



Model Curriculum

QP Name: LPG Mechanic

QP Code: HYC/Q 3401

QP Version: 3.0

NSQF Level: 3

Model Curriculum Version: 3.0

Hydrocarbon Sector Skill Council
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Training Parameters

Sector	Hydrocarbon
Sub-Sector	Downstream
Occupation	LPG Installation & Complaint Handling
Country	India
NSQF Level	3
Aligned to NCO/ISCO/ISIC Code	NCO/2015 Nil
Minimum Educational Qualification and Experience	5th Grade Pass with 4-years of relevant experience OR 8th Grade Pass with 1-year of relevant experience OR 9th Grade pass OR Grade 8th with one year of National Trade Certificate (NTC) after 8th
Pre-Requisite License or Training	NA
Minimum Job Entry Age	18 years

Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills.

- Carry Out Installation of LPG Cylinders at Customer Premises with Adherence to Safety
- Attending Complaints of LPG Leakage, Allied LPG Equipment's & Non-functioning of Equipment
- Carry Out Mandatory Inspection of Consumer Premises Once in Every Two Years
- Maintain Health & Hygiene Habits

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration	Total Duration
Bridge Module	06:00	Nil	00:00	06:00
Module 1: Introduction to Hydrocarbon sector and the job role of LPG Mechanic	06:00	Nil	00:00	06:00
HYC/N 3401– Carry Out Installation of LPG Cylinders at Customer Premises with adherence to Safety NOS Version No. –3.0 NSQF Level – 3	30:00	60:00	15:00	105:00
Module 2: Adhere safety at costumer premises during installation of LPG cylinder	30:00	60:00	15:00	105:00
HYC/ N3402 – Attending Complaints of LPG Leakage, Allied LPG Equipment's & Non-functioning of Equipment NOS Version No. – 3.0 NSQF Level – 3	24:00	30:00	15:00	69:00
Module 3: Complaint handling of Non-functioning of LPG leakage, allied LPG equipment	24:00	30:00	15:00	69:00
HYC/N3403 – Carry Out Mandatory Inspection of Consumer Premises Once in Every Two Years NOS Version No. – 2.0 NSQF Level – 4	15:00	30:00	00:00	45:00
Module 4: Inspection of mandatory inspection periodically	15:00	30:00	00:00	45:00
HYC/N3103 – Maintain health, safety and security procedures NOS Version No. – 3.0 NSQF Level – 3	15:00	30:00	00:00	45:00
Module 5: Health, safety and security	15:00	30:00	00:00	45:00
DGT/VSQ/N0102 - Employability Skills NOS Version No. – 1.0	-	-	-	60:00
Total Duration	90:00	150:00	30:00	330:00

Module Details

Module 1: Introduction to Hydrocarbon Sector and the job role of LPG Mechanic *Bridge Module*

Terminal Outcomes:

- Discuss the Hydrocarbon Sector
- Discuss the job of an LPG Mechanic

Duration: 06:00	Duration: 00:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the oil and natural gas sector and its subsectors. • Explain the importance of an LPG mechanic. • Explain the roles and responsibilities of LPG mechanic. 	
Classroom Aids:	
<ul style="list-style-type: none"> • White / Black board and Projector • Digital Presentation • Computer/Laptop • Public Addressing System 	
Tools, Equipment and Other Requirements	
NA	

Module 2: Adhere safety at customer premises during installation of LPG cylinder Mapped to HYC/ N3401 v 3.0

Terminal Outcomes:

- Checking of LPG Cylinder and burner before installation, During Installation and Post-Installation
- Explain Safety norms to the customers

