



QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR HYDROCARBON SECTOR

What are Occupational Standards (OS)?

OS describe what individuals need to do, know and understand in order to carry out a particular job role or function

> OS are

performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Contact Us:

Hydrocarbon Sector Skill Council, 9th floor Hindustan Times House, KG Marg New Delhi-110001

E-mail: admin@hsscindia.in



Contents

- 1. Introduction and Contacts...........[1]
- 2. <u>Qualifications Pack.....[2]</u>
- 3. Glossary of Key Terms[3]
- . <u>OS Units.....[4]</u>
- 5. Annexure: Nomenclature for QP&OS [18]

Qualifications Pack - Fire Safety Technician (Oil & Gas)

SECTOR/S: HYDROCARBON

SUB-SECTOR: Midstream, Downstream

OCCUPATION: Management of Health, Safety and Environment (HSE)

REFERENCE ID: HYC/Q3601

ALIGNED TO: NCO/2015-3119.0800

Brief Job Description: The main responsibility of the fire safety technician is to ensure adherence to fire safety procedures and conduct firefighting operations in oil and gas industry. He/she conducts inspection of the workplace to ensure safety from fire hazards. The individual is also responsible for maintenance of fire safety equipment and coordination with operation and maintenance team for organising safety awareness programs to ensure the safety of the workers and surroundings.

Personal Attributes: The individual should have a good sense of responsibility and communication skills. He/she must be physically robust and able to work for long hours in oil and gas installation area. The person should be proactive, disciplined, safety-conscious, courageous and a good team player.





Qualification Pack for Fire Safety Technician (Oil & Gas)

Qualifications Pack Code	HYC/Q3601		
Job Role	Fire Safety Technician (Oil & Gas)		
Credits(NSQF)	TBD	Version number	1.0
Sector	Hydrocarbon	Drafted on	05/05/2019
Sub-sector	Midstream, Downstream	Last reviewed on	16/08/2019
Occupation	Management of Health, Safety and Environment (HSE)	Next review date	16/08/2023
NSQC Clearance on*	27/02/2020		

Job Role	Fire Safety Technician (Oil & Gas)	
Role Description	Fire safety technician conducts safety inspection of workplace and monitors hazardous situation in and around oil and gas installations. The individual is also responsible for firefighting operations and ensuring fire safety at all times.	
NSQF Level	4	
Minimum Educational Qualifications* Maximum Educational Qualifications*	Class XII / ITI (two years after class 10 th) NA	
Prerequisite License or Training	NA	
Minimum Job Entry Age	18 Years	
Experience	Preferably 6 months	
	Compulsory:	
Applicable National Occupational Standards (NOS)	 <u>HYC/N3601 Prepare workplace in line with fire safety rules</u> <u>HYC/N3602 Perform fire safety operations at workplace</u> <u>HYC/N9301 Work effectively in a team</u> 	
Performance Criteria	As described in the relevant OS units	



Qualification Pack for Fire Safety Technician (Oil & Gas)

keywords /Terms	Description	
Sector	Sector is a conglomeration of different business operations having similar	
	businesses and interests. It may also be defined as a distinct subset of the	
	economy whose components share similar characteristics and interests.	
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics	
	and interests of its components.	
Occupation	Occupation is a set of job roles, which perform similar/related set of	
	functions in an industry.	
Function	Function is an activity necessary for achieving the key purpose of the sector,	
	occupation, or area of work, which can be carried out by a person or a group	
	of persons. Functions are identified through functional analysis and form the	
	basis of OS.	
Job Role	Job role defines a unique set of functions that together form a unique	
	employment opportunity in an organization.	
OS	OS specify the standards of performance an individual must achieve when	
and the second sec	carrying out a function in the workplace, together with the knowledge and	
	understanding they need to meet that standard consistently. Occupational	
	Standards are applicable both in the Indian and global contexts.	
Performance Criteria	Performance Criteria are statements that together specify the standard of	
Sol Star	performance required when carrying out a task.	
NOS	NOS are Occupational Standards which will uniquely in the Indian context.	
Qualifications Pack	Qualifications Pack Code is a unique reference code that identifies a	
Code	qualifications pack.	
Qualifications Pack	Qualifications Pack comprises the set of OS, together with the educational,	
\	training and other criteria required to perform a job role. A Qualifications	
	Pack is assigned a unique qualification pack code.	
Unit Code	Unit Code is a unique identifier for an Occupational Standard, which is	
<pre></pre>	denoted by an 'N'.	
Unit Title	Unit Title gives a clear overall statement about what the incumbent should be	
	able to do.	
Description	Description gives a short summary of the unit content. This would be helpful	
	to anyone searching on a database to verify that this is the appropriate OS	
	they are looking for.	
Knowledge and	Knowledge and Understanding are statements which together specify the	
Understanding	technical, generic, professional and organizational specific knowledge that an	
	individual needs in order to perform to the required standard.	
Organizational Context Organizational Context includes the way the organization is struct		
	how it operates, including the extent of operative knowledge managers have	
	of their relevant areas of responsibility.	
Technical Knowledge		
	designated responsibilities.	
Core Skills or Generic	Core Skills or Generic Skills are a group of skills that are key to learning and	
Skills	working in today's world. These skills are typically needed in any work	
environment. In the context of the OS, these include communicatio		
	skills that are applicable to most job roles.	









Prepare workplace in line with fire safety rules

National Occupational Standard



Overview

This unit is about preparing workplace in line with fire safety rules and procedures specific to oil and gas installations and coordinating with operation and maintenance team for organising safety awareness programs.





संस्थेत्व जयते GOVERNMENT OF INDIA MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP



National Occupational Standards Prepare workplace in line with fire safety rules

andard
al Sta
tiona
cupat
l Occ
tiona
Nat

Unit Code	HYC/N3601		
Unit Title (Task)	Prepare workplace in line with fire safety rules		
Description	This OS unit covers preparing workplace in line with fire safety rules and procedures specific to oil and gas installations.		
Scope	 This unit/task covers the following: Carryout safety procedures as per safety rules Manage safety demonstration Reporting 		
Performance Criteria (PC)	w.r.t. the Scope		
Element	Performance Criteria		
	To be competent, the user/individual on the job must be able to:		
Carryout safety procedures as per safety rules	 PC1. follow Oil Industry Safety Directorate (OISD) standards related to firefighting equipment and appliances in oil and gas industry PC2. define Occupational Safety and Health (OSH) policies PC3. prepare and maintain checklist to monitor safety regulations in and around oil and gas installations PC4. check proper positioning and accessibility of fire extinguishers and first aid boxes PC5. check for proper signs related to safety, emergency pathway and exit availability PC6. maintain fire safety equipment i.e. fire extinguishers, fire alarms, sprinkler, smoke detectors, fire hose etc to ensure readiness during emergency PC7. inspect oil and gas installations and surrounding area for any hazard to prevent harm to people, property and environment PC8. check for flammable materials and initiate necessary safety measures PC9. record near-miss events and take preventive measures 		
	To be competent, the user/individual on the job must be able to:		
Manage Safety demonstration	 PC10. coordinate with operation and maintenance team for fire safety awareness programs and conduct safety drills at workplace PC11. demonstrate first aid medical treatment procedure PC12. demonstrate actions to be taken in case of fire 		
	To be competent, the user/individual on the job must able to:		
ReportingPC13. prepare and maintain daily inspection report and submit it to reporting authority responsible for fire safety			
Knowledge and Understan	nding (K)		
A. Organizational Context (Knowledge of the company/organization and its processes)	KA1. The safety management policy KA2. impact of violation of safety procedures		









National Occupational Standards Prepare workplace in line with fire safety rules

KA5. work permit system like hot work, confined spaced job work KA6. company policies and procedures			
	The user/individual on the job needs to know and understand:		
B. Technical Knowledge	 KB1. fire safety rules and regulations KB2. fire safety objectives. KB3. hazards in different work areas KB4. fire signage and indicators KB5. condition of workplace environment, equipment, and safety practices KB6. safety procedure, standards and government regulations KB7. fire and fire triangle KB8. fire science related to oil and gas industry covering flammability limits/range, explosion hazard related to health safety and environment KB9. use of various fire and other safety equipment KB10. effects of leakage in any piping system or equipment/vessels KB11. importance of documentation and record keeping of fire and safety activity 		
Skills (S)			
	Basic Reading and Writing Skills		
A. Core Skills/Generic Skills	 The user/ individual on the job needs to know and understand how to: SA1. keep abreast by reading about new policies at an organization level SA2. fill up appropriate technical forms, process charts, activity logs as per organizational format in English and/or local language SA3. communicate effectively in writing Oral Communication (Listening and Speaking Skills) The user/individual on the job needs to know and understand how to: 		
	 SA4. convey information effectively SA5. discuss observations, new policies and schedules and activities SA6. listen with full attention and comprehend the information given by various sources about the site or equipment 		
	Decision Making		
	The user/individual on the job needs to know and understand how to: SB1. make appropriate judgments SB2. use reasoning skills to identify and resolve problems SB3. choose appropriate actions		
B. Professional Skills	Plan and Organize		
D. FIOICSSIONALSKIIS	 The user/individual on the job needs to know and understand how to: SB4. plan suitably as per job requirements SB5. identify actions to be taken and prioritize them SB6. organize all process manuals so that sorting/ accessing information is easy 		
	Analytical Thinking		
	The user/individual on the job needs to know and understand how to:		









Prepare workplace in line with fire safety rules

SB7.	analyse information and use logic to address safety-related issues and problems.
SB8.	determine the safety measures to be followed and how changes in conditions, operations, and the environment will affect outcomes.
SB9.	undertake and express new ideas and initiatives
SB10.	evaluate workplace safety, health & environment
Monito	pring
The use	er/individual on the job needs to know and understand how to:
SB11.	monitor the appropriateness, replacement and maintenance of plant and equipment used for safety critical processes
SB12.	Monitor work specific risk, their extent and readiness
Critical	thinking
The use	er/individual on the job needs to know and understand how to:
SB13.	apply balance judgements to different situations











Prepare workplace in line with fire safety rules

NOS Version Control

NOS Code	HYC/N3601		
Credits(NSQF)	TBD	Version number	1.0
Industry	Hydrocarbon	Drafted on	05/02/19
Industry Sub-sector	Midstream, Downstream	Last reviewed on	16/08/2019
Occupation	Management of Health, Safety and Environment (HSE)	Next review date	16/08/2023











National Occupational Standard



Overview

This unit is about performing firefighting operations using various types of fire safety equipment to ensure the safety of the workers and of the communities in surroundings of oil and gas installations







National Occupational Standard

Unit Code	HYC/N3602	
Unit Title (Task)	Perform fire safety operations at workplace	
Description	This OS describes various firefighting methods and rescue operations by using suitable firefighting equipment and laid down procedures.	
Scope	 This unit/task covers the following: Usage of firefighting equipment Fire safety measures Reporting 	
Performance Criteria (PC)	w.r.t. the Scope	
Element	Performance Criteria	
Usage of firefighting equipment	 To be competent, the user/individual on the job must be able to: PC1. identify the ignition source such as flame, spark, static electricity, heat source etc. PC2. classify fire according to standard class of fire i.e. class A, B, C, D & E PC3. select the type of fire extinguishers to be used according to the class of fire PC4. use various PPEs applicable during firefighting PC5. adopt suitable firefighting method according to class of fire and firefighting equipment PC6. operate fire extinguishers using appropriate method to extinguish fire PC7. maintain firefighting equipment as per maintenance check list 	
Fire safety measures	 To be competent, the user/individual on the job must be able to: PC8. respond to fire caused due to oil spills or gas leakage with the appropriate fire extinguishing method PC9. check for open or damage valves in case of fire due to oil spills or gas leakage PC10. carryout first aid measures in case of inhalation of toxic gas 	
Reporting	 To be competent, the user/individual on the job must be able to: PC11. report the problem to his reporting authority in case of emergency situations PC12. inform the fire safety team/in charge in case the situation is out of his control 	
Knowledge and Understar		
A. Organizational Context (Knowledge of the company/organization and its processes)	The user/individual on the job needs to know and understand: KA1. record keeping system with respect to safety KA2. fatal and near-miss events KA3. how to conduct safety inspection KA4. oil and gas industry safety procedures KA5. importance of working in a clean and safe environment KA6. company policies and procedures	









