

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR LOGISTICS SECTOR



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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

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Introduction

Qualifications Pack: Tank Farm Supervisor (Options – Tank Farm Infrastructure Management/ Ship and Yard Planning)

SECTOR: LOGISTICS

SUB-SECTOR: Liquid Logistics

OCCUPATION: - Port Operation & Management, Documentation and Reporting, Liquid Transportation Operations, Engineering/ Maintenance

REFERENCE ID: LSC/Q3512

ALIGNED TO: NCO – 2015 – 1324.1201 and ISCO -08 - 3122

Brief Job Description: The individual supervises tank farm operations related to resource allocation, inspection, compliance to regulation, documentation and performance. S/he is also responsible for conducting trend analysis to prepare forecasts and maintenance schedules.

Options

Option 1: Tank Farm Infrastructure Management

The unit is about assisting in management of tank farm infrastructure across regions

Option 2: Ship and Yard Planning

The unit is about supervising cargo handling and storage operations in the port terminal, Inland Container Depot (ICD) or Container Freight Station (CFS)

Personal Attributes:

The job holder should be medically and physically fit to operate in liquid terminals. S/he should be observant and diligent in monitoring operations and performance. S/he should have analytical, organisational and leadership traits to prepare forecasts, budgets and schedules and implement them. The individual should have English and Vernacular language proficiency, demonstrable in spoken, written and oral communication.

Job Details

Qualifications Pack Code	LSC/Q3512		
Job Role	Tank farm supervisor		
Credits (NSQF)	TBD	Version number	1.0
Sector	Logistics	Drafted on	30/06/2018
Sub-sector	Liquid logistics	Last reviewed on	04/05/2019
Occupation	Port Operation & Management, Liquid Transport Operations, Documentation and Reporting	Next review date	04/05/2022
NSQC Clearance on	DD/MM/YYYY		
Effective from	DD/MM/YYYY		

Job Role	Tank farm supervisor
Role Description	The individual supervises tank farm operations related to resource allocation, inspection, compliance to regulation, documentation and performance. S/he is also responsible for conducting trend analysis to prepare forecasts and maintenance schedules.
NSQF	5
Minimum Educational Qualifications	Graduate in Petrochemical/ Chemical engineering/ Chemistry (or) Diploma in Petrochemical/ Chemical Engineering / Class XII (Chemistry, Physics and Mathematics) with relevant experience
Maximum Educational Qualifications	-
Prerequisite License or Training	Not Applicable for License. Should be proficient and cleared Level 3
Minimum Job Entry Age	21 years
Experience	Graduate in Petrochemical/ Chemical engineering/ Chemistry (or) Diploma in Petrochemical/ Chemical Engineering /Class XII (Chemistry, Physics and Mathematics) with 3 years of experience as Tank Farm Associate
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> 1. LSC/N3524 Allocate resources and streamline operations in ports and liquid terminals 2. LSC/N3525 Perform tank farm inspections, inventory tracking and training 3. LSC/N4308 Supervise cleaning pumping and loading activities 4. LSC/N0322 Review documentation and regulatory compliances for liquid cargo 5. LSC/N0323 Analyze trends and prepare forecasts and schedules 6. LSC/N9904 Maintain and monitor integrity and ethics in operations 7. LSC/N3522 Follow health, safety and security procedures in liquid logistics

	<p>Options (Not mandatory):</p> <p>Option 1: Tank Farm Infrastructure Management 1.1 LSC/N3528 Conduct daily review and facilitate operations in tank farms</p> <p>Option 2: Ship and Yard planning 2.1 LSC/N3511 Perform ship and yard planning</p>
<p>Performance Criteria</p>	<p>As described in the relevant OS units</p>

Keywords /Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
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 NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards	NOS are Occupational Standards which apply uniquely in the Indian context
Electives	Electives are NOS/set of NOS that are identified by the sector as contributive to specialization in a job role. There may be multiple electives within a Qualifications Pack (QP) for each specialized job role. Trainees must select atleast one elective for the successful completion of a QP with Electives
Options	Options are NOS/set of NOS that are identified by the sector as additional skills. there may be multiple options within a QP. It is not mandatory to select any of the options to complete a QP with Options.
Unit Code	Unit code is a unique identifier for an Occupational Standard, which is denoted by an 'N'
Unit Title	Unit title gives a clear overall statement about what the incumbent should be able to do.
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack	QP comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a

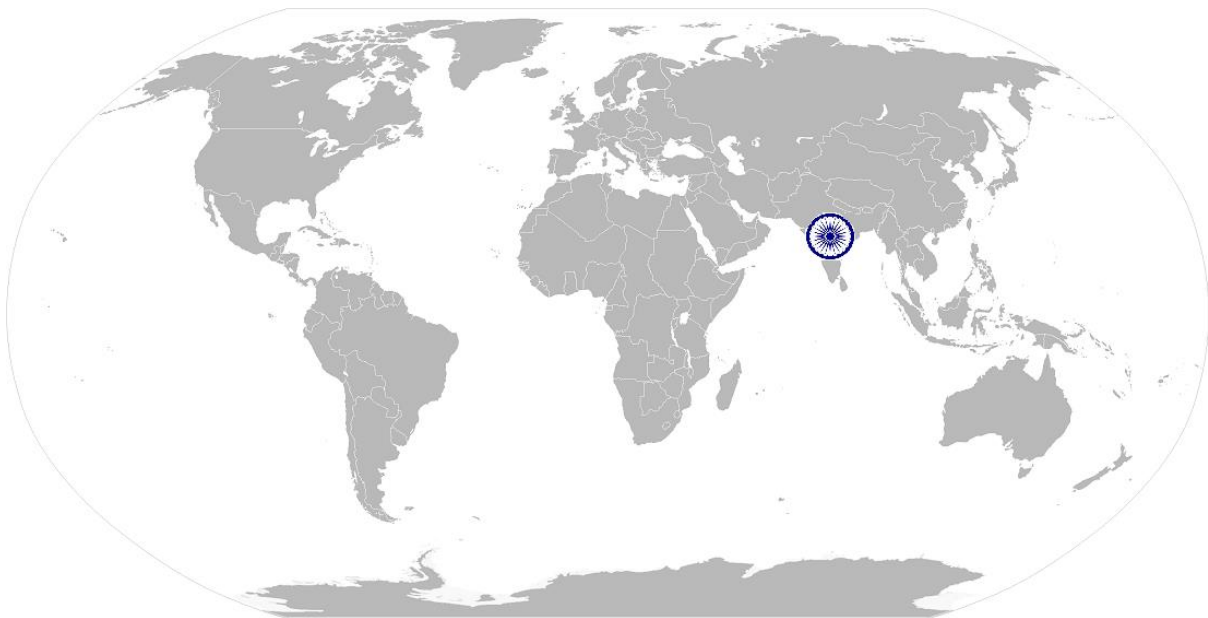
Qualifications Pack for Tank Farm Supervisor

	critical impact on the quality of performance required.
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.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

Acronyms

API	American Petroleum Institute
CFS	Container Freight Station
ERP	Enterprise resource planning
GPS	Global Positioning System
HAZCHEM	Hazardous Chemicals
HR	Human Resources
ICD	Inland Container Depot
IEC	International Electrotechnical Commission
IMDG	International Maritime Dangerous Goods
ISCO	International Standard Classification of Occupations
IOT	Internet of Things
IT	Information Technology
MHE	Material Handling Equipment
MIS	Management information system
NCO	National Classification of Occupations
NFPA	National Fire Protection Association
NOS	National Occupational Standards
NSQC	National Skills Qualifications Committee
NSQF	National Skills Qualifications Framework
OH&S	Occupational Health and Safety
OS	Occupational Standards
OSHA	Occupational Safety and Health Administration
PC	Performance Criteria
PGA	Participating Government Agencies
PPE	Personal Protective Equipment
QP	Qualifications Pack
RFID	Radio Frequency Identification
SOPs	Standard Operating Procedures
SSC	Sector Skill Council
VHF	Very high frequency

National Occupational Standard



Overview

This unit is about allocating resources and streamlining operations at a ports and liquid terminals.

LSC/N3524 Allocate resources and streamline operations at ports and liquid terminals

National Occupational Standard

Unit Code	LSC/N3524
Unit Title (Task)	Allocate resources and streamline operations at liquid terminals
Description	This unit is about Allocating resources and streamlining operations at liquid terminals
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Prepare work plan and allocate resources • Monitor daily operations • Resolve escalated issues <p>Range: Stationery, radio frequency identification (RFID) scanner, bar code scanner, markers, Personal Protective Equipment (PPEs), Enterprise resource planning (ERP), computer, printers, Global Positioning System (GPS) tracker, piping and pumping equipment, International Maritime Dangerous Goods (IMDG), hazardous chemicals (HAZCHEM) codes and Standard Operating Procedures (SOPs) etc.</p>
Performance Criteria (PC) w.r.t. the scope	
Element	Performance Criteria
Prepare work plan and allocate resources	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. obtain details of vessel docking plans, cargo loading and unloading plans, etc.</p> <p>PC2. develop daily work plan factoring in priority cases, time bound requirements, special handling requirements, capacity of tanks etc.</p> <p>PC3. get the work plan approved by the terminal manager and allocate tasks to subordinates</p> <p>PC4. budget and allocate the requisite equipment and systems for tasks at hand</p>
Monitor daily operations	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC5. conduct inspection of terminal for safety, cleanliness, marking of material movement and people movement areas, etc.</p> <p>PC6. conduct field inspections to review the status of loading, unloading and maintenance activities</p> <p>PC7. engage resources in alternate operation when there is a delay of planned operations</p> <p>PC8. allocate additional and ad-hoc manpower and equipment during exigency</p> <p>PC9. escalate issues regarding pipeline operations, transporter delays, vessel delays, accidents, damages, etc. to manager</p> <p>PC10. provide corrective and preventive action plans based on accident and damage reports</p> <p>PC11. liaise with port officials, customs officials and external stakeholders</p>
Resolve escalated issues	<p>To be competent, the user/ individual must be able to:</p> <p>PC12. review escalated issues and identify root cause for providing corrective action</p> <p>PC13. provide technical guidance to the team for execution</p> <p>PC14. escalate the issues to manager when external or additional help is required</p> <p>PC15. coordinate with other departments, transporters, freight operators, port authorities, shipping companies and others to resolve escalations if required</p>

LSC/N3524 Allocate resources and streamline operations at ports and liquid terminals

Knowledge and understanding (K)	
A. Organizational context (Knowledge of the company / organization and its processes)	The individual on the job needs to know and understand: KA1. organizational procedures KA2. documentation and reporting as per organization's mandate KA3. security procedures to be followed KA4. escalation matrix for reporting identified problems KA5. risk and impact of not following defined procedures/work instructions KA6. coding system followed to label cargo KA7. Information Technology (IT) system and ERP system of the organization
B. Technical knowledge	The individual on the job needs to know and understand: KB1. basics of operations in a port terminals and liquid terminals KB2. different type of cargo, their classification – A, B, C and their handling procedure and precautions KB3. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations KB4. use of various cargo handling equipment KB5. use of rope, flags and other manual equipment KB6. vessel layout and loading and unloading activities KB7. procedures of tank cleaning, cargo movement KB8. requirements regarding handling of cargo KB9. different type of vessels and cargo and container sizes KB10. different type of cranes and Material Handling Equipment (MHEs) – their capacities, constraints and usage KB11. handling of hazardous and non-hazardous cargo - – IMDG code KB12. marking of material and people movement areas KB13. stuffing and de-stuffing norms with respect to different cargo KB14. special characteristics and handling requirements of shipments, if any
Skills (S)	
A. Core skills/ generic skills	Reading skills
	The user/individual on the job needs to know how to read: SA1. written instructions SA2. ERP alarms, gauges and meters, message and notifications, daily reports SA3. checklists
	Writing skills
	The user/individual on the job needs to know how to write: SA4. monitoring and inspection reports SA5. instructions SA6. training pedagogy

LSC/N3524 Allocate resources and streamline operations at ports and liquid terminals

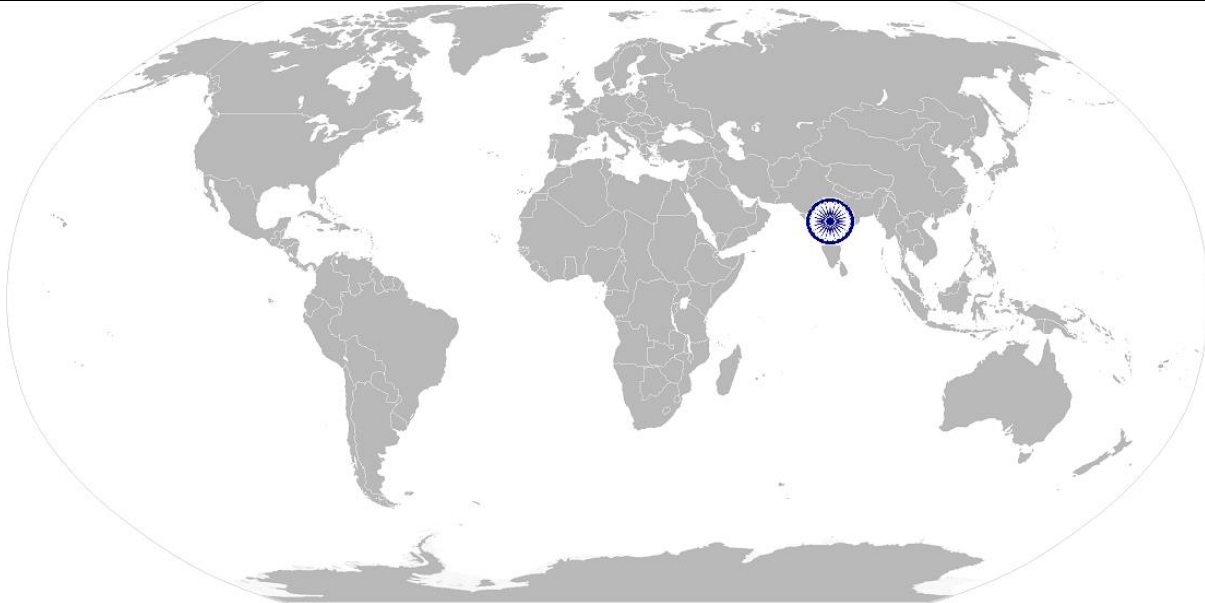
	<p>Oral communication (listening and speaking skills)</p> <p>The user/individual on the job needs to know how to:</p> <p>SA7. communicate with supervisors, ground workforce, pumping attendants, transport operators</p> <p>SA8. coordinate with local authorities, external support agencies</p>
B. Professional skills	<p>Decision making</p> <p>The user/individual on the job needs to know how to:</p> <p>SB1. decide on required workforce and equipment for performing a particular task</p> <p>SB2. assess the environmental condition and type of cargo to assess if it is safe for operations</p> <p>SB3. resolve a problem quickly internally</p> <p>SB4. prioritise shipments</p> <p>SB5. decide on deployment of alternate resources when required</p>
	<p>Plan and organize</p> <p>The user/individual on the job needs to know how to:</p> <p>SB6. plan and estimate the co-ordination required for resolving a query.</p> <p>SB7. maintain punctuality</p> <p>SB8. respond to the client in a timely manner</p> <p>SB9. prioritize and execute tasks based on client requirements</p> <p>SB10. make work plans and resource allocation plans</p> <p>SB11. make checks on execution of work plans</p> <p>SB12. be a team player and achieve joint goals</p>
	<p>Customer centricity</p> <p>The user/individual on the job needs to know how to:</p> <p>SB13. adhere to the customer timelines</p> <p>SB14. address the urgency regarding shipments and activities</p>
	<p>Problem solving</p> <p>The user/individual on the job needs to know how to:</p> <p>SB15. make adjustment to working requirements for difficult weathers and hazardous goods</p> <p>SB16. identify trends/common causes for delays, damages, etc.</p> <p>SB17. co-ordinate and handle major issues with different departments</p> <p>SB18. identify bottlenecks and operational problems and suggest remedial action</p>
	<p>Analytical thinking</p> <p>The user/individual on the job needs to know how to:</p> <p>SB19. assess the resource requirement for a particular task at hand</p> <p>SB20. assess and prepare for backup resources in case of delays</p>
	<p>Critical thinking</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB21. resolve issues in a quick and cost effective manner</p>

LSC/N3524 Allocate resources and streamline operations at ports and liquid terminals

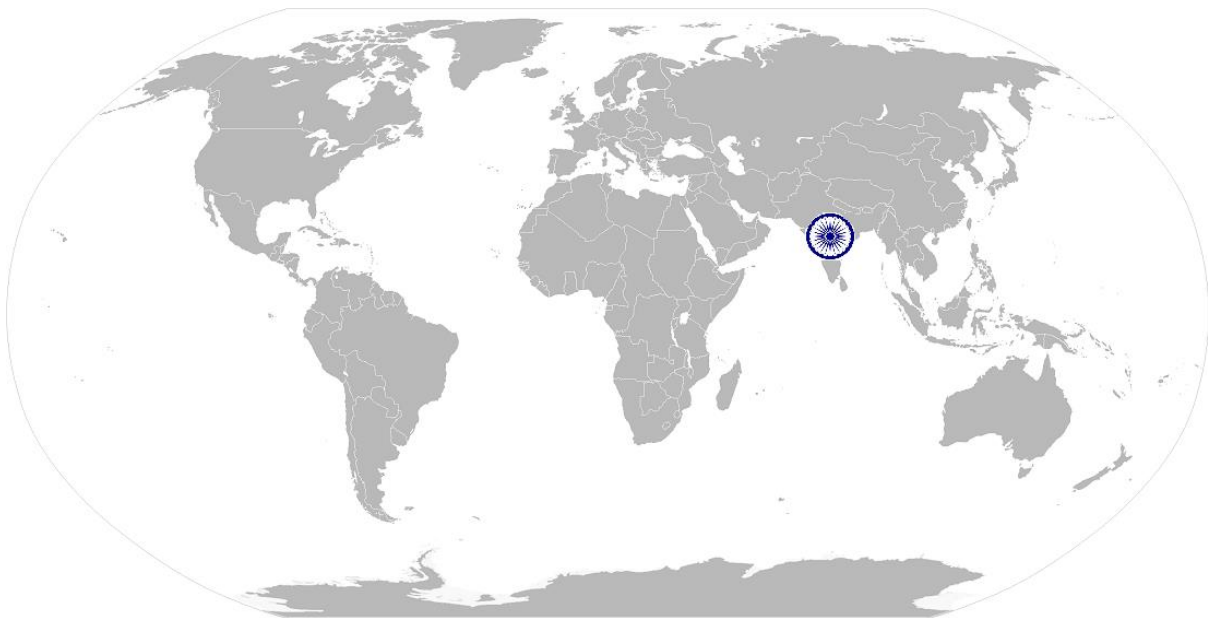
	SB22. develop work plans factoring in external factors
	SB23. Check that all security measures and safety protocols are followed at all times

NOS Version Control

NOS Code	LSC/N3524		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Port Operation & Management (tank farm management)	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about monitoring the tank farm operations, conducting inspections, tracking inventory and estimating losses and training of workers

LSC/N3525

Perform tank farm inspections, inventory tracking and training

National Occupational Standard

Unit Code	LSC/N3525
Unit Title (Task)	Perform tank farm inspections, inventory tracking and training
Description	This unit is about monitoring the tank farm operations, conducting inspections, tracking inventory and estimating losses and training of workers
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Monitor tank farm operations and inventory • Inspect the tank farm • Train subordinates <p>Range – Tank farm, pipeline, pumps, controls and valves, central control unit, simulator, Personal Protective Equipment (PPE), computer, projector, worksheets, stationery etc.</p>
Performance Criteria(PC) w.r.t. the scope	
Element	Performance Criteria
Monitor tank farm operations and inventory	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. review daily reports related to tank farm equipment such as alarms, control valves and ensure they are correctly functioning</p> <p>PC2. review the daily recording of different measuring devices in the control room to check that all parameters are under prescribed limits</p> <p>PC3. instruct subordinates to take preventive actions such as pressure release, pumping of liquid, etc., in case of any anomaly in reports</p> <p>PC4. monitor daily inventory report with regards to pressure, temperature and cargo levels to check for losses</p> <p>PC5. take corrective and preventive actions if cargo loss is over the prescribed limits</p> <p>PC6. ensure compliance to hazardous material handling norms</p> <p>PC7. estimate loss and submit reports detailing the loss, status of controls and monitoring parameters</p> <p>PC8. escalate issues to manager and external technical support team as and when required</p>
Inspect tank farms	<p>To be competent, the user/ individual must be able to:</p> <p>PC9. inspect tanks and check for corrosion, missing paints, fractures and leakages from welding and drainage, cleanliness, adherence to regulatory and company norms, etc.</p> <p>PC10. provide instructions for maintenance works like surface painting, cleaning of exteriors, removal of residuals lying outside etc.</p> <p>PC11. check and ensure that emergency pathways are not obstructed, and emergency systems are operational and easily accessible</p> <p>PC12. check that all pumps, pipelines are functional and free from corrosion</p>

LSC/N3525

Perform tank farm inspections, inventory tracking and training

	PC13. escalate issues that need external technical repairs and servicing
Train subordinates	To be competent, the user/ individual must be able to: PC14. train subordinates on monitoring, cleaning and loading/unloading of tanks PC15. train subordinates on common causes for errors, accidents, standard precautions, post-accident disaster response, and regulatory compliances etc. PC16. conduct specific incident-based training and detail the preventive and disaster response to be undertaken in such cases PC17. document trainings conducted and track of regularity of training
Knowledge and understanding (K)	
B. Organizational context (Knowledge of the company / organization and its processes)	The individual on the job needs to know and understand: KA1. organizational procedures and Standard Operating Procedures (SOPs) for tasks at hand, documentation policy and emergency responses KA2. security and safety procedures to be followed KA3. reporting structure of the organization and the supplier for escalation of issues KA4. risk and impact of not following defined procedures/work instructions KA5. coding system followed for different type of liquids and their distress codes
B. Technical knowledge	The individual on the job needs to know and understand: KB1. different type of cargo, their classification – A, B, C and their handling procedure and precautions KB2. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations KB3. using fire extinguisher and protocols for emergencies KB4. operations of control systems, pumps, valves, alarm systems, etc. KB5. documentation requirement for different type of cargo and their handling KB6. handling and emergency procedures for hazardous cargo KB7. training methodology KB8. current events regarding liquid tank farms happening across the world including new technologies and best practices KB9. various common mistakes and precautions to be taken in tank farms
Skills (S)	
C. Core skills/ generic skills	Reading skills
	The user/individual on the job needs to know how to read: SA1. written instructions SA2. Enterprise resource planning (ERP) alarms, gauges and meters, message and notifications, daily reports SA3. Checklists

LSC/N3525

Perform tank farm inspections, inventory tracking and training

	Writing skills
	The user/individual on the job needs to know how to write: SA4. monitoring and inspection reports SA5. instructions SA6. training pedagogy
	Oral communication (listening and speaking skills)
	The user/individual on the job needs to know how to: SA7. communicate with supervisors, ground workforce, pumping attendants, transport operators SA8. coordinate with local authorities, external support agencies
D. Professional skills	Decision making
	The user/individual on the job needs to know how to: SB1. identify anomaly in operations SB2. identify damage or abnormalities in tank structure SB3. decide on need for servicing, repair and training
	Plan and organize
	The user/individual on the job needs to know how to: SB4. plan and coordinate between teams to achieve joint goals. SB5. maintain punctuality and respond in a timely manner SB6. prioritize and execute tasks based on checklist and priority requirements SB7. do a check of activity completion
	Customer centricity
	The user/individual on the job needs to know how to: SB8. adhere to the assigned timelines SB9. address the urgency regarding cargo and emergencies
	Problem solving
	The user/individual on the job needs to know how to: SB10. anticipate need for repair or maintenance in tanks SB11. anticipate additional precautions to be taken for different operations SB12. coordinate with manager, external stakeholders to quickly address issues
	Analytical thinking
	The user/individual on the job needs to know how to: SB13. analyse trends of cargo level, alarms, servicing requirement, etc. to draw inferences and future requirements SB14. analyse trend of type of cargo stored to understand future requirement SB15. estimate ageing of cargo and periodic requirement for tank maintenance
	Critical thinking
	The user/individual on the job needs to know and understand how to: SB16. anticipate and identify hazardous situations and take necessary precautions

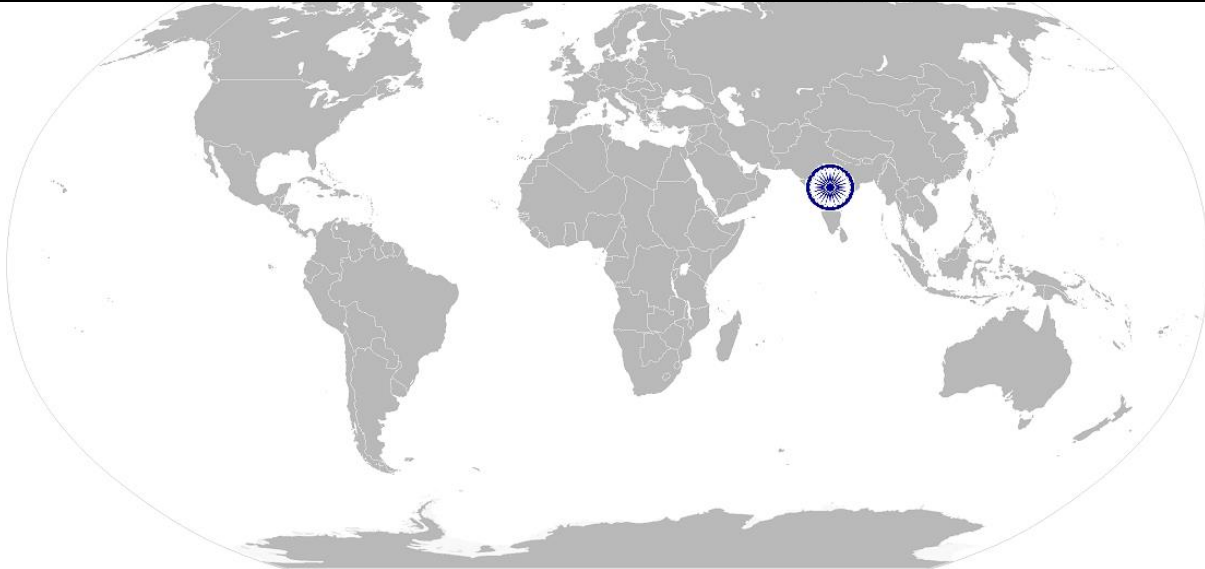
LSC/N3525

Perform tank farm inspections, inventory tracking and training

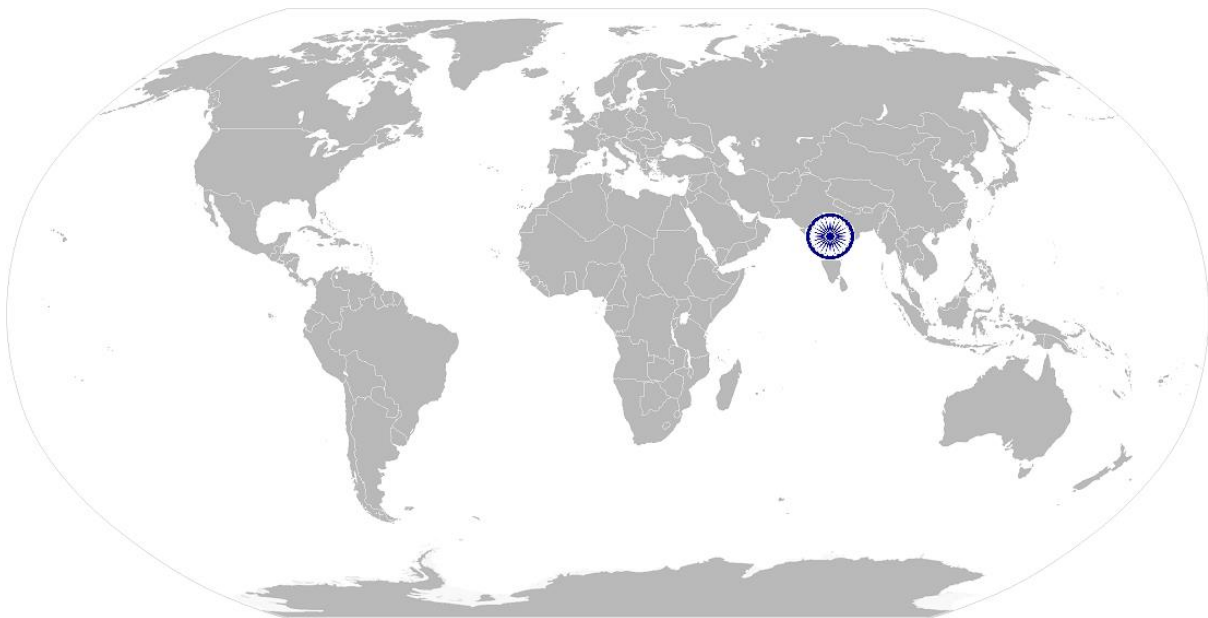
	SB17. raise alarm and quick emergency response in case of hazards and accidents SB18. monitor inventory to track losses, theft, etc.
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NOS Version Control

NOS Code	LSC/N3525		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Port Operation & Management (tank farm management, tank cleaning)	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about supervising and monitoring different tank farm operations - cleaning pumping and loading activities

LSC/N4308 Supervise cleaning, pumping and loading/unloading activities

National Occupational Standard

Unit Code	LSC/N4308
Unit Title (Task)	Supervise cleaning, pumping and loading activities
Description	This unit is about supervising and monitoring different tank farm operations - cleaning pumping and loading/unloading activities
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Supervise cleaning activities • Supervise pumping operations • Supervise loading/unloading operations <p>Range: Tank farm, loading/unloading equipment, cleaning equipment and consumables, control equipment, Standard Operating Procedures (SOP), documentation, computer, projector, worksheets, stationery etc.</p>
Performance Criteria(PC) w.r.t. the scope	
Element	Performance Criteria
Supervise cleaning activities	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. provide instructions for residual removal and cleaning process and monitor the activities</p> <p>PC2. check reports regarding residual removals to verify the quantity of cargo removed from the tank</p> <p>PC3. review reports for presence of noxious and hazardous gases or liquid prior to cleaning operations</p> <p>PC4. coordinate with external cleaning agencies and provide the necessary support</p> <p>PC5. inspect tank post cleaning and check for corrosion, cracks, remaining residue, presence of gases, humidity, etc.</p>
Supervise pumping operations	<p>To be competent, the user/ individual must be able to:</p> <p>PC6. coordinate with vessel, port, inland receiving supervisor regarding cargo to be transferred and get the requisite authorizations and documentation</p> <p>PC7. coordinate with manager, stakeholders to set volume to be pumped out and inform associate</p> <p>PC8. review pre-pumping report regarding fitness of equipment, pipelines, pumps and connections</p> <p>PC9. monitor pumping operations from the control room recording liquid flow, pressure, operation of various valves and pumps, etc.</p> <p>PC10. stop operations and instruct for maintenance check in case of any leakages, pressure drops, etc.</p> <p>PC11. review and authorise post operation report and confirm the same with the receiving supervisor</p>
Supervise loading/unloading	<p>To be competent, the user/ individual must be able to:</p> <p>PC12. plan for daily loading/unloading based on requirement</p> <p>PC13. coordinate with transporters and arrange adequate number of rail wagons or</p>

LSC/N4308

Supervise cleaning, pumping and loading/unloading activities

	<p>trucks</p> <p>PC14. review fitness report of transport vehicles before loading and seek replacement if they are unfit for operation</p> <p>PC15. review fitness reports of loading/unloading terminal equipment and manpower with respect to regulatory and company compliance</p> <p>PC16. inspect loading/unloading terminal to check for compliance to SOP, cleanliness, use of Personal Protective Equipment (PPEs), compliance to regulatory requirements, functioning of emergency controls, etc.</p> <p>PC17. review records of daily inventory movement – loading/ unloading and available inventory with respect to assigned targets</p>
<p>Knowledge and understanding (K)</p>	
<p>A. Organizational context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. organizational procedures and SOPs for tasks at hand, documentation policy and emergency responses</p> <p>KA2. security and safety procedures to be followed</p> <p>KA3. reporting structure of the organization and the supplier for escalation of issues</p> <p>KA4. risk and impact of not following defined procedures/work instructions</p> <p>KA5. coding system followed for different type of liquids and their distress codes</p>
<p>B. Technical knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. different type of cargo, their classification – A, B, C and their handling procedure and precautions</p> <p>KB2. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations</p> <p>KB3. using fire extinguisher and protocols for emergencies</p> <p>KB4. operations of control systems, pumps, valves, alarm systems, etc.</p> <p>KB5. documentation requirement for different type of cargo and their handling</p> <p>KB6. handling and emergency procedures for hazardous cargo</p> <p>KB7. various common mistakes and precautions to be taken in loading, unloading and cleaning process</p> <p>KB8. monitoring of cargo during loading, unloading and pumping</p> <p>KB9. coordination with related stakeholders – cleaning agencies, receiving supervisors, vessels, ports, etc.</p> <p>KB10. documents and certificates to be verified in case of transports both trucks and wagons</p>
<p>Skills (S)</p>	
<p>C. Core skills/</p>	<p>Reading skills</p> <p>The user/individual on the job needs to know how to read:</p>

LSC/N4308 Supervise cleaning, pumping and loading/unloading activities

generic skills	SA1. written instructions
	SA2. Enterprise Resource Planning (ERP), alarms, gauges and meters, message and notifications, daily reports
	SA3. checklists
	Writing skills
	The user/individual on the job needs to know how to write:
	SA4. monitoring and inspection reports
	SA5. instructions
	SA6. letters and communications via email
D. Professional skills	Oral communication (listening and speaking skills)
	The user/individual on the job needs to know how to:
	SA7. communicate with supervisors, ground workforce, pumping attendants, transport operators
	SA8. coordinate with local authorities, external support agencies
	Decision making
	The user/individual on the job needs to know how to:
	SB1. identify hazards and losses in transports
	SB2. decide if cleaning is adequate and the tank is fit for use
D. Professional skills	Plan and organize
	The user/individual on the job needs to know how to:
	SB3. plan and coordinate between teams to achieve joint goals.
	SB4. maintain punctuality and respond in a timely manner
	SB5. prioritize and execute tasks based on checklist and priority requirements
	SB6. do a check of activity completion
	Customer centricity
	The user/individual on the job needs to know how to:
	SB7. adhere to the assigned timelines
	SB8. address the urgency regarding cargo and emergencies
	Problem solving
	The user/individual on the job needs to know how to:
	SB9. resolve documentation issues with other stakeholders to facilitate transports
SB10. guide for additional precautions to be taken for different operations	
SB11. coordinate with manager, external stakeholders to quickly address issues	
Analytical thinking	
The user/individual on the job needs to know how to:	
SB12. analyse time required and trend of loading/unloading to estimate efficiencies and daily targets	
SB13. analyse trend of type of cargo stored to understand future requirement	
Critical thinking	

LSC/N4308 Supervise cleaning, pumping and loading/unloading activities

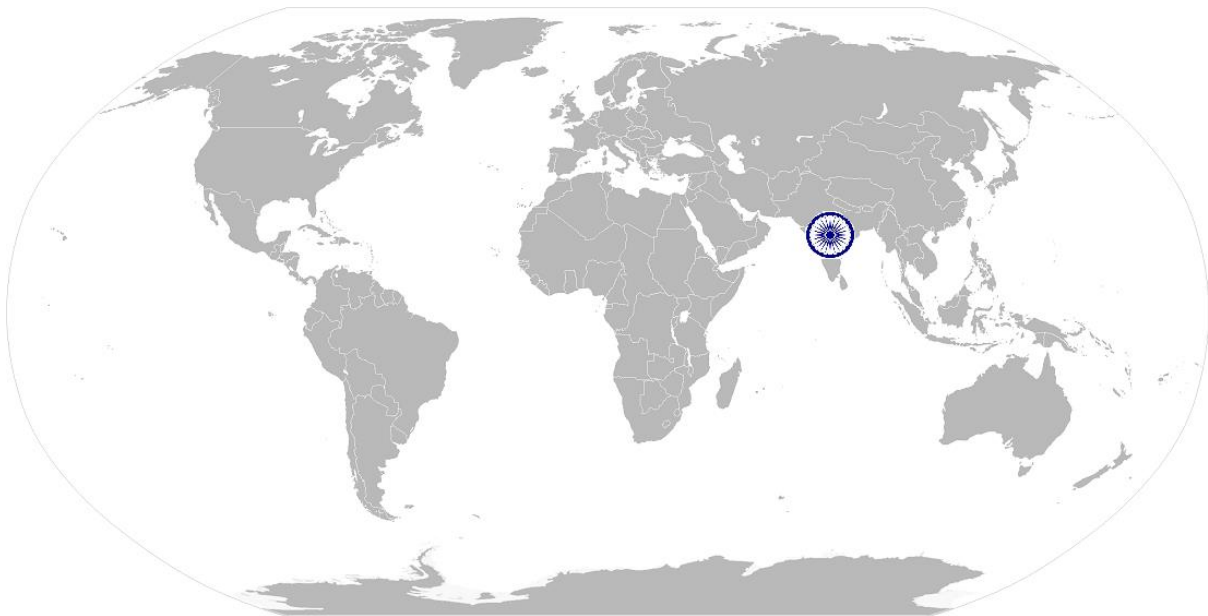
	<p>The user/individual on the job needs to know and understand how to:</p> <p>SB14. anticipate and identify hazardous situations and take necessary precautions</p> <p>SB15. raise alarm and quick emergency response in case of hazards and accidents</p> <p>SB16. monitor inventory to track losses, theft, etc.</p>
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NOS Version Control

NOS Code		LSC/N4308	
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Liquid transport operations (loading/unloading, pumping and pipeline)	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about reviewing port and cargo documentation, documenting regulatory compliances and coordinating for the same

LSC/N0322 Review documentation and regulatory compliances for liquid cargo

National Occupational Standard	Unit Code	LSC/N0322
	Unit Title (Task)	Review documentation and regulatory compliances for liquid cargo
	Description	This unit is about reviewing port and cargo documentation, documenting regulatory compliances and coordinating for the same
	Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Review cargo and compliance documentation Coordinate and perform customer service <p>Range: Cargo documentation, vehicle documentation, International Maritime Dangerous Goods (IMDG), Hazardous Chemicals (HAZCHEM) documents, Standard Operating Procedures (SOP), computer, projector, worksheets, stationery etc.</p>
	Performance Criteria(PC) w.r.t. the scope	
	Element	Performance Criteria
	Review cargo and compliance documentation	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. coordinate with shipping lines, vessels, freight transporters, importers and exporters and the port authorities to obtain requisite cargo documents</p> <p>PC2. review documentation of transport vehicles including their certificates for fitness for operation, availability of requisite license, etc.</p> <p>PC3. review cargo documents like bill of lading, shipping bills, Participating Government Agencies (PGA) clearances, etc. for compliance to regulations and standards</p> <p>PC4. review fitness certificates and related documents of Material Handling Equipment (MHEs), cranes and terminal equipment</p> <p>PC5. review and approve gate entry and exit passes for transporters, vehicles</p> <p>PC6. check for fitness and functionality of disaster response equipment and systems</p> <p>PC7. ensure periodic training and fitness of disaster response team</p> <p>PC8. review evacuation and first response protocol to be followed in case of pollutions and disasters</p> <p>PC9. prepare compliance and fitness reports as per regulatory requirements regarding tank farm layout, disaster response, fitness of equipment, etc.</p>
	Coordinate and perform customer service	<p>To be competent, the user/ individual must be able to:</p> <p>PC10. respond and resolve queries raised by port and custom authorities, custom brokers, shipping liners, clients, transporters regarding status of different shipments</p> <p>PC11. coordinate between the vessel, shipper/ importer/exporter, agents and port authorities to ensure that all compliances and requirements are met</p> <p>PC12. respond and coordinate with various PGAs and regulatory authorities regarding cargo handling and their specific requirements</p>
	Knowledge and understanding (K)	

LSC/N0322 Review documentation and regulatory compliances for liquid cargo

<p>A. Organizational context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. organizational procedures and SOPs for tasks at hand, documentation policy and emergency responses</p> <p>KA2. security and safety procedures to be followed</p> <p>KA3. reporting structure of the organization and the supplier for escalation of issues</p> <p>KA4. risk and impact of not following defined procedures/work instructions</p> <p>KA5. coding system followed for different type of liquids and their distress codes</p>
<p>B. Technical knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. different type of cargo, their classification – A, B, C and their handling procedure and precautions</p> <p>KB2. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines, International Maritime Dangerous Goods (IMDG), Hazardous Chemicals (HAZCHEM) guidelines and various committee recommendations</p> <p>KB3. different regulatory authorities, PGAs, stakeholders involved</p> <p>KB4. regulatory requirements with respect to cargo handling and terminal layout</p> <p>KB5. using fire extinguisher and protocols for emergencies</p> <p>KB6. documentation requirement for different type of cargo, equipment and their handling</p> <p>KB7. handling and emergency procedures for hazardous cargo</p> <p>KB8. coordination with related stakeholders</p> <p>KB9. documents and certificates to be verified in case of transports both trucks and wagons</p>
<p>Skills (S)</p>	
<p>A. Core skills/ generic skills</p>	<p>Reading skills</p> <p>The user/individual on the job needs to know how to read:</p> <p>SA1. written instructions</p> <p>SA2. shipping manifest, Bill of lading shipping bills and related documents</p> <p>SA3. Enterprise resource planning (ERP) and computer generated reports</p> <p>SA4. Terminal layout and storage plans</p> <p>SA5. SOPs and safety regulation and compliance manuals and reports</p> <p>Writing skills</p> <p>The user/individual on the job needs to know how to write:</p> <p>SA6. work-orders and instructions</p> <p>SA7. various reports and letters</p> <p>Oral communication (listening and speaking skills)</p> <p>The user/individual on the job needs to know how to:</p>

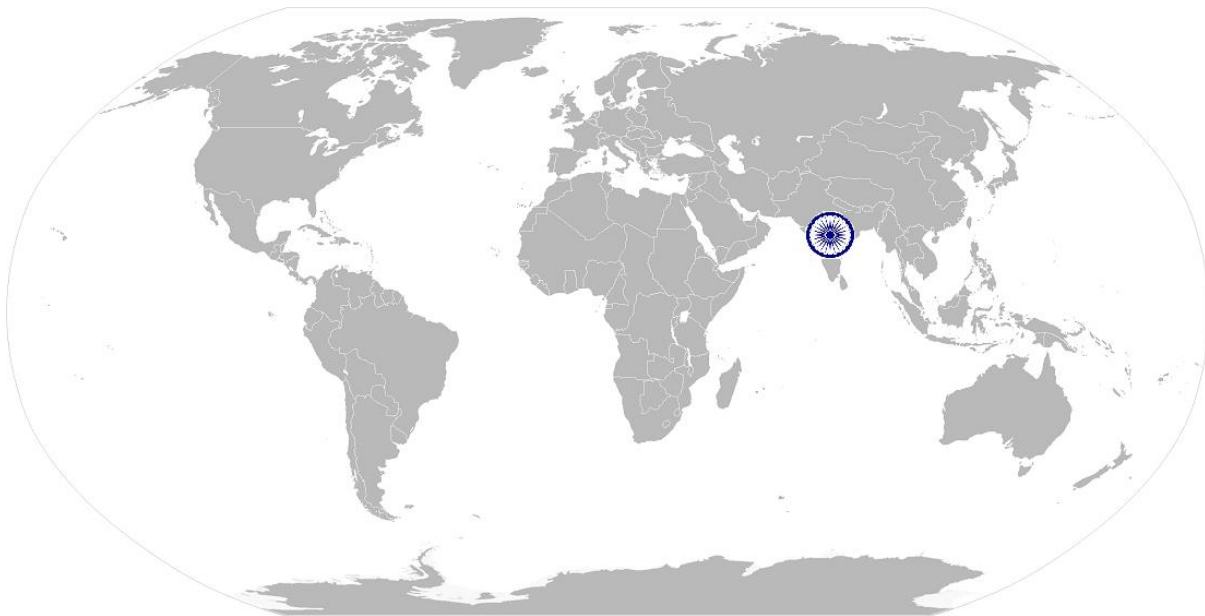
LSC/N0322 Review documentation and regulatory compliances for liquid cargo

	<p>SA8. communicate with customers, firehgt operators, transporters, shipping companies, other supervisors and port authorities</p> <p>SA9. communicate with regulatory authorities and PGAs</p>
B. Professional skills	Decision making
	The user/individual on the job needs to know how to:
	SB1. check if the cargo, equipment, layout meets compliance
	SB2. decide on the appropriate response and documentation of different queries and events
	Plan and organize
	The user/individual on the job needs to know how to:
	SB3. plan and estimate the co-ordination required for resolving a query.
	SB4. maintain punctuality and respond in a timely manner
	SB5. prioritize and execute tasks based on client requirements
	SB6. make work plans and resource allocation plans
	SB7. make checks on execution of work plans
SB8. be a team player and achieve joint goals	
Customer centricity	
The user/individual on the job needs to know how to:	
SB9. adhere to assigned timelines and compliance requirements	
SB10. address the urgency regarding various documentation and compliance requests	
Problem solving	
The user/individual on the job needs to know how to:	
SB11. identify trends/common mistakes in compliance to a procedure and its documentation	
SB12. co-ordinate and handle major issues with different departments	
SB13. provide suggestions for meeting compliance in different activities	
Analytical thinking	
The user/individual on the job needs to know how to:	
SB14. anticipate compliance requirements for different activities	
SB15. review layout plans to ensure storage plan meets complinace	
Critical thinking	
The user/individual on the job needs to know and understand how to:	
SB16. ensure complinace in all documentation and operations	
SB17. check that all security measures and safety protocols are followed at all times	

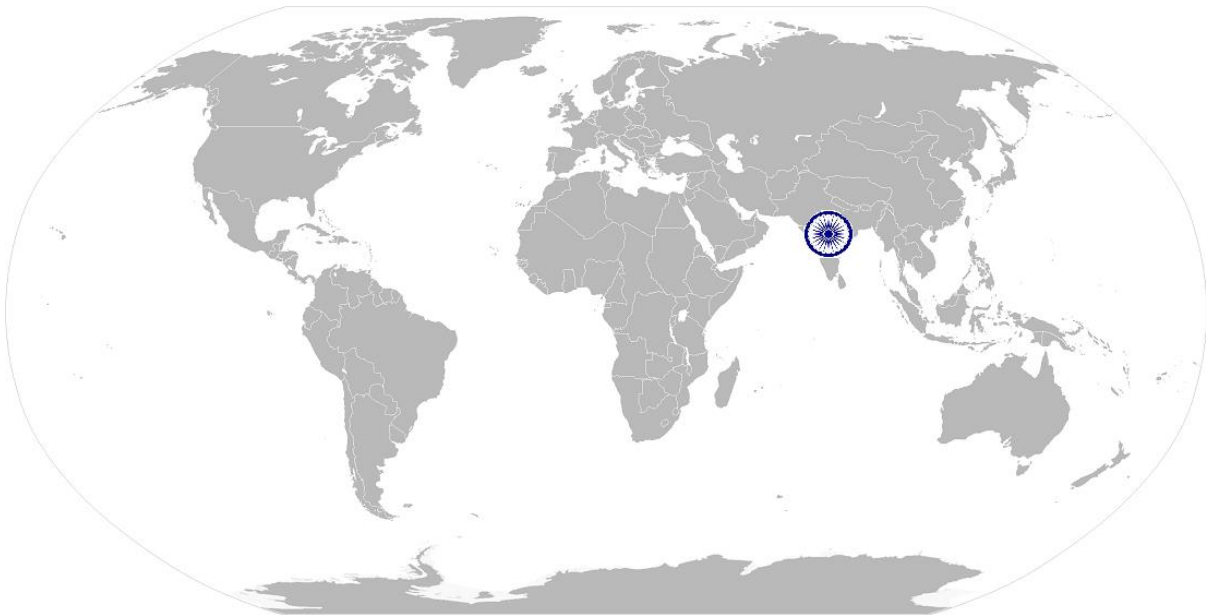
LSC/N0322 Review documentation and regulatory compliances for liquid cargo

NOS Version Control

NOS Code	LSC/N0322		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Documentation and Reporting	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about analysing cargo trends, preparing forecasts and monitoring schedules

LSC/N0323

Analyse trends and prepare forecasts and schedules

National Occupational Standard

Unit Code	LSC/N0323
Unit Title (Task)	Analyse trends and prepare forecasts and schedules
Description	This unit is analysing cargo trends, prepare forecasts and monitor schedules
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Analyse cargo trends and prepare forecasts Analyse operational trends and estimate maintenance <p>Range: Enterprise resource planning (ERP), Management information system (MIS) reports, computer, projector, stationery, worksheets etc.</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Analyse cargo trends and prepare forecasts	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. analyse the historic trends of different types of cargo handled in the terminal and their frequency of operations</p> <p>PC2. analyse cargo ageing in tank farm, pipeline usage, cleaning frequency, and loss trends</p> <p>PC3. analyse wagon and truck loading/unloading operations and their efficiencies</p> <p>PC4. draw inferences regarding the most commonly stored cargo, average ageing, daily transactions in terms of loading/unloading and pumping operations</p> <p>PC5. estimate average utilization of tank capacities, operational costs, estimated product wise costs, product loss trends etc.</p> <p>PC6. suggest recommendation for increasing utilization of tanks, reducing transactional losses, better monitoring of operational parameters, improving loading/unloading turn around time, reducing costs etc.</p> <p>PC7. prepare near future forecasts in terms of cargo mix and quantity based on historic analysis and committed cargo traffic</p> <p>PC8. estimate resources and budget required for handling the forecasted cargo mix</p> <p>PC9. report the analysis and forecast to manager for inputs and further analysis</p>
Analyse operational trends to estimate maintenance	<p>To be competent, the user/ individual must be able to:</p> <p>PC10. analyse tank equipment performance in terms of repairs undertaken, time elapsed since last scheduled maintenance, frequency of emergency alarms, component breakdown, cargo loss, rate of corrosion, etc.</p> <p>PC11. estimate the maintenance requirement and frequency considering performance and frequency of change of cargo</p> <p>PC12. prepare maintenance schedules based on analysis and implement the same</p> <p>PC13. prepare analysis and reports for manager</p>
Knowledge and understanding (K)	

LSC/N0323

Analyse trends and prepare forecasts and schedules

<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. organizational procedures and Standard Operating Procedures (SOPs) for tasks at hand, documentation policy and emergency responses</p> <p>KA2. security and safety procedures to be followed</p> <p>KA3. reporting structure of the organization and the supplier for escalation of issues</p> <p>KA4. risk and impact of not following defined procedures/work instructions</p> <p>KA5. coding system followed for different type of cargo and their distress codes</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know:</p> <p>KB1. different type of cargo, their classification – A, B, C and their handling procedure and precautions</p> <p>KB2. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations</p> <p>KB3. using fire extinguisher and protocols for emergencies, pollution and leakages</p> <p>KB4. operations of control systems pumps, valves, alarm systems, etc.</p> <p>KB5. use of analytical tools, ERPs, software</p> <p>KB6. understanding of tanks, their life terms, repair and maintenance requirements, etc.</p> <p>KB7. basic understanding of different tank farm/ liquid terminal operation costs, their norms and estimates</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/individual on the job needs to know how to read:</p> <p>SA1. information on documents and in ERP</p> <p>SA2. various cargo labels and requirements</p> <p>SA3. handling instructions/company log books and records</p> <p>SA4. SOPs and safety manuals</p> <p>SA5. reports, presentations, etc.</p> <p>Writing Skills</p> <p>The user/individual on the job needs to know how to:</p> <p>SA6. written instructions, reports and analysis</p> <p>SA7. prepare presentations, schedules, forecasts</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know how to:</p> <p>SA8. communicate clearly with managers, supervisors and other stakeholders</p> <p>SA9. provide advice and guidance to peers and juniors</p>
<p>B. Professional Skills</p>	<p>Decision Making</p> <p>The user/individual on the job needs to know how to:</p>

LSC/N0323

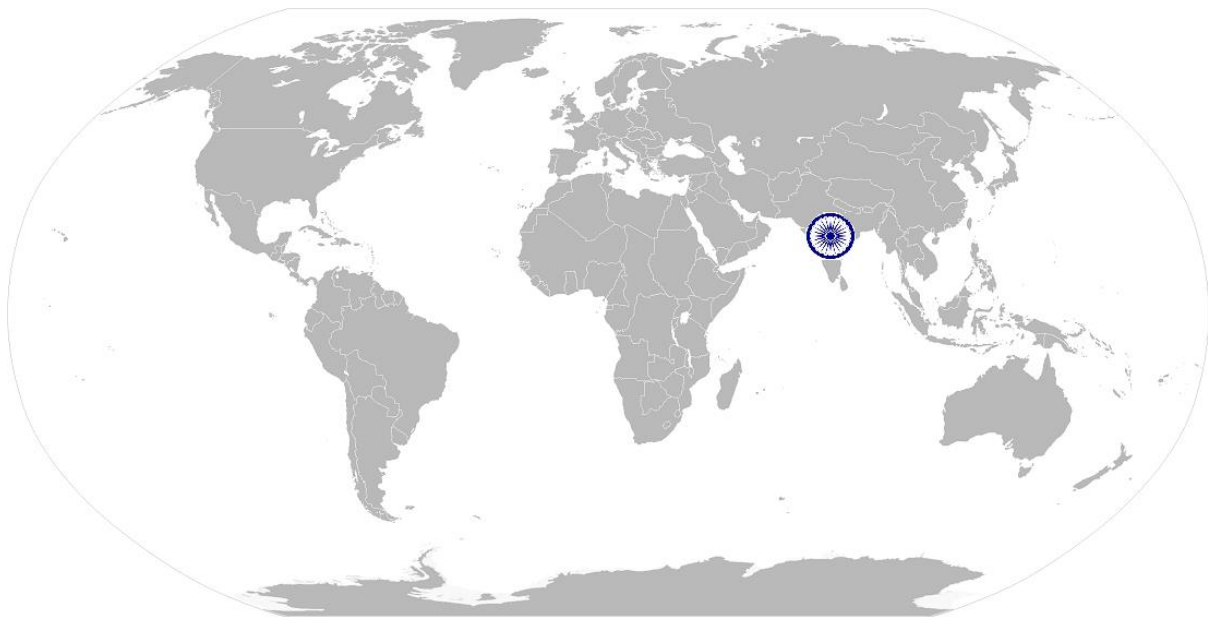
Analyse trends and prepare forecasts and schedules

	SB1. decide on ageing of the cargo
	SB2. decide on forecasts of cargo
	SB3. decide schedules for maintenance
	Plan and Organize
	The user/individual on the job needs to know how to:
	SB4. clearly coordinate with ground staff for smooth operations
	SB5. prioritize and execute tasks within the scheduled time limits
	SB6. maintain schedules and punctuality
	SB7. be a team player and achieve joint goals
	Customer Centricity
The user/individual on the job needs to know how to:	
SB8. adhere to the timelines and ensure that they are met	
SB9. analyse customer requirements, cargo trends and prepare plans to handle the same	
Problem Solving	
The user/individual on the job needs to know how to:	
SB10. prepare right budgets to best utilize resources	
SB11. identify areas for enhancing productivity and minimizing losses	
Analytical Thinking	
The user/individual on the job needs to know how to:	
SB12. analyse cargo trends – ageing, frequency, etc.	
SB13. analyse maintenance and tank operation trends	
Critical Thinking	
The user/individual on the job needs to know how to:	
SB14. prepare correct estimates for forecasts and budgets	
SB15. prepare and strictly implement maintenance schedules	
SB16. identify areas for improvement	

NOS Version Control

NOS Code	LSC/N0323		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Documentation and Reporting	Next review date	28/03/2022

National Occupational Standard



Overview

This unit is about maintaining integrity, ensuring data security, and professional and ethical practices.

LSC/N9904

Maintain and monitor integrity and ethics in operation

National Occupational Standard

Unit Code	LSC/N9904
Unit Title (Task)	Maintain and monitor integrity and ethics in operation
Description	This unit is about maintaining integrity, ensuring data security, and professional and ethical practices
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Maintain integrity and ensure data security • Professional and ethical practices • Ensure regulatory compliance <p>Range: Standard Operating Procedures (SOP), computer, projector, worksheets, stationery etc.</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Maintain integrity ensuring data security	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. refrain from indulging in corrupt practices</p> <p>PC2. avoid using company's funds, property or resources for undertaking personal activities</p> <p>PC3. protect customer's information and ensure it is not missed</p> <p>PC4. protect data and information related to business or commercial decisions</p>
Professional and ethical practices	<p>To be competent, the user/ individual must be able to:</p> <p>PC5. avoid acceptance of cash or kind from vendors for support or contract negotiations</p> <p>PC6. demonstrate and practice ethics in day-to-day processes and dealings with customers and colleagues</p> <p>PC7. avoid nepotism</p> <p>PC8. consult supervisor or senior management when in situations that may require differentiating between ethical and unethical</p> <p>PC9. report promptly all violations of code of ethics</p> <p>PC10. dress up and conduct in a professional manner</p> <p>PC11. communicate with clients and stakeholders in a soft and polite manner</p> <p>PC12. follow etiquettes in accordance to the place</p>
Ensure regulatory compliance	<p>To be competent, the user/ individual must be able to:</p> <p>PC13. check for regulatory documentation and compliances for the shop floor as per information from the supervisor</p> <p>PC14. perform activities considering the regulatory requirements</p> <p>PC15. use Personal Protective Equipment (PPEs) in accordance to regulatory requirements</p> <p>PC16. identify the different types of dangerous goods and handling methodologies</p> <p>PC17. follow the SOP for handling of different types of dangerous goods</p>

LSC/N9904

Maintain and monitor integrity and ethics in operation

	<p>PC18. consult supervisor or senior management when in situations that may require differentiating between ethical and unethical</p> <p>PC19. promptly report all regulatory violations</p>
Knowledge and understanding (K)	
<p>A. Organizational context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's policies on use of language</p> <p>KA2. company's Human Resources policies</p> <p>KA3. company's code of ethics</p> <p>KA4. company's whistle blower policy</p> <p>KA5. company's rules related to sexual harassment</p> <p>KA6. company's reporting structure</p> <p>KA7. company's documentation policy</p>
<p>B. Technical knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. principles of code of ethics and business ethics</p> <p>KB2. various regulatory requirements</p> <p>KB3. documentary compliance for various regulations</p> <p>KB4. different dangerous shipment</p> <p>KB5. regulations w.r.t dangerous shipment</p>
Skills (S)	
<p>A. Core skills/ generic skills</p>	<p>Reading Skills</p>
	<p>The individual on the job needs to know how to read:</p> <p>SA1. company policy documents and work related documents</p> <p>SA2. emails and written instructions</p>
	<p>Writing Skills</p>
	<p>The individual on the job needs to know how to fill:</p> <p>SA3. documentation pertaining to ethics and regulatory requirement</p>
	<p>Oral Communication (Listening and Speaking skills)</p>
	<p>The individual on the job needs to know how to communicate with:</p> <p>SA4. team members to work efficiently</p> <p>SA5. peers and subordinates about information security and building trust</p>
<p>B. Professional skills</p>	<p>Decision making</p>
	<p>The individual on the job needs to know how to:</p> <p>SB1. identify a shipment as dangerous goods</p> <p>SB2. assess if the situation needs to be reported regarding regulations</p>
	<p>Plan and Organize</p>
	<p>The individual on the job needs to know how to:</p> <p>SB3. plan and organise actions as per company's guidelines</p>
	<p>Customer centricity</p>
<p>The individual on the job needs to know how to:</p> <p>SB4. prevent company and customer information leakage</p>	

LSC/N9904

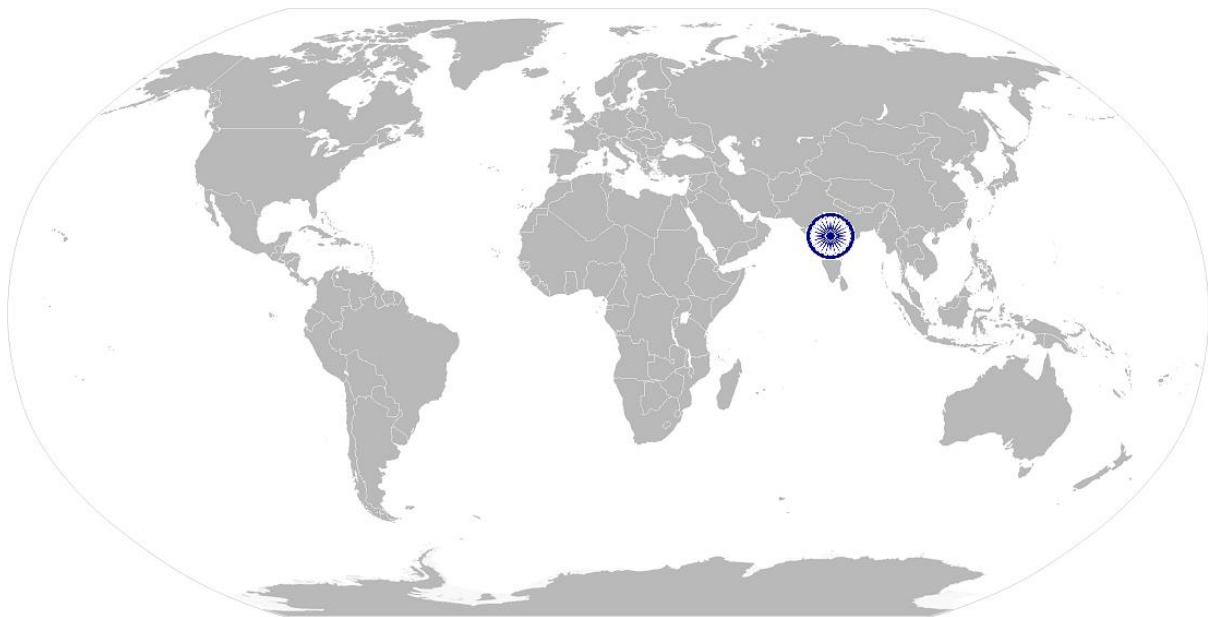
Maintain and monitor integrity and ethics in operation

	Problem solving
	The individual on the job needs to know how to: SB5. advise colleagues regarding sensitive issues pertaining to conduct and regulations
	Analytical Thinking
	The individual on the job needs to know how to: SB6. provide professional services diligently and with integrity
	Critical Thinking
	The individual on the job needs to know how to: SB7. avoid defaming company’s name by indulging into pilferage or fiddling with quality or quantity of shipment SB8. be fair and reasonable in profession and disclose conflict of interests

NOS Version Control

NOS Code	LSC/N9904		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Sub-Sector	Generic	Last reviewed on	28/03/2019
Occupation	Generic	Next review date	28/03/2022

National Occupational Standard



Overview

This unit is about ensuring compliance with health, safety and security procedures at the workplace

LSC/N3522 Follow health, safety and security procedures in liquid logistics

National Occupational Standard

Unit Code	LSC/N3522
Unit Title (Task)	Follow health, safety and security procedures in liquid logistics
Description	This Occupational Standards (OS) unit is about ensuring compliance with health, safety and security procedures at the workplace
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Follow health, safety and security procedures Ensure compliance to health, safety and security Prepare for disaster and pollution control response <p>Range: Personal Protective Equipment (PPE), Material Handling Equipment (MHE), instructional material, alarms, safety guidelines, safety signs, computer, projector etc.</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Follow health, safety and security procedures	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. make note of all safety checks and comply with safety regulations</p> <p>PC2. wear PPE such as goggles, ear plugs, helmet, mask, shoes, etc. as required</p> <p>PC3. follow standard driving and equipment machine operating practice</p> <p>PC4. follow protocol to initiate action in case of signs of any emergency situation like accident or breach of safety</p> <p>PC5. undertake periodical preventive health check ups</p> <p>PC6. follow necessary standard operating procedures (SOP) and precautions while handling dangerous and hazardous shipment</p> <p>PC7. follow security procedures like green gate in port, customs area, factory security, etc.</p>
Ensure compliance to health, safety and security	<p>To be competent, the user/ individual must be able to:</p> <p>PC8. identify unsafe conditions and practices and report it to concerned authority</p> <p>PC9. implement 5S at workplace</p> <p>PC10. inspect the activity area and equipment for safe working condition</p> <p>PC11. check that pathways/ emergency escape routes are clear and free from grease/ oil</p> <p>PC12. participate in fire drills</p> <p>PC13. follow standard material handling procedures</p> <p>PC14. hold ladders, platforms and hand rails in a safe position</p> <p>PC15. check that the safety and security related tags, labels and signage are placed on cargo</p> <p>PC16. report in case of any violation</p>
Prepare for disaster and pollution control response	<p>To be competent, the user/ individual must be able to:</p> <p>PC17. raise alarms and inform supervisors in case of any emergency - fire, leakage, or pollution</p>

LSC/N3522 Follow health, safety and security procedures in liquid logistics

	<p>PC18. coordinate with local authorities and nearby village representatives for evacuation</p> <p>PC19. follow SOP to contain the disaster or pollution – use fire extinguisher, start emergency controls, close emergency valves, etc.</p> <p>PC20. assist fellow workers in quick response and evaluation as per SOP</p>
Knowledge and understanding (K)	
<p>A. Organizational context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. health, safety and security policies and procedures</p> <p>KA2. special instructions for hazardous cargo handling</p> <p>KA3. defined standard operating procedures</p> <p>KA4. risk and impact of not following defined procedures/work instructions with reference to health, safety and security operations</p> <p>KA5. escalation matrix for reporting identified problem</p>
<p>B. Technical knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. basics of Occupational Safety and Health Administration (OSHA)</p> <p>KB2. 5S implementation and practice</p> <p>KB3. different type of cargo, their classification – A, B, C and their handling procedure and precautions</p> <p>KB4. SOPs for different operations, Petrochemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations</p> <p>KB5. using fire extinguisher and protocols for emergencies</p> <p>KB6. operations of control systems pumps, valves, alarm systems, etc.</p> <p>KB7. necessary security procedures for airport, customs area, etc.</p> <p>KB8. tools and equipment for material handling</p> <p>KB9. standard material handling procedures while handling cargo</p> <p>KB10. safety and security signage and their functions</p> <p>KB11. different security tags, labels and signage</p> <p>KB12. handling procedure for hazardous / fragile cargo</p> <p>KB13. security procedures for dangerous / hazardous shipment</p> <p>KB14. different PPE, their usage and purpose</p> <p>KB15. safe driving techniques</p>
Skills (S)	
<p>A. Core skills/ generic skills</p>	<p>Reading skills</p> <p>The user/individual on the job needs to know how to read:</p> <p>SA1. SOPs and safety precautions for different ground operations and handling cargo</p> <p>SA2. alarms, various gauges and meters regarding temperature, pressure and level</p> <p>SA3. different documents related to security and movement of cargo</p>

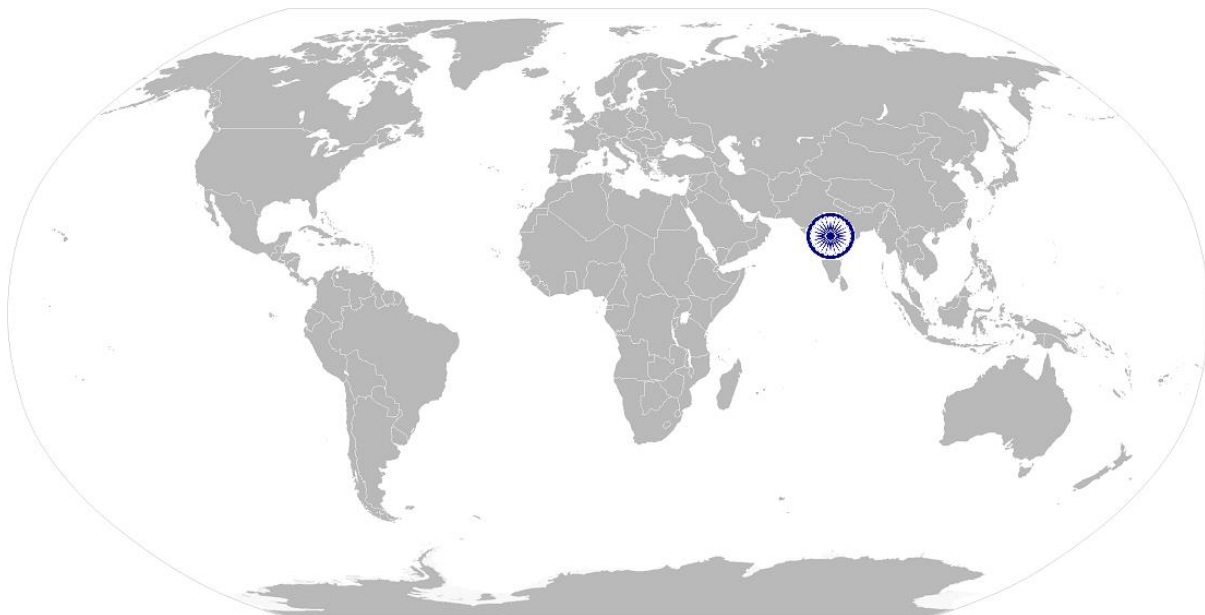
LSC/N3522 Follow health, safety and security procedures in liquid logistics