Duration: 30:00	Duration: 60:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the importance of planning. • Explain the importance of carrying documents for visit to customer's site. • Explain the importance of sufficient ventilation in the place where filled LPG cylinders are to be kept. • Describe position for keeping cylinder • Explain the importance of sticking tear off slip with 'house-lock' intimation on the customer's main door if the house is locked, and informing the same to showroom supervisor. • Describe the significance of Fire Extinguishers (DCP / CO₂), two buckets filled with water, two buckets filled with sand at Industrial and commercial Installation. • Explain the properties of LPG to customer and safe usage of LPG equipment. • Explain the disadvantage of T-joints between cylinder and stove / hot plate. • Describe the importance of using IS /BIS standards equipment • Explain the safety instructions for using the LPG cylinder to the customer • Describe emergency contacts and online complaint service details to the customer • Describe unsafe practice to the customer. • Explain how to inform availability of Air Resources Board (ARB) product at their distributorship. • Describe safety awareness to the 	<ul style="list-style-type: none"> • Demonstrate how to visit the distributor show room, collect the new customer details, address, phone number etc. as per the day's schedule and plan installation. • Demonstrate how the check readiness of tool kit with all the essential tools and replenish the required consumables. • Prepare all the requisite documents to be carried for visit to customer's site. • Carry ID card provided by Distributor at all times and wear proper uniform while visiting the customer premises for installation. • Conduct ventilation check in cupboard before placing cylinder. • Demonstrate how to keep cylinder in vertical position • Demonstrate how to check specification of Fire Extinguishers • Perform customer greeting the process. • Demonstrate how to move cylinder while installation without making noise. • Demonstrate how to role the on foot ring to the kitchen. • Classify the flammable and inflammable items in kitchen • Demonstrate to install cylinders in vertical position with valve on top and safety cap tied on to the stay plate of the cylinder, hot plate / stove at a higher level than the cylinder • Demonstrate how to check the cylinders are not installed or used below ground level, in cellar / basement

<p>customer.</p>	<ul style="list-style-type: none"> • Demonstrate how to Open the seal, connect the regulator with the cylinder and ensure that the regulator fits the cylinder properly. • Demonstrate how to check the pressure regulator and rubber hose while installing the cylinder • Demonstrate how to check the faulty O-ring • Demonstrate the use with a live demo to the customer • Perform switching off the knob of the gas stove and the regulator • Demonstrate how to check ISI mark rubber tube without any cover / insulation • Confirm the cylinders are installed at places free from obstruction / prone for damage or vulnerable to unsafe conditions • Demonstrate how to check cylinders are placed at least 1 meter away from culverts / depressions / openings to prevent hazardous collection of gas • Demonstrate how to obtain the customer's signature on the counter slip and retain the copy. • Prepare customers book updating the serial number, date of installation, etc. • Demonstrate how to get the customer feedback & record and convey the same to the showroom staff • Demonstrate how to thank customer before leaving the site. • Perform document/feedback/record submission activities • Demonstrate • Conduct Safety Clinic on a weekly basis
<p>Classroom Aids:</p>	
<ul style="list-style-type: none"> • White / Black board and Projector • Digital Presentation • Computer/Laptop • Public Addressing System 	
<p>Tools, Equipment and Other Requirements</p>	
<ul style="list-style-type: none"> • Pictorial presentation, Sample SOP, Flip chart, Sample job card, LPG Cylinders (Functional & Damaged) all capacities, LPG Cylinder cut models (all capacities), LPG Pressure Regulators, LPG Regulators cut models, LPG cylinder SC valve, LPG cylinder SC valve cut models, "O"ring, "O" ring tester, Suraksha hose, Details 	

of commercial Installations Propane resistant hand gloves, Magnetic type slot screw driver and fastener Blade width ranges/fastener size (2.4mm/0-1 , 3.2mm/2 , 4.0mm/3 , 4.8mm/4-5 , 6.4mm/6-7 , 7.9mm/8-10 , 9.5mm/12-14 , 11mm/16-18, 13mm/18-24.), Magnetic type Phillips screw driver of sizes (#0, #1 , #2 , #3, #4, #5), Needle Nose pliers, Slip joint pliers, Bent nose pliers, Combination pliers, Non-sparking cutting plier, Set of metric spanners or wrenches mainly open-end wrench, combination wrench, flat nut wrench, tube wrench, line wrench, adjustable wrench, pipe wrench& allen wrench, Chisel, Hammer, Graphite grease, Soap, Small hacksaw hand blades, Round wire brush, Twisted in wire brushes, Stainless steel wire brushes, Brass wire brushes, O'ring remover, O-ring Inserter, SC valve tester, Teflon tape, Various type SC valve Caps, Various types of Seals, Safety posters, Dos and Don'ts in domestic Installation, Dos and Don'ts of Commercial Installation, Safety Posters-Handling emergencies, Dos and Don'ts, Commercial regulator, Quick shutoff valve, First aid kit, Small Class B fire extinguisher, LPG commercial Installation manifold, LPG bank Installation-Regulator & Hoses, LPG domestic House meter

Module 3: Complaint handling of Non-functioning of LPG leakage, allied LPG equipment

Mapped to HYC/N3402 v 3.0

Terminal Outcomes:

- Carry out customer complaint handling
- Carry out customer satisfaction
- Carry out customer requirement

Duration: 24:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the importance of resolving the complaint • Describe importance of clarity, honesty and transparency while dealing with customers • Explain the importance of collecting feedback from the customers on current service, complaints and improvements to be made • Describe the significance of resolving complaint received from District Authorities, Tehsildar, Police, Collector etc. 	<ul style="list-style-type: none"> • Demonstrate how to listen the customer attentively and politely respond to them • Perform attending leakage complaints within 30 minutes • Demonstrate how to attend complaints on stoves / burners within 24 hours • Demonstrate how to provide service to existing customers • Perform to build a good rapport with the customers by discussing with them about general likes and dislikes in the market, latest trends, etc. • Create an awareness on the various schemes and benefits for customers by using various marketing strategies • Demonstrate how to increase the brand value of the LPG Agency • Demonstrate how to meet customers' expectations • Perform handling of angry customer to maintain the brand image of the LPG Agency • Demonstrate how to convey customers' feedback (especially, negative feedback) to concerned authority • Demonstrate how to understand the customer's needs for service quality requirements • Perform to resolve all complaints within 48 hours and convey it to concerned authority • Demonstrate how to maintain the record of all customer complaints and the time frame for resolution • Demonstrate how to identify the root-cause of repetitive complaints

	to avoid reputation
Classroom Aids:	
<ul style="list-style-type: none">• White / Black board and Projector• Digital Presentation• Computer/Laptop• Public Addressing System	
Tools, Equipment and Other Requirements	
<ul style="list-style-type: none">• Safety cap, Safety instruction chart, Safety tips chart for conserving LPG, Leak detectors, First aid kit	

Module 4: Inspection of customers premise mandatory inspection periodically

Mapped to HYC/N3403 v 2.0

Terminal Outcomes:

- Demonstrate how to carrying out mandatory inspection for all customers under the distributor periodically

Duration: 15:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Explain the need and importance of Mandatory Inspections • Describe the importance of wearing proper uniform with identity card before going to any customer premises • Explain the importance of regular feedback from the customers on current service, complaints and improvements to be made in the services. 	<ul style="list-style-type: none"> • Demonstrate how to carry out mandatory inspection for all customers under the Gas agency, as per the “mandatory inspection format for domestic gas installation” check list or through mobile app. • Demonstrate how to inform customer in advance regarding the mandatory inspection. • Demonstrate how to take pictures / photos of defective equipment or unsafe practices witnessed at customer’s premises and upload in portal • Perform updating of all inspection points in Inspection portal on same day, if inspection is carried out with hardcopy check list.
<ul style="list-style-type: none"> • Classroom Aids: 	
<ul style="list-style-type: none"> • White / Black board and Projector • Digital Presentation • Computer/Laptop • Public Addressing System 	
Tools, Equipment and Other Requirements	
<ul style="list-style-type: none"> • Safety play cards, Safety regulation manual 	

Module 5: Health, safety and security

Mapped to HYC/N3103 v 3.0

Terminal Outcomes:

- Identify the possible cause of accident and hazards
- Explain how to maintain safety and healthy environment
- Demonstrate how to use PPE kit at workplace

Duration: 15:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> • Describe the importance of sanitising hands with alcohol base sanitizer or soap • Explain the significance of maintaining dental hygiene • Describe the significance to undergo preventive health check-ups at regular intervals and take prompt treatment. • Explain the importance of getting appropriate vaccination 	<ul style="list-style-type: none"> • Perform to maintain a well-groomed look • Demonstrate how to report on personal health issues related to injury and infectious diseases • Demonstrate to use a tissue, cover the mouth and turn away from people and food items while sneezing or coughing • Demonstrate how to wash/wipe hands after coughing and sneezing • Demonstrate how to have a general sense of hygiene and appreciation for cleanliness
Classroom Aids:	
<ul style="list-style-type: none"> • White / Black board and Projector • Digital Presentation • Computer/Laptop • Public Addressing System 	
Tools, Equipment and Other Requirements	
<ul style="list-style-type: none"> • Trainer Guide • Participant hand book • Escalation matrix chart • Class Room • White Board & Markers • LCD Projector 	

Annexure

Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
12th Class Pass	-	5	In relevant Field	1	-	
ITI Pass	-	5	In relevant Field	1	-	

Trainer Certification	
Domain Certification	Platform Certification
Certified for the Job Role: “LPG Mechanic”, mapped to QP: “HYC/Q 3401, v4.0”. Minimum accepted score is 80%	Certified for the Job Role: “Trainer”, mapped to the Qualification Pack: “MEP/Q2601, v1.0”. Minimum accepted score as per MEPSC guidelines is 80%.

Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
12th Class Pass	-	5	In relevant Field	1	-	
ITI Pass	-	5	In relevant Field	1	-	

Assessor Certification	
Domain Certification	Platform Certification
Certified for the Job Role: "LPG Mechanic", mapped to QP: "HYC/Q 3401, v4.0". Minimum accepted score is 80%	Certified for the Job Role: "Assessor", mapped to the Qualification Pack: "MEP/Q2701, v1.0". Minimum accepted score as per MEPSC guidelines is 80%.

Assessment Strategy

The assessment of candidates/trainees will be on the basis on assessment outcome/assessment criteria of the Qualification. In the assessment criteria for each NOS marks have been defined for theoretical and practical skills, on which the candidate will be assessed. The emphasis is on 'learning-by-doing' and performance criteria is based on the practical demonstration of skills and knowledge.

Theory/Knowledge test– This section will test the trainee on his/her knowledge on the subject/trade. The test will be carried out online/offline with a set of random Question paper. that include multiple choice questions in multilingual, True/False Statement, audio-video question etc.

The Question Bank will be developed by Subject Matter Experts (SME) of the hydrocarbon sector and these questions again be vetted by the Industry Experts, each performance criteria have its marks for theory based on the level of question i.e. easy, medium and difficult.

Practical/Demonstration Test– This stage involves the face-to-face interaction between Assessor and each trainee. The practical knowledge will be tested through trade test which demonstrates the skill required for the job, by which assessor would be able to evaluate the trainee for his/her practical knowledge on respective Qualification.

To ensure the maximum possible consistency in the assessment by different assessors at different locations, orientation of the assessors is also required about the stages involved in the assessment and the assessor role in the assessment process. The assessor must have knowledge of the following concepts before assessment:

- Qualification Pack Structure
- Guidance for the assessor to conduct theory and practical assessments
- Guidance for trainees to be given by assessor before the start of the assessments.
- Guidance on assessments process, practical brief with steps of operations practical observation checklist
- Practical/Demonstration Test guidance for uniformity and consistency.
- Guidance on assessment evidence collection (signed attendance copy, verification of the authenticity of the candidate by checking the photo ID card, Photographs-while assessment undergoing etc.)

The empanelled assessment agencies will be instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to ideally have assessor with sufficient amount of relevant industry experience related to Qualification. The assessors will also have scrutinized and have to undergo orientation of assessment framework, competency-based assessments etc.

Recognition of Prior Learning (RPL)

Under the Recognition of Prior Learning (RPL), the candidates enrolled and the assessment will be carried out as per the assessment criteria and assessment outcome of the full Qualification and the process of assessment will be carry out by the body/bodies empanelled by Hydrocarbon Sector Skill Council

In RPL, the candidate already has the skills and knowledge while working on the job from long, the learners only require to undergo a brief orientation training and the subsequent assessment process and certification is awarded to those candidates who successfully clear the assessment. The tentative process of RPL would include the following stages:

- 1 Cluster Mapping and Mobilization of the candidates
- 2 Counselling & Pre-Screening
- 4 Candidate registration, batch creation and enrolment
- 5 Conduction of an orientation program for candidates before assessment
- 7 Assessment by HSSC
- 8 Evaluation of Assessment Result
- 9 Issuance of the Certificate to successful candidates

Assessment Strategy:

- For each Qualification Pack assessment criteria has been developed, which describe the weightage for each NOS/Performance criteria (PC) and assigned marks based on each NOS separately for theoretical and practical skills
- The question bank will be developed by the subject matter experts to assess the theoretical and practical knowledge.
- The accredited assessment agency will carry out the assessment process on the date proposed after completion of the training. The assessment will be carried out on the basis of the two parameters i.e. Theoretical test and Practical test.
- The result of the assessment will be shared by assessment body to the HSSC for review and compliance, after that result will be processed and certificates will be generated
- Assessments shall be conducted in the regional languages in case of any specific requirement from the concerned Training Provider.
- For ensuring the impartial assessment it will be ensured that the Assessment Bodies (AB) are not involved in any type of training delivery with respect to this project.

Assessment Guidelines

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 the proportion of marks for Theory and Skills Practical for each PC.
2. The assessment for the theory part will be based on the knowledge bank of questions created by the SSC.
3. Assessment will be conducted for all compulsory NOS, and where applicable, on the selected elective/option NOS/set of NOS.
4. Individual assessment agencies will create unique question papers for the theory part for each candidate at each examination/training center (as per assessment criteria below).
5. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
6. To pass the Qualification Pack assessment, every trainee should score a minimum of 50% of % aggregate marks to successfully clear the assessment.
7. In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Recommended Pass % aggregate for QP: 50%

References

Glossary

Term	Description
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Occupational Standards (OS)	OS specify the standards of performance an individual must achieve when carrying out a function in the workplace, together with the Knowledge and Understanding (KU) they need to meet that standard consistently. Occupational Standards are applicable both in the Indian and global contexts.
Performance Criteria (PC)	Performance Criteria (PC) are statements that together specify the standard of performance required when carrying out a task.
National Occupational Standards (NOS)	NOS are occupational standards which apply uniquely in the Indian context.
Qualifications Pack (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications pack code.
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.
Description	Description gives a short summary of the unit content. This would be helpful to anyone searching on a database to verify that this is the appropriate OS they are looking for.
Scope	Scope is a set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on quality of performance required.
Knowledge and Understanding (KU)	Knowledge and Understanding (KU) are statements that together specify the technical, generic, professional and organizational specific knowledge that an individual need in order to perform to the required standard.
Organizational Context	Organizational 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.
Technical Knowledge	Technical knowledge is the specific knowledge needed to accomplish specific designated responsibilities.
Core Skills/Generic Skills (GS)	Core skills or Generic Skills (GS) are a group of skills that are the key to learning and working in today's world. These skills are typically needed in any work environment in today's world. In the context of the OS, these include communication-related skills that are applicable to most job roles.
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 QP for each specialized job role. Trainees must select at least

	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.

Acronyms and Abbreviations

Term	Description
NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training
OS	Occupational Standard(s)
QP	Qualifications Pack
KU	Knowledge and understanding
GS	Generic Skills
LPG	Liