THE NAUTICAL INSTITUTE CERTIFICATION AND ACCREDITATION STANDARD

VOL.2 - ACCREDITATION

DISCLAIMER

While every effort has been made to ensure that all the information in this document is updated and correct, The Nautical Institute cannot be held responsible for any loss, financial or otherwise, direct or indirect, resulting from use of this information. Likewise, The Nautical Institute cannot be held responsible for any damage to property, trainers or operators while following these guidelines. This information is produced in good faith, but we cannot guarantee the accuracy and/or completeness of the information which is produced for guidance purposes only.

© The Nautical Institute 2016
202 Lambeth Road, London, SE1 7LQ - United Kingdom
Tel: +44 (0) 207 928 1351 Fax: (0) 207 401 2817 www.nautinst.org www.nialexisplatform.org

TABLE OF CHANGES

Page	Subject	Original content v1.0 (January 2017)	New content v1 (February 2018)	
Both Volume 1 & 2 have been taken from the complete Nautical Institute Dynamic Positioning Accreditation and Certification Standard. The document has been split into the relevant information for training centres and for DPOs.				
17	Annex 1 – Training Centre Arrangements	Wording changed on length of time before audit that centres need to upload documentation. 'The NI requires centres to apply for accreditation at least 3 months before the date requested for assessment so that pre-assessment queries can be resolved and travel booked in advance.'	New wording '4 weeks for centres currently accredited, and 6 weeks for centres seeking accreditation for the first time',	
23	Annex 2 - Accreditation Administration Requirements	Wording replaced 'Trainee DPOs or Officer trainees who have started the DP scheme after 1 January 2012 and do not follow the conditions above will have their courses or training invalidated by the NI. '	New wording '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.'	

CONTENTS

SECTION 1 - PROCESS FOR ACCREDITATION	**1**
ANNEX 1 – TRAINING CENTRE ARRANGEMENT	**15**
ANNEX 2 – ACCREDITATION ADMINISTRATION REQUIREMENTS	**21**
ANNEX 3 – ACCREDITATION OF SATELLITE CENTRES	**27**
ANNEX 4 – DP INSTRUCTOR REQUIREMENTS	**33**
ANNEX 5 – NAUTICAL INSTITUTE DP SIMULATOR.EQUIPMENT SPECIFICATIONS	**45**
ANNEX 6 – FAILURE MODE CHECKLIST	**63**
ANNEX 7 – THE NAUTICAL INSTITUTE TRAVEL EXPENSES POLICY	**75**
ANNEX 8 – TRAINING PROVIDER ANNUAL REPORT	**79**
ANNEX 9 – ACCREDITATION COMPLAINT/APPEAL PROCEDURE	**83**
ANNEX 10 DYNAMIC POSITIONING TRAINING EXECUTIVE GROUP	**89**
ANNEX 11 – REGIONAL TRAINING PROVIDER GROUPS (RTPS)	**93**

SECTION 1 -

THE PROCESS FOR ACCREDITATION BY THE NAUTICAL INSTITUTE

THE PROCESS FOR ACCREDITATION BY THE NAUTICAL INSTITUTE

Accreditation is given for both the Induction Course and the Simulator Course together. When a training centre applies for accreditation it must submit all required materials for both courses.

INSTRUCTION MANUALS

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.

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 contain examples of DP incidents which have occurred as well as an overview of the NI DP Operator certification process and information/links to relevant industry websites (IADC, ICS, IMCA, ISOA, OCIMF, IDPOA and STATOIL).

Note: Instructor and student's manuals shall be marked with the date and version number as part of quality the management system and document control (Annex 4).

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.

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 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, your choice of training methods depends on what fits your centre including your centre's educational philosophy, classroom demographic and mission statement and the teaching skills of your instructors.

This will possibly require some research and thought on the part of your centre. By the nature of simulator based training with adults there are certain choices that have more or less been made for your centre. The training you provide will most likely be *student-centred*, using *inquiry-based* and *cooperative* learning to varying degrees.

However, the framework in which these activities are carried out is still open to you. Your centre may choose to base your training on the universally known *Bloom's Taxonomy*. Or you might decide that the *SOLO* or *Fink's* taxonomies suit your particular centre better.

The nature of simulator training lends itself to *formative assessment*, as the instructor must continually gauge student reaction to the exercises he/she has prepared in order to continuously adapt them to the performance levels of the students. If your centre uses formative assessment, how does the centre 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 your instructors should become familiar with the term *andragogy*.

Below you will find brief descriptions of these terms with links to references where appropriate. You will also find a list of recommended reading and references.

This information is not exhaustive; if there are learning taxonomies, training methods etc. that your centre wishes to use that are not mentioned here, that is perfectly fine. That is why we ask that you make a written statement of what they are. This serves not only to inform the NI auditors who visit the centre but is valuable for the instructors who work at the centre.

IMPORTANT TERMS

STUDENT-CENTERED LEARNING

While teachers are an authority figure in this model, teachers and 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.

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-centred* approach, in that students play an active and participatory role in their own learning process.

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-centred approach* because learners are placed in responsibility of their learning and development. This method focuses on the belief that students learn best when working with and learning from their peers.

BLOOM'S TAXONOMY

http://www.nwlink.com/~donclark/hrd/bloom.html explanation of Bloom's Taxonomy (also mentions SOLO Taxonomy) and provides links to reference materials

https://classic.icc.edu/innovation/PDFS/assessmentEvaluation/RevisedBloomsChart_bloomsverbsmatrix.pdf

Bloom's Taxonomy underpins the classical knowledge, attitude, skills structure of learning method and evaluation 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, i.e. knowledge, or 'think')
- Affective domain (feelings, emotions and behaviour, i.e. attitude, or 'feel')
- Psychomotor domain (manual and physical skills, i.e. skills, or 'do')

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 of *Bloom's Taxonomy* 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, lesson plans, etc. Effective learning should arguably cover all the 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.

SOLO TAXONOMY

http://www.johnbiggs.com.au/academic/solo-taxonomy/

The Structure of the Observed Learning Outcome or *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:

- Prestructural - the student has missed the point and does not have any understanding
- Unistructural - one or a few aspects of the task are focused upon
- Multistructural - several unrelated aspects are focused upon
- Relational - the aspects are integrated to achieve an understanding as a whole
- Extended abstract - finally 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 in designing the curriculum in terms of the learning outcomes intended, which is helpful in implementing constructive alignment. In constructive alignment, we start with the outcomes we intend students to learn, and align teaching and assessment to those outcomes. The outcome statements contain a learning activity, a verb, that students need to perform to best achieve the outcome, such as "apply expectancy-value theory of motivation", *or "*explain the concept of …" etc.

The verb conveys what the relevant learning activities are that the students need to undertake in order 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.

FINK'S TAXONOMY
http://www.wcu.edu/WebFiles/PDFs/facultycenter_SignificantLearning.pdf

This is an article by L. Dee Fink, the creator of the taxonomy

http://www.psychologicalscience.org/index.php/publications/observer/2011/september-11/using-finks-taxonomy-in-course-design.html

This is an article which explains how taxonomy was used to create a course.

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 wants their students to retain after the course is completed.

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, that focuses on the details of content and performance.

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 list of the characteristics of adult learners -
http://www.assetproject.info/learner_methodologies/before/characteristics.htm

Same website but this page provides teaching strategies that work with adult learners -
http://www.assetproject.info/learner_methodologies/during/strategies.htm

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 ISBN 978 1 906915 16 2. This is a small, 68 page volume that is packed with useful information.

- 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.

It is noted 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.

This article is available at:

http://www.nialexisplatform.org/accreditation/dynamic-positioning/training-centres-area/

EXAMPLE DOCUMENTS FROM TRAINING CENTRES

EXAMPLE A – MODEL FOR DESIGNING AND DELIVERING DP SIMULATOR TRAINING EXERCISES DEVELOPED BY ONE DP TRAINING CENTRE

Set up of a training scenario using a simulator

- Scenario objectives
- Required knowledge and skills level (pre-requisites)
- Start information (environmental, traffic factors, etc.)
- Training material necessary (paper charts etc.)
- Briefing consisting of two parts:
  - Scenario objectives (SMART)[1]
  - Feedback criteria (how do we measure the participant obtained the correct level)
- Theoretical explanation (clearing up questions, reminders)
- Definition of the starting conditions (course, heading, speed, engines running etc.)
- Definition of roles and responsibilities in the bridge team
- Task preparation
- Actual run; all events must be connected to a scenario objective (all other are just diverting attention from the real goals of the course)
- Debriefing part; consisting of two parts;
  - Feedback participant and/or peers on performance
  - Feedback of instructor, focusing on the scenario objectives, hand in hand with the competence checklist.

EXAMPLE B – 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, reduced visibility 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.

---

[1] **S**pecific – **M**easurable – **A**ssignable – **R**ealistic – **T**ime-related

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 the 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 he 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 instruction	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: 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:
500 M Checklist Completed:	500 M Checklist Completed:	500 M 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 – RECORDING STUDENT PERFORMANCE

DP ADVANCED COMPETENCE CHECKLIST NI Competence			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	Using vessel and other data 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	Organize DP watchkeeping procedures observing recognized 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 stabilize 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 to r 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 problem that have single or best answers.
Level 4: Integration (I) To separate information into their 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:

DP CLASSROOM REQUIREMENTS

FACILITIES

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.

INFRASTRUCTURE

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

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

SITE PLAN

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

HEALTHY AND SAFETY

VENTILATION

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.

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 which is able to control temperature and humidity is required.

LIGHTING

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.

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.

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.

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 fire-fighting and first aid equipment should be close to hand and clearly marked.

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 $2m^2$
- Every classroom should have a clock on the wall for exercises and exams
- Every classroom should have a white board and/or flip chart.

VISUAL AIDS

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

TECHNICAL EQUIPMENT

- All DP centres should have the requisite equipment required in the document NI DP Simulator/equipment specification (Annex 7) 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.

PROJECTION EQUIPMENT

A maximum of 1500 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.

FURNITURE

Chairs, 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 around 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
- The centre should undertake a risk assessment of the facilities.

COMPUTER 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:

- Internet Explorer 7
- 233 MHz processor
- Windows XP Service Pack 2
- RAM: 64 MB for 32-bit Windows XP/Server 2003, 128 MB for 64-bit Windows XP/Server 2003.

COMPUTERS AND WORKSTATIONS FOR ONLINE ASSESSMENT SYSTEM

The following is required:

- One computer/workstation per student (1:1 ratio)
- Individual workstations for each student or there to be at least 1 metre of distance between them
- Workstations and computers must follow the health and safety requirements stipulated above
- There must be internet connection for all computers.

DOMESTICS

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

TOILETS

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

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.

ANNEX 1

TRAINING CENTRE ARRANGEMENTS

TRAINING CENTRE ARRANGEMENTS

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.

THE NAUTICAL INSTITUTE SENDS STANDARD

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

ACCREDITATION REQUEST

A training provider wishing to seek NI accreditation can do so by contacting the NI's Accreditation department.

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 Knowledge fo Technical Staff; 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 and checklist should be signed and sent into the NI.

TIMING OF THE REQUEST

The NI requires centres to apply for accreditation at least 4 weeks for centres currently accredited, and 6 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.

ACCREDITATION AGREEMENT

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

SETTING AN AUDIT DATE

The NI and the training centre will agree 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.

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.

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.

DOCUMENTATION TO SUBMIT TO THE NAUTICAL INSTITUTE BEFORE THE AUDIT

Centres are to present the following documentation a minimum of 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
- Student handouts and materials and relevant exercises
- Students manual for the above
- 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 experience 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
- Example of the certificates to be issued by the centre
- Administration procedures to cover registration/booking, logbook control etc.
- Management review policy
- Performance appraisal policy for instructors
- Complaints policy
- Control of documents policy.

If the documentation is not received in a timely manner the NI may cancel the arranged audit, with the resulting loss (travel/accommodation costs/etc.) 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 instruction.

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 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.

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 prior to the audit, and
- 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 (logbook control, issuance of certificates of completion, control of documents etc.)
- 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.

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 will be required for centres seeking STR, Shuttle Tanker accreditations.

RESULTS OF ACCREDITITATION

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:
    - 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
    - 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.

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 their parent organisation
- Failure to notify the NI of significant changes to the management, training delivery or instructors
- Failure to attend a Regional Training Providers (RTP) meeting, where available, within a three-year period.
- 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.

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.

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.
- Other incidentals (meals, transport, visa fee)
- Administrative Overheads, 15% on daily rates (others, at actual).

Further details are provided in the accreditation agreement.

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.

SPOT AUDITS

The NI retains the right to visit any accredited training centre to carry out a spot audit for the purpose of maintenance of Accreditation standards. The cost for such a spot audit will be borne by the training centre.

BRIBERY ACT

The NI, being a charity registered in the UK, is subject to the latest existing 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.

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.

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.

ANNEX 2

ACCREDITATION ADMINISTRATION REQUIREMENTS

ACCREDITATION ADMINISTRATION REQUIREMENTS

GENERAL

- The centre shall have a licence document showing that it is legally eligible to operate as a training centre.
- Joint venture agreements between a training centre and satellite centres or two independent companies shall be required by The Nautical Institute (the NI) for analysis prior to the accreditation visit. No financial information is required by the NI.
- Each centre must have a stamp with that centre's 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.

COURSE BOOKING SYSTEM

There should be a booking system procedure 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 stop 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 (those who do not fit into the STCW regulation, such as Ballast Control Operator, Barge Supervisor or Offshore Managers and/or other non-Certificate of Competence qualified operators).

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' and not Induction Course as it states in the NI DP scheme; the NI asks centres not to use any name for the new course that might create confusion or similarity with the DP scheme. Example: DP Familiarisation.
- The certificate for this course (DP Awareness) 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 the DP Awareness 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.

PROCESS AND PROCEDURES

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 reception or kitchen facilities. For this purpose the centre is required to have a wall board where information can be visually and appropriately displayed.

HUMAN RESOURCES

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.

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

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.

FEEDBACK SYSTEM

CUSTOMER FOCUS

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

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 nurture his/her annual appraisal and/or to improve course and teaching.

ANNUAL REVIEW

The centre shall establish management reviews, monitoring and customer feedback systems to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality of the DP training scheme, including policies and objectives.

The review documents must include information on:

- Result 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

COMPLAINTS AND APPEALS

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

DOCUMENTATION CONTROL

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 version 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.

CONTROL OF DOCUMENTS

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.

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 retained for any purpose.

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 3 years from the date of the NI audit, whichever is longer.

EQUIPMENT MAINTENANCE RECORDS

The training centre is required to maintain the DP equipment and systems (hardware and software) periodically according to the manufacturer's guidance. The maintenance shall be periodically reviewed by an authorised technician 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.

ANNEX 3 -
ACCREDITATION OF SATELLITE CENTRES

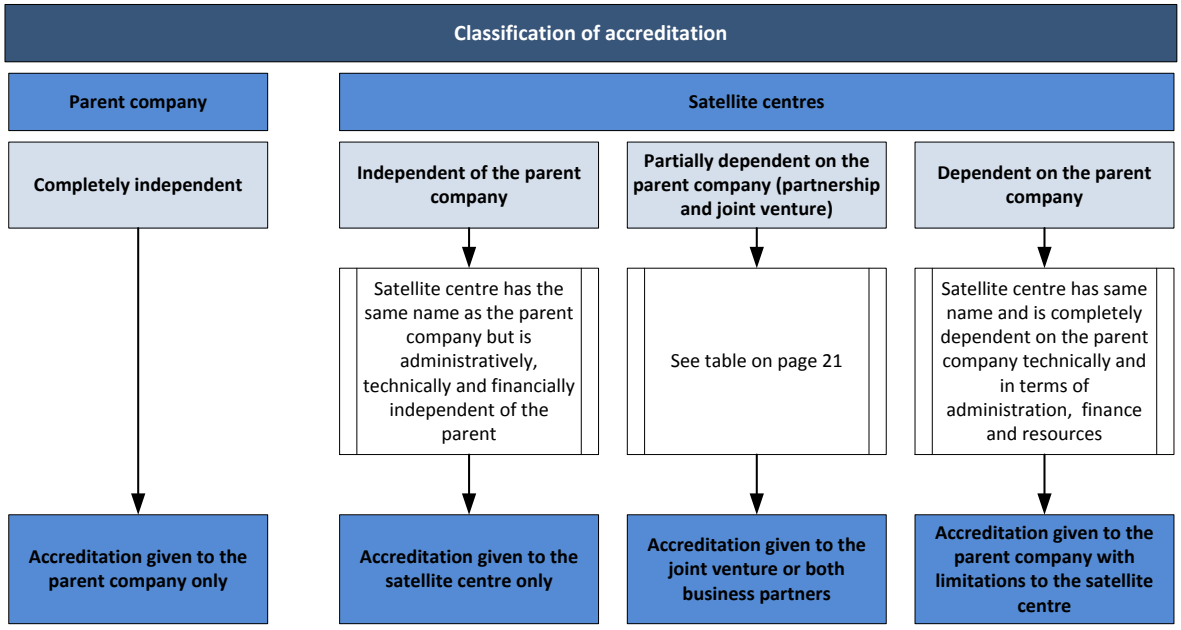
ACCREDITATION OF SATELLITE CENTRES

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.

DEFINITION OF A SATELLITE CENTRE

The NI defines a satellite centre as an organisation which 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.

CLASSIFICATION OF SATELLITE CENTRES



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.

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, e.g. 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 audit 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.

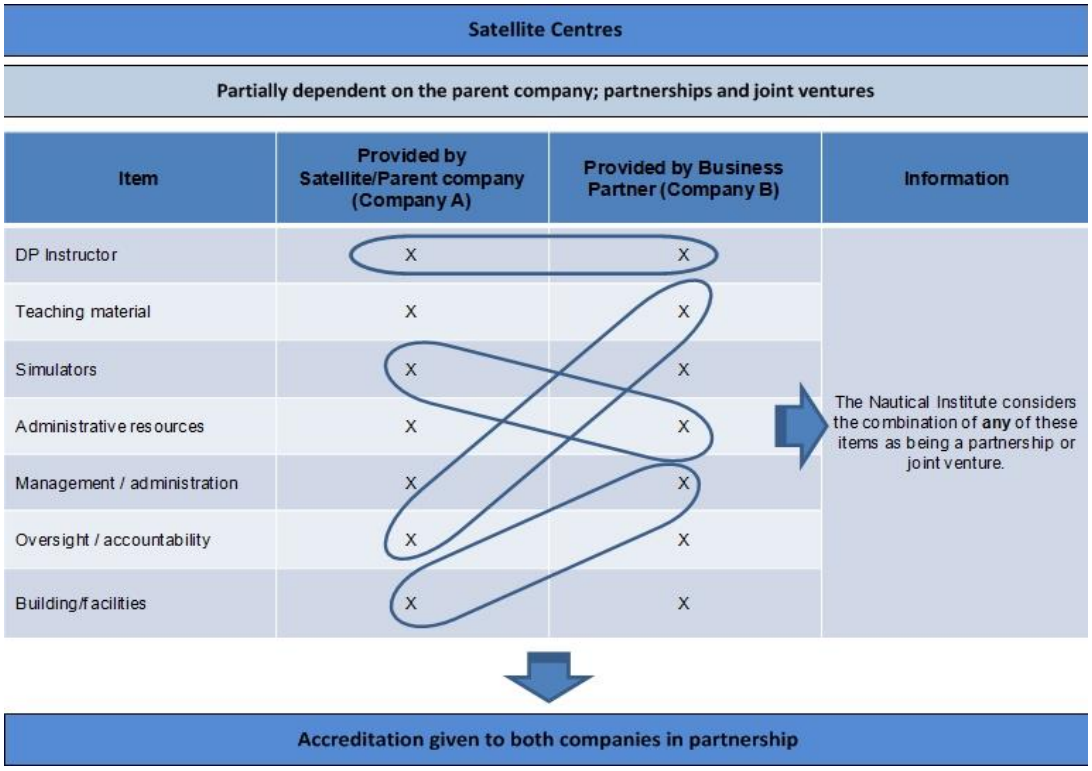
JOINT VENTURES, PARTNERSHIPS AND COLLABORATIONS TO OPERATE A SATELLITE CENTRE

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.

Joint ventures are 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 nine 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 has been terminated.

The annual DPTEG fee will be charged to the joint venture-accredited satellite centre as well as to the fee charged to the parent centre. The NI will consider issuing a partnership/joint venture accreditation when there is a combination of any of the items as example 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 registration/booking, feedback, complaint and appeal policies, annual performance indicators, control of documents, management review etc.

- Administrative staff that 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, which 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.

ANNEX 4

DP INSTRUCTOR REQUIREMENTS

DP INSTRUCTOR REQUIREMENTS

DP INSTRUCTOR CERTIFICATE

A DP Certificate is required to become a DP instructor. New DP instructors require a DP Unlimited Certificate but are not required to revalidate.

MINIMUM EXPERIENCE

DP instructors must have a minimum of 365 sea time days on board a DP vessel as a certified DPO or equivalent as determined by The Nautical Institute (the NI) before becoming a DP instructor. 150 of the 365 sea time days must be completed within the last five years.

Equivalence matrix for DP instructors

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

Sea time	365 sea time days on board 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	305 sea time days on board a DP vessel and successful completion of the Revalidation Course	

All instructors must hold an acceptable teaching certificate; the teaching certificate or qualification does not need to be the one that takes from one to two years to be completed. Rather, there are several courses in the market that deliver teaching courses within a few weeks. These courses shall focus on teaching methodology and assessment.

The **train the trainer of IMO 6.09** or **IMO 6.10** can be accepted by the NI as a teaching certificate.

- 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 competences are described further in this document.
- The centres are allowed to have instructors on a rotation or on-call basis.
    - Centres which 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.
    - The DP teaching team leader or supervisor must be full-time at the centre (or group in case of satellite centres) and also 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.
    - 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.

- Training centres are allowed to use instructors from another centre; however the instructors must be NI approved, meet the requirements based on the items 1, 2, 3 and 4 above and should have experience on the existing simulator at the centre.
- All training centres must develop and put in place a proper annual appraisal (annual performance assessment) for instructors, which shall be recorded in writing.
    - 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.

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.
- **Time for Instructor Training:**
- DP instructor training must be completed within four years of the training commencement.
- **Informing the NI of Training Commencement:**
- It is not 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 to send the initial documentation about the new trainee instructor once he/she commences the training for initial document verification. So the centre reduces 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.
- **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.

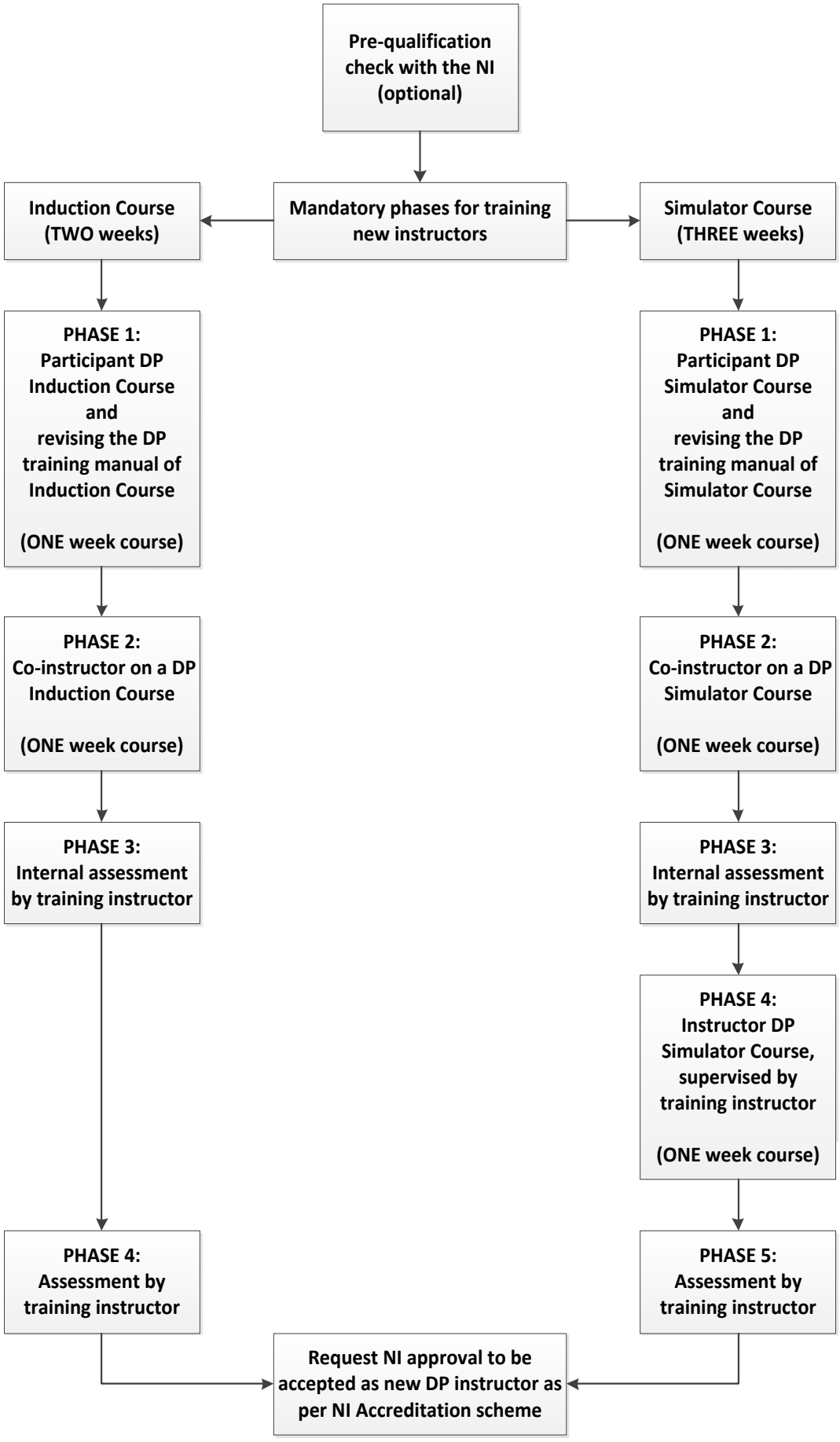
TRAINING PROGRAMME FOR NEW INSTRUCTORS:

- The new trainee instructor must be a participant in the Induction and Simulator Courses for a period of one week each. These are attendance and revision courses. It is expected that they will study and revise (if necessary) the DP training manual before delivering any of the courses.
- 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 Course, (under the supervision of an experienced *training instructor*). Each course will be of one week's duration.
- 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.
- After the above assessment, the new trainee instructor shall deliver one Simulator Course independently, under the observation of the *training instructor*. This will be for one week and shall also be assessed by the *training instructor*.
- The *training instructor* is considered a person who has been previously approved by the NI and has taught a minimum of four Induction Courses and four Simulator Courses within one year before being able to undertake the training of a new trainee instructor.
- 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.
- The new trainee instructor shall be re-assessed by the *training instructor* and if approved, then 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 each instructor's training programme properly dated and signed off by training centre/training DP instructor.
    - 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 in

a file. The records shall be sent to the NI for approval. Please see an example template on pages 48 and 50.

- In the case of a **new training centre**, which 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 the 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.

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 in order 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		

Simulator 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		Competent delivery/facilitation of scenario exercises

	3. Knowledge of DP procedures 4. Knowledge of various types of DP emergency		
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	TRAINEE INSTRUCTOR AS PARTICIPANT IN INDUCTION COURSE	dd/mm/yy	Instructors Signature	Remarks
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. 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 centres 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 Phase 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)

SIMULATOR 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 Course			

		PHASE 2		PHASE 4	
Competence	Knowledge, Understanding and Proficiency	Trainee instructor as Co Instructor on a DP Simulator Course (under supervision of Training Instructor)		Trainee instructor performing as Instructor on a DP Simulator 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				
	Knowledge of various types of DP emergency				
Debrief Exercises	Transmits relevant information to students				
PHASE 3					
Internal Assessment / Comments of Phase 1 and 2 by Training Instructor					
Date:	Training Instructor Signature:				

PHASE 5
Internal Assessment /Comments of Phase 4 by Training Instructor
Date: Training Instructor Signature:

ANNEX 5

NI DP SIMULATOR/EQUIPMENT SPECIFICATIONS

NI DP SIMULATOR/EQUIPMENT SPECIFICATIONS

Notes: This specification details the requirement for all simulators and should be read in conjunction with the notes below, any item that does not have the note "(Required by January 2020)" will be *recommended* for all simulators.

In January 2020, these items will become mandatory for all simulators.

Centres that are due for accreditation before 2020 must have the new simulator specification in place or will need to undergo a new re-accreditation audit again in 2020 after upgrading their existing simulator to meet the 2020 specifications.

Where it is not possible to upgrade a Centre's existing equipment to meet the January 2020 specifications, on a case by case basis, the NI may grant exemptions to January 2020 specification items for existing installations only.

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 control s 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, i.e. DP, Manual, should be selectable by a simple device located close to DP Simulator consoles.	
108A	The DP system shall include the following operational modes: - 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	Induction 78 & Simulation 1.1.

	waypoints) - Follow-Target Mode (e.g. ROV Follow where the vessel to maintains position relative to a moving target, usually an underwater vehicle) DP systems where automatic control of Surge & Sway is selected jointly rather than independently, meet the requirements of this item.	
109A	A minimum thruster arrangement set shall be made available, with at least the minimum below: - Tunnel thruster & azimuth thruster or main propulsion with rudder. Other thruster arrangements, that meet the same needs, are acceptable. The Thruster arrangement Set shall reflect Ship Model, DP Operation and DP system class, so Training Provider should have the stated above depending on the simulated Operation being carried out during the training. This requirement can be met by using multiple simulated vessels.	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 3 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 it. Paper plans can be used but cannot replace the Electronic Field Chart required above. The Field shall represent realistic offshore structures. (Required by January 2020.)	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visual or both.
113A	A DP status alert system (“traffic lights”) for e.g. alerting dive control or drill floor etc., in four colours, or the colours used for specific operation guidelines: Green, White/Blue, Yellow and Red. The lights may not be integrated on the simulator system, but clearly visible to the instructor during the exercise. (White/Blue light required by January 2020.)	
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 the vessel may have.)	Simulator Course 2.2
116A	Vessel plans for the purpose of planning DP operations. (Plans need to at least show location of pre-programmed rotation points, reference system locations	Simulation 2.1 & 2.2

	and thruster locations.) Also, Capability diagrams for each own ship. (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:		
117A	3 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 108A, Item 607A and Item 608A make HPR a required reference system. (HPR required by January 2020.)	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	3 independent vertical reference sensors (VRS) (Required by January 2020.)	Failure Mode 21, 22
119A	3 independent heading sensors , e.g. gyro compasses	Failure Mode 17,18, 19, 20
120A	2 independent wind sensors	Failure Mode 12, 13, 14, 15, 16
121A	1 draught sensor or 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	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	A radio to simulate external and Internal radio communications (according to the operation being simulated) - 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.	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. (Required by January 2020.)	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, in regular intervals, when a failure will cause loss of position in the prevailing weather conditions. User shall be able to activate and de-activate the consequence analysis.	
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	The simulator shall simulate the event of a contact/collision with other vessels/structures with a clear indication that contact has occurred. This need not be automatic. Manual freezing of the visuals, by the instructor, is sufficient to meet this requirement. (Required by January 2020.)	
209A	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	Failure Mode 10, 55

	108A and the adequate Thruster Arrangement Set, according to DP Operation, Ship Model and DP Class being simulated, as stated on 109A.	
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 target vessels.	
302A	The simulator must display at least 2 different installations of different types. The level of perception/details shall be high to allow for realistic operations at close range. The platforms should be illuminated at night.	
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 recognizable at a distance of six nautical miles in clear weather. A ship under way shall provide relevant bow and stern wave.	
Outside view:		
304A	The simulator shall provide a realistic visual scenario by day, dusk or by night, including variable meteorological visibility, changing in time. 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, is acceptable a 180 degree of visualization.	
308A	Simulated sea state visualization shall align with any changes in simulated weather. (Required by January 2020.)	
Outside sound:		
309A	The simulator shall be capable of providing environmental sound (e.g. 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	The instructor shall, by any method, be able to monitor key parameters of the exercise for debriefing and analysis purposes. 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, e.g. the DP system, it is accepted that the real equipment may not be able to jump in time and place without al lowing 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 Visualization 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). Here a VHF DSC is required. (Required by January 2020.)	Simulator Course 2.7
410A	Video and sound monitoring equipment. Where the simulator & simulator control are in adjoining rooms, 1 way glass may be used in lieu of video monitoring equipment. (Hear and see student's reactions /discussions)	
411A	Slave screen to monitor the horizontal field of view, preferably with a means to pan 360 degrees.	
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, e.g. for PRS (position-reference system); jumps in metres in two axis (latitude and longitude)	Failure Mode 25,28,29,37. Simulator Course 3.4 (e)
503A	Drift, with drift speed and limit, e.g. for PRS; drift in two axis (latitude and longitude)	Failure Mode 17, 18. Simulator Course 3.4 (e)
504A	Bias, 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	Stop of signal	Failure Mode 16,19,20,22,24,25,26,27,28,31,34,36,39. Simulator Course

		3.4 (c) (d)
508A	Fixed value, (feedback and set point), e.g. 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:		
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 unspecified external load (e.g. 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, specified per requirement, e.g.: Force, direction in degrees , setting for constant direction true or relative, point of attack (Surge and Sway).	Failure Mode 56
Simulator control - Position-reference systems:		
605A	Transponder coordinates for any position reference system, (i.e. laser reflector, hydro acoustic transponder, radar-based transponder), should be possible to enter either as an absolute coordinate or relative to the vessel.	
606A	Hydro acoustic systems shall be possible to be operated in LBL (Long Baseline) or SSBL (Super Short Baseline)/ USBL (Ultra Short Baseline) – as appropriate for the hydro acoustics system and operation being simulated.	
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 1 mobile transponder at any given time. (Mobile transponder is required for ROV Follow specified in 108A.)	Failure Mode 10
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 DP Class 2 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.)	
103B	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.
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 DP system shall include the following operational modes: - 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) - Follow-Target Mode (e.g. ROV Follow where the vessel to maintains position relative to a moving target, usually an underwater vehicle) 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	A minimum thruster arrangement set shall be made available, with at least the minimum below: - Tunnel thruster & azimuth thruster or main propulsion with rudder. Other thruster arrangements, that meet the same needs, are acceptable. The Thruster arrangement Set shall reflect Ship Model, DP Operation and DP system class, so Training Provider should have the stated above depending on the simulated Operation being carried out during the training.	Failure Mode 11

	This requirement can be met by using multiple simulated vessels.	
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 it. Paper plans can be used but cannot replace the Electronic Field Chart required above. The Field shall represent realistic offshore structures. (Required by January 2020.)	Failure Mode 24, 26. Operators have to know where objects are to determine fault. Possibly by ECDIS or visual or both.
109B	A DP status alert system ("traffic lights") for e.g. alerting dive control or drill floor etc., in four colours, or the colours used for specific operation guidelines: Green, White/Blue, Yellow and Red. The lights may not be integrated on the simulator system, but clearly visible to the instructor during the exercise. (White/Blue light required by January 2020.)	
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 the vessel may have.)	Simulator Course 2.2
112B	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.) Also, Capability diagrams for each own ship. (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	3 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. (HPR required by January 2020.)	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	3 independent vertical reference sensors (VRS) (Required by January 2020.)	Failure Mode 21, 22
115B	3 independent heading sensors , e.g. gyro compasses	Failure Mode 17,18, 19, 20
116B	2 independent wind sensors	Failure Mode 12, 13, 14, 15, 16
117B	1 draught sensor or 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	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	A radio to simulate external and Internal radio communications (according to the operation being simulated) - 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.	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, in regular intervals, when a failure will cause loss of position in the prevailing weather conditions. User shall be able to activate and de-activate the consequence analysis.	
205B	The simulation of own ship shall be based on a mathematical model with 6 degrees of freedom.	This is based on DP principles.
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
207B	The simulator shall simulate the event of a contact/collision with other vessels/structures with a clear indication that contact has occurred. This need not be automatic. Manual freezing of the visuals, by the instructor, is sufficient to meet this requirement. (Required by January 2020.)	
208B	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 105B and the adequate Thruster Arrangement Set, according to DP Operation, Ship Model and DP Class being simulated, as stated on 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 target vessels.	
302B	The simulator must display at least 2 different installations of different types. The level of perception/details shall be high to allow for realistic operations at close range. The platforms should be illuminated at night. (ITEM RECOMMENDED)	
303B	The target ships shall be equipped with navigational-lights, according to the International Regulations for Preventing Collisions at Sea. (ITEM RECOMMENDED)	
Outside view:		
304B	The simulator shall provide a realistic visual scenario by day, dusk or by night, including variable meteorological visibility, changing in time. 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	For Class B, a visual system is required to increase realism and learning outcome. A visual system for Class B shall have a horizontal field of view of a single visual channel. Horizontally, the visual system for Class B shall be able to be panned 360 degrees.	
306B	Simulated sea state visualization shall align with any changes in simulated weather. This need not be automatic. Manual entry of sea state parameters, by the instructor, is sufficient to meet this requirement. (Required by January 2020.)	
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	The instructor shall, by any method, be able to monitor key parameters of the exercise for debriefing and analysis purposes. 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 Visualization 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, 1 way glass may be used in lieu of video monitoring equipment. (Hear and see student's reactions/discussions)	
409B	Slave screen to monitor the horizontal field of view, preferably with a means to pan 360 degrees.	
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, e.g. for PRS (position-reference system); jumps in metres in two axis (latitude and longitude)	Failure Mode 25,28,29,37. Simulator Course 3.4 (e)
503B	Drift, with drift speed and limit, e.g. for PRS; drift in two axis (latitude and longitude)	Failure Mode 17, 18. Simulator Course 3.4 (e)

504B	Bias, 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	Stop of signal	Failure Mode 16,19,20,22,24,25,26,27,28,31,34,36,39. Simulator Course 3.4 (c) (d)
508B	Fixed value, (feedback and set point), e.g. 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 unspecified external load (e.g. 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, specified per requirement, e.g.: Force, direction in degrees , setting for constant direction true or relative, point of attack (Surge and Sway).	Failure Mode 56
Simulator control - Position-reference systems:		
605B	Transponder coordinates for any position reference system, (i.e. laser reflector, hydro acoustic transponder, radar-based transponder), should be possible to enter either as an absolute coordinate or relative to the vessel. (ITEM RECOMMENDED)	
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 1 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: - 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) - Follow-Target Mode (e.g. ROV Follow where the vessel to maintains position relative to a moving target, usually an underwater vehicle) DP systems where automatic control of Surge & Sway is selected jointly rather than independently, meet the requirements of this item.	Induction 78
104C	A minimum thruster arrangement set shall be made available, with at least the minimum below: - Tunnel thruster & azimuth thruster or main propulsion with rudder. Other thruster arrangements, that meet the same needs, are acceptable. The Thruster arrangement Set shall reflect Ship Model, DP Operation and DP system class, so Training Provider should have the stated above depending on the	

	simulated Operation being carried out during the training. This requirement can be met by using multiple simulated vessels.	
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 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 103C makes HPR a required reference system. (HPR required by January 2020.)	
107C	Three independent vertical reference sensors (VRS) (Required by January 2020.)	
108C	Three independent heading sensors , e.g. gyro compasses	
109C	Two independent wind sensors	
111C	Thruster status and feedback	
112C	Generator load, generator circuit breakers and bus ties	
Table 2	Behavioural realism:	
201C	Monitoring of positioning reference systems on the DP system shall include realis tic 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 environment:	
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).	

ANNEX 6
FAILURE MODE CHECKLIST

FAILURE MODE CHECKLIST

Course dates:

From: _____

To: _____

Instructor: _____

No.	FAILURE MODE (Thrusters)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
1	Most useful thruster fails to 100% pitch/rpm. (Feedback indicates 100%)	Detect fault. Emergency stop Thruster. (Deselection of thruster does not stop thrust.)		
2	Most useful thruster feedback indicates 100% pitch/rpm but thruster is working normally.	Detect fault. Is heading or position changing? Emergency stop thruster if required. (Deselection of thruster does not stop thrust.) DP should continue to operate thruster, stop operation and move to safe location and check thruster.		
3	Most useful thruster fails to 0% pitch/rpm	Consider vessel capability after loss of thruster. Take action as required.		
4	Operator deselects thruster for engineering purposes (request from E/R) engineer trips another (critical) thruster.	Detect mistake. Inform engine room. Determine effect of the loss of this thruster has on vessel capability.		
5	Thruster having setpoint or feedback error. The magnitude of the error can be set to either cause a thruster alarm or be set so that the error is below alarm limits and only detectable by DPO observation of setpoint/feedback data.	Detect fault. Consider vessel capability. Have thruster checked and take corrective action as required. (Non alarm event might not be noticed by DPOs) The DPO must monitor the thruster setpoint / feedback and understand the information.		

6	Freeze a thruster (setpoint) after the vessel has settled on position and heading. (If a good model has built up there may be no alarm until weather conditions change or a move is input.)	Detect fault. (There may be no alarm if weather conditions are constant and the current model is built up.)		
7	Present a situation where thruster/thrusters down for maintenance. Vessel has sufficient remaining thrusters to hold position and complete the task assigned. However, when ½ blackout occurs, there will be insufficient thrusters online to maintain position control. (Vessel does not have redundancy with thruster/thrusters down.)	Project should not progress until adequate thrusters are available.		
8	Any of the thrusters down for maintenance.	Consider effect of thruster loss on vessel capability.		
9	Downline, umbilical, cargo hose, etc., fouls a thruster causing it to fail.	Consider vessel capability after loss of thruster. If required, alter operational status to reflect loss of thruster.		
10	ROV power failure while underneath vessel. ROV has sufficient tether out to reach surface and has positive buoyancy. Vessel may be secured to bottom by a pipe, cable or umbilical.	Shutdown thrusters or move vessel (as required) to prevent ROV contacting thrusters. Give consideration to DP operation and redundancy while doing so. (Was umbilical length considered during planning of operation? Does ROV have positive or negative buoyancy?**)**		
11	Thrusters in fixed azimuth mode in light weather conditions. Increase environmental loads to the point where vessel will not maintain position in fixed mode.	Thrusters should be switched to free slew as required to prevent loss of position.		
No.	FAILURE MODE (Sensors)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
12	Wind sensor shielded by platform and then Asees@ extra wind (15 knots) after vessel move. (Wind increase can vary.)	Position vessel at a distance from platform such that excursion caused by Aextra@ wind will not cause a collision. (Be aware that wind sensor is not registering actual wind.)		

13	Wind sensor Asees at extra wind (50 knots) for a short period due to helicopter arrival.	Deselect wind sensor before helicopter arrival. Reselect after departure. Note some DP systems will just reject the wind from the system, this is a problem if the wind is from a storm front.		
14	False high wind reading registering in DP system (in period when real wind is less than 5 knots) but not on anemometer direct readouts.	Ascertain real order of magnitude of wind, deselect wind sensors, and monitor any vessel movement and correction.		
15	Anemometer fouled (possibly by halyard). Gives fixed wind direction and speed error.	Determine cause of fault. Initiate action to have fault corrected.		
16	Single Anemometer Failure.	Initiate repairs. Check remaining anemometer/anemometers for quality of data to determine if operation can continue.		
17	Selected Gyro drifting slowly three Gyros online.	Investigate gyro error. (If all three gyros are selected, voting should eliminate faulty gyro.) Consider effect on vessel operational status.		
18	Selected Gyro drifting slowly two Gyros online.	Investigate gyro error. Attempt to determine which gyro is in error. (If difference becomes too large and faulty gyro cannot be determined, consideration must be given to stopping DP operation.)		
19	Single Gyro Failure	Consider effect on redundancy. Initiate repairs. Check remaining Gyro/Gyros.		
20	Fail gyros (dependant on number selected) to cause position dropout/model control.	DP Operation to be suspended until problem is corrected. Vessel move to a safe location if required.		
21	MRU/VRS/VRU selected jumps 5° static angle.	Investigate alarm. Determine effect, if any, sensor fault has on position references.		

22	Single MRU/VRS/VRU Failure.	Consider effect on redundancy. Initiate repairs. Check remaining sensors.		
No.	FAILURE MODE (Position References)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
23	A perfect (frozen) position reference updating DP with constant position. Requires a situation where only one reference or two of the same type are selected (i.e. DGPS).	(Vessel likely to drift of due to frozen reference.) Detect fault. Enable stable references, if available, and deselect faulty references.		
24	GPS signals/ DGPS correction signals blocked because of close proximity to platform.	Determine cause. Check standing orders/field procedures for minimum references. Activate standby reference, if required/available. Consider loss during operation planning. Should have been picked up during planning, change to a different correction source.		
25	DGPS correction signals blocked/ become noisy due to atmospheric/scintillations interference.	Check standing orders/field procedures for minimum references. Activate standby reference if required/available.		
26	Artemis signal lost due to object (cranes, other vessel, etc.) passing between fixed and mobile antennas. Also could be for Fanbeam/Cyscan/RADius/Radascan.	Determine cause (line of sight blocked). Check standing orders/field procedures for minimum references. Activate standby reference if required/available. Consider loss during operation planning.		
27	Fail RADius/Radascan due to battery failure in transponder.	Determine cause. Check standing orders/field procedures for minimum references. Activate standby reference if required/available. Consider loss during operation planning.		
28	Fanbean/Cyscan signal fails due to rain showers, snow or fog..	Determine cause. Check standing orders/field procedures for minimum references. Activate standby reference if		

		required/available. Consider loss during operation planning.		
29	Fail HPR beacons due to excessive noise.	Determine cause. Check standing orders/field procedures for minimum references. Activate standby reference if required/available. Consider loss during operation planning.		
30	HPR interference due to another vessel in the area using the same beacon.	Check with other vessels in area before deploying beacons.		
31	Fail HPR beacons due to battery failure.	Determine cause. Check standing orders/field procedures for minimum references. Activate standby reference if required/available. Consider loss during operation planning.		
32	Making position moves while working in shallow water using Taut Wire and/or HPR as references.	Take shallow water into account and expect large number of replumbs and possibly noisy HPR. If possible, deploy surface references as backups.		
33	Taut Wire fouled by ROV, diver, downlines, air lines etc.	Monitor divers/ROV closely. Make all parties aware of Tautwire/HPR locations. Deploy standby reference or fix problem with fouled reference.		
34	Taut Wire failure due to mechanical problems.	Check standing orders/field procedures for minimum references. Activate standby reference if required/available.		
35	Conducting operation with using the minimum number of references required as per standing orders or field procedures. Fail one of the references.	Have standby reference available for activation/deployment. If no standby reference, consider effect on vessel operational status.		
36	Fail references (dependent on number and type selected) to cause position dropout/model control.	DP Operation to be suspended until problem is corrected. Vessel move to a safe location if required. Check standing orders/field procedures for minimum references. Activate standby reference if required/available.		

37	Increase noise on a reference to the point where it is still accepted by DP but weight is alternating between very low and/or 0.	Detect fault. Check standing orders/field procedures for minimum references. Activate standby reference if required/available. (With no weight the reference is not acceptable.)		
38	Drop-out of DGPS signals resulting in loss of Absolute reference within DARPS system, and subsequent loss of "Reaction Box" function. (Shuttle Tanker, Tandem Loading)	Monitor movement of both FPSO and Shuttle tanker to ensure relative movement does not become out of phase. Stop cargo transfer operations. Prepare to abort operation or consider taut hawser mode if FSOG permit.		
39	Failure of all relative position reference systems, with only Absolute DGPS functioning. (Shuttle Tanker, Tandem Loading)	Use all means to assess change in relative position – such as hawser catenary and/or tension. Stop cargo transfer operations. Prepare to abort operation or consider taut hawser mode if FSOG permit.		
No.	FAILURE MODE (Power)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
40	Vessel equipped with switchboard that can be divided into at least 2 sections with a bus tie breaker. ½ the switchboard (1 section) has a blackout causing the loss of the thrusters it supplies. Vessel working upwind of platform and near capability limits (with 1 Bus section offline).	This would be a worst case failure and vessel need to go to Yellow alert, safely stop operations and then move vessel to a drift off position and move outside 500m		
41	Complete blackout due to failure of bus tie breaker to work properly. (When operating with common bus.)	Monitor position while drifting. Prepare for immediate action on return of power supply.		
42	Start operation with minimum number of generators. Increase environmental loads. (Power management system fails to react to increased demand.)	Monitor power usage and request start of extra generators as required.		
43	Generator/generators fail during operation.	Consider effect of reduced power capacity on capability of vessel. Bring extra generators online (if available) to replace		

		those lost. Move vessel to safe location if required.		
44	Generator/generators out of service either due to failure or for maintenance.	Consider effect of reduced power capacity on capability.		
45	Vessel equipped with switchboard that can be divided into at least 2 sections with a bus tie breaker. ½ the switchboard (1 section) has a blackout causing the loss of the thrusters it supplies. Without the failed switchboard, vessel doesn't have required redundancy to conduct the operation.	Discontinue operation until redundancy is restored. Move vessel to safe location if required.		
46	Start exercise with common Bus and all online generators on either Bus 1 or Bus 2. (Blackout on that side will cause complete blackout)	Generators in use should be set so that power is available on both Bus.		
47	Complete blackout. Then make all thrusters available and give back only 1 generator or multiple generators that have insufficient power to meet thrust requirements.	Monitor position while drifting. Prepare for immediate action on return of power supply. Decide how best to utilize available power/thrust so as to minimize loss of heading/position and the possibility of further blackout.		
No.	FAILURE MODE (Environment)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
50	Change weather conditions and/or current such that work must be terminated or vessel position/heading changed.	Observe degrading weather closely and take action before vessel loses redundancy or ability to safely conduct operation.		
51	Change current and/or wind 180° causing a Ablow off@ situation to become a Ablow on situation. (Possibly use in conjunction with item 52)	Determine effect on vessel capability. Determine if it is still safe to conduct operation.		
52	Increase current and/or wind to a point beyond limits for redundancy.	Change vessel heading/position to reduce current load. Suspend operation if heading/position change not possible.		

53	Wind shift from ahead to the beam. (Wind speed such that redundancy limits are exceeded.)	Determine effect on vessel capability. Adjust heading or position if required.		
54	Sudden wind shifting in both speed and direction due to thunder storm activity. (10 knots on bow to 50 knots on beam in 45 seconds.)	Determine effect on vessel capability. Adjust heading or position if required.		
No.	FAILURE MODE (Miscellaneous)	CORRECTIVE ACTION	COMPLETED	EXERCISE No.
55	Vessel is conducting subsea operations (Diving, Pipe lay, ROV, etc.) on the lee side of a platform. There is then a serious gas leak at the platform. Also applicable to DP Shuttle Tanker when connected to an FPSO during tandem loading operations.	Consider the effect of the leak on the vessel and the dangers it presents. Take action to immediately suspend operations and prepare to move the vessel to a safe location.		
56	Unknown external force causes position excursion (vessel alongside comes in contact, thruster wash, load on crane becomes fouled, crane lift was not vertical, tension on cargo hose winching line, etc.)	Determine cause of excursion and take action to remove force. Consider possibility of excursion during planning.		

OFFSHORE SCHEME

It is compulsory for training centres to apply at least one item from each section (Thrusters, Sensors, Position Reference, Power, Environment and Miscellaneous) during the Simulator Course and its exercises. Other failures are subject to the training centre's choice, either to apply them through the exercises or discuss them during the debriefing. In the case of debriefing, a note should be made in the failure mode table to specify that.

Items recommended:
Item 1, 2, 3, 5 and 6
Item 20
Item 25
Item 40, 41, 43 and 47
Item 50

SHUTTLE TANKER: All items below are MANDATORY during Course C of the Shuttle Tanker scheme.
Item 1, 3, 4
Item 14 and Item 20

Item 23, 25, 26, 35, 36, 38 and 39
Item 42 and 45
Item 52 and 54
Item 55

ANNEX 7

THE NAUTICAL INSTITUTE TRAVEL EXPENSES POLICY

THE NAUTICAL INSTITUTE TRAVEL EXPENSES POLICY

Within the constraints of The Nautical Institute's (the NI) 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.

Training providers are required to attend the Regional Training Providers (RTP) meetings at least once every three years. The NI, however, encourages training providers to attend the meetings annually and will assist them with a partial reimbursement of their flight, transport and hotel expenses.

Only training providers who attend the meeting can claim for reimbursement. A maximum of £600 (six hundred pounds) can be claimed upon production of receipts, subject to approval by the NI, which will not be unreasonably withheld. The £600 is a maximum, but not an allowance, which means that training providers can only claim what they have spent.

When training providers decide to send two or more attendees to the area 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 the 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 his/her 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.

