Complete:	Dive Checklist Complete:	Dive Checklist Complete:
Communications Check Completed:	Communications Check Completed:	Communications Check Completed:
DP Events Induced by Instructor	DP Events Induced by Instructor	DP Events Induced by Instructor

Example D – Sample of Student Performance- DP Simulator Competence checklist

Competence checklist for DP simulator course		Participant name: Date: Course:		
1. Operation of a DP system		**Tax code**	**Checked**	**Comment**
1.1	Demonstrate an ability to set up and operate the DP system under the various control modes and to carry out manual, mixed manual/ automatic manoeuvres.	A		
1.2	Demonstrate the operation of position reference systems, sensors and peripheral equipment associated with the DP system.	A		
2. DP Operation				
2.1	Interpret vessel plans and specifications, capability diagrams and other data relevant to the planning and conduct of DP operations.	A		
2.2	Use vessel and other data to assess the capability of the vessel to complete successfully and proposed operation.	A		
2.3	Carry out risk assessment exercise on proposed operations and determine the level of redundancy appropriate.	A		
2.4	Make appropriate contingency plans to cover any foreseeable system failure or operational requirement. Contingency planning to include appropriate "escape routes" for the vessel.	A		
2.5	Demonstrate compliance with appropriate procedures to be followed when approaching any work site and transferring from conventional vessel control to DP control.	A	N/A	

2.6	Demonstrate effective completion of pre-DP and other checklists.	A		
2.7	Demonstrate effective communication needed during DP operations and the testing procedures.	A		
2.8	Conduct vessel positioning manoeuvres and station keeping functions following operational plan and procedures.	A		
2.9	Organise DP watchkeeping procedures observing recognised safe working practices.	I	N/A	
2.10	Conduct appropriate watch handover procedures, completing appropriate checklists.	A	N/A	
2.11	Maintain the appropriate logbooks and records pertaining to DP operations.	A		
2.12	Evaluate the various information, warning and alarm messages communicated to the operator.	I		
2.13	Relate the content of the messages in 2.12 above to the actions necessary in relation to the DP operation.	I		

3. Emergency procedures				
3.1	Recognise the conditions that will cause degraded operational status or emergency status.	K		
3.2	Recognise the warnings and alarms associated with catastrophic failure.	K		
3.3	Evaluate the various factors to be taken into account subsequent to any system failure and determine appropriate actions.	I		
3.4	Carry out procedures to stabilise the vessel position and heading subsequent to a variety of system failures and take appropriate decisions and actions relating to the continuance or abandonment of the operation.	I		

Levels of Cognition
Level 1: Knowledge (K)
To remember or to reproduce on basis of appropriate, previously learned information.
Level 2: Understanding (U)
To give meaning to new situations and or new material by recollection and using necessary present information. To give evidence of insight in certain activities.
Level 3: Application (A)
To use previously-acquired information in new and concrete situations to solve problems that have single or best answers.
Level 4: Integration (I)
To separate information into its component parts, to examine such information to develop divergent conclusions by identifying motives or causes, making inferences and or finding evidence to support generalisations. To creatively apply prior knowledge and skills to produce a new or original whole. To judge the value of material based on personal values or opinions, resulting in an end-product, with given purpose, without real right or wrong answers.

Instructor Name:
Date:
Sign:

3. DP classroom requirements

3.1 Accommodation and transport suitability

Some training centres provide accommodation and transport for students. Where applicable, The NI requires the centre to provide evidence that it has given this information to students.

Some training centres include the hotel and transportation as part of the training package. This should be clearly stated in the company's agreement with students.

Where accommodation and transport are not part of the course package provided by the centre, no documentation related to it will be required. However, a clear booking system must be in place and be part of the administrative procedures.

3.2 Infrastructure

The training centre shall determine, provide and maintain the infrastructure needed to achieve conformity to The NI requirements. Infrastructure includes, as applicable:

- Buildings, workspaces and associated utilities.
- Process equipment (both hardware and software).
- Supporting services (such as transport, communication, health & safety).

1. Site plan
   Documented site plans shall be in place and displayed in a common area, showing the facilities and rooms available and emergency exits.

2. Risk assessment
   The centre should undertake a risk assessment of the facilities.

3.2.1 Health and safety

3. Ventilation
   1.1 Almost all DP equipment gives off heat, which can build up during the day and become quite oppressive for users, as well as being detrimental to the equipment.

   1.2 For this reason, the scheme requires that the temperature of the classrooms should be between 18-24°C, with humidity between 40% and 60%. An air conditioning unit or fan that is able to control temperature and humidity is required.

4. Lighting
   2.1 Lighting should be designed for the tasks that individuals are carrying out within that environment. Windows should be fitted with blinds to avoid glare for display screen users.

   Emergency lighting
   This is for when normal lighting fails and should be set up for escape routes so there would be effective evacuation of occupied buildings and to ensure particular activities continue. The emergency lights must be powered from a source independent of that supplying normal lighting.

   Emergency lighting must comply with local regulations and be tested and maintained periodically.

5. Noise
   Poor acoustic conditions in the classroom increase the strain on instructors' voices as most would find it difficult to compete with high noise levels. Noise can disrupt students' concentration and attention. Sound levels should be kept to a minimum and comply with local regulations. Where sound is over 85 decibels, sound insulation, reverberation and indoor noise levels control will be required.

6. Electrical safety

   - Sufficient electrical outlets should be available so that all equipment can be positioned and used safely.
   - The location of electrical equipment depends on the length of cables and the availability of sockets for telephones, TV aerials and power. The location of the equipment must not increase the risk of danger to the equipment or users. Regular visual checks of plugs, leads and other electrical equipment should be undertaken.
   - Good desk design should incorporate cable management and may be modular to allow flexible arrangement. Cables must be kept tight and as hidden as possible.

7. Fire warning systems and exits

   - A fire alarm is required for evacuation and emergency purposes. Before classes start students should be notified about possible tests and how and where to proceed in an emergency.
   - Gangways and emergency exits must be marked with proper signage and be kept clear/unobstructed at all times.
   - Appropriate firefighting and first aid equipment should be close to hand and clearly marked.

3.3 Classroom

A suitable classroom is required with desks or tables and adjustable chairs.

- As a rule of thumb, each student should be allocated a minimum of 2m2.
- Every classroom should have a clock on the wall for exercises and exams.
- Every classroom should have a white board and/or flip chart.

3.3.1 Visual aids

Charts with DP illustrations are required in the classroom and must be visible to students.

3.3.2 Technical equipment

- All DP centres should have the equipment required in the document NI DP Simulator/ equipment specification (Annex 5 & 6) for the courses they deliver.
- Additional rooms may be used if the class is split into groups or for the Simulator Course equipment.
- For the purpose of conducting the Simulator Course, the instructor should be in a separate room.
- The main teaching room should be provided with either a whiteboard or an alternative writing area, such as a flip chart or multimedia facilities.

3.3.3 Projection equipment

A minimum of 1,500 ANSI lumens is generally considered adequate for projection equipment in most classroom environments, except in the most extreme ambient lighting conditions. In bright daylight it is advisable to use window blinds rather than increase the brightness of the projector.

3.4 Furniture

3.4.1 Chairs and desks

- The furniture in the classroom must be comfortably positioned with easy access to all equipment.
- Classrooms are required to have chairs with adjustable seat heights and back positions. Students need to be able to sit at the recommended height with their eye level at the top of screens. For correct posture, the lower arms should be roughly horizontal when working, knees should fit comfortably under desks with thighs roughly horizontal and backs should be kept straight.
- Desks should have enough space on and around them for paper, books and other materials; space for more than one user at a time, and for the instructor to gain access.
- Centres therefore need to make purchasing decisions based on a clear understanding of the teaching methods in use, how their students interact with their environment, and what the furniture is expected to do.
- Desks and chairs shall be kept in good condition and have periodical maintenance with proper records kept.

3.4.2 Computers and workstations

The NI does not recommend using the same computers/workstations for the simulator and the assessment systems as this may affect the simulator system stability. Where centres prefer using the same computers for both training and assessment, the centre will be required to have a regular schedule of maintenance for the DP system. Evidence of this maintenance might be required.

- Monitors should tilt and swivel to suit the requirements of individual users.
- The top of the screen should be roughly at eye level.
- Screens should be positioned to reduce reflection and glare from lights and windows, using blinds where necessary and should be adjustable for brightness and contrast as the lighting changes throughout the day.
- Screens should be cleaned regularly.
- Users should have the option of using the keyboard flat or tilted.

For the assessment system, the minimum IT system requirements are:

- A Windows v7.0+ or Mac 10.10+ operating systems.
- Laptop / computer with 4GB of available memory.
- Intel Core i3 (or equivalent).
- Minimum candidate internet speed of 2 Mbps or higher.
- Recommended screen size of at least 13" and a resolution of 1024 x 768.
- RAM: 64 MB for 32-bit Windows XP/Server 2003, 128 MB for 64-bit Windows XP/Server 2003.

3.4.3 Computers and workstations for online assessment system

The following is required:

- One computer/workstation per student (1:1 ratio).
- Individual workstations for each student and there to be at least 1m between them.
- Workstations and computers must follow the health and safety requirements stipulated above.
- There must be internet connection for all computers.
- Using work devices means that certain VPNs or firewalls can block the app. Please disable these or obtain permissions from your work IT department where possible.
- Available memory can be checked in Windows Explorer by going to Your PC/C:Drive and checking the amount of storage still available listed underneath the C:Drive. The available memory there must be 4GB or greater in order to ensure the exam will load.

3.5 Domestics

Training centres are required to provide domestic facilities to students, such as toilets, a kitchen or access to refreshments.

3.5.1 Toilets

There should be adequate toilets that are routinely cleaned and maintained. Cleaning and maintenance should be recorded.

3.5.2 Kitchen and refreshments

It is recommended that the centre provides a kitchen or refreshment facility to students. Where there is a lack of space to provide a kitchen or refreshment facilities for students, it is recommended that external agreements are made with local shops.

A2 Accreditation administration requirements

1. General

- The centre shall have a licence document showing that it is legally eligible to operate as a training centre.
- If a training centre has a joint venture agreement and with a satellite centre or independent companies, The Nautical Institute (The NI) will need to view the agreement for analysis prior to the accreditation visit. No financial information is required by The NI.

Each centre must have a stamp with its name and logo to be used for stamping logbooks. DP centres that are in a joint venture must have the name and logo of both the centres on the one stamp. Centres that are operating as satellite centres must each have their own stamp. They are subject to the same accreditation procedures and processes defined by The NI for any training provider (see also Annex 3).

2. Course booking system

A booking system procedure should be clearly documented, demonstrating all the booking phases and feedback to students before commencing the course.

Training centres are required to ask for the Certificate of Competence (CoC) of their students before accepting them into the Induction Course and DP scheme. An electronic copy of the STCW CoC for each student shall be kept in files for audits.

An out-of-date Certificate of Competency (CoC) does not prevent students commencing the DP scheme. However, training centres should provide full guidance to these students as they may find difficulties in obtaining the sea service required by the scheme if they hold an invalid CoC.

The Certificate of Competence number should be noted and properly recorded by the centre in the student record as well as in the logbook provided to them.

The NI will require a copy of the Certificate of Competence when receiving their application to cross-check the information.

Officer trainees should present proof, such as a letter from the company employing them or their college, indicating that they are on STCW training before joining the Induction Course. They should be informed by the training centre that they are not eligible to record Phase D, DP sea time days until they hold a STCW Certificate of Competency. Any ineligible sea time claimed will not be counted towards their application.

Non-STCW students: The NI understands that the Induction Course is sought by many people who do not have a Certificate of Competence and are outside the scope of STCW. Training centres accredited by The NI will be authorised to accept them into the Induction Course under the following conditions:

- The Induction Course has to be delivered with a new title such as 'DP Awareness' or 'DP Familiarisation', rather than 'Induction Course' to avoid The NI creating confusion or implying similarity with the DP scheme.
- The certificate for this course (DP Awareness or DP Familiarisation) cannot have the logo of The NI on it.
- These students cannot obtain The NI DP logbook after the course.
- These students cannot do The NI online assessment after their DP Awareness or DP Familiarisation course as the assessment is only applicable for those who are part of The NI DP scheme.

These students will not be considered in any instance as part of The NI DP scheme. Therefore, they cannot apply for a NI DP Certificate. In case they decide to obtain the STCW Certificate of Competence in future, they will have to take the Induction Course stipulated by The NI as part of the DP scheme. They will have to start the DP training from the beginning and follow the training sequence set up in The NI Standard.

3. Process and procedures

3.1 Communication

Internal: Appropriate communication processes must be established within the centre to ensure timely and relevant exchange of information among instructors and between management and instructors.

External: The training centre is required to implement effective arrangements for communicating with students in relation to:

- Course information.
- Enquiries, contracts or order handling, including amendments.
- Customer feedback, including customer complaints.

General information to students must be properly documented and visible in a common area such as the reception or refreshments area. For this purpose, the centre is required to have a wall board where information can be visually and appropriately displayed. It is planned that information will also be available via an online resource.

4. Human resources

4.1. General

The training centre shall have an organogram, showing department and personnel structure and roles where applicable.

CVs of instructors including photo ID and records of any training, education, skills and experience shall be documented and maintained by the centre administration.

4.2. Competence

The centre shall have a system in place to:

- Determine the necessary competence for personnel performing the training.
- Provide training or take other actions to satisfy these needs.
- Evaluate the effectiveness of the actions taken.
- Ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality of the course.

4.3. Appraisals

The Centre shall put in place an appraisal system to assess staff skills and competence. Records of the implementation of this system shall be kept including actions taken for staff improvement.

5. Feedback systems

5.1. Customer focus

Top management shall ensure that customer requirements are determined and met with the aim of enhancing customer satisfaction.

5.2. Customer feedback system

Feedback forms are intended to assess the general quality of the course, its content, teaching method, instructors, facilities and infrastructure and the helpfulness/professionalism of staff. The feedback about instructors and related course information shall be used to inform their annual appraisal and/or to improve course and teaching.

5.3. Annual review

The centre shall establish management reviews, monitoring and customer feedback systems to ensure its continuing suitability, adequacy and effectiveness. These reviews shall be prepared annually and shall include assessing opportunities for improvement and the need for changes to the quality of the DP training scheme, including policies and objectives. They shall be made available to NI auditors at the time of their audit.

The review documents must include information on:

- Results of audits.
- Customer feedback.
- Process performance and equipment conformity.
- Status of preventive and corrective actions.
- Follow-up actions from previous management reviews.
- Changes that could affect the quality management system.
- Recommendations for improvement.

The outputs expected from the reviews include:

- Improvement of the effectiveness of the documentation and communication process.
- Improvement of pass marks from students.
- Reduction in customer complaints.

6. Complaints and appeals

The centre shall have documented processes and procedures in place to deal with complaints and appeals.

7. Documentation control

7.1 General

Company policies/staff handbook should be properly documented.

Procedures must be documented, showing effective planning, operation and control of its processes. All documents, forms, teaching material and slides must have versions and dates to be easily traceable and replaced when required. Documents such as attendance lists and exercises shall also have the name and signature of the instructor who is teaching the course.

7.2 Control of documents

7.2.1. NI documents/ circulars and official messages

All NI documents must be collected and available to staff at any time. The centre needs to be able to show that The NI requirements were put in place and applied in the training centre procedures.

7.2.2. Documented procedures shall be established to define the controls needed

- To approve documents prior to issue.
- To review and update as necessary and re-approve documents.
- To ensure that changes and the current revision status of documents are identified.
- To ensure that relevant versions of applicable documents are available at points of use.
- To ensure that documents remain legible and readily identifiable.
- To prevent the unintended use of obsolete documents and to apply suitable identification to them if they are to be retained for any purpose.

7.2.3. Control of records

Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Records shall remain legible, readily identifiable and retrievable. A documented procedure shall be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

Documents are required to be stored for the time determined by local regulations or at least for a period of three years from the date of The NI audit, whichever is longer.

8. Equipment maintenance records

The training centre is required to maintain the DP equipment and systems (hardware and software) periodically according to their manufacturers' guidance. The maintenance shall be periodically reviewed by a technician authorised by the simulator's manufacturer and documented accordingly. A copy of the maintenance contract and a record of the maintenance carried out must be available when the centre is audited.

9. Course cancelation policy

The training centre shall have documented procedures in place to deal with course cancelation.

A3 Accreditation of satellite centres

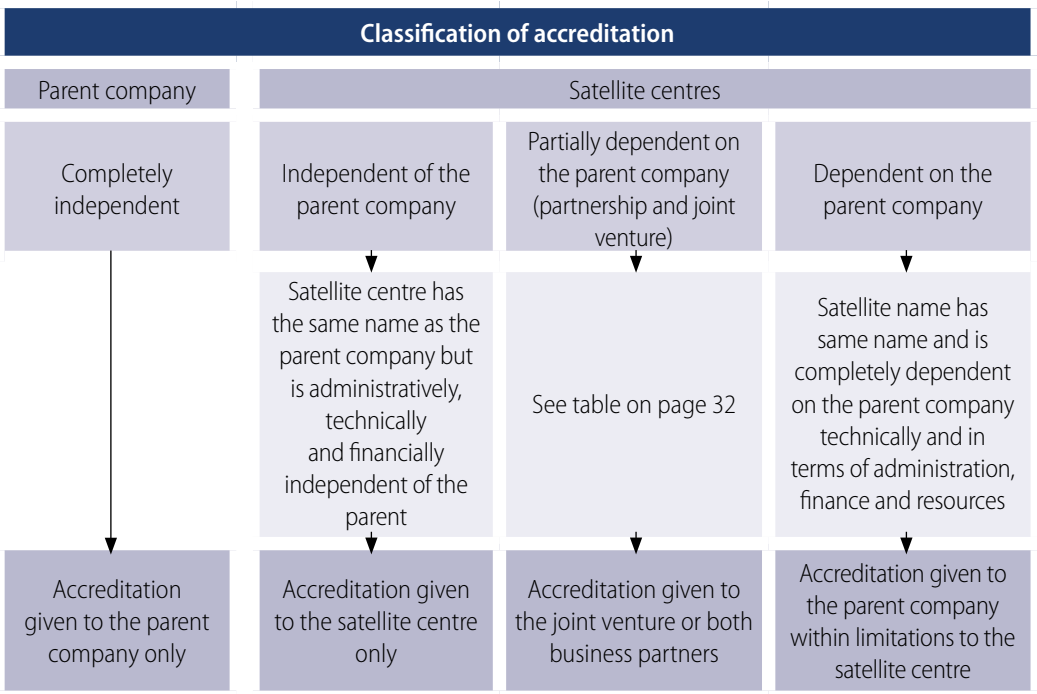
1. Accreditation of satellite centres

The Nautical Institute (The NI) recognises that DP training providers may extend their training provision to external training sites, utilising the facilities and equipment made available by a third party. Usually, through some mutual agreement, the facility provider and training provider arrange for a suite of DP equipment to enable the DP training provider to host courses at the venue on occasions agreed between the two parties. A DP training provider conducting courses in such a way is considered to be operating a 'satellite centre'**.** This centre is subject to the same accreditation procedures and processes defined by The NI for any training provider. This document details the situations in which a separate assessment is needed, and those in which the satellite centre is covered by the assessment of the parent centre.

2. Definition of a satellite centre

The NI defines a satellite centre as an organisation that conducts its own training and assessment under the supervision of a larger approved centre, where the activities are conducted at one or more owned facilities located away from the primary site, and where staff follow the same practices and procedures as those of the approved centre.

3. Classification of satellite centres



4. Factors considered in classifying a satellite centre

The NI may take the following factors into consideration before classifying the centre, subject to audit, as being unique and independent, partnership/joint-venture or a dependent satellite centre:

- Local educational regulations.
- Accountability and oversight of the business (liabilities and responsibilities).
- Personnel involved and their accountability.
- Administration and management for the centre's operations.

5. Independent and dependent satellite centres

- If the oversight, management, accountability and operation of the satellite training centre and the user activities in the satellite facilities are independent of the parent company, then the satellite centre is subject to a full site visit by the DP auditors. Accreditation is given in the name of the satellite centre only and the annual DPTEG fee charged to the satellite centre.
- If the oversight, management, accountability and operations of the satellite training centre facilities are dependent upon the parent company and use its programmes, eg they share administration, mission, personnel, budget, DP equipment and technical material, then they are considered part of the accreditable parent unit. The satellite centre must be visited by at least one technical DP auditor, and the fees will be added and charged to the parent company. If administrative materials and documents are kept in the parent company, the satellite centre must present evidence of the process to access and file these documents.

When the parent company is audited, it will be subject to inspection of all items related to any satellite centre that it may have. This means that the number of days needed to run the accreditation visit may increase from two to five days, depending on the number of satellite centres.

The annual DPTEG fee will be payable whether the centre is a parent centre or a satellite centre.

If the separate facilities are located some distance apart, or the oversight, management and operation of the satellite facilities are not integral to the primary unit, then the separate facilities may be considered as separate and unique accreditations. In this case, The Nautical Institute (The NI) will issue the accreditation to each centre individually.

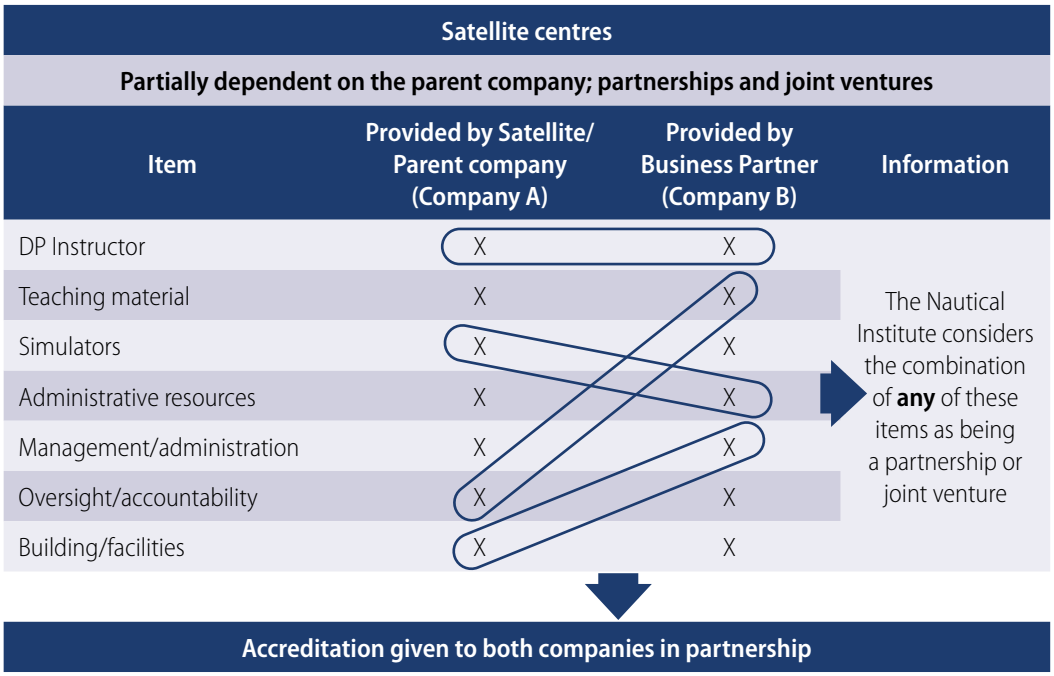
6. Joint ventures, partnerships and collaborations to operate a satellite centre

The NI defines a joint venture as an association or contractual business undertaking between two or more individuals or companies engaged in a solitary business enterprise for profit without actual partnership or incorporation.

A joint venture is similar to a business partnership, with one key difference: a partnership generally involves an ongoing, long-term business relationship (over 10 years), whereas a joint venture is based on a single business transaction lasting from six months to 10 years. Joint ventures may be distinct business units (a new business entity may be created for the joint venture) or collaborations between businesses.

If The NI has accredited a satellite centre as part of a joint venture, the accreditation is automatically withdrawn once the contract or agreement between the parties is terminated.

The annual DPTEG fee will be charged both to the joint venture-accredited satellite centre and the parent centre. The NI will consider issuing a partnership/joint venture accreditation when there is a combination of any of the items as illustrated below:



In the case of a partnership or joint venture, the accreditation will be given in the names of both companies. The NI will require:

- Stamp and Course Certificates in the name of both companies.
- Name and signature of instructors.
- Administrative procedures showing in detail the responsibilities of each company covering aspects such as registration/booking, feedback, complaint and appeal policies, annual performance indicators, control of documents and management review.
- Administrative staff who are aware of The NI's DP certification requirements and display the knowledge needed to advise prospective or current students. Evidence of compliance with course pre-requisites should be retained by the satellite centre, as should records of relevant policy and procedure covering this process. These records will be considered for audit during the re-accreditation period.
- The satellite centre must retain all copies of the documents issued for and to the DP courses for future audit or re-accreditation purposes.

Failure to comply with any NI accreditation policy will result in suspension and possible termination of the accreditation of the partnership/joint venture.

There are some conditions and implications concerning mutual business partnerships or joint venture agreements that may under certain circumstances compromise the standard set by The NI for accreditation. For example, if a facility upgrades its simulator station, the training provider must ensure that the upgraded specification meets or exceeds the minimum specification defined by The NI and that The NI is made aware of this upgrade before the change takes place.

The NI will therefore wish to ensure that the terms and conditions of the business partnership and/or joint venture agreement uphold as a minimum The NI accreditation requirements. In satisfying itself of this matter, The NI exercises no particular interest in any personal, financial or other type of sensitive data contained in such an agreement and accepts that this may be censored for commercial reasons.

A4 DP instructor requirements

1. DP instructor certificate

A DP Certificate is required to become a DP instructor. A new DP instructor requires a valid DP Unlimited Certificate.

2. Minimum experience

DP instructors must have a minimum of 365 sea time days onboard a DP vessel as a certified DPO or equivalent as determined by The Nautical Institute (The NI) before becoming a DP instructor.

Equivalence matrix for DP instructors

The following table outlines the equivalent requirements to become a DP instructor.

Sea time	365 sea time days onboard a DP vessel	
Shuttle Tanker	25 offshore loading operations & 12 months "signed-on"	20 offshore loading operations & 10 months "signed-on" & successful completion of the Revalidation Course
Sea time & Revalidation	365 sea time days onboard a DP vessel and successful completion of the Revalidation Course	

All instructors must hold an acceptable teaching certificate focusing on teaching and assessment methodology. As teaching certificate requirements vary depending on the jurisdiction, they are assessed by The NI on a case-by-case basis.

The Train the Trainer courses, IMO 6.09 or IMO 6.10, are accepted by The NI as a teaching certificate.

3. Training programme

All instructors must undertake a training programme and pass the assessment made by the training centre, following the table of competences to become a DP instructor. Training programme and table of competencies are described further in this document.

4. Full time DP team leader

The centres are allowed to have instructors on a rotation or on-call basis.

4.1 Centres that have instructors on a rotation or on-call basis, must have a full-time DP teaching team leader (or supervisor) who will be responsible for updating and reviewing the material annually.

4.2 The DP teaching team leader or supervisor must be full-time at the centre (or group in case of satellite centres) and be responsible for all other instructors and their continuing training development. He or she is responsible for the daily management of the DP training course and delivering, or supervising the delivery, of DP training at the facility.

5. Instructor on rotation

Training centres are allowed to use instructors from another centre; however, the instructors must be NI approved, meet the requirements and should have the above experience of the existing simulator at the centre.

6. Annual appraisals and meetings

All training centres must develop and put in place a proper annual appraisal (annual performance assessment) for instructors, which shall be recorded in writing.

6.1 The annual appraisal of all DP instructors must be done not only by the feedback form from students, but also by the teaching team leader. This appraisal should consist of watching the instructor during the lectures, noting instructor attendance at conferences or seminars, courses and training, competences or any other feature that shows continuous professional development. Appraisal can be done by third parties external to the centre who are able to assess the teaching methodology and instructor's skill.

6.2 Meetings should be held and documented twice a year with all the instructors to review the course performance, align instructors with course content and update them as to new standards and industry requirements. The minutes of such meetings will be required as evidence during The NI audits.

7. Grandfather clause for instructors

Training centres that have had their DP instructors approved before 2008 under the 'grandfather clause' will have their instructor's approval reviewed on a case-by-case basis. The NI may continue their approvals based on employment implications. However, the 'grandfather clause' has been removed from the current scheme.

8. Time for instructor training

DP instructor training must be completed within four years of the training commencement.

9. Informing the NI of training commencement

It is mandatory to inform The NI once a training centre commences training a new instructor. The NI is to be informed once the training programme is completed and an approval letter is to be requested. Training centres must ensure they train a person who also complies with all requirements to be an instructor as laid down in the current Accreditation Standard. The NI will reject any application if it does not fulfil all the requirements. For this reason, The NI recommends that training centres send the initial documentation about the new trainee instructor once he/she commences the training for initial document verification to reduce the risk of having any further rejection.

Note: Only the training instructor is authorised to sign The NI DP logbooks and certificates during the training programme.

10. New instructors or change of DP instructors

Training centres that do not report a change of instructor to The NI or use an instructor that has not been approved by The NI will have their accreditation cancelled, pending full audit. If a centre does not meet all the requirements for instructors, it may also have their accreditation cancelled, pending full audit.

11. Training programme for new instructors

11.1 The new trainee instructor must be a participant in the Induction and Simulator or DP Revalidation Courses for a period of one week each. These are attendance and revision courses. In addition, the trainee instructor is required to pass an online exam for both these courses. It is expected that they will study and revise (if necessary) the DP training manual before delivering any of the courses.

11.2 The new trainee instructor will thereafter participate in the delivery of an Induction Course as a co-instructor (under the supervision of an experienced training instructor) and a Simulator or DP Revalidation Course, (under the supervision of an experienced training instructor). Each course will be of one week's (5 days) duration.

11.3 The new trainee instructor must then be internally assessed by the training instructor for the four courses (two attendance courses and the two delivered as co-instructors), based on the table of competences and methodologies for those courses.

11.4 After the above assessments, the new trainee instructor shall deliver one Simulator or DP Revalidation Course independently, under the observation of the training instructor. This will be for one week and shall also be assessed by the training instructor.

11.5 The training instructor is considered a person who has been previously approved by The NI and has taught minimum eight courses, of which at least two would be Induction Courses and remaining six can be a mix of other accredited courses over a period of 18 months.

11.6 The training of the new trainee instructor shall be undertaken in the same simulator equipment installed at the training centre where the trainee instructor will eventually conduct courses.

11.7 The new trainee instructor shall be re-assessed by the training instructor and, if approved, the training centre must send the new trainee instructor's documents to The NI for approval.

The documents are:

- Copy of NI DP Certificate.
- Copy of instructor's CV.
- Copy of teaching certificate.
- Copy of NI DP logbook with evidence of the above minimum experience requirements from the date of NI DP Certificate issuance.
- Copy of the instructor's training programme properly dated and signed off by training centre/training DP instructor.

11.8 A written record of all the above training with dates that each phase is completed and signatures of training instructors who have overseen the trainee instructor should be kept on file. The records shall be sent to The NI for approval by completing the relevant training programme tables.

11.9 The NI will issue an approval letter subject to an interview with the instructor to test the knowledge on a case-by-case basis.

12. Instructor for new training centre

In the case of a new training centre that does not have a training instructor in place to deliver the training programme, two means of training new DP instructors are possible: the new trainee instructor may be sent to another NI accredited training centre to complete their training and to be assessed, following all the conditions/items above, or a new centre may hire an already NI approved DP instructor to come to the new centre and carry out the training programme above.

If the new trainee instructor has been already trained by another training centre, the new instructor will be required to provide evidence of the training programme taken in the previous centre. This shall be sent to The NI as evidence and for final approval. If the new trainee instructor cannot show evidence of being previously trained by another training centre, he/she will be required to undertake the training programme in the new centre.

13. Revalidating NI instructor approval

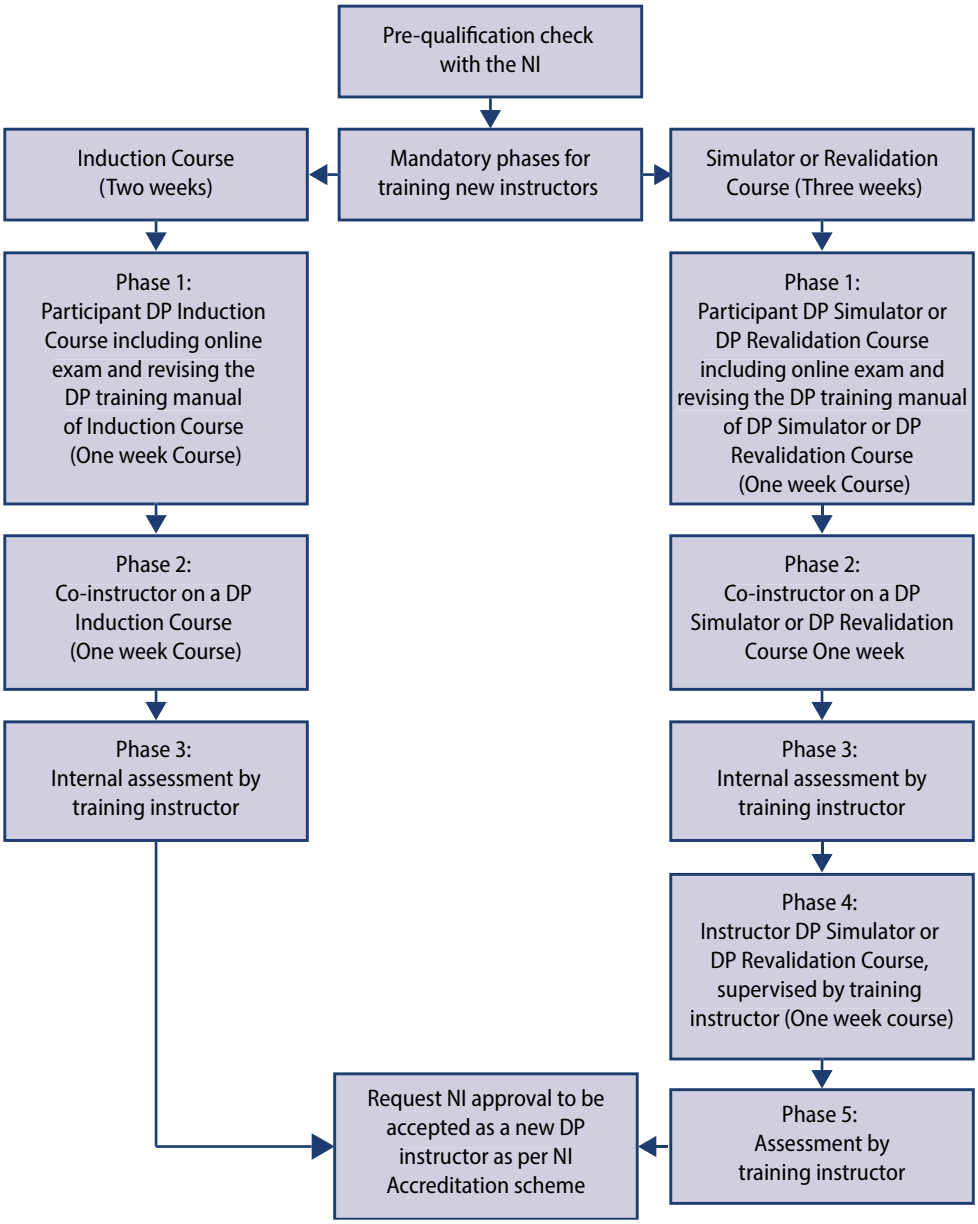
13.1 Instructor will undertake an interview with The Nautical Institute every three years, to test their knowledge of the current NI Standards. It is recommended to have an interview at the time of the reaccreditation audit; otherwise, it should be online.

13.2 The instructor must instruct a minimum of two NI courses yearly or complete a DP Revalidation course over the three-year instructor revalidation period to maintain the currency of instructor approval.-

13.3 An instructor who does not teach for more than two years must pass The NI online exam for both Induction and Simulator courses. Those failing to do so must repeat the instructor training programme.

Note: The Nautical Institute DP Instructor must have the highest knowledge of the DP Courses, NI Standards, and the latest industry best practices.

14. Training programme phases



Competency framework

No instructor should teach a DP course accredited by The NI until they have completed that course as a student. A new instructor should complete a particular DP course at least once to become familiar with the course content and the equipment used.

Subsequently, new instructors will deliver all elements of the shore-based courses under supervision. They should teach any element at least once under supervision. The rate at which new material is covered should be based on the instructor's competence, agreed with the supervising instructor/instructors.

Specification of minimum standard of competence for DP instructors

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
General			
Nautical Institute training scheme	1. Knowledge of NI DP training scheme. 2. Structure of scheme. 3. Knowledge of requirements and guidelines. 4. Knowledge of certification requirements.	Examination and assessment of evidence from approved training programme.	General understanding of NI training scheme.
Training centre procedures/quality management	Knowledge and understanding of individual training centres procedures and quality management systems.		Follows procedures and demonstrates general understanding of quality management procedures.
Training centre training materials/ documentation	1. Knowledge of centre training materials and documentation. 2. Ability to use training materials.		Competent delivery of training materials.
Training centre equipment	Ability to set up and operate centre equipment.		Sets up DP equipment. Operates and demonstrates use of equipment.
Induction Course			
DP principles	Ability to effectively communicate relevant course aims and objectives.	Observation of competent delivery.	Competent delivery of subject matter and training materials.
Elements of DP system	Ability to effectively communicate relevant course aims and objectives.		
Practical operation of DP system	Ability to effectively communicate relevant course aims and objectives.		
Position reference/ monitoring systems	Ability to effectively communicate relevant course aims and objectives.		

Environmental sensors	Ability to effectively communicate relevant course aims and objectives.		
Power generation and supply	Ability to effectively communicate relevant course aims and objectives.		
DP operations	Ability to effectively communicate relevant course aims and objectives.		
DP Simulator or DP Revalidation Course			
Delivery of additional theory and review materials	Ability to effectively communicate relevant course aims and objectives.	Observation of competent delivery.	Competent delivery of subject matter and training materials.
Equipment/simulator set up	Ability to set up and operate effectively centre equipment.		Sets up simulation scenarios.
Exercise set up/briefing	Transmits relevant information to students.		Communication is clear concise and acknowledged.
Delivery of exercise outcomes	1. Knowledge of planning, conduct and execution of DP operations. 2. Knowledge of common DP operational faults. 3. Knowledge of DP procedures. 4. Knowledge of various types of DP emergency.		Competent delivery/ facilitation of scenario exercises.
Debrief exercises	Transmits relevant information to students.		1. Identifies that exercise conforms with accepted procedures. 2. Effectively debriefs exercise.