	Writing skills
	The user/individual on the job needs to know how to: SA4. fill forms related to health, safety and security procedures SA5. prepare reports regarding pollution and disaster control, accidents, etc.
	Oral communication (listening and speaking skills)
	The user/individual on the job needs to know how to: SA6. communicate clearly with colleagues regarding safety procedures SA7. share experience and guide peers SA8. coordinate with local authorities and disaster management teams
B. Professional skills	Decision making
	The user/individual on the job needs to know how to: SB1. decide how to avoid any damage / accident to personal health / cargo handled, whenever required SB2. act objectively, rather than impulsively or emotionally when faced with difficult/stressful or emotional situations
	Plan and organize
	The user/individual on the job needs to know how to: SB3. plan clearance of area with safety of nearby population and workforce as top priority SB4. prioritize and execute tasks within the schedule time limits SB5. plan and drive based on traffic and road condition using radio links/navigation aids wherever available
	Customer centricity
	The user/individual on the job needs to know how to: SB6. ensure safe and secure movement of liquid, cargo at all times
	Problem solving
	The user/individual on the job needs to know how to: SB7. identify any threats on personal health, safety, security, etc. and take appropriate actions SB8. identify risks at the workplace and address them
	Analytical thinking
	The user/individual on the job needs to know how to: SB9. analyse past mistakes and address them to avoid mishap in the future
	Critical thinking
The user/individual on the job needs to know how to: SB10. check that right safety measures and procedures are in place SB11. quickly escalate and begin disaster management response	

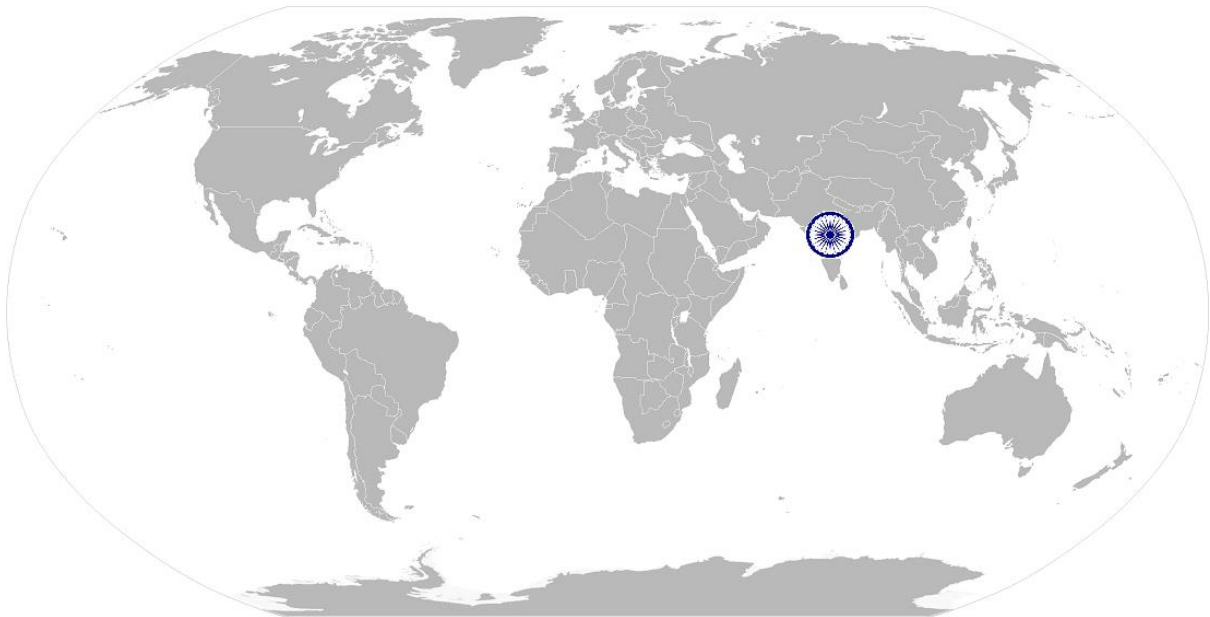
LSC/N3522 Follow health, safety and security procedures in liquid logistics

NOS Version Control

NOS Code	LSC/N3522		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Port Operation and Management	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about conducting daily status reviews and facilitating daily operations in tank farms

LSC/N3528

Conduct daily review and facilitate operations in tank farms

National Occupational Standard

Unit Code	LSC/N3528
Unit Title (Task)	Conduct daily review and facilitate operations in tank farms
Description	This unit is about conducting daily status reviews and facilitating daily operations in multiple tank farms across regions
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Review status and facilitate daily operations • Forecast and budget • Approve workplans and allocate tasks • Ensure compliance to legal and regulatory requirements <p>Range: Computers, Management information system (MIS), Enterprise resource planning (ERP), performance review softwares, budgeting and forecasting softwares, etc.</p>
Performance Criteria (PC) w.r.t. the scope	
Element	Performance Criteria
Review status and facilitate smooth operations	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC1. monitor cargo levels, tank farm alarms and infrastructure status, utilization status, repair and cargo handling schedules, etc. on the Internet of Things (IOT) system controls</p> <p>PC2. review reports of loading, pumping and cleaning and high priority activities performed</p> <p>PC3. review work schedules, resource allocation and make amendments as required</p> <p>PC4. review inspection, fitness and maintenance reports</p> <p>PC5. coordinate with port authorities, clients, Partnering Government Agencies (PGAs), etc. for resolving cargo transfers, pending cases, tank repairs, etc.</p> <p>PC6. monitor resource performance and take corrective action to improve utilisation</p> <p>PC7. periodically inspect tank farms to check for safety compliance, cargo storage and handling, cleanliness, use of adequate Personal Protective Equipment (PPEs), resources, fitness of equipment and personnel, etc.</p>
Forecast and budget	<p>To be competent, the user/ individual must be able to:</p> <p>PC8. analyse cargo storage and handling trends across tank farms</p> <p>PC9. prepare storage and revenue forecasts and budget for tank farm units</p> <p>PC10. set-up consensus meetings with peers and seniors and get their approval on the forecasts and budgets</p> <p>PC11. make amendments in budgets periodically based on review of actual performance</p>
Approve work plans and allocate tasks	<p>To be competent, the user/individual on the job must be able to:</p> <p>PC12. assess tasks, identify priorities and inform supervisors and executives</p>

LSC/N3528

Conduct daily review and facilitate operations in tank farms

	<p>PC13. review and approve tank cleaning, maintenance schedules, work plans shared by supervisors</p> <p>PC14. review and approve disaster management plans, drill schedules shared by supervisors</p>
<p>Ensure compliance to legal and regulatory requirements</p>	<p>To be competent, the user/ individual must be able to:</p> <p>PC15. monitor compliance to local, country and international laws and processes on a regular basis</p> <p>PC16. monitor compliance with respect to cargo handling and storage norms particularly for hazardous cargo</p> <p>PC17. identify areas of non-compliance, and implement policies for compliances</p> <p>PC18. conduct inspections to check compliance to Standard Operating Procedures (SOPs) and regulations</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. organizational procedures</p> <p>KA2. documentation and reporting as per organization's mandate</p> <p>KA3. security procedures to be followed</p> <p>KA4. escalation matrix for reporting identified problems</p> <p>KA5. risk and impact of not following defined procedures/work instructions</p> <p>KA6. coding system followed to label cargo</p> <p>KA7. Information Technology (IT) system and ERP system of the organization</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. basics of operations in a port terminals and liquid terminals</p> <p>KB2. different type of cargo, their classification – A, B, C and their handling procedure and precautions</p> <p>KB3. SOPs for different operations, Petro-chemical standards – International Electrotechnical Commission (IEC) 61511, IEC 61508, American Petroleum Institute (API) 2350, National Fire Protection Association (NFPA), Oil industry safety directorate guidelines and various committee recommendations</p> <p>KB4. vessel layout and loading and unloading activities</p> <p>KB5. procedures of tank cleaning, cargo movement</p> <p>KB6. requirements regarding handling of cargo</p> <p>KB7. handling of hazardous and non-hazardous cargo - – International Maritime Dangerous Goods (IMDG) code</p> <p>KB8. special characteristics and handling requirements of cargo, if any</p> <p>KB9. ERP and automated controls for tank farms</p> <p>KB10. trend analysis, budgeting, planning and forecasting</p>

LSC/N3528

Conduct daily review and facilitate operations in tank farms

Skills (S)	
A. Core skills/ generic skills	Reading skills
	The user/individual on the job needs to know how to read: SA1. written instructions, reports, ERP data SA2. system alarms, cargo levels, etc on online systems SA3. checklists
	Writing skills
	The user/individual on the job needs to know how to write: SA4. various reports, letters, presentations, documents SA5. instructions SA6. training pedagogy
	Oral communication (listening and speaking skills)
	The user/individual on the job needs to know how to: SA7. communicate with supervisors, surveyors, clients, stakeholders custom and port officers, PGAs SA8. coordinate with local authorities, external support agencies
B. Professional skills	Decision making
	The user/individual on the job needs to know how to: SB1. decide on resource requirement, budgets, maintenance schedules, forecasts SB2. decide key clients for business development SB3. decide on strategies for operations, disaster management, process improvement
	Plan and organize
	The user/individual on the job needs to know how to: SB4. plan and estimate the co-ordination required for resolving a query SB5. maintain punctuality SB6. respond to the client in a timely manner SB7. prioritize and execute tasks based on client requirements SB8. be a team player and achieve joint goals
	Customer centricity
	The user/individual on the job needs to know how to: SB9. adhere to the customer timelines SB10. address the urgency regarding approvals for cargo handling, repairs, etc.
	Problem solving
	The user/individual on the job needs to know how to: SB11. coordinate to resolve stuck cases for cargo transfers, repair requirements, etc. SB12. identify trends and plan accordingly to improve processes SB13. identify bottlenecks and operational problems and suggest remedial action
	Analytical thinking

LSC/N3528

Conduct daily review and facilitate operations in tank farms

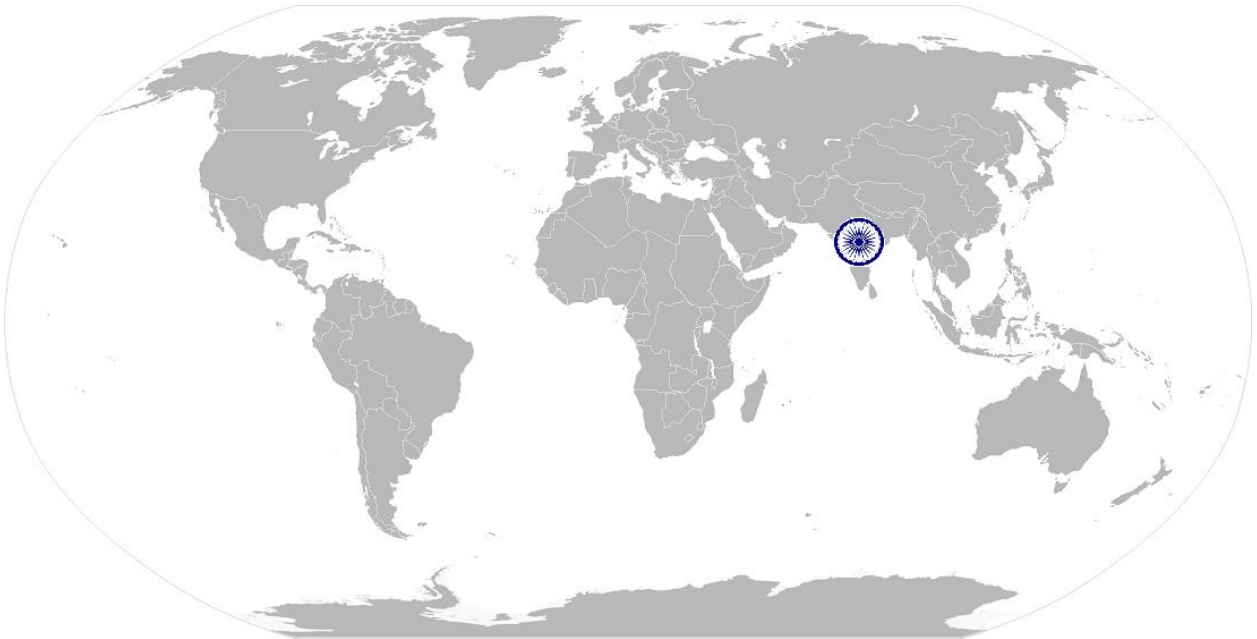
	The user/individual on the job needs to know how to: SB14. analyse trends and prepare budgets and forecasts SB15. identify trends and plan accordingly to improve processes
	Critical thinking
	The user/individual on the job needs to know and understand how to: SB16. review and ensure safe handling and storage of liquid cargo SB17. ensure adequate utilization of tank farm resources SB18. adapt and implement global best practices

NOS Version Control

NOS Code	LSC/N3528		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Liquid logistics	Last reviewed on	28/03/2019
Occupation	Port Operation & Management (tank farm management)	Next review date	28/03/2022



National Occupational Standard



Overview

This unit is about planning the container and cargo storage in the yard and overseeing movement operations

LSC/N3511

Perform ship and yard planning

National Occupational Standard

Unit Code	LSC/N3511
Unit Title (Task)	Perform ship and yard planning
Description	This unit is about about container tracking and developing vessel berthing plans
Scope	<p>This This unit/task covers the following:</p> <ul style="list-style-type: none"> Plan yard to receive cargo Inspect yard to check for space utilization, segregation of cargo, cleanliness, necessary precautions <p>Range: Stationery, Standard Operating Procedures (SOP), Radio Frequency Identification (RFID) scanner, bar code scanner, markers, Personal Protective Equipment (PPEs), Enterprise resource planning (ERP), computer, display board, printer, Material Handling Equipment (MHEs), etc</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Plan yard to receive cargo	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. obtain information regarding the vessel details - docking schedule and berth, bays and containers to be unloaded and loaded</p> <p>PC2. obtain information regarding movement of containers / cargo from port terminals to Container Freight Station (CFS)/ Inland Container Depot (ICD) or client</p> <p>PC3. check yard's capacity utilization and open bays and locations</p> <p>PC4. assess the quantity of cargo to be moved and plan storage space for cargo</p> <p>PC5. allocate resources for cargo movement</p> <p>PC6. communicate the task at hand to cargo equipment handlers, manual cargo handlers and lifting and vessel supervisors</p> <p>PC7. discuss the plan for cargo movement with the operators to finalise the container/ cargo movement plan</p> <p>PC8. review that all equipment and workforce is ready for operations at the time of vessel docking / transport arrival</p> <p>PC9. review that the necessary precautions and PPEs have been taken</p> <p>PC10. deploy resources for loading/ unloading as per cargo stowage plan</p> <p>PC11. coordinate with cargo surveyor for safe and secured loading/ unloading</p>
Inspect yard to check for space utilization, segregation of cargo, cleanliness, necessary precautions	<p>To be competent, the user/ individual must be able to:</p> <p>PC12. conduct periodic inspections of the yard</p> <p>PC13. check for cleanliness, adequate use of PPEs, regulations and norms for workforce are clearly followed</p> <p>PC14. check that cargo bays are clearly marked and segregated, containers and cargo are stored as per prescribed norms</p> <p>PC15. check that equipment is parked at right positions</p> <p>PC16. check that all necessary precautions for storage of hazardous cargo is in place</p>

LSC/N3511

Perform ship and yard planning

	<p>including emergency services</p> <p>PC17. prepare inspection report highlighting any anomaly or changes, as required</p>
Knowledge and understanding (K)	
A. Organizational context (Knowledge of the company / organization and its processes)	<p>The individual on the job needs to know and understand:</p> <p>KA1. organizational procedures and SOPs for tasks at hand, documentation policy and emergency responses</p> <p>KA2. security and safety procedures to be followed</p> <p>KA3. reporting structure of the organization and the supplier for escalation of issues</p> <p>KA4. risk and impact of not following defined procedures/work instructions</p> <p>KA5. coding system followed for different type of cargo and their distress codes</p>
B. Technical knowledge	<p>The individual on the job needs to know and understand:</p> <p>KB1. basics of operations in a port terminal, ICD and CFS</p> <p>KB2. use of various cargo handling equipment</p> <p>KB3. use of rope , flags and other manual equipment</p> <p>KB4. vessel layout and loading and unloading activities</p> <p>KB5. procedures of tank cleaning, cargo movement</p> <p>KB6. requirements regarding handling of cargo</p> <p>KB7. different type of vessels and cargo and container sizes</p> <p>KB8. different type of cranes and MHEs – their capacities, constraints and usage</p> <p>KB9. handling of hazardous and non-hazardous cargo</p> <p>KB10. marking of material and people movement areas</p> <p>KB11. stuffing and de-stuffing norms with respect to different cargo</p> <p>KB12. special characteristics and handling requirements of shipments, if any</p>
Skills (S)	
A. Core skills/ generic skills	Reading skills
	<p>The user/individual on the job needs to know how to read:</p> <p>SA1. written instructions</p> <p>SA2. shipping manifest, Bill of lading shipping bills and related documents</p> <p>SA3. ERP and computer generated reports</p> <p>SA4. cargo stowage plans and vessel plans</p> <p>SA5. SOPs and safety regulation manuals</p>
	Writing skills
	<p>The user/individual on the job needs to know how to write:</p> <p>SA6. work-orders and instructions</p> <p>SA7. checklist of activities, delays, undelivered items, contacts, etc</p> <p>SA8. daily reports</p>
	Oral communication (listening and speaking skills)
	<p>The user/individual on the job needs to know how to:</p> <p>SA9. communicate with customers, fireght operators, transporters, shipping</p>

LSC/N3511

Perform ship and yard planning

	<p>companies, other supervisors and port authorities</p> <p>SA10. communicate with cargo equipment operators and ground staff over Very high frequency (VHF) radio</p> <p>SA11. guide cargo handlers for smooth operations</p>
<p>B. Professional skills</p>	<p>Decision making</p>
	<p>The user/individual on the job needs to know how to:</p> <p>SB1. decide on required workforce and equipment for performing a particular task</p> <p>SB2. assess the environmental condition and type of cargo to assess if it is safe for operations</p> <p>SB3. resolve a problem quickly internally</p> <p>SB4. prioritise shipments</p> <p>SB5. decide on deployment of alternate resources when required</p>
	<p>Plan and organize</p>
	<p>The user/individual on the job needs to know how to:</p> <p>SB6. plan and estimate the co-ordination required for resolving a query.</p> <p>SB7. maintain punctuality</p> <p>SB8. respond to the client in a timely manner</p> <p>SB9. prioritize and execute tasks based on client requirements</p> <p>SB10. make work plans and resource allocation plans</p> <p>SB11. make checks on execution of work plans</p> <p>SB12. be a team player and achieve joint goals</p>
	<p>Customer centricity</p>
	<p>The user/individual on the job needs to know how to:</p> <p>SB13. adhere to the customer timelines</p> <p>SB14. address the urgency regarding shipments and activities</p>
	<p>Problem solving</p>
	<p>The user/individual on the job needs to know how to:</p> <p>SB15. make adjustment to working requirements for difficult weathers and hazardous goods</p> <p>SB16. identify trends/common causes for delays, damages, etc.</p> <p>SB17. co-ordinate and handle major issues with different departments</p> <p>SB18. identify bottlenecks and operational problems and suggest remedial action</p>
	<p>Analytical thinking</p>
	<p>The user/individual on the job needs to know how to:</p> <p>SB19. assess the resource requirement for a particular task at hand</p> <p>SB20. assess and prepare for backup resources in case of delays</p> <p>SB21. plan for cargo movement so that the resources and storage space is optimally utilised</p>
<p>Critical thinking</p>	
<p>The user/individual on the job needs to know and understand how to:</p> <p>SB22. resolve issues in a quick and cost effective manner</p>	

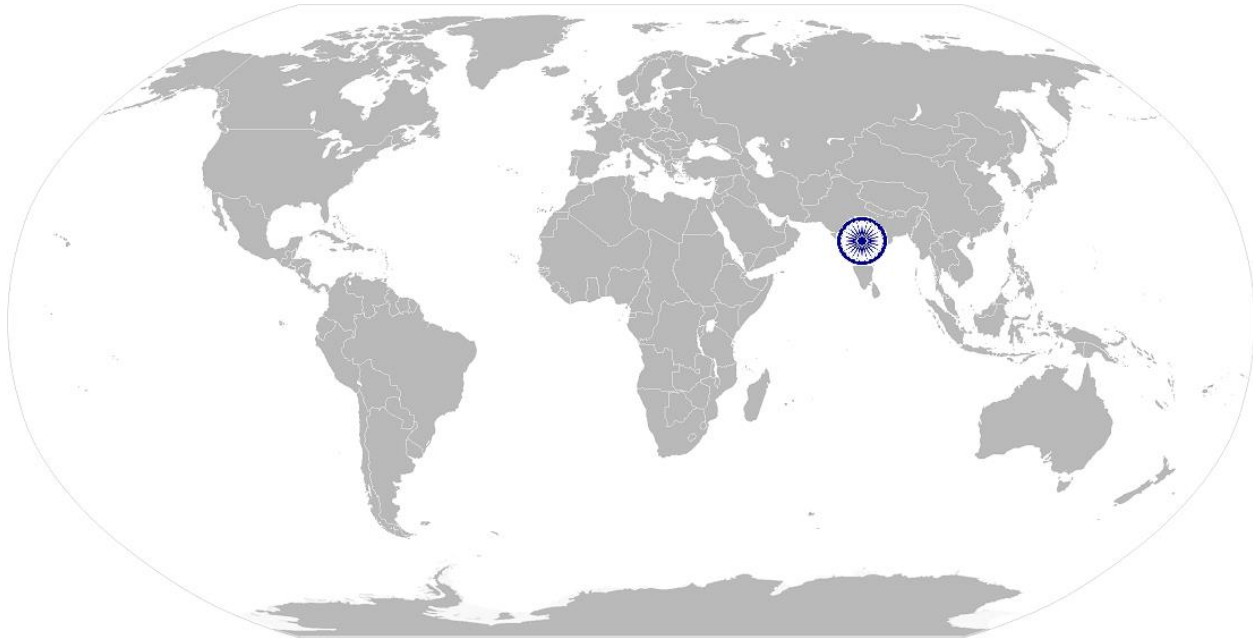
LSC/N3511

Perform ship and yard planning

	<p>SB23. develop work plans factoring in external factors</p> <p>SB24. check that all security measures and safety protocols are followed at all times</p>
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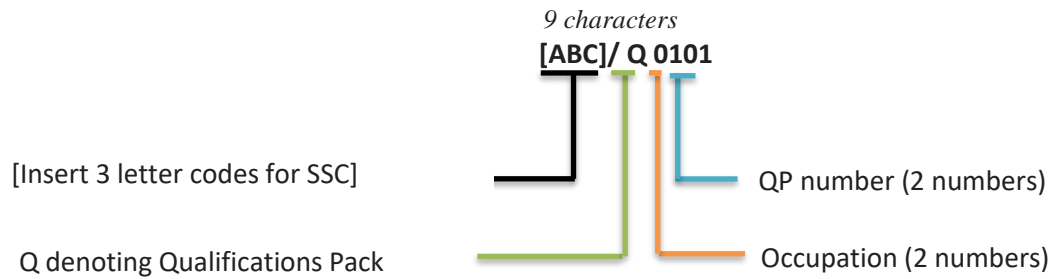
NOS Code	LSC/N3511		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	30/06/2018
Industry Sub-sector	Port terminals, CFS and ICDs	Last reviewed on	28/03/2019
Occupation	Port Operation & Management (Cargo handling, yard planning, vessel planning)	Next review date	28/03/2022



Annexure

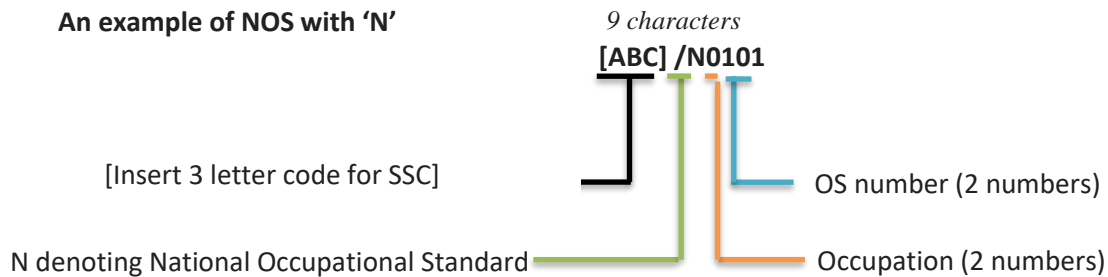
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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

Sub-sector	Range of Occupation numbers
Warehousing	1 to 9
Land Transportation	10 to 14
EXIM/ Freight Forwarding/ Customs Clearance	21 to 23
Courier/Express	15 to 20
E-Commerce	24 to 30
Supply Chain	31 to 34
Port Terminals, ICD and CFS	35 to 41
Inland Waterways	42 to 46
Liquid Logistics	47 to 49
Air Cargo Operations	61 to 62
Rail Logistics	50 to 55
Cold Chain Logistics	86 to 94
Generic Occupations	95 to 99

Sequence	Description	Example
Three letters	Industry name	LSC
Slash	/	/
Next letter	Whether QP or NOS	Q / N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Tank farm supervisor

Qualification Pack LSC/Q3512

Sector Skill Council Logistics

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. 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% in every NOS
6. In case of unsuccessful completion, the trainee may seek re-assessment on the Qualification Pack

Compulsory NOS					
Total Marks: 700				Marks Allocation	
Assessment Outcomes	Assessment Criteria for Outcomes	Total Marks	Out of	Theory	Skills Practical
LSC/N3524 Allocate resources and streamline operations in ports and liquid terminals	PC1. obtain details of vessel docking plans, cargo loading and unloading plans, etc.	100	7	2	5
	PC2. develop daily work plan factoring in priority cases, time bound requirements, special handling requirements, capacity of tanks etc.		7	2	5
	PC3. get the work plan approved by the terminal manager and allocate tasks to subordinates		7	2	5
	PC4. budget and allocate the requisite equipment and systems for tasks at hand		7	2	5
	PC5. conduct inspection of terminal for safety, cleanliness, marking of material movement and people movement areas, etc.		7	2	5
	PC6. conduct field inspections to review the status of loading, unloading and maintenance activities		6	2	4
	PC7. engage resources in alternate operation when there is a delay of planned operations		6	2	4
	PC8. allocate additional and ad-hoc		7	2	5

	manpower and equipment during exigency				
	PC9. escalate issues regarding pipeline operations, transporter delays, vessel delays, accidents, damages, etc. to manager	7	2	5	
	PC10. provide corrective and preventive action plans based on accident and damage reports	7	2	5	
	PC11. liaise with port officials, customs officials and external stakeholders	7	2	5	
	PC12. review escalated issues and identify root cause for providing corrective action	6	2	4	
	PC13. provide technical guidance to the team for execution	6	2	4	
	PC14. escalate the issues to manager when external or additional help is required	6	2	4	
	PC15. coordinate with other departments, transporters, freight operators, port authorities, shipping companies and others to resolve escalations if required	7	2	5	
		100	30	70	
LSC/N3525 Perform tank farm inspections, inventory tracking and training	PC1. review daily reports related to tank farm equipment such as alarms, control valves and ensure they are correctly functioning	100	7	2	5
	PC2. review the daily recording of different measuring devices in the control room to check that all parameters are under prescribed limits		7	2	5
	PC3. instruct subordinates to take preventive actions such as pressure release, pumping of liquid, etc., in case of any anomaly in reports		6	2	4
	PC4. monitor daily inventory report with regards to pressure, temperature and cargo levels to check for losses		6	2	4
	PC5. take corrective and preventive actions if cargo loss is over the prescribed limits		7	2	5
	PC6. ensure compliance to hazardous material handling norms		7	2	5
	PC7. estimate loss and submit reports detailing the loss, status of controls and monitoring parameters		7	2	5
	PC8. escalate issues to manager and external technical support team as and		4	1	3