	The user/individual on the job needs to know and understand:			
	KB1. various type of fire extinguishing materials such as foam extinguishing			
	media techniques of vapor dispersal/vapor suppression etc			
	KB2. methods of accident prevention plan			
	KB3. fixed firefighting installation in oil and gas industry and their method of			
	operation			
	KB4. difference between process and personal safeties			
B. Technical Knowledge	KB5. safety pyramid and hazards KB6. safety standards and government regulations			
	KB7. fix hazardous and potentially hazardous conditions or equipment			
	KB8. programs on workplace safety and health			
	KB9. correct use of safety equipment			
	KB10. use of various type of gas detectors and their working principle			
	KB11. causes and consequences of accidents occurred and identify how to			
	prevent them in future			
	KB12. auditing equipment working condition			
Skills (S)				
	Basic reading and writing skills			
	The user/ individual on the job needs to know and understand how to:			
	SA1. note down observations			
	SA2. making of report			
	SA3. keep abreast by reading about we policies at an organization level			
	SA4. fill up appropriate technical forms, process charts, activity logs as per			
A. Core Skills/ Generic	organizational format in English and/or local language			
Skills	SA5. communicate effectively in writing			
	Oral Communication (Listening and Speaking skills)			
	The user/individual on the job needs to know and understand how to:			
	SA6. convey information effectively			
	SA7. discuss his observations, new policies, schedules and activities			
	SA8. listen with full attention and comprehend the information given by			
	various sources about the site or equipment			
	Judgment and Decision Making			
	The user/individual on the job needs to know and understand how to:			
	SB1. make appropriate judgments.			
	SB2. use reasoning skills to identify and resolve problems			
	SB3. choose appropriate actions			
B. Professional Skills	Plan and Organize			
	The user/individual on the job needs to know and understand how to:			
	SB4. plan suitably as per job requirements			
	SB5. identify actions to be taken and prioritize them			
	SB6. organize all process manuals so that sorting/ accessing information is easy			
	Analytical Thinking			
	The user/individual on the job needs to know and understand how to:			
	The usery individual on the job needs to know and understand now to.			







	SB7.	analyse information and use logic to address safety-related issues and problems.	
	SB8.	determine how the safety measures are to be followed and how changes in conditions, operations, and the environment will affect	
		Monitoring	
	The u	The user/individual on the job needs to know and understand how to:	
	SB11	SB11. monitor the appropriateness, replacement and maintenance of plant and equipment used for safety critical processes	
SB12. im		implement work specific risk Assessments, their extent and readiness	
	Integ	Integrity	
	The u	The user/individual on the job needs to know and understand how to:	
	SB13. be honest and ethical		











NOS Version Control

NOS Code	HYC/N3602		
Credits(NSQF)	TBD	Version number	1.0
Industry	Hydrocarbon	Drafted on	05/02/2019
Industry Sub-sector	Midstream, Downstream	Last reviewed on	16/08/2019
Occupation	Management of Health, Safety and Environment (HSE)	Next review date	16/08/2023











National Occupational Standard



Overview

This unit covers basic practices that improve effectiveness of working with others in an organizational set-up.