Training programme and assessment table for new instructors

(To be recorded and sent to The NI)

Induction course – training programme table for new instructors
Name of Trainee Instructor:
Name of Training Instructor:
Name of Training Centre:

Phase 1	**Date from (dd/mm/yy)**	**Date to (dd/mm/yy)**	**Training Instructor Signature**
Trainee Instructor as participant in the Induction Course			

Phase 2	**Trainee instructor as co-instructor on a DP induction course**			
Competence	Knowledge, Understanding and Proficiency	dd/mm/yy	Signature	Remarks
General				
Nautical Institute training scheme	1. Knowledge of NI DP training scheme 2. Structure of scheme. 3. Knowledge of requirements and guidelines. 4. Knowledge of certification requirements.			
Training centre procedures / quality management	Knowledge and understanding of individual training centre's procedures and quality management system.			
Training centre training materials / documentation	1. Knowledge of centre training materials and documentation. 2. Ability to use training materials.			
Training centre equipment	Ability to set up and operate centre equipment.			

Induction course		dd/mm/yy	Signature	Remarks
DP Principals	Ability to effectively communicate relevant course aims and objectives.			
Elements of DP system	Ability to effectively communicate relevant course aims and objectives.			
Practical Operation of DP system	Ability to effectively communicate relevant course aims and objectives.			
Position reference/ monitoring systems	Ability to effectively communicate relevant course aims and objectives.			
Environmental sensors	Ability to effectively communicate relevant course aims and objectives.			
Power generation and supply	Ability to effectively communicate relevant course aims and objectives.			
DP Operations	Ability to effectively communicate relevant course aims and objectives.			

Phase 3
Internal assessments and comments of Phases 1 and 2 by training instructor
Date: Training instructor's signature:

Training programme and assessment table for new instructors

(To be recorded and sent to The NI)

DP Simulator or DP Revalidation course – training programme table for new instructors
Name of Trainee Instructor:
Name of Training Instructor:
Name of Training Centre:

Phase 1	Date from (dd/mm/yy)	Date to (dd/mm/yy)	Training Instructor Signature
Trainee Instructor as participant in the Simulator or Revalidation Course			

		Phase 2		Phase 4	
Competence	Knowledge, Understanding and Proficiency	Trainee instructor as Co Instructor on a DP Simulator or DP Revalidation Course (under supervision of Training Instructor)		Trainee instructor performing as Instructor on a DP Simulator or DP Revalidation Course (under observation of Training Instructor).	
		dd/mm/yy	Training Instructor signature	dd/mm/yy	Training Instructor signature
Delivery of additional theory and review materials	Ability to effectively communicate relevant course aims and objectives.				
Equipment/Simulator Set-Up	Ability to set up and operate effectively centre equipment.				
Exercise set up/ briefing	Transmits relevant information to students.				
Delivery of exercises outcomes	1. Knowledge of planning, conduct and execution of DP operations. 2. Knowledge of common DP operational faults. 3. Knowledge of DP procedures. 4. Knowledge of various types of DP emergency.				
Debrief exercises	Transmits relevant information to students.				

Phase 3
Internal assessment/comments of Phases 1 and 2 by training instructor
Date: Training instructor's signature:

Phase 5
Internal assessment/comments of Phase 4 by training instructor
Date: Training instructor's signature:

A5 NI DP simulator/equipment specifications

Simulator Class A		
Item	**NI Requirement**	**Link to Failure Mode Checklist or Course Content**
Table 1	**Physical realism:**	
101A	Equipment and consoles are to be installed, mounted and arranged in a ship-like manner.	
102A	The DP Simulator shall be installed, where necessary information sources, such as indicators, displays, alarm panels, control panels and communication systems are also installed.	
As a minimum the following DP related equipment shall be included in the simulator:		
103A	A DP Class 2 control system that simulates a system installed on at least one vessel certified by a class society. Emulated systems are not permitted.	
104A	A realistic human machine interface ("DP desk") is required. A set of 2-axis joystick and turn control knob (or 3-axis joystick) is mandatory.	Induction 74 except for realistic HMI & Simulation 2.5.
105A	Manual control; Single thruster levers and thruster indicators for each thruster or group of thrusters, available for user on the simulator.	
106A	Emergency stop controls for all thrusters located close to DP Simulator consoles. The emergency stop device does not need to be integrated to the simulator.	Failure Mode 1
107A	The thruster control mode, ie DP, manual, should be selectable by a simple device located close to DP Simulator consoles.	

108A	The DP2 system shall include the following operational modes: i) Manual Mode (joystick control of surge, sway & yaw). - Mixed Manual/Automatic Mode (automatic control of yaw with joystick control of surge & sway and automatic control of surge & sway with joystick/knob control of yaw). Automatic Mode (automatic control of surge, sway & yaw). Track Follow Mode (automatic control of surge, sway & yaw while following a predetermined track via waypoints). ii) Follow-Target Mode, where the vessel maintains position relative to a moving subsea target. DP systems where automatic control of surge & sway is selected jointly rather than independently, meet the requirements of this item.	Induction 78 & Simulation 1.1.
109A	The thruster arrangement shall meet DP equipment Class 2 requirements.	Failure Mode 11
110A	A DP power generation view showing status, load, power on buses, generators and bus ties (The view can be a presentation within the DP system.)	Simulator Course 1.2
111A	At least three independent position-reference systems with operator interface, based on different principles.	Failure Mode 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39. Note that as only DGNSS & HPR are absolute requirements (Item 117A), some failure modes for the reference systems may not be possible as the specification requires only a total of three references to be fitted.
112A	An electronic field chart system, or ECDIS/ ECS system adapted to represent realistic offshore structures, subsea pipe lines and related equipment.	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visual or both. Underwater layout should be in ECDIS.
113A	i) A DP status alert system ("traffic lights") for eg alerting dive control, drill floor or other locations, in four colours, or the colours used for specific operation guidelines: Green, White/Blue, Yellow and Red. ii) The lights do not need to be integrated in the simulator system, but clearly visible to the instructor during the exercise.	
114A	An alarm printer for DP or an electronic means of recording the same information.	

115A	Specification sheets for each own-ship for the purpose of planning DP operations. These are to include vessel dimensions, particulars related to installed power, thruster characteristics /power and information relating to any thruster modes that the vessel being simulated may have.	Simulator Course 2.2
116A	i) Vessel plans for the purpose of planning DP operations. (Plans need to at least show location of pre-programmed rotation points, reference system locations and thruster locations.) ii) Capability diagrams for each simulated vessel (These can either be on paper or generated electronically by the DP system.)	Simulation 2.1 & 2.2
As a minimum the following inputs to the DP system shall be simulated:		
117A	Three independent position-reference systems based on different principles, where one shall be a DGNSS, one shall be HPR and one should be taut wire. The other PRS may be adapted to the operation being simulated. (DGNSS, Differential Global Navigation Satellite System). ROV Follow in Item 108A, Item 607A and Item 608A make HPR a required reference system.	Failure Mode 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39. Note that as only DGNSS & HPR are absolute requirements, some failure modes for the reference systems may not be possible as the specification requires only a total of three references to be fitted.
118A	Three vertical reference sensors (VRS)	Failure Mode 21, 22
119A	Three heading sensors, eg gyro compasses	Failure Mode 17,18, 19, 20
120A	Two wind sensors. (New build simulators after 2020 require three wind sensors).	Failure Mode 12, 13, 14, 15, 16
121A	Manual draught input.	
122A	Thruster status and feedback.	Failure Mode 1, 2, 3, 4, 5, 6, 7, 8, 9. Simulator Course 3.4 (b)
123A	Generator load, generator circuit breakers and bus ties as per DP equipment Class 2	Failure Mode 40, 41, 42, 43, 44, 45, 46, 47. Simulator Course 2.2
As a minimum the following bridge-related equipment shall be included in the simulator:		
124A	i) A radio to simulate external and internal radio communications (according to the operation being simulated). ii) An internal communication system, e.g. a talk-back system to areas such as ROV control and telephone, to areas such as ECR (engine control room) and other areas of the vessel. iii) Multi-line phone system.	Simulation 2.7 but no requirement for multiple means of communication.
125A	At least one digital gyro repeater.	
126A	At least one radar/ARPA display/unit (automatic radar plotting aid) with the functionality of a type-approved system.	

127A	ECDIS (electronic chart display and information system) or ENC (electronic navigation chart). This item is in addition to an ECDIS/ENC that may be used to comply with Item 112A.	Simulator Course 2.2
128A	Water depth indicator (may be emulated).	
129A	Speed log repeater showing speed through the water and in addition speed and distance over ground (may be emulated)	
130A	At least one wind indicator showing wind direction and speed (may be emulated).	
131A	Sound panel or interface to issue navigational sounds according to the International Collision Regulation Rules (may be emulated).	
132A	Instrument for indication of navigational lights (may be emulated).	
133A	Control system for fire detection, fire alarm and lifeboat alarm (may be emulated).	
134A	AIS (automatic identification system) (may be emulated). AIS displayed on ECDIS or ECS is sufficient to meet this requirement.	
Table 2	**Behavioural realism:**	
201A	Position-reference systems should preferably be based on real equipment for the operator interface. Emulated systems may be accepted if similar interface, functionality and indications are present.	
202A	Monitoring of positioning reference systems on the DP system shall include realistic alarms for any typical fault or failure condition.	Failure Mode 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39. Simulator Course 1.2
203A	Position-reference systems shall provide new position data with a realistic refresh rate and accuracy.	
204A	Monitoring of sensors on the DP system, shall include realistic alarms for any typical fault or failure condition.	Failure Mode 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22. Simulator Course 2.12 and 3.2
205A	The dynamic positioning control systems shall perform a consequence analysis of the ability to maintain position after worst case failures. An alarm shall be initiated, at regular intervals, when a failure will cause loss of position in the prevailing weather conditions.	
206A	The simulation of own-ship shall be based on a mathematical model with six degrees of freedom.	This is based on DP principles.

207A	The model shall realistically simulate own ship hydrodynamics in open water conditions, including the effects of wind forces, wave forces, tidal stream and currents.	Linked to item 206A
208A	i) The simulator shall simulate the event of a contact/collision with other vessels/ structures with a clear indication that contact has occurred. ii) This need not be automatic. iii) Manual freezing of the visuals, by the instructor, is sufficient to meet this requirement.	
209A	The simulator/simulators of the training provider should have the possibility to simulate at least three DP operations, such as: i) Supply. ii) ROV survey. iii) Cable lay. iv) Pipe lay. v) Trenching. vi) Rock dumping. vii) Dive support. viii) Drilling. ix) Offshore loading operations and other offshore operations, where required, using the DP modes contained on 108A and the adequate thruster arrangement set, according to DP operation, ship model and DP class being simulated, as stated in 109A.	Failure Mode 10, 55
210A	The radar simulation equipment shall be capable of modelling weather, shadow sectors, spurious echoes and other propagation effects, and generate coastlines, navigational buoys and search and rescue transponders in addition to vessels and installations in the operational area (type-approved characteristics).	
211A	The electronic field chart or ECDIS/ECS adapted (Item 112A), shall include platforms and subsea equipment and present a real time update of vessel position and heading with an outline of the vessel to scale.	Failure Mode 24, 26 and Simulator Course 2.2. Operators have to know where objects are to determine fault. Possibly by ECDIS or visuals or both.
212A	The simulator shall provide an own-ship engine and thruster sound, reflecting the power output appropriate to vessel type.	
213A	The simulator shall be able to work either in geographic (latitude/longitude) or in UTM (universal transverse mercator) coordinates.	

Table 3	Operating environment:	
Target ships:		
301A	The simulator must display other appropriate fixed and moving targets.	
302A	i) The simulator must display at least two different installations. ii) The level of perception/details shall be sufficient to allow for realistic operations at close range. iii) When conducting night-time operations, platforms shall be illuminated.	
303A	The target ships shall be equipped with navigational lights, shapes and sound signals, according to the International Regulations for Preventing Collisions at Sea. Each ship should have an aspect recognisable at a distance of six nautical miles in clear weather. A ship under way shall provide relevant bow and stern wave.	
Outside view:		
304A	i) The simulator shall provide a realistic visual scenario by day, dusk or by night, including variable meteorological visibility, changing in time. ii) It shall be possible to create a range of visual conditions, from dense fog to clear.	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visuals or both.
305A	The visual system and/or a motion platform shall replicate movements of ships according to six degrees of freedom.	
306A	The visual system shall present all navigational marks according to charts used.	
307A	The visual system shall present the outside world by a view around the horizon (360 degrees by panning the view). The horizontal field of view may be obtained by a view of at least 210 degrees, where the rest of the horizon may be panned (to move the "camera"). In case the simulator is configured to fit a "rear view" only, a 180 degree of visualisation is acceptable.	
308A	Simulated sea state visualisation shall align with any changes in simulated weather.	
Outside sound:		
309A	The simulator shall be capable of providing environmental sound (eg wind) according to conditions simulated.	

Navigated waters/Environmental forces:		
310A	The navigated waters shall include a current pattern, changeable in time, according to the charts used. Tidal current shall be reflected. Manual current entry, by the instructor, is sufficient to meet this requirement.	Failure Mode 50, 51, 52
311A	The simulation shall include the depth according to charts used, reflecting water level according to tidal water situation.	Failure Mode 32
312A	The simulator shall provide waves, variable in direction, period and height.	Fai lure mode 50, 51, 52, 53, 54
313A	The simulator shall provide wind force, variable in direction and speed.	Failure Mode 50, 51, 52, 53, 54. Simulator Course 1.2
314A	Environmental forces, current, waves and wind, shall be possible to enter both as an immediate change, and with a change time. In addition, it shall be possible to back (counter-clockwise) or to veer (clockwise) the environmental forces.	Failure Mode 50, 51, 52, 53, 54. Simulator Course 1.2
Table 4	**Simulator control:**	
401A	The simulator shall include suitable instructor facilities where exercises are normally controlled. This facility shall be separated from where the students are conducting the exercise/operation.	
402A	i) The instructor shall, by any method, be able to monitor key parameters of the exercise for debriefing and analysis purposes. ii) If trends are not available, instructor shall provide means to capture key parameters.	
403A	The simulator shall include possibilities to set the exercise to any position in the playback and be able to continue the exercise from the set time. Note: When real equipment is interfaced, eg the DP system, it is accepted that the real equipment may not be able to jump in time and place without allowing time to reset data and build new model.	
As a minimum the following equipment shall be included in the simulator control:		
404A	DP computer facility for the instructor to monitor and control the operation of the simulator. (Including items in Tables 5 & 6).	To set student's simulator
405A	DP computer facility for instructor to monitor the DP system settings independently – to check DP settings used by the students.	To set student's simulator

406A	Slave monitors for each DP operator station in the bridge (Remotely Visualisation software through network may be accepted. Video splitters of the DP system monitors may also be used. Cameras would not be acceptable.) To be able to observe the students' use of the DP operator stations.	To set student's simulator
407A	Monitoring panel for thruster emergency-stop if not integrated automatically in the simulator, or means to clearly identify the command.	Failure Mode 1
408A	Monitoring panel for DP status alert switch (traffic light) or an indication of alert switch status by other means in the simulator control.	Linked to 113A where instructor will be able to see what action student has undertaken.
409A	Communication equipment as on the bridge (as per GMDSS Area 1). VHF DSC is required for new build simulators after January 2020.	Simulator Course 2.7
410A	Video and sound monitoring equipment. Where the simulator and simulator control are in adjoining rooms, one-way glass may be used in lieu of video monitoring equipment. (Hear and see students' reactions/discussions.)	
411A	The instructor must be able to monitor what the student can see on the outside view.	
Table 5	**Failure modes:**	
501A	The instructor shall be able to introduce faults for the DP system. Faults and their characteristics should be able to be defined in advance or introduced/changed while the simulation is running. Fault characteristics shall be appropriate for the system/device/operation being modelled.	Simulation 2.12, 3.2 and 3.4.
For the simulated signals (thrusters, generators, sensors, PRS etc.), the following failure modes shall be included in the simulator control and applied as appropriate:		
502A	Random noise, eg for PRS (position-reference system); jumps in metres in two axes (latitude and longitude).	Failure Mode 25,28,29,37. Simulator Course 3.4 (e)
503A	Drift, with drift speed and limit, eg for PRS; drift in two axes (latitude and longitude).	Failure Mode 17, 18. Simulator Course 3.4 (e)
504A	Apply offsets as appropriate.	Failure Mode 12, 13, 14, 15, 21, 30, 33
505A	Oscillation, with value and period.	If that is related to delay and interference, so it would be related to items 5, 6, 29 and 30 in the Failure Mode
506A	Freeze signal to existing value.	Failure Mode 6, 23. Simulator Course 3.4
507A	Loss of signal.	Failure Mode 16,19,20,22,24,25,26,27,28,31,34,36,39. Simulator Course 3.4 (c) (d)

508A	Thruster i) Fixed value, (feedback and set point). ii) Thruster runaway with setting in percent.	Simulator Course 1.2
Table 6	**Other simulator control functions:**	
Simulator control – Power management:		
601A	The simulator shall be able to start and stop individual generators.	Failure Mode 40, 41, 42, 43, 44, 45, 46, 47. Simulator Course 1.2
602A	The simulator shall be able to open/close generator circuit breakers and bus ties.	Failure Mode 40, 41, 45, 46. Simulator Course 1.2
603A	The simulator shall be able to define an unspecified load (eg drilling load) on individual power buses.	Simulator Course 1.2
Simulator control – External forces:		
604A	Where appropriate for the DP operation being simulated, the simulator shall be able to introduce external forces.	Failure Mode 56
Simulator control – Position-reference systems:		
605A	It shall be possible to enter transponder coordinates for any position reference system, (ie laser reflector, hydro-acoustic transponder, radar-based transponder).	
606A	The simulator shall be able to carry out hydro-acoustic position reference system operations.	
607A	It shall be possible to simulate mobile or fixed hydro-acoustic transponders, where appropriate for the intended DP operation. (Mobile transponder is required for ROV Follow specified in item 108A.)	Linked to 608A and Failure Mode 10
608A	The simulator control shall have a function to simulate an ROV or similar, by moving mobile hydro-acoustic transponder(s). The simulator shall be capable of simulating at least one mobile transponder at any given time. (Mobile transponder is required for ROV Follow specified in 108A.)	
Table 7	**Shuttle tanker specific requirements:**	
701A	If the simulator contains a shuttle tanker model, it shall be able to visually present at least three different loading facilities for offshore loading, where an FPSO (floating production, storage and off-loading vessel) in tandem loading shall be one of them. The behaviour of such model shall reflect realistically a tanker with the special view of manoeuvring during approach and loading.	
702A	For a shuttle tanker, one external force shall be integrated to a hawser tension sensor.	Failure Mode 56

703A	For a shuttle tanker in tandem loading, at least one absolute and one relative position-reference systems shall be simulated.	Failure Mode 38, 39
Simulator Class B		
Item	NI Requirement	Link to Failure Mode Checklist or Course Content
Table 1	**Physical realism:**	
101B	The DP simulator shall be installed where necessary information sources, such as indicators, displays, alarm panels, control panels and communication systems, are also installed.	
The following DP related equipment shall at least be included in the simulator		
102B	a) A DP Class 2 control system, from a manufacturer with a system installed on at least one vessel certified by a class society. OR b) Emulated systems that meet the requirements of this standard and resemble a real system fitted to a vessel.	
103B	A realistic human machine interface ("DP desk") is required. A set of two-axis joystick and turn control knob (or three-axis joystick) is mandatory.	Induction 74 except for realistic HMI & Simulation 2.5.
104B	Emergency stop controls for all thrusters located close to DP simulator consoles. The emergency stop device does not need to be integrated to the simulator.	Failure Mode 1

105B	The DP2 system shall include the following operational modes: i) Manual Mode (Joystick control of surge, sway & yaw). Mixed Manual/Automatic Mode (Automatic control of yaw with joystick control of surge & sway, and automatic control of surge & sway with joystick/knob control of yaw). Automatic Mode (automatic control of surge, sway & yaw). Track Follow Mode (automatic control of surge, sway & yaw while following a predetermined track via waypoints). ii) Follow-Target Mode (The vessel maintains position relative to a moving subsea target.) DP systems where automatic control of surge & sway is selected jointly rather than independently, meet the requirements of this item.	Induction 78 & Simulation 1.1.
106B	The thruster arrangement shall meet DP equipment Class 2 requirements.	Check the rest of the documents if azimuth is required
107B	A DP power generation view showing status, load, power on buses, generators and bus ties (The view can be a presentation within the DP system.)	Simulator Course 1.2
108B	An electronic field chart system or ECDIS/ ECS system adapted to represent realistic offshore structures and subsea piping and related equipment.	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visual or both.
109B	i) A DP status alert system ("traffic lights") for eg alerting dive control, drill floor or other locations, in four colours, or the colours used for specific operation guidelines: Green, White/Blue, Yellow and Red. ii) The lights do not need to be integrated in on the simulator system, but clearly visible to the instructor during the exercise.	
110B	An alarm printer for DP or an electronic means of recording the same Information	
111B	Specification sheets for each own ship for the purpose of planning DP operations. These are to include vessel dimensions, particulars related to installed power, thruster characteristics /power and information relating to any thruster modes that the vessel being simulated may have.	Simulator Course 2.2

112B	i) Vessel plans for the purpose of planning DP operations. (Plans need to at least show location of pre-programmed rotation points, reference system locations and thruster locations.) ii) Capability diagrams for each simulated vessel (These can either be on paper or generated electronically by the DP system.)	Simulation 2.1 & 2.2
As a minimum the following inputs to the DP system shall be simulated:		
113B	Three independent position-reference systems based on different principles, where one shall be a DGNSS and one shall be HPR. The other PRS may be adapted to the operation being simulated. (DGNSS, Differential Global Navigation Satellite System). ROV Follow in Item 105B, Item 607B and Item 608B make HPR a required reference system.	Failure Mode 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39. Note that as only DGNSS & HPR are absolute requirements, some failure modes for the reference systems may not be possible as the specification requires only a total of three references to be fitted
114B	Two roll and pitch vertical reference sensors (two-axis VRS) New build simulators after 2020 require three VRS.	Failure Mode 21, 22
115B	Three heading sensors, eg gyro compasses	Failure Mode 17,18, 19, 20
116B	Two wind sensors (New build simulators after 2020 require three wind sensors).	Failure Mode 12, 13, 14, 15, 16
117B	Manual draught input.	
118B	Thruster status and feedback.	Failure Mode 1, 2, 3, 4, 5, 6, 7, 8, 9. Simulator Course 3.4 (b)
119B	Generator load, generator circuit breakers and bus ties as per DP equipment class 2	Failure Mode 40, 41, 42, 43, 44, 45, 46, 47. Simulator Course 2.2
As a minimum the following bridge related equipment shall be included in the simulator:		
120B	i) A radio to simulate external and internal radio communications (according to the operation being simulated). AND ii) An internal communication system, eg a talk-back system linking areas such as ROV control and telephone, to areas such as ECR (engine control room) and other areas of the vessel. OR iii) Multi-line phone system.	Simulation 2.7 but no requirement for multiple means of communication.
Table 2	**Behavioural realism:**	
201B	Monitoring of positioning reference systems on the DP system shall include realistic alarms for any typical fault or failure condition.	Failure Mode 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39. Simulator Course 1.2
202B	Position-reference systems shall provide new position data with a realistic refresh rate and accuracy.	

203B	Monitoring of sensors on the DP system, shall include realistic alarms for any typical fault or failure condition.	Failure Mode 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22. Simulator Course 2.12 and 3.2
204B	The dynamic positioning control systems shall perform a consequence analysis of the ability to maintain position after worst case failures. An alarm shall be initiated, at regular intervals, when a failure will cause loss of position in the prevailing weather conditions.	
205B	The simulation of own ship shall be based on a mathematical model with six degrees of freedom.	
206B	The model shall realistically simulate own ship hydrodynamics in open water conditions, including the effects of wind forces, wave forces, tidal stream and currents.	Linked to item 205B, as above
207B	i) The simulator shall simulate the event of a contact/collision with other vessels/ structures with a clear indication that contact has occurred. ii) This need not be automatic. iii) Manual freezing of the visuals, by the instructor, is sufficient to meet this requirement.	
208B	The simulator/simulators of the training provider should have the possibility to simulate at least three DP operations, such as: i) Supply. ii) ROV survey. iii) Cable lay, pipe lay, trenching. iv) Rock dumping. v) Dive support. vi) Drilling. vii) Offshore loading operations and other offshore operations, where required, using the DP modes contained on 105B and the adequate thruster arrangement set, according to DP operation, ship model and DP class being simulated, as stated in 106B. Offshore loading operations and other offshore operations, where required, using the DP modes contained on 105B and the adequate thruster arrangement set, according to DP operation, ship model and DP class being simulated, as stated in 106B.	Failure Mode 10, 55

209B	The electronic field chart or ECDIS/ECS adapted (Item 108B), shall include platforms and subsea equipment and present a real time update of vessel position and heading with an outline of the vessel to scale.	
210B	The simulator shall be able to work either in geographic (latitude/longitude) or in UTM (universal transverse mercator) coordinates.	
Table 3	**Operating environment:**	
Target ships:		
301B	The simulator must display other appropriate fixed and moving targets.	
302B	i) The simulator must display at least two different installations. ii) The level of perception/details shall be sufficient to allow for realistic operations at close range. iii) When conducting night-time operations platforms shall be illuminated.	
303B	The target ships shall be equipped with navigational lights when conducting night time operations, according to the International Regulations for Preventing Collisions at Sea.	
Outside view:		
304B	i) The simulator shall provide a realistic visual scenario by day, dusk or by night, including variable meteorological visibility, changing in time. ii) It shall be possible to create a range of visual conditions, from dense fog to clear.	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visuals or both.
305B	A visual system is required to increase realism and learning outcome. A visual system shall have a horizontal field of view of a single visual channel. Horizontally, the visual system shall be able to be panned 360 degrees.	
306B	i) Simulated sea state visualisation shall align with any changes in simulated weather. ii) This need not be automatic. iii) Manual entry of sea state parameters, by the instructor, is sufficient to meet this requirement.	
Environmental conditions:		
307B	The navigated waters shall include a current pattern (speed and direction) that can be manually entered by the instructor.	Failure Mode 50, 51, 52

309B	The simulator shall provide waves, variable in direction, period and height.	Failure mode 50, 51, 52, 53, 54
310B	The simulator shall provide wind force, variable in direction and speed.	Failure Mode 50, 51, 52, 53, 54. Simulator Course 1.2
311B	Environmental forces, current, waves and wind, shall be possible to enter both as an immediate change, and with a change time. In addition, it shall be possible to back (counter-clockwise) or to veer (clockwise) the environmental forces.	Failure Mode 50, 51, 52, 53, 54. Simulator Course 1.2
Table 4	**Simulator control:**	
401B	The simulator shall include suitable instructor facilities where exercises are normally controlled. This facility shall be separated from where the students are conducting the exercise/operation.	
402B	i) The instructor shall, by any method, be able to monitor key parameters of the exercise for debriefing and analysis purposes. ii) If trends are not available, instructor shall provide means to capture key parameters.	
As a minimum the following equipment shall be included in the simulator control:		
403B	DP computer facility for the instructor to monitor and control the operation of the simulator. (Including items in Tables 5 & 6)	To set student's simulator
404B	DP computer facility for instructor to monitor the DP system settings independently – to check DP settings used by the students.	To set student's simulator
405B	Slave monitors for each DP operator station in the bridge (Remotely Visualisation software through network may be accepted. Video splitters of the DP system monitors may also be used. Cameras would not be acceptable.) To be able to observe the students' use of the DP operator stations.	To set student's simulator
406B	Monitoring panel for thruster emergency-stop if not integrated automatically in the simulator, or means to clearly identify the command.	Failure Mode 1
407B	Monitoring panel for DP status alert switch (traffic light) or an indication of alert switch status by other means in the simulator control.	Linked to 109B where instructor will be able to see what action student has undertaken.
408B	Video and sound monitoring equipment. Where the simulator & simulator control are in adjoining rooms, one-way glass may be used in lieu of video monitoring equipment. (Hear and see students' reactions/discussions.)	
409B	The instructor must be able to monitor what the student can see on the outside view.	