	when required				
	PC9. inspect tanks and check for corrosion, missing paints, fractures and leakages from welding and drainage, cleanliness, adherence to regulatory and company norms, etc.	4	1	3	
	PC10. provide instructions for maintenance works like surface painting, cleaning of exteriors, removal of residuals lying outside etc.	4	1	3	
	PC11. check and ensure that emergency pathways are not obstructed, and emergency systems are operational and easily accessible	7	2	5	
	PC12. check that all pumps, pipelines are functional and free from corrosion	6	2	4	
	PC13. escalate issues that need external technical repairs and servicing	6	2	4	
	PC14. train subordinates on monitoring, cleaning and loading/unloading of tanks	4	1	3	
	PC15. train subordinates on common causes for errors, accidents, standard precautions, post-accident disaster response, and regulatory compliances etc.	6	2	4	
	PC16. conduct specific incident-based training and detail the preventive and disaster response to be undertaken in such cases	6	2	4	
	PC17. document trainings conducted and track of regularity of training	6	2	4	
		100	30	70	
LSC/N4308 Supervise cleaning pumping and loading activities	PC1. provide instructions for residual removal and cleaning process and monitor the activities	100	7	2	5
	PC2. check reports regarding residual removals to verify the quantity of cargo removed from the tank		7	2	5
	PC3. review reports for presence of noxious and hazardous gases or liquid prior to cleaning operations		7	2	5
	PC4. coordinate with external cleaning agencies and provide the necessary support		7	2	5
	PC5. inspect tank post cleaning and check for corrosion, cracks, remaining residue, presence of gases, humidity, etc.		7	2	5
	PC6. coordinate with vessel, port, inland receiving supervisor regarding cargo to be transferred and get the requisite		7	2	5

	authorizations and documentation				
	PC7. coordinate with manager, stakeholders to set volume to be pumped out and inform associate	7	2	5	
	PC8. review pre-pumping report regarding fitness of equipment, pipelines, pumps and connections	6	2	4	
	PC9. monitor pumping operations from the control room recording liquid flow, pressure, operation of various valves and pumps, etc.	6	2	4	
	PC10. stop operations and instruct for maintenance check in case of any leakages, pressure drops, etc.	4	1	3	
	PC11. review and authorise post operation report and confirm the same with the receiving supervisor	4	1	3	
	PC12. plan for daily loading/unloading based on requirement	4	1	3	
	PC13. coordinate with transporters and arrange adequate number of rail wagons or trucks	4	1	3	
	PC14. review fitness report of transport vehicles before loading and seek replacement if they are unfit for operation	6	2	4	
	PC15. review fitness reports of loading/unloading terminal equipment and manpower with respect to regulatory and company compliance	6	2	4	
	PC16. inspect loading/unloading terminal to check for compliance to SOP, cleanliness, use of PPEs, compliance to regulatory requirements, functioning of emergency controls, etc.	6	2	4	
	PC17. review records of daily inventory movement – loading/ unloading and available inventory with respect to assigned targets	5	2	3	
		100	30	70	
LSC/N0322 Review documentation and regulatory compliances for liquid cargo	PC1. coordinate with shipping lines, vessels, freight transporters, importers and exporters and the port authorities to obtain requisite cargo documents	100	9	3	6
	PC2. review documentation of transport vehicles including their certificates for fitness for operation, availability of requisite license, etc.		9	3	6
	PC3. review cargo documents like bill of lading, shipping bills, PGA clearances, etc.		9	3	6

	for compliance to regulations and standards				
	PC4. review fitness certificates and related documents of MHEs, cranes and terminal equipment		9	3	6
	PC5. review and approve gate entry and exit passes for transporters, vehicles		9	3	6
	PC6. check for fitness and functionality of disaster response equipment and systems		8	2	6
	PC7. ensure periodic training and fitness of disaster response team		8	2	6
	PC8. review evacuation and first response protocol to be followed in case of pollutions and disasters		9	3	6
	PC9. prepare compliance and fitness reports as per regulatory requirements regarding tank farm layout, disaster response, fitness of equipment, etc.		8	2	6
	PC10. respond and resolve queries raised by port and custom authorities, custom brokers, shipping liners, clients, transporters regarding status of different shipments		8	2	6
	PC11. coordinate between the vessel, shipper/ importer/exporter, agents and port authorities to ensure that all compliances and requirements are met		7	2	5
	PC12. respond and coordinate with various PGAs and regulatory authorities regarding cargo handling and their specific requirements		7	2	5
			100	30	70
LSC/N0323 Analyze trends and prepare forecasts and schedules	PC1. analyse the historic trends of different types of cargo handled in the terminal and their frequency of operations	100	9	3	6
	PC2. analyse cargo ageing in tank farm, pipeline usage, cleaning frequency, and loss trends		9	3	6
	PC3. analyse wagon and truck loading/unloading operations and their efficiencies		9	3	6
	PC4. draw inferences regarding the most commonly stored cargo, average ageing, daily transactions in terms of loading/unloading and pumping operations		9	3	6
	PC5. estimate average utilization of tank capacities, operational costs, estimated		7	2	5

	product wise costs, product loss trends etc.				
	PC6. suggest recommendation for increasing utilization of tanks, reducing transactional losses, better monitoring of operational parameters, improving loading/unloading turnaround time, reducing costs etc.		7	2	5
	PC7. prepare near future forecasts in terms of cargo mix and quantity based on historic analysis and committed cargo traffic		7	2	5
	PC8. estimate resources and budget required for handling the forecasted cargo mix		7	2	5
	PC9. report the analysis and forecast to manager for inputs and further analysis		7	2	5
	PC10. analyse tank equipment performance in terms of repairs undertaken, time elapsed since last scheduled maintenance, frequency of emergency alarms, component breakdown, cargo loss, rate of corrosion, etc.		7	2	5
	PC11. estimate the maintenance requirement and frequency considering performance and frequency of change of cargo		7	2	5
	PC12. prepare maintenance schedules based on analysis and implement the same		7	2	5
	PC13. prepare analysis and reports for manager		8	2	6
			100	30	70
LSC/N9904 Maintain and monitor integrity and ethics in operations	PC1. refrain from indulging in corrupt practices	100	5	2	3
	PC2. avoid using company's funds, property or resources for undertaking personal activities		5	2	3
	PC3. protect customer's information and ensure it is not missed		5	2	3
	PC4. protect data and information related to business or commercial decisions		5	2	3
	PC5. avoid acceptance of cash or kind from vendors for support or contract negotiations		5	2	3
	PC6. demonstrate and practice ethics in day-to-day processes and dealings with customers and colleagues		5	2	3

	PC7. avoid nepotism		5	2	3
	PC8. consult supervisor or senior management when in situations that may require differentiating between ethical and unethical		6	2	4
	PC9. report promptly all violations of code of ethics		5	2	3
	PC10. dress up and conduct in a professional manner		5	2	3
	PC11. communicate with clients and stakeholders in a soft and polite manner		5	2	3
	PC12. follow etiquettes in accordance to the place		5	2	3
	PC13. check for regulatory documentation and compliances for the shop floor as per information from the supervisor		6	2	4
	PC14. perform activities considering the regulatory requirements		5	2	3
	PC15. use PPEs in accordance to regulatory requirements		6	3	3
	PC16. identify the different types of dangerous goods and handling methodologies		6	3	3
	PC17. follow the SOP for handling of different types of dangerous goods		6	2	4
	PC18. consult supervisor or senior management when in situations that may require differentiating between ethical and unethical		5	2	3
	PC19. promptly report all regulatory violations		5	2	3
			100	40	60
LSC/N3522 Follow health, safety and security procedures in liquid logistics	PC1. make note of all safety checks and comply with safety regulations	100	5	2	3
	PC2. wear personal protective equipment (PPE) such as goggles, ear plugs, helmet, mask, shoes, etc. as required		5	2	3
	PC3. follow standard driving and equipment/ machine operating practice		5	2	3
	PC4. follow protocol to initiate action in case of signs of any emergency situation like accident or breach of safety		5	2	3
	PC5. undertake periodical preventive health check ups		5	2	3
	PC6. follow necessary standard operating procedures (SOP) and precautions while handling dangerous and		5	2	3

hazardous shipment			
PC7. follow security procedures like green gate in port, customs area, factory security, etc.	5	2	3
PC8. identify unsafe conditions and practices and report it to concerned authority	5	2	3
PC9. implement 5S at workplace	5	2	3
PC10. inspect the activity area and equipment for safe working condition	5	2	3
PC11. check that pathways/ emergency escape routes are clear and free from grease/ oil	5	2	3
PC12. participate in fire drills	5	2	3
PC13. follow standard material handling procedures	5	2	3
PC14. hold ladders, platforms and hand rails in a safe position	5	2	3
PC15. check that the safety and security related tags, labels and signage are placed on cargo	5	2	3
PC16. report in case of any violation	5	2	3
PC17. raise alarms and inform supervisors in case of any emergency - fire, leakage, or pollution	5	2	3
PC18. coordinate with local authorities and nearby village representatives for evacuation	5	2	3
PC19. follow SOP to contain the disaster or pollution – use fire extinguisher, start emergency controls, close emergency valves, etc.	5	2	3
PC20. assist fellow workers in quick response and evaluation as per SOP	5	2	3
	100	40	60

Options					
Option 1 - Tank Farm Infrastructure Management					
Total marks 100				Marks allocation	
Assessment outcome	Assessment criteria	Total marks	Out of	Theory	Practical
LSC/N3528 Conduct daily review and facilitate	PC1. monitor cargo levels, tank farm alarms and infrastructure status, utilization status, repair and cargo handling schedules, etc. on the IOT system controls	100	7	2	5

operations in tank farms	PC2. review reports of loading, pumping and cleaning and high priority activities performed		7	2	5
	PC3. review work schedules, resource allocation and make amendments as required		7	2	5
	PC4. review inspection, fitness and maintenance reports		7	2	5
	PC5. coordinate with port authorities, clients, PGAs, etc. for resolving cargo transfers, pending cases, tank repairs, etc.		7	2	5
	PC6. monitor resource performance and take corrective action to improve utilisation		7	2	5
	PC7. periodically inspect tank farms to check for safety compliance, cargo storage and handling, cleanliness, use of adequate PPEs, resources, fitness of equipment and personnel, etc.		7	2	5
	PC8. analyse cargo storage and handling trends across tank farms		7	2	5
	PC9. prepare storage and revenue forecasts and budget for tank farm units		4	1	3
	PC10. set-up consensus meetings with peers and seniors and get their approval on the forecasts and budgets		4	1	3
	PC11. make amendments in budgets periodically based on review of actual performance		5	2	3
	PC12. assess tasks, identify priorities and inform supervisors and executives		5	2	3
	PC13. review and approve tank cleaning, maintenance schedules, work plans shared by supervisors		5	2	3
	PC14. review and approve disaster management plans, drill schedules shared by supervisors		5	2	3
	PC15. monitor compliance to local, country and international laws and processes on a regular basis		4	1	3
	PC16. monitor compliance with respect to cargo handling and storage norms particularly for hazardous cargo		4	1	3
	PC17. identify areas of non-compliance, and implement policies for compliances		4	1	3
	PC18. conduct inspections to check compliance to SOPs and regulations		4	1	3
				100	30
Option 2 - Ship and yard planning					
Total marks 100				Marks allocation	

Assessment outcome	Assessment criteria	Total marks	Out of	Theory	Practical
LSC/N3511 Perform ship and yard planning	PC1. obtain information regarding the vessel details - docking schedule and berth, bays and containers to be unloaded and loaded	100	7	2	5
	PC2. obtain information regarding movement of containers / cargo from port terminals to CFS/ ICD or client		7	2	5
	PC3. check yard's capacity utilization and open bays and locations		7	2	5
	PC4. assess the quantity of cargo to be moved and plan storage space for cargo		7	2	5
	PC5. allocate resources for cargo movement		3	1	2
	PC6. communicate the task at hand to cargo equipment handlers, manual cargo handlers and lifting and vessel supervisors		3	1	2
	PC7. discuss the plan for cargo movement with the operators to finalise the container/ cargo movement plan		7	2	5
	PC8. review that all equipment and workforce is ready for operations at the time of vessel docking / transport arrival		3	1	2
	PC9. review that the necessary precautions and PPEs have been taken		7	2	5
	PC10. deploy resources for loading/ unloading as per cargo stowage plan		3	1	2
	PC11. coordinate with cargo surveyor for safe and secured loading/ unloading		7	2	5
	PC12. conduct periodic inspections of the yard		7	2	5
	PC13. check for cleanliness, adequate use of PPEs, regulations and norms for workforce are clearly followed		7	2	5
	PC14. check that cargo bays are clearly marked and segregated, containers and cargo are stored as per prescribed norms		7	2	5
	PC15. check that equipment is parked at right positions		7	2	5
	PC16. check that all necessary precautions for storage of hazardous cargo is in place including emergency services		7	2	5
	PC17. prepare inspection report highlighting any anomaly or changes, as required		4	2	2
			100	30	70

Annexure: Trainer qualification and equipment requirement

Trainer Qualification –

- Graduate in Mechanical / Electrical / Instrumentation and control / Chemical / Petrochemical engineering with minimum 5 years (with minimum 2 years of experience as Manager) of experience in tank farm operations (or)
- Diploma in Mechanical / Electrical / Instrumentation and control / Chemical / Petrochemical engineering with minimum 7 years (with minimum 3 years of experience as Manager) of experience in tank farm operations
- Detailed knowledge of tank farm operations, and business management.
- Detailed knowledge of tank gauges, monitoring systems, emergency alarms and responses, loading, unloading and cleaning activities.
- Has supervisory skills with good knowledge of IT and control systems in tank farms, and reporting and data management skills
- The trainer should have the ability to read write and communicate in vernacular language and English

Training equipment- Tank farm, pipeline, pumps, controls and valves, central control unit, simulator, PPE, RFID scanner, bar code scanner, ERP, computer, printers, GPS tracker, piping and pumping equipment, cargo documentation, vehicle documentation, IMDG, HAZCHEM codes and SOPs Tank farm, loading/unloading equipment, cleaning equipment and consumables, control equipment, process SOPs, performance review software, budgeting and forecasting models/software, documentation, computer, projector, worksheets, stationery etc.