NOS					
National Occupational Standards					
Work effectively in a team					





Unit Code	HYC/N9301
Unit Title	Work effectively in a team
(Task)	·
	This NOS unit is about working effectively within a team, either in individual's
Description	own work group or in other work groups outside the organization.
	This unit/task covers the following:
Scope	Effective team work
Performance Criteria (PC) w	
Element	Performance Criteria
	To be competent, the user/individual on the job must be able to:
	PC1. maintain clear communication with colleagues
	PC2. work with colleagues as a team
	PC3. pass on information to in line with organisational requirements
	PC4. work in ways that show respect for colleagues
	PC5. carry out commitments made to colleagues
	PC6. let colleagues know in good time if cannot carry out commitments,
	explaining the reasons
Team Work	PC7. identify problems in working with colleagues and take the initiative
	to solve these problems
	PC8. follow the organisation's policies and procedures for working with
	colleagues
	PC9. Ability to share resources with other members as per priority of tasks
Knowledge and Understand	ling (K) w.r.t. the scope
	The user/individual on the job needs to know and understand:
	KA1. the organization's policies and procedures for working with colleagues,
A. Organisational Context	role and responsibilities in relation to this
(Knowledge of the	KA2. the importance of effective communication and establishing good
Company/Organisation	working relationships with colleagues
and its processes)	KA3. different methods of communication and the circumstances in which it
	is appropriate to use these
	KA4. the importance of creating an environment of trust and mutual respect KA5. the implications of own work on the work and schedule of others
	The user/individual on the job needs to know and understand:
	KB1. different types of information that colleagues might need and the
B. Technical Knowledge	importance of providing this information when it is required
b. reenneur knowledge	KB2. the importance of helping colleagues with problems, in order to meet
	quality and time standards as a team
Skills (S)	
	The user/individual on the job needs to know and understand how to:
	SA1. complete written work with attention to detail
	Reading Skills
A. Core Skills/	The user/individual on the job needs to know and understand how to:
Generic Skills	SA2. read instructions, guidelines/procedures
	Oral Communication (Listening and Speaking skills)
	The user/individual on the job needs to know and understand how to:
	SA3. listen effectively and orally communicate information
	·









HYC/N9301 Work effectively in a team SA4. ask for clarification and advice from the concerned person **Decision Making** The user/individual on the job needs to know and understand how to: SB1. make decisions on a suitable course of action or response keeping in view resource utilization while meeting commitments Plan and Organize The user/individual on the job needs to know and understand how to: SB2. plan and organize work to achieve targets and deadlines **Customer Centricity B.** Professional Skills The user/individual on the job needs to know and understand how to: SB3. check that the work meets customer requirements SB4. deliver consistent and reliable service to customers **Problem Solving** The user/individual on the job needs to know and understand how to: SB5. apply problem solving approaches in different situations **Critical Thinking** The user/individual on the job needs to know and understand how to: SB6. apply balanced judgments to different situations











NOS Version Control

NOS Code	HYC/N9301			
Credits(NSQF)	TBD	Version number	1.0	
Industry	Hydrocarbon	Drafted on	05/02/2019	
Industry Sub-sector	Downstream	Last reviewed on	16/08/2019	
Occupation	Management of Health and Safety Environment (ESH)	Next review date	16/08/2023	







N-S-D-C National Skill Development Corporation

Annexure

Nomenclature for QP and NOS

Qualifications Pack



Back to top...





The following acronyms/codes have been used in the nomenclature above:

Sub-Sector	Range of Occupation numbers
Upstream	1-30
Downstream	31-60
Midstream	61-90
Construction & Services	91-92
Generic NOS	01, 31, 61, 93, 94, 95

Sequence	Description	Example		
Three letters	Industry name	{ABC, Font: Calibri (Body), size 11}		
Slash	/	/		
Next letter	Whether QP or NOS	Ν		
Next two numbers	Occupation code	01		
Next two numbers	OS number	01		





CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Fire Safety Technician (Oil & Gas)

Qualification Pack HYC/Q3601

Sector Skill Council Hydrocarbon Sector Skill Council

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.

2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC.

3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.

4. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below).

4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criterion.

5. To pass the Qualification Pack , every trainee should score a minimum of 70% of aggregate marks to successfully clear the assessment.

