OFFSHORE NORGE

Offshore Norge Training curriculum

Basic helicopter landing officer (HLO) course

Version no: 3
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FOREWORD

This training curriculum has been compiled for course providers approved by Offshore Norge to provide the basic HLO course.

The training is intended to provide competence in the HLO function.

In this context, competence means *the ability to perform tasks and master complex challenges.*

The contact for this training curriculum in Offshore Norge is the manager, expertise development.

Offshore Norge training curricula are owned by Offshore Norge.

See Offshore Norge 002 Recommended guidelines for safety and emergency preparedness training and requirements for safety and emergency response training.

Contents

1 INTRODUCTION

1.1 Purpose

This training curriculum describes requirements for the content and execution of the basic helicopter landing officer (HLO) course.

The training is designed to provide competence on:

- organisation of emergency response
- legislation and statutory regulations
- weather reporting, communication and routines
- helideck regulations and guidelines
- dangerous goods
- aviation fuel
- emergencies and normal operations on the helideck
- helicopter types
- fire theory
- extinguishing agent theory
- fire-fighting practice
- protective equipment

1.2 Learning outcomes

After completing the training, the participant must be able to:

- describe the organisation of emergency preparedness on offshore facilities and the purpose of such organisation
- use the helideck manual
- communicate with and provide weather reports to helicopters
- describe helideck regulations and guidelines
- handle dangerous goods
- describe and supervise the fuel system
- perform the HLO's duties in emergencies and in normal operations on the helideck
- outline helicopter types
- apply their knowledge about fires and extinguishing agents to put out a fire
- use the correct extinguishing agent to put out a fire
- use personal and respiratory protective equipment

1.3 Target group

The target group for the training is personnel who are to exercise the helideck crew function.

2 CONTENT

2.1 Parameters for conducting the course

Teaching at the course centres must reflect a good safety culture.

Theory: one instructor per 24 course participants.

Practical exercises: one instructor per six course participants.

Protective equipment
The protective equipment module takes two hours

Duration of the course is four days, including the protective equipment module.

- One course day is eight hours with a minimum of six hours of effective training
- One hour is 60 minutes

A minimum of 10 hours of practical exercises.

During practical exercises, the challenges and degree of difficulty must be increased in line with the rising level of mastery.

During practical exercises, the instructor will observe the participants and give immediate feedback, and time must be allotted for feedback and guidance after the exercise is over.

2.2 Teaching materials

The Offshore Norge Recommended guidelines 074 - Helideck manual must be used as a teaching tool, other teaching materials used during the course must be tailored to the competence objectives specified in this training curriculum.

2.3 Prior knowledge

Basic safety and emergency preparedness training.

2.4 Instructor competence

A helicopter pilot or technician with offshore experience is required for teaching competence objectives 3.1, 3.2 and 3.3

2.5 Facilities and equipment

The training can be conducted through classroom teaching, e-learning, simulator use and use of other appropriate facilities and equipment.

2.6 Training curriculum

Participants must be given an introduction before the course starts which reviews the purpose of the course, assessments, the timetable and safety measures.

See the training curriculum set out in table 1 below.

Table 1: Training curriculum

Topic	**1.0 ORGANISATION OF EMERGENCY RESPONSE**			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
1.1 Outline a typical emergency response organisation	The participant must be able to outline; • the structure of an emergency response organisation and explain the HLO's role and responsibility in it • the purpose of lines of command in an emergency response organisation • other emergency response teams on the facility, their roles and responsibilities	Theory lesson(s)	Classroom E-learning	
1.2 Outline the commonest behavioural patterns in emergencies, and which factors affect these.	The participant must be able to outline; • the commonest behavioural patterns in an emergency • examples of stress factors which could influence their own level of performance and that of others • measures for mastering their own stress	Theory lesson(s)	Classroom E-learning	
1.3 Outline terms and expressions related to emergency response	The participant must be able to outline; • defined situations of hazards and accidents (DSHA) • performance requirements	Theory lesson(s)	Classroom E-learning	

Topic	2.0 LEGISLATION AND STATUTORY REGULATIONS			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
2.1 Describe necessary legislation and statutory regulations	The participant must be able to describe those parts of the Norwegian Petroleum Act which regulate the heliguard service. The participant must be able to describe those parts of the Norwegian regulations for civil aviation (BSL) which regulate the heliguard service.	Theory lesson(s)	Classroom E-learning	BSL D 5-1
2.2 Describe the responsible regulators	The participant must be able to describe the role of the Petroleum Safety Authority, the Norwegian Maritime Authority and the Norwegian Civil Aviation Authority in relation to the heliguard service.	Theory lesson(s)	Classroom E-learning	
2.3 Outline the helideck manual	The participant must be able to outline the main elements in the helideck manual. The participant must be able to use the manual as a reference work, with the emphasis on; • responsibilities • requirements and operational regulations	Theory lesson(s)	Classroom E-learning	

Topic	3.0 WEATHER REPORTING, COMMUNICATION AND ROUTINES			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
3.1 Outline an offshore flight	The participant must be able to outline the planning and execution of an offshore flight, including the normal procedure for landing and take-off.	Theory lesson(s)	Classroom E-learning	
3.2 Describe weather factors which can affect risk during landing and take-off	The participant must be able to convey a general weather report to the helicopter pilot; • wind • turbulence • visibility • cloud base • temperature differences • pressure	Theory lesson(s) Group discussions	Classroom E-learning	
3.3 Carry out relevant communication with the helicopter	The participant must be able to communicate with the helicopter; • through the use of radio discipline • through the use of emergency signals • with hand signals	Theory lesson(s) Practical exercises	Classroom E-learning	
3.4 Outline human factors which could influence helideck crew behaviour/ performance in various circumstances on the helideck	The participant must be able to outline; • communication • understanding the conditions • decisions • stress • attitudes • behaviour in abnormal circumstances	Theory lesson(s) Group discussions	Classroom E-learning	

Topic	4.0 HELIDECK REGULATIONS AND GUIDELINES			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
4.1 Describe official requirements for the helideck's specifications	The participant must be able to describe requirements for the helideck; • location and design • size • obstacle-free sector • obstacles • helideck's ID marking • D value	Theory lesson(s)	Classroom E-learning	
4.2 Describe official requirements for helideck outfitting	The participant must be able to describe requirements for helideck outfitting; • meteorological equipment • windsock • emergency response equipment	Theory lesson(s)	Classroom E-learning	

4.3
Describe the organisation, division of responsibility between, and duties of the helideck crew
	The participant must be able to outline;
	• official requirements on staffing
	• organisation of the helideck service
	• the HLO's responsibilities and duties
	  ○ day-to-day leadership on the helideck
	  ○ inspection of the helideck
	  ○ leadership during take-off and landing
	• the heliguard's responsibilities and duties
	• the fire watcher's responsibilities and duties
		Theory lesson(s)	Classroom
			E-learning	

4.4 Describe requirements for dress on the helideck	The participant must be able to describe requirements for dress and clothing norms.	Theory lesson(s)	Classroom E-learning	

Topic	5.0 DANGEROUS GOODS			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
5.1 Outline requirements for carriage of dangerous goods	The participant must be able to outline the IATA (ICAO) requirements for carriage of dangerous goods by taking the dangerous goods awareness course; • identification • reception • storage • loading/unloading • inspection • checking documents • emergency procedures	Group discussions		

Topic	6.0 AVIATION FUEL			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
6.1 Describe the regulations	The participant must be able to describe the regulations which are normative for fuel and fuel system on the facility.	Theory lesson(s)	Classroom E-learning	
6.2 Describe responsibilities for operating and maintaining the fuel system on the facility	The participant must be able to describe; • the HLO's responsibility • the oil company/rig contractor's responsibility • the pilot's responsibility	Theory lesson(s)	Classroom E-learning	
6.3 Outline the risk factors for fuel and the fuel system	The participant must be able to outline the risk factors; • fire (static electricity) • water • particles • microorganisms	Theory lesson(s)	Classroom E-learning	
6.4 Inspect and check fuel and the fuel system	The participant must be able to; • conduct daily, weekly and monthly inspections • undertake light troubleshooting of filters • measure pressure variations in and pollution of fuel • fill out logs and check certificates The participant must be able to verify that the system is certified and operational.	Practical troubleshooting of the fuel system		

Topic	7. EMERGENCIES AND NORMAL OPERATIONS ON THE HELIDECK			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
7.1 Outline the helideck crew's duties when preparing for the arrival of a helicopter with a notified emergency	The participant must be able to outline the roles and duties of the helideck crew; • who does what • notification • measures • review of equipment The participant must be able to outline; • relevant abnormal incidents • relevant emergencies	Theory lesson(s) Group discussions	Classroom E-learning	
7.2 Use emergency procedures in the event of a crash on the helideck	The participant must be able to; • open emergency exits on the helicopter types most commonly used offshore o windows and doors • use emergency equipment/tools for helicopter evacuation o equipment and tools as described in the helideck manual • perform an emergency stop of helicopter engines	Theory lesson(s) Practical exercises	Classroom/ training field Simulator for emergency evacuation	

7.3 Outline the helideck crew's responsibilities and duties during normal operations	The participant must be able to outline the helideck crew's duties before, during and after landing; • daily inspections • planning • handle and secure baggage and cargo • start/stop procedures • passenger handling • lashing/securing the helicopter • cargo hold restrictions • helicopter weight and balance requirements • checking manifests • helicopter departure • transport of sick and injured (MEDEVAC) including immobility and infections.	Theory lesson(s)	Classroom E-learning	
7.4 Assess dangers in normal operations	The participant must be able to assess hazardous areas; • rotor disc • tail rotor • noise • wind • passengers/unauthorised persons on deck • helicopter in motion • downdraft	Theory lesson(s)	Classroom E-learning	
7.5 Evacuate injured people from the helicopter in an emergency	The participant must be able to evacuate injured people from the helicopter in an emergency.	Practical exercises	Helicopter/ training module	

Topic	8.0 HELICOPTER TYPES			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**

8.1
Distinguish between the various helicopter types used offshore today
	The participant must be able to outline;
	• safety equipment
	• emergency exits, their marking and use
	• fuel tanks
	• earthing and earthing points
	• refuelling hoses and filling points
	• opening of doors and panels
	• removal of seats
	• dangerous areas
	  ○ pitot tube
	  ○ rotor blades
	• size, positioning and accessibility of cargo hold(s)
		Theory lesson(s)	Classroom
			E-learning	

Topic	9.0 FIRE THEORY			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
9.1 Describe relevant fire hazards	The participant must be able to describe the dangers and properties of fires in different media; • aviation fuel • gas • electricity • composite materials • fibre materials • spreading fire	Theory lesson(s)	Classroom E-learning	
9.2 Describe hazards in the event of a helicopter fire	The participant must be able to describe; • the toxicity of the fire smoke • the combustibility of the fire smoke • explosion • development of a volume fire • temperature escalation.	Theory lesson(s)	Classroom E-learning	

Topic	10.0 EXTINGUISHING AGENT THEORY			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
10.1 Outline the use of water as an extinguishing agent	The participant must be able to outline; • areas of application • water hose with jet pipe, water cannon, range • shielding technique • emulsification • lowering temperatures with water • combination of powder/water • limitations	Theory lesson(s)	Classroom E-learning	
10.2 Outline the use of powder as an extinguishing agent	The participant must be able to outline; • areas of application • range, pressure, capacity • technique, effect • limitations	Theory lesson(s)	Classroom E-learning	
10.3 Outline the use of foam as an extinguishing agent	The participant must be able to outline; • areas of application • foam types • foam hose, foam cannon, range • application technique • "Safe Deck" • limitations	Theory lesson(s)	Classroom E-learning	

Topic	11.0 FIRE-FIGHTING PRACTICE			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
11.1 Use powder on the helideck	The participant must be able to use powder as an extinguishing agent; • practical exercises in using the equipment	Practical exercises	Fire drill field	
11.2 Use water/powder in combination on the helideck	The participant must be able to use water/powder in combination as an extinguishing agent; • practical exercises in using the equipment	Practical exercises	Fire drill field	
11.3 Use foam on the helideck	The participant must be able to use foam as an extinguishing agent; • practical exercises in using the equipment	Practical exercises	Fire drill field	

Topic	12.0 PROTECTIVE EQUIPMENT			
Competence objectives **After completing the training, the participant will be able to:**	**Specification of competence objectives**	**Method**	**Learning environment**	**References**
12.1 Use personal and respiratory protective equipment (PPE/RPE), and carry out safety checks and emergency procedures using this equipment	The participant must be able to; • describe the difference and distinction between complete and partial RPE • clarify, use and check PPE/RPE • reset PPE/RPE to zero • outline requirements for and limitations of fire-fighter clothing The participant must be able to carry out safety checks; • installation check • usage check • buddy check The participant must be able to demonstrate the use of emergency procedures; • failure of breathing apparatus • air cylinder valve stuck • mask clips loosened	Theory lesson(s) Practical exercises Demonstration	Fire drill field	

3 ASSESSMENT AND DOCUMENTATION OF TRAINING

3.1 Assessment

The participant must be assessed during all practical exercises.
Should the participant fail the practical exercise, they must be given a reason.

Once the course has been completed, the participant must be tested on theory.

Should the participant be assessed as falling short of the competence objectives, the participant must be failed.

3.2 Documentation

A course certificate must be issued on passing the course.

4 REVISIONS

The following revisions have been made to this document:

Revisions:	Date:
Version 3 Chapt. 1.1 Purpose Removed (for personnel who require this competence) Chapt. 1.2 Learning outcomes Removed (for personnel who require this competence) Chapt. 1.3 Target group Removed sentence: Protective equipment is a separate module taken only by personnel who require this competence. Chapt. 2.1 Parameters for conducting the course Removed: Protective equipment The protective equipment module takes two hours. Chap. 2.2 Teaching materials Added: The Offshore Norge Recommended guidelines 074 - Helideck manual Topic 2.0 LEGISLATION AND STATUTORY REGULATIONS Competence objective 2.2 changed: Norwegian Petroleum Directorate to Petroleum Safety Authority. Topic 7.0 EMERGENCIES AND NORMAL OPERATIONS ON THE HELIDECK Competence objective 7.3 added	January 2020

bulletpoint: • Daily inspections • Planning • Helicopter departure • Transport of sick and injured (MEDEVAC) including immobility and infections. Competence objective 7.4 added bulletpoint: • downdraft	
Version 2: **Chapt. 2.4 Instructor competence** **The following sentence:** "A helicopter pilot or technician with offshore experience is required for teaching competence objectives 3.1, 3.2 and 3.4." **has been changed to:** "A helicopter pilot or technician with offshore experience is required for teaching competence objectives 3.1, 3.2 and 3.3."	March 2017