ANNEX 8

TRAINING PROVIDER ANNUAL REPORT

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 31st January of each year. The report should include, as a minimum, the following:

TRAINING PROVIDER ANNUAL REPORT

A. CONFIRMATIONS:
• Date report filed with the NI • Year for which report refers • Centre name (in full, this should be the official registered name) • Address • Date of last Audit and Accreditation/Reaccreditation, Certificate Number with validity • Type of simulators currently in use • 'Name of contact person', 'Date of Birth', 'NI Customer Number', 'DP Certificate Number (if applicable)', 'Nationality', 'Rank in the Company', 'Email Address', 'Alternate Email Address', 'Phone and Mobile Number' • Comments on any changes in administrative and/or commercial set-up • Date of last attendance of applicable RTP Meeting
B. DETAILS OF CHANGES:
• Details of any changes to address, telephone number etc. during the year • Details of any changes in facilities, classrooms, equipment, simulator etc.
C. INSTRUCTORS and LOGBOOK SIGNATORIES:
• Details of any changes with instructors, CVs, training programmes etc. • Current List of NI Approved Instructors with dates of approval letters • 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:
• Full list of ALL accredited DP courses run for the year with student details and logbook numbers (1st January to 31st December) (this may be sent as an attachment in a tabulated format as shown on the subsequent page) • 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:
• List of other courses held at the centre (non-accredited DP courses) • Outline of future planned developments • 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.

LIST OF DP COURSES WITH STUDENTS' INFORMATION

CUSTOMER NUMBER	TYPE OF COURSE	NAME	D.O.B.	COC	RANK	NATIONALITY	EMAIL	MOBILE	COURSE DURATION (FROM/TO)	INSTRUCTOR'S NAME	DATE OF EXAMINATION	MARKS OBTAINED (%)	RESULT (PASS/ FAIL)	NI LOGBOOK NO.	CENTRE'S CERTIFICATE NO.	IMCA LOGBOOK NO (IF APPLICABLE)	REMARKS (ONLINE/PAPER ETC)	OTHER REMARKS (1st ATTEMPT ETC)

ANNEX 9

ACCREDITATION COMPLAINT/APPEAL PROCEDURE

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:

Accreditation and Training Department

The Nautical Institute
202 Lambeth Road, London - SE1 7LQ
United Kingdom

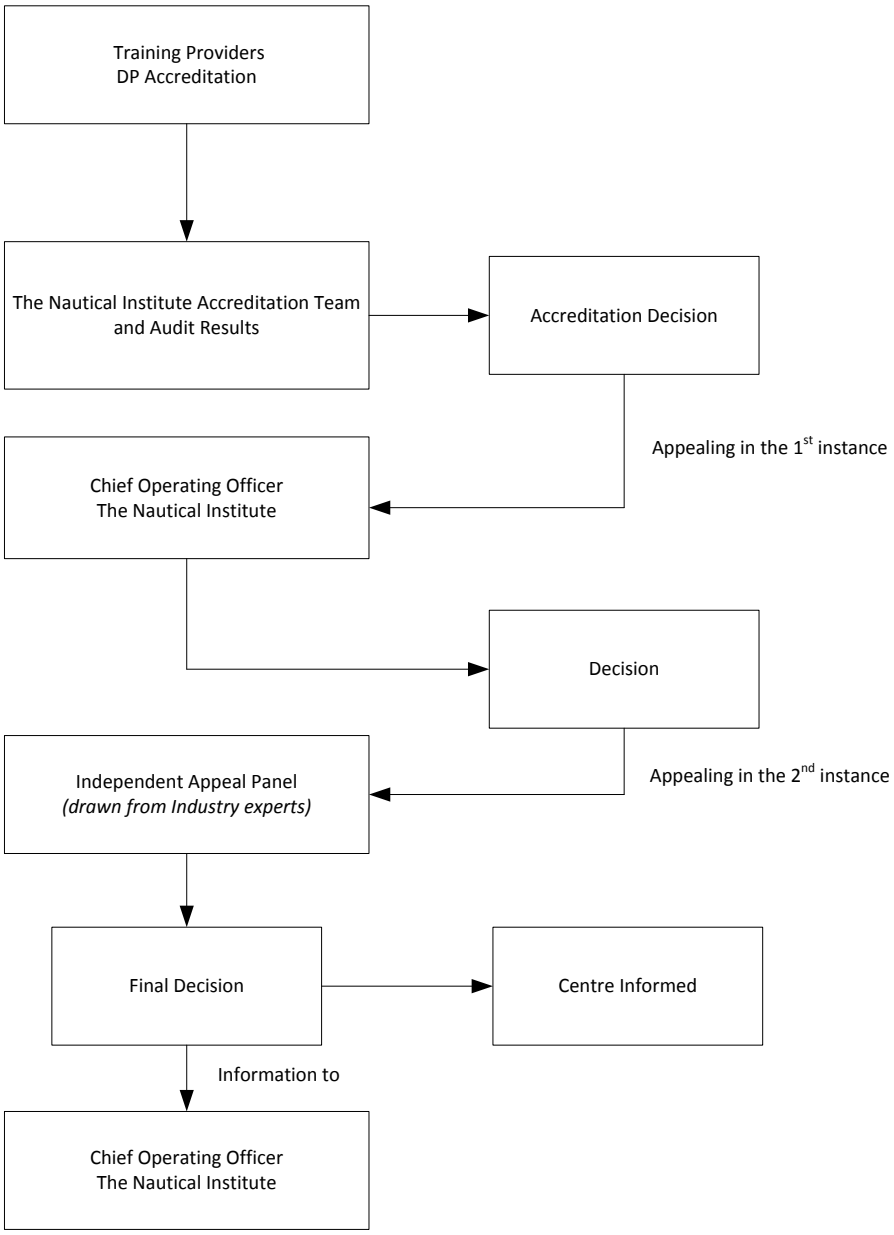
Email:accreditations@nautinst.org

Tel: +44 (0) 207 928 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



GENERAL INSTRUCTIONS FOR THE APPEAL PROCESSES

- DPTEG Associations will provide up to five names, CVs and contact details from their members to the NI to compose the Appeal Panel list.
- 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.
- Once availability and suitability is 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.
- Once the confidentiality agreement is signed, the NI will confirm the Panel composition and share the documents of the case with panellists.

- The Panel will have 45 days from the sharing date of the documents, to assess the case and provide the final report with final decision to the NI.
- The Panel may meet physically or through electronic means, whichever is deemed most convenient by the members.
- 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.
- Other administrative matters may be decided upon between the panellists.

ANNEX 10

DYNAMIC POSITIONING TRAINING EXECUTIVE GROUP

DYNAMIC POSITIONING TRAINING EXECUTIVE GROUP (DPTEG)

GUIDANCE AND PROCEDURES

INTRODUCTION

DPTEG 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 effective administration of scheme 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 does reserve 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 they consider it would damage the NI materially.

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.

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 9).

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. He/she will be supported by the NI Accreditation Manager acting as the Secretary to DPTEG. The NI will be represented by a staff member, normally the Chief Operating Officer (COO) who will be a voting member of DPTEG and he/she 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 three 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 Operating Officer (COO) 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 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 & 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

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.

ANNEX 11

REGIONAL TRAINING PROVIDER GROUPS (RTPS)

REGIONAL TRAINING PROVIDER GROUPS (RTPs) - GUIDANCE AND PROCEDURES

INTRODUCTION

The RTPs are training providers that are part of DPTEG. DPTEG and the RTPs generally seek to make decisions on a consensus basis and to implement actions to improve the DP training scheme and maintain its high standards although a majority voting system may be used to reach a decision. RTPs normally meet twice per year with one meeting typically being held electronically.

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 the Chairman, to the DPTEG meetings and operates a correspondence network. Each group normally meets annually 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.

THE COMPOSITION OF RTPs

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

It is expected that one representative from each training provider in the area will attend each meeting of their RTP in person or via electronic media at least once every three years. 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. Substantive members of the RTP 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 as outlined in the NI travel expenses policy (Annex 9).

RTPs ADMINISTRATION AND MEETINGS

The Chairman of the RTPs and a Vice Chairman 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 to 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 2 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 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. 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 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

RTPs will normally meet at least once per year in person with an additional meeting to be held electronically as required.