Table 5	Failure modes:	
501B	The instructor shall be able to introduce faults for the DP system. Faults and their characteristics should be able to be defined in advance or introduced/changed while the simulation is running. Fault characteristics shall be appropriate for the system/device/operation being modelled.	Simulation 2.12, 3.2 and 3.4.
For the simulated signals (thrusters, generators, sensors, PRS etc.), the following failure modes shall be included in the simulator control and applied as appropriate:		
502B	Random noise, eg for PRS (position-reference system); jumps in meters in two axes (latitude and longitude).	Failure Mode 25,28,29,37. Simulator Course 3.4 (e)
503B	Drift, with drift speed and limit, eg for PRS; drift in two axes (latitude and longitude).	Failure Mode 17, 18. Simulator Course 3.4 (e)
504B	Apply offsets as appropriate.	Failure Mode 12, 13, 14, 15, 21, 30, 33
505B	Oscillation, with value and period.	If that is related to delay and interference, so it would be related to items 5, 6, 29 and 30 in the Failure Mode
506B	Freeze signal to existing value.	Failure Mode 6, 23. Simulator Course 3.4
507B	Loss of signal.	Failure Mode 16,19,20,22,24,25,26,27,28,31,34,36,39. Simulator Course 3.4 (c) (d)
508B	Thruster i) Fixed value, (feedback and set point). ii) Thruster runaway with setting in percent.	Failure Mode 1, 2, 3, 5. Simulator Course 3.4 (a)
Table 6	**Other simulator control functions:**	
Simulator control – Power management:		
601B	The simulator shall be able to start and stop individual generators.	Failure Mode 40, 41, 42, 43, 44, 45, 46, 47. Simulator Course 1.2
602B	The simulator shall be able to open/close generator circuit breakers and bus ties.	Failure Mode 40, 41, 45, 46. Simulator Course 1.2
603B	The simulator shall be able to define an unspecified external load (eg drilling load) on individual power buses.	Simulator Course 1.2
Simulator control – External forces:		
604B	Where appropriate for the DP operation being simulated, the simulator shall be able to introduce external forces.	Failure Mode 56
Simulator control – External forces:		
605B	It shall be possible to enter transponder coordinates for any position reference system, (ie laser reflector, hydro-acoustic transponder, radar-based transponder).	

606B	The simulator shall be able to carry out hydro-acoustic position reference system operations.	
607B	It shall be possible to simulate mobile or fixed hydro-acoustic transponders, where appropriate for the intended DP operation. (Mobile transponder is required for ROV Follow specified in item 105B.)	Linked to 608B and Failure Mode 10
608B	The simulator control shall have a function to simulate an ROV or similar, by moving mobile hydro-acoustic transponder(s). The simulator shall be capable of simulating at least one mobile transponder at any given time. (Mobile transponder is required for ROV Follow specified in 105B.)	Failure Mode 10
Table 7	**Shuttle tanker specific requirements:**	
701B	If the simulator contains a shuttle tanker model, it shall be able to visually present at least three different loading facilities for offshore loading, where an FPSO (floating production, storage and off-loading vessel) in tandem loading shall be one of them. The behaviour of such model shall reflect realistically a tanker with the special view of manoeuvring during approach and loading.	
702B	For a shuttle tanker, one external force shall be integrated to a hawser tension sensor.	Failure Mode 56
703B	For a shuttle tanker in tandem loading, at least one absolute and one relative position-reference systems shall be simulated.	Failure Mode 38, 39
Simulator Class C		
Item	NI Requirement	Link to Failure Mode Checklist or Course Content
Table 1	**Physical realism:**	
The following DP related equipment shall be included in the simulator:		
101C	A DP Class 1 control system, from a manufacturer with a system installed on at least one vessel certified by a class society. (Emulated systems are permitted if they meet the requirements of this standard and resemble a real system fitted to a vessel.)	
102C	A realistic human machine interface ("DP desk") is required. A set of 2-axis joystick and turn control knob (or 3-axis joystick) is mandatory.	Induction 74 except for realistic HMI & Simulation 2.5.

103C	The DP system shall include the following operational modes: i) Manual Mode (joystick control of surge, sway & yaw). Mixed Manual/Automatic Mode (automatic control of yaw with joystick control of surge & sway and automatic control of surge & sway with joystick/knob control of yaw). Automatic Mode (automatic control of surge, sway & yaw). Track Follow Mode (automatic control of surge, sway & yaw while following a predetermined track via waypoints). ii) Follow-Target Mode, where the vessel maintains position relative to a moving subsea target. DP systems where automatic control of surge & sway is selected jointly rather than independently, meet the requirements of this item.	Induction 78
104C	The thruster arrangement shall meet DP equipment Class 2 requirements.	
105C	A DP power generation view showing status, load, power on buses, generators and bus ties (The view can be a presentation within the DP system.)	
The following inputs to the DP system shall be simulated:		
106C	Three independent position-reference systems, two based on different principles, where one shall be DGNSS and one shall be HPR. The other PRS may be adapted to the operation being simulated.	
107C	Two roll and pitch vertical reference sensors (2-axis VRS). New build simulators after 2020 require three VRS.	
108C	Three heading sensors, eg gyro compasses.	
109C	Two wind sensors. New build simulators after 2020 require three wind sensors.	
111C	Thruster status and feedback.	
112C	Generator load, generator circuit breakers and bus ties as per DP equipment Class 2.	
Table 2	**Behavioural realism:**	
201C	Monitoring of positioning reference systems on the DP system shall include realistic alarms for any typical fault or failure condition.	

202C	Position-reference systems shall provide new position data with a realistic refresh rate and accuracy.	
203C	Monitoring of sensors on the DP system, shall include realistic alarms for any typical fault or failure condition.	
204C	The simulation of own-ship shall be based on a mathematical model with six degrees of freedom.	This is based on DP principles.
205C	The model shall realistically simulate own-ship hydrodynamics in open water conditions, including the effects of wind forces, wave forces, tidal stream and currents.	Linked to item 204
Table 3	**Operating enviornment**	
Navigated waters/Environmental forces:		
301C	The simulator shall provide wind force, direction and speed.	
302C	The Class C (DP) simulator shall be able to set wind and current (direction and speed).	

Note: It is recommended that the training centres run their simulator equipment once a month if the simulators are laid off due to a long gap between the courses.

A6 NI DP simulator/equipment specifications shiphandling

Simulator Class S – For NI DP Emergency Shiphandling		
Item	**NI Requirement**	
	Below are the recommended changes to "A" Class simulator specifications for shiphandling	
	1. It is important that the ship handling simulator closely resembles a real OSV when manoeuvred manually using propulsion control levers. 2. Each thruster shall have the same effect as a real thruster, by moving the vessel around the pivot point. 3. The outside view from the operator's eye point shall be at least 180 degrees. 4. When the simulator does not have 360-degree FoV, then a manual switching arrangement shall be available for the operator to switch view from forward to aft and vice versa. 5. The outside view shall allow the operator to see the side of the vessel for berthing operations. This can be a camera view. 6. When more than two ship handling simulators are used for training, only one simulator is required to be fitted with a DP Class 2 control system. This may include realistic emulated systems.	
Table 1	**Physical realism:**	
101S	Equipment and consoles are to be installed, mounted, and arranged in a ship-like manner.	
102S	The DP Simulator shall be installed, where necessary information sources, such as indicators, displays, alarm panels, control panels and communication systems are also installed.	

As a minimum the following DP-related equipment shall be included in the simulator:		
103S	a) A DP Class 2 control system that simulates a system installed on at least one vessel certified by a class society. Need not be interface to visual system. b) Emulated systems that meet the requirements of this standard and resemble a real system fitted to a vessel.	If more than one ship handling simulator only one needs to be fitted with DP.
104S	A realistic human machine interface ("DP desk") is required. A set of 2-axisjoystick and turn control knob (or 3-axis joystick) is mandatory.	
105S	Manual control; single thruster levers and thruster indicators for each thruster or group of thrusters, available for user on the simulator. The minimum thruster arrangements are: Two azimuth drive aft and two bow thrusters OR Two bow tunnel thrusters, two stern tunnel thrusters, two main propellers and two rudders.	
106S	Emergency stop controls for all thrusters located close to DP simulator consoles. The emergency stop device does not need to be integrated to the simulator.	
107S	The thruster control mode, ie DP, Manual, should be selectable by a simple device located close to DP Simulator consoles.	
108S	The DP2 system shall include the following operational modes: i) Manual Mode (joystick control of surge, sway & yaw). Mixed Manual/Automatic Mode (automatic control of yaw with joystick control of surge & sway, and automatic control of surge & sway with joystick/knob control of yaw). Automatic Mode (automatic control of surge, sway & yaw). Track Follow Mode (automatic control of surge, sway & yaw while following a predetermined track via waypoints). ii) Follow-Target Mode, where the vessel maintains position relative to a moving subsea target. DP systems where automatic control of surge & sway is selected jointly rather than independently, meet the requirements of this item.	

109S	The thruster arrangement shall meet DP equipment Class 2 requirements.	
110S	A DP power generation view showing status, load, power on buses, generators and bus ties (The view can be a presentation within the DP system.)	
111S	At least three independent position-reference systems, based on different principles.	
112S	An electronic field chart system, or ECDIS/ ECS system adapted to represent realistic offshore structures, subsea piping and related equipment.	
113S	i) A DP status alert system ("traffic lights") for eg alerting dive control, drill floor or other locations, in four colours, or the colours used for specific operation guidelines: Green, White/Blue, Yellow and Red. ii) The lights do not need to be integrated in the simulator system, but clearly visible to the instructor during the exercise.	
114S	An alarm printer for DP or an electronic means of recording the same information.	
115S	Specification sheets for each own-ship for the purpose of planning DP operations. These are to include vessel dimensions, particulars related to installed power, thruster characteristics/power and information relating to any thruster modes that the vessel being simulated may have.	
116S	i) Vessel plans for the purpose of planning DP operations. (Plans need to at least show location of pre-programmed rotation points, reference system locations and thruster locations.) ii) Capability diagrams for each simulated vessel (These can either be on paper or generated electronically by the DP system.)	
As a minimum the following inputs to the DP system shall be simulated:		
117S	Two minimum vertical reference sensors (VRS).	
118S	Three heading sensors, eg gyro compasses.	
119S	Two minimum wind sensors.	
120S	Thruster status and feedback.	
121S	Generator load, generator circuit breakers and bus ties as per DP equipment Class 2	

As a minimum the following bridge related equipment shall be included in the simulator:		
122S	i) A radio to simulate external and internal radio communications (according to the operation being simulated). ii) An internal communication system, eg a talk-back system linking areas such as ROV control and telephone, to areas such as ECR (engine control room) and other areas of the vessel.	
123S	At least one digital gyro repeater	
124S	At least one radar.	
125S	Water depth indicator (may be emulated).	
126S	Speed log repeater showing speed through the water and speed and distance over ground (may be emulated).	
127S	At least one wind indicator showing wind direction and speed (may be emulated).	
Table 2	**Behavioural realism:**	
201S	Monitoring of positioning reference systems on the DP system shall include realistic alarms for any typical fault or failure condition.	
202S	Monitoring of sensors on the DP system, shall include realistic alarms for any typical fault or failure condition.	
203S	Monitoring of sensors on the DP system, shall include realistic alarms for any typical fault or failure condition.	
204S	The dynamic positioning control systems shall perform a consequence analysis of the ability to maintain position after worst case failures. An alarm shall be initiated, at regular intervals, when a failure will cause loss of position in the prevailing weather conditions.	
205S	The simulation of own ship shall be based on a mathematical model with six degrees of freedom.	
206S	The model shall realistically simulate own ship hydrodynamics in open water conditions, including the effects of wind forces, wave forces, tidal stream and currents.	
207S	i) The simulator shall simulate the event of a contact/collision with other vessels/ structures with a clear indication that contact has occurred. ii) This need not be automatic. iii) Manual freezing of the visuals, by the instructor, is sufficient to meet this requirement.	

208S	The simulator/simulators of the training provider should have the possibility to simulate at least three DP operations, such as: supply, ROV survey, cable lay, pipe lay, trenching, rock dumping, dive support, drilling, offshore loading operations and other offshore operations, where required, using the DP modes contained on 108S and the adequate thruster arrangement set, according to DP operation, ship model and DP class being simulated, as stated in 109S.	
209S	The electronic field chart or ECDIS/ECS adapted (Item 112S), shall include platforms and subsea equipment and present a real time update of vessel position and heading with an outline of the vessel to scale.	
210S	The simulator shall provide an own-ship engine and thruster sound, reflecting the power output appropriate to vessel type.	
211S	The simulator shall be able to work either in geographic (latitude/longitude) or in UTM (universal transverse mercator) coordinates.	
Table 3	**Operating environment:**	
Target ships:		
301	The simulator must display other appropriate fixed and moving targets.	
302S	i) The simulator must display at least two different installations. ii) The level of perception/details shall be sufficient to allow for realistic operations at close range. iii) When conducting night-time operations platforms shall be illuminated.	
303S	The target ships shall be equipped with navigational-lights, shapes and sound signals, according to the International Regulations for Preventing Collisions at Sea. Each ship should have an aspect recognisable at a distance of six nautical miles in clear weather. A ship under way shall provide relevant bow and stern wave.	
Outside view:		
304S	i) The simulator shall provide a realistic visual scenario by day, dusk or by night, including variable meteorological visibility, changing in time. ii) It shall be possible to create a range of visual conditions, from dense fog to clear.	

305S	The visual system and/or a motion platform shall replicate movements of ships according to six degrees of freedom.	
306S	The visual system shall present all navigational marks according to charts used.	
307S	The visual system shall present the outside world by a view around the horizon (360 degrees by panning the view). The horizontal field of view may be obtained by a view of at least 210 degrees, where the rest of the horizon may be panned (to move the "camera"). In case the simulator is configured to fit a "rear view" only, a 180 degree of visualisation is acceptable.	
308S	Simulated sea state visualisation shall align with any changes in simulated weather.	
Outside sound:		
309S	The simulator shall be capable of providing environmental sound (eg wind) according to conditions simulated.	
Navigated waters/Environmental forces:		
310S	The navigated waters shall include a current pattern, changeable in time, according to the charts used. Tidal current shall be reflected. Manual current entry, by the instructor, is sufficient to meet this requirement.	
311S	The simulation shall include the depth according to charts used, reflecting water level according to tidal water situation.	
312S	The simulator shall provide waves, variable in direction, period and height.	
313S	The simulator shall provide wind force, variable in direction and speed.	
314S	Environmental forces, current, waves and wind, shall be possible to enter both as an immediate change, and with a change time. In addition, it shall be possible to back (counter-clockwise) or to veer (clockwise) the environmental forces.	
Table 4	**Simulator control:**	
401S	The simulator shall include suitable instructor facilities where exercises are normally controlled. This facility shall be separated from where the students are conducting the exercise/operation.	

402S	i) The instructor shall, by any method, be able to monitor key parameters of the exercise for debriefing and analysis purposes. ii) If trends are not available, instructor shall provide means to capture key parameters.	
403S	The simulator shall include possibilities to set the exercise to any position in the playback and be able to continue the exercise from the set time. Note: When real equipment is interfaced, eg the DP system, it is accepted that the real equipment may not be able to jump in time and place without allowing time to reset data and build new model.	
As a minimum the following equipment shall be included in the simulator control:		
404S	DP computer facility for the instructor to monitor and control the operation of the simulator. (Including items in Tables 5 & 6)	
405S	DP computer facility for instructor to monitor the DP system settings independently – to check DP settings used by the students.	
406S	Slave monitors for each DP operator station in the bridge (Remotely Visualisation software through network may be accepted. Video splitters of the DP system monitors may also be used. Cameras would not be acceptable.) To be able to observe the students' use of the DP operator stations.	
407S	Monitoring panel for thruster emergency-stop if not integrated automatically in the simulator, or means to clearly identify the command.	
408S	Monitoring panel for DP status alert switch (traffic light) or an indication of alert switch status by other means in the simulator control.	
409S	Communication equipment as on the bridge.	
410S	Video and sound monitoring equipment. Where the simulator & simulator control are in adjoining rooms, one-way glass may be used in lieu of video monitoring equipment. (Hear and see students' reactions/discussions)	
411S	The instructor must be able to monitor what the student can see on the outside view.	
Table 5	**Failure modes:**	
501S	The instructor shall be able to introduce faults for the DP system. Faults and their characteristics should be able to be defined in advance or introduced/changed while the simulation is running. Fault characteristics shall be appropriate for the system/device/operation being modelled.	

For the simulated signals (thrusters, generators, sensors, PRS etc.), the following failure modes shall be included in the simulator control and applied as appropriate:		
502S	Random noise, eg for PRS (position-reference system); jumps in meters in two axes (latitude and longitude).	
503S	Drift, with drift speed and limit, eg for PRS; drift in two axes (latitude and longitude).	
504S	Apply offsets as appropriate.	
505S	Oscillation, with value and period.	
506S	Freeze signal to existing value.	
507S	Loss of signal.	
508S	Thruster i) Fixed value, (feedback and set point). ii) Thruster runaway with setting in percent.	
Table 6	**Other simulator control functions:**	
Simulator control – Power management:		
601S	The simulator shall be able to start and stop individual generators.	
602S	The simulator shall be able to open/close generator circuit breakers and bus ties.	
603S	The simulator shall be able to define an unspecified external load (eg drilling load) on individual power buses.	
Simulator control – External forces:		
604S	Where appropriate for the DP operation being simulated, the simulator shall be able to introduce external forces.	
Simulator control – Position-reference systems:		
605S	It shall be possible to enter transponder coordinates for any position reference system, (ie laser reflector, radar-based transponder).	

A7 The Nautical Institute travel expenses policy

1. The Nautical Institute expense policy

Within the constraints of The Nautical Institute's (The NI's) current financial resources, the Executive Board wishes to encourage the attendance of an international mix of training providers as part of The NI's governance and consultation processes.

Each of the three Regional Training Providers (RTPs) shall hold one online meeting annually. In addition, The Nautical Institute shall organise one global face-to-face meeting each year. As a condition of accreditation, each training centre shall attend the annual online meeting and shall send a representative to a global face-to-face meeting at least once every three years. Where a training centre is unable to send a representative, it may submit its concerns or responses through the Regional Representative/Coordinator.

Failure to send a representative to at least one global face-to-face meeting within any three-year period may result in withdrawal of accreditation.

The Nautical Institute may provide partial reimbursement of reasonable travel and accommodation expenses, including flights, local transport, and hotel costs, in accordance with NI policy.

Only training providers who attend the meeting are eligible to claim reimbursement for travel expenses once in two years. For the avoidance of doubt, training centres may not claim for travel in consecutive years. A maximum of GBP £1,400 (twelve hundred pounds) can be claimed upon production of receipts, subject to approval by The NI, which will not be unreasonably withheld. The £1,400 is a maximum, not an allowance, meaning training providers may only claim for actual expenditure. A training centre that wishes to attend every year may apply for up to £700 in funding but at no time more than £1,400 in any 24 months.

If training providers decide to send two or more attendees to the global meeting, only one attendance can be claimed for reimbursement.

The reimbursement basis for rail travel will be the price of a standard-class rail fare booked at least one week before the date of travel. Costs of travel to/from the home station may be claimed under this item.

The basis for air travel reimbursed by The NI shall be economy class, booked at least one month in advance, with discounts if normally obtainable. Costs of travel to/from airports may be claimed under this item. Training providers are encouraged to book travel early so as to minimise travel costs.

Hotel accommodation will normally be booked and paid for by The NI on the basis of bed & breakfast at a Premier Inn or equivalent for a maximum of two nights for a one-day meeting. Any extra days or services utilised at the hotel will be for the training provider's account. If the attendee wishes to arrange their own accommodation, The NI will only reimburse the costs against receipts up to the cost of the Premier Inn standard.

The policies and criteria above related to flight, hotel and transport also apply to the regional area representative who attends DPTEG meetings.

A8 Training provider annual report

1. Training provider annual report

As centres are not audited yearly, an annual report is required from all centres accredited by The Nautical Institute (The NI). The deadline for this is 31 January of each year. The report should include, as a minimum, the following:

A. Confirmations:
1. Date report filed with The NI.
2. Year for which report refers.
3. Centre name (in full, this should be the official registered name).
4. Details of any changes in facilities, such as classrooms, equipment and simulators.
5. Types of simulators currently in use.
6. Comments on any changes in administrative and/or commercial set-up.
7. Date of last attendance of applicable RTP meeting.
B. Details of changes:
8. Details of any changes to contact details, such as address, contact person and telephone number during the year.
C. Instructors and logbook signatories:
9. Current List of NI-approved instructors and instructors' CVs, with dates of approval letters.
10. Confirmation of current logbook signatories with names and signature samples (comment if any changes and provide the signatures and names if new additions are made).
D. Students, details of courses and results:
11. Full list of all accredited DP courses run for the year with student details and logbook numbers (1 January to 31 December). (This may be sent as an attachment in a tabulated format as shown on the subsequent page.)
12. Summary of feedback/evaluation from students for all accredited DP courses. (This may be sent as an attachment in a tabulated format.)
F. Remarks and comments:
13. Outline of future planned developments
14. Any comments for NI evaluation

In completing the report, all fields need to be filled in. Unchanged information is to be repeated and statements such as 'no change' or 'same as before' should be avoided.

2. List of DP courses with students' information

- Remarks (online/paper etc)
- Other remarks (1st attempt etc)
- DP certificate No.
- NI logbook no.
- Marks obtained (%)
- Date of examination
- Instructor's name
- Course duration (from/to)
- Mobile
- Email
- Nationality
- D.O.B.
- Name
- Type of course
- Customer number

3. CPD suppliers annual report

As CPD suppliers are not audited yearly, an annual report is required from all suppliers accredited by The Nautical Institute (The NI). The deadline for this is 31 January of each year. The report should include, as a minimum, the following:

A. Confirmations:
1. Date report filed with The NI.
2. Year for which report refers.
3. CPD supplier name (in full, this should be the official registered name).
4. Details of any changes in CPD programme.
5. Comments on any changes in administrative and/or commercial set-up.
B. Details of changes:
6. Details of any changes to contact details, such as address, contact person and telephone number during the year.
C. Subject Matter Experts (SMEs):
7. Current List of SMEs and SMEs' CVs
D. Students, details of CPD modules and results:
8. Full list of all CPD modules run for the year with student details (1 January to 31 December). (This may be sent as an attachment)
9. Summary of feedback from students for all accredited CPD modules. (This may be sent as an attachment in a tabulated format.)
F. Remarks and comments:
10. Outline of future planned developments
11. Any comments for NI evaluation

In completing the report, all fields need to be filled in. Unchanged information is to be repeated and statements such as 'no change' or 'same as before' should be avoided. Annex 8 – Training provider annual report

A9 Accreditation complaint/appeal procedure

1. Accreditation complaint/appeal procedure

General enquiries and correspondence related to the DP Accreditation Standard should be directed to The Nautical Institute (The NI) using the contact details below:

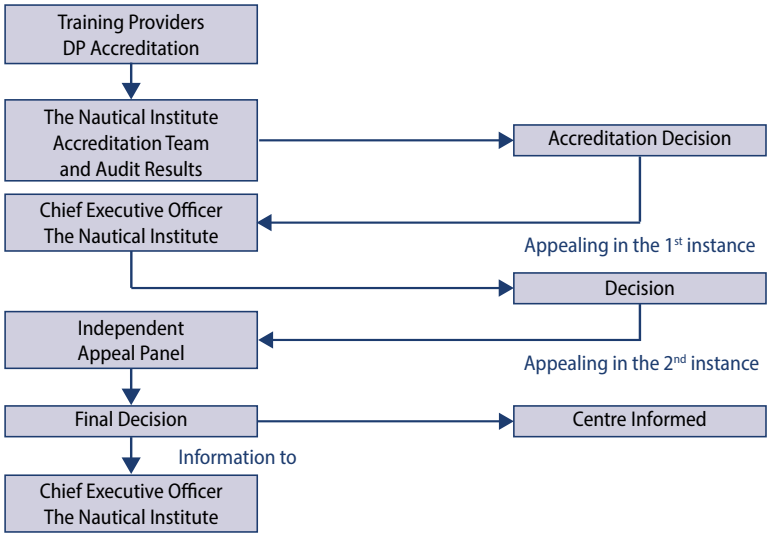
Qualifications Marine & Offshore Department
The Nautical Institute
200B Lambeth Road, London – SE1 7JY
United Kingdom

Email: accreditations@nautinst.org
Tel: +44 (0)20 7982 1351

Complaints and disputes related to the DP Accreditation Standard should be directed to The NI using john.lloyd@nautinst.org. Acknowledgements will normally be made within seven days and a response given within 50 days. Matters escalated beyond the Accreditation and Training Department will be dealt with in accordance with the governance structure depicted on the next page.

Decisions supported by the Independent Appeal Panel will, in all matters, be considered final. Training centres should make every effort to ensure that all points raised at the closing meeting of the audit are understood and any questions discussed and clarified. Any complaints or appeals raised as a result of the accreditation visit will be subject to a resolution procedure, which may entail a re-visit to the centre with three auditors and this cost will be borne by the training centre as per the accreditation agreement.

Accreditation appeal process



2. General instructions for the appeal processes

I. DPTEG Associations will provide up to five names, CVs and contact details from their members to The NI to compose the Appeal Panel list.
II. Where the Independent Appeal Panel is needed, The NI will select three names from the panel list, avoiding any obvious conflicts of interest. The NI will check their availability to work on the appeal case and enquire whether there are any conflicts of interest before sharing any detailed information on the case.
III. Once availability and suitability are confirmed, the independent persons will be required to sign a confidentially agreement with The NI to ensure that no data will be shared outside of the investigation and appeal process.
IV. Once the confidentiality agreement is signed, The NI will confirm the panel composition and share the documents of the case with panellists.
V. The panel will have 45 days from the sharing date of the documents to assess the case and provide the final report and final decision to The NI.
VI. The panel may meet physically or through electronic means, whichever is deemed most convenient by the members.
VII. The panel should agree on a Chairman from their number and delegate the taking of notes to a different panellist, who should also compile the final report.
VIII. Other administrative matters may be decided upon between the panellists.

A10 Dynamic positioning training executive group (DPTEG)

1. Guidance and procedure

1. Introduction

In order to ensure that The NI DP Operator training scheme continues to meet industry needs, the Dynamic Positioning Training Executive Group (DPTEG) was established to facilitate communication and input from a broad range of stakeholders. The group is a pan-industry forum of training providers, trade organisations and professional associations that have a remit or interest in DP training. Its role is to review and develop The NI DP Operator training scheme and to evaluate its effectiveness in providing the DP industry with competent DP operators.

It generally seeks to make decisions on a consensus basis and to recommend actions to improve the DP training scheme and maintain its high standards, although a majority voting system may be used to reach a decision. The Nautical Institute (The NI) provides the financial support to ensure the scheme's effective administration, including the costs of DPTEG.

DPTEG operates with the delegated authority of the Executive Board of The NI to take decisions on the standards within the scheme. The Executive Board reserves the right to refer such decisions back to DPTEG for reconsideration if there are concerns about the process or wisdom of a particular decision. The reasons for any such referral will be put to DPTEG in writing to be considered at its next meeting, whether scheduled or intersessional and whether physical or electronic. During the referral process, the decision may remain pending and will not be implemented by The NI. Ultimately, the Executive Board, having exhausted the referral process, may overturn a decision if it considers it would damage The NI materially.

2. Role of DPTEG

The remit of DPTEG is to determine the standards of training required to meet the competencies required by The NI DP Operator training scheme and to evaluate its effectiveness in providing the DP industry with competent DP operators. In so doing, DPTEG will provide advice on the management of the scheme. Developments within the DP industry will be considered in the context of changes within the maritime industry and regulatory environment as a whole. The day-to-day management of the scheme processes is the sole responsibility of The NI although the advice of DPTEG will be requested when considered necessary.

3. Composition of DPTEG

Changes to the membership may be made when and if considered appropriate on the basis of recommendations from DPTEG to The NI Executive Board whose decision shall be final. Prospective new members should apply to DPTEG through the Secretary and should include at least the following information:

- Membership and governance structure of the organisation.
- Involvement in DP operations.
- Knowledge and expertise being made available to DPTEG.

It is expected that one representative from each DPTEG member will attend each meeting in person or via electronic media. At the discretion of the Chairman, other relevant personnel may be invited to attend a meeting as observers and/or to make a presentation on a particular subject. These additional attendees will not be entitled to a vote and their attendance shall be funded by their representative organisation. RTP members of DPTEG are entitled to claim their travel, accommodation and subsistence expense for attending the meeting from The NI as per the claim policy in force at the time. Some of the costs of attending these meetings can be reimbursed as outlined in The NI travel expenses policy (Annex 7).

4. DPTEG administration and meetings

The Chairman of DPTEG will be a senior member of The NI with relevant experience who will be selected through The NI's governance process. They will be supported by The NI Head of Qualifications Marine & Offshore acting as the Secretary to DPTEG. The NI will be represented by a staff member, normally the Chief Executive Officer (CEO) who will be a voting member of DPTEG and they may be assisted by a DP Technical Advisor who shall be a member of The NI. The Secretary and DP Technical Advisor will be non-voting members of DPTEG.

Where consensus on a proposal cannot be reached, a vote of the members present, in person or electronically, or by proxy given prior to the meeting in writing by those absent will be taken on the basis of one member one vote. In the event of a tied vote, the Chairman may exercise a casting vote. The minutes shall record the result of such votes and shall indicate any members in disagreement with the decision.

The Secretary to DPTEG shall be responsible for the preparation of the agenda for each meeting in consultation with the Chairman and members. The agenda and supporting papers should be circulated to members at least two weeks in advance of the meeting. It is therefore important that members wishing to propose agenda items should contact the Secretary at least five weeks in advance of the meeting and supply any supporting papers at that time or by the circulation date of the agenda.

The Secretary shall be responsible for preparing the minutes of the meeting with action points, agreeing them with the Chairman, and circulating them to the members within a reasonable timescale (usually two weeks) after the meeting. The members of DPTEG will be invited to provide any amendments to, and their confirmation regarding the accuracy of, the minutes prior to their circulation to the industry. This process needs to be completed in a timely manner so members should respond to the Secretary within two weeks so that final circulation of the minutes can be achieved within six weeks. The Secretary shall update the Executive Board through The NI Chief Executive Officer (CEO) about decisions made and maintenance of the DP scheme.

DPTEG members will disseminate the appropriate information about the DP training scheme to their members. The NI is responsible to disseminate information about the training scheme.

DPTEG will normally meet twice a year. When necessary, electronic meetings shall be set up by the Secretary.

Administrative Comment

The Decision and Action list will be distributed to DPTEG members within five days of the meeting to allow progress on important matters prior to the formal review and approval of meeting minutes.

5. DPTEG fees

Training centres should pay annual DPTEG fees on time, which are generally generated in April/May of each year. Failure to deal with this compliance may result in the withdrawal of accreditation status.

6. DPTEG terms of reference

The scope of the review, development and evaluation of the scheme is set out below:

Accreditation standards for DP training providers

- Training course syllabus and content.
- Training delivery and methodologies.
- Training technologies including simulator specifications.
- Entry level requirements.
- Scheme learning outcomes.
- Assessment criteria and methods.

DP Operator training requirements

- DP Operator knowledge, understanding and proficiencies (KUP).
- DP Logbook content and procedures.
- Initial certification criteria.
- Certification upgrade/conversion criteria.
- Certificate revalidation criteria.
- Measures to guard against and combat fraudulent applications.

General

- Appeal processes and composition of list of potential appeal panellists.
- Quality assurance.
- Dissemination of relevant information on the scheme to members.
- Assessment of potential new members of DPTEG and recommendation to the Executive Board of The NI.
- Assist and support The NI to promote the scheme at DP conferences when necessary.

DPTEG will seek to facilitate the exchange of information and liaise regarding DP operator training with:

- Maritime administrations.
- Government bodies.
- Professional organisations and trade associations.
- Training providers.
- Individual companies.
- Individual DP operators.
- Classification societies and other training certifications schemes.

A11 Regional training provider groups (RTPS)

1. Regional training provider groups (RTPs) – guidance and procedures

1. Introduction

Regional Training Providers (RTPs) that form part of DPTEG. DPTEG and the RTPs generally seek to make decisions by consensus and to implement actions that enhance the DP training scheme and maintain its high standards; however, a majority voting system may be used where a consensus cannot be reached.

As a condition of accreditation, each training centre shall attend the annual online meeting and shall send a representative to a global face-to-face meeting at least once every three years. Where a training centre is unable to send a representative, it may submit its concerns or responses through the Regional Representative/Coordinator.

Failure to send a representative to at least one global face-to-face meeting within any three-year period may result in withdrawal of accreditation.

2. Role of RTPS

The remit of the RTPs is to assist in the review and development of The NI DP Operator training scheme with particular reference to the standard of training courses and the training tasks onboard. In so doing, the RTPs will provide advice on the content of the training scheme standards for training providers and certification of DPO trainees. The developments within the DP industry must be considered in the context of changes within the maritime industry and regulatory environment as a whole.

The scope of the review and development of the scheme is set out in the Terms of Reference and this may be changed and updated from time to time. Each of the RTP groups provides a representative, normally its Chairman, to the DPTEG meetings and operates a correspondence network. The RTP representative to DPTEG is a full member of DPTEG and is expected to engage in DPTEG discussion in the development of the scheme. Each group normally meets annually online to discuss issues relevant to the scheme, make proposals to DPTEG, and share best practice with other members of the group.

The day-to-day management of the scheme processes is the sole responsibility of The NI although the advice of DPTEG and the RTPs will be requested when considered necessary.

3. The composition of RTPS

The membership of each RTP will comprise a representative from each NI-accredited DP training provider in their geographic area.

A representative from each training centre should endeavour to attend all RTP meetings pertaining to their area.

At the discretion of the RTP Chairman (who will get approval from The NI), other relevant personnel may be invited to attend a RTP meeting as observers and/or to make a presentation on a particular subject. These additional attendees will not be entitled to a vote and their attendance shall be funded by their representative organisation. RTP members are entitled to claim their travel, accommodation and subsistence expense for attending the global meeting from The NI as per the claim policy in force at the time which is outlined in The NI travel expenses policy (Annex 7).

4. RTPS administration and meetings

The Chairman of the RTPs will be elected by the RTP members for a term of one year and may be re-elected. The maximum term of office is normally six years in total. In the event that there are no new volunteers to be elected, the RTP committee may elect to continue the exiting arrangements. Each RTP will also elect a Secretary for the group to assist the Chairman with the administration of the group by preparing and circulating the agenda and minutes of the meetings and managing the correspondence network. The Secretary will also be elected for a three-year term of office and may be re-elected to a second term of three years. Where no such appointment is possible, the Chairman will be responsible for appropriate arrangements.

Where consensus on a proposal cannot be reached a vote of the members present, in person or electronically, or by proxy given prior to the meeting in writing by those absent may be taken on the basis of one member one vote. In the event of a tied vote, the deciding vote will be cast by The NI. If The NI is not in attendance the issue would be passed on to The NI for deliberation after the meeting. The minutes shall record the result of such votes and shall indicate any members in disagreement with the decision.

The Secretary of the RTP shall be responsible for the preparation of the agenda for each meeting in consultation with the Chairman and members. The agenda and supporting papers should be circulated to members at least two weeks in advance of the meeting. It is therefore important that members wishing to propose agenda items should contact the Secretary at least three weeks in advance of the meeting and supply any supporting papers at that time or by the circulation date of the agenda.

The Secretary shall be responsible for preparing the minutes of the meeting with action points for further work and recommendations for DPTEG, agreeing them with the Chairman, and circulating them to the members within a reasonable timescale (usually two weeks) after the meeting. It is the Chairman's responsibility to ensure that the minutes and recommendations are passed in a timely manner to The NI for circulation to DPTEG.

RTP members are responsible for the dissemination of the appropriate information about the training scheme to their staff at the training institution. RTP Chairman is responsible for the dissemination of the appropriate information and clarifications about the training scheme and DPTEG decisions to the RTP members.

RTPs normally meet twice annually, with one meeting typically held electronically and the second face-to-face Global RTP. Additional online meetings may be held where necessary for the conduct of RTP business. Such decisions will normally be the responsibility of the regional representatives.

5. RTPS terms of reference

The remit of the RTPs is to assist in the review and development of The NI DP Operator training scheme with particular reference to the standard of training courses and the training tasks onboard. In so doing, the RTPs will provide advice on the content of the training scheme standards for training providers and certification of DPO trainees. Developments within the DP industry must be considered in the context of changes within the maritime industry and regulatory environment as a whole.

The scope of the review and development of the scheme is set out below:

Accreditation standards for DP training providers

- Training course syllabus and content.
- Training delivery and methodologies.
- Training technologies including simulator specifications.
- Entry level requirements.
- Scheme learning outcomes.
- Assessment criteria and methods.
- Appeal process.

DP Operator training requirements

- DP Operator knowledge, understanding & proficiencies (KUP).
- DP Logbook content and procedures.
- Initial certification criteria.
- Certification upgrade/conversion criteria.
- Certificate revalidation criteria.
- Measures to guard against and combat fraudulent applications.
- Appeal process.

General

- Quality Assurance.
- Dissemination of relevant information on the scheme to staff.

DPTEG, with the assistance of the RTPs, will seek to facilitate the exchange of information and liaise regarding DP Operator training with:

- Maritime administrations.
- Government bodies.
- Professional organisations and trade associations.
- Training providers.
- Individual companies.
- Individual DP operators.