6. In case of *unsuccessful completion*, the trainee may seek reassessment on the Qualification Pack.

Compulsory NOS Total Marks: [100]		Marks Allocation				
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theor Y	Skills Practical	
	PC1. follow Oil Industry Safety Directorate (OISD) standards related to firefighting equipment and appliances in oil and gas industry	130	10	2	8	
	PC2. define Occupational Safety and Health (OSH) policies		10	4	6	
	PC3. prepare and maintain checklist to monitor safety regulations in and around oil and gas installations		10	4	6	
1. {HYC/N3601 Prepare for	PC4. check proper positioning and accessibility of fire extinguishers and first aid boxes		10	4	6	
fire safety operation}	PC5. check for proper signs related to safety, emergency pathway and exit availability		10	6	4	
	PC6. maintain fire safety equipment i.e fire extinguishers, fire alarms, sprinkler, smoke detectors, fire hose etc to ensure readiness during emergency		10	2	8	
	PC7. inspect oil and gas installations and surrounding area for any hazard to prevent harm to people, property and environment		10	2	8	





N-S-D-C National Skill Development Corporation

Compulsory NOS Total Marks: [100]		Marks Allocation			
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of Theor Skills Practical		
	PC8. check for flammable materials and initiate necessary safety measures		10	2	8
	PC9. record near-miss events and take preventive measures		10	4	6
	PC10. coordinate with operation and maintenance team for fire safety awareness programs and conduct safety drills at workplace		10	4	6
	PC11. demonstrate first aid medical treatment procedure		8	0	8
	PC12. demonstrate actions to be taken in case of fire]	10	2	8
	PC13. prepare and maintain daily inspection report and submit it to the reporting authority		12	4	8
			130	40	90

Compulsory NOS Total Marks: [100]		Marks Allocation				
Assessment outcomes	Assessment Criteria for outcomes	Total Marks	Out Of	Theor Y	Skills Practical	
	PC1. identify the ignition source such as flame, spark, static electricity, heat source etc		10	4	6	
	PC2. classify fire according to standard class of fire i.e. class A, B, C, D & E		10	4	6	
	PC3. select the type of fire extinguishers to be used according to the class of fire	120	10	2	8	
	PC4. Use various PPEs applicable during firefighting		10	2	8	
	PC5. adopt suitable firefighting method according to class of fire and firefighting equipment		10	0	10	
2. {HYC/N3602	PC6. operate fire extinguishers using appropriate method to extinguish fire		10	2	8	
Perform fire safety	PC7. maintain fire safety equipment as per maintenance check list		10	4	6	
operation}	PC8. respond in the event of a fire with appropriate fire extinguishing method for fire due to gas leakages		10	2	8	
	PC9. check for open or damage valves in case of fire due to gas leakage		10	4	6	
	PC10. carryout first aid measures in case of inhalation of toxic gas		10	4	6	
	PC11. report the problem to his reporting authority in case of emergency situations		10	6	4	
	PC12. inform the fire safety team/in charge in case the situation out of his control		10	6	4	
			120	40	80	





N-S-D-C National Skill Development Corporation

Compulsory NOS			Marks Allocation		
Total Marks: [Assessment outcomes	100] Assessment Criteria for outcomes	Total Marks	Out Of	Theory	Skills Practical
	PC1. maintain clear communication with colleagues		10	5	5
	PC2. work with colleagues as a team		10	5	5
	PC3. pass on information to in line with organisational requirements	100	10	5	5
	PC4. work in ways that show respect for colleagues		10	5	5
	PC5. carry out commitments made to colleagues		10	5	5
HYC/N9301 Work	PC6. let colleagues know in good time if cannot carry out commitments, explaining the reasons		10	5	5
effectively in a team	PC7. identify problems in working with colleagues and take the initiative to solve these problems		10	5	5
	PC8. follow the organisation's policies and procedures for working with colleagues		15	5	10
	PC9. ability to share resources with other members as per priority of tasks		15	5	10
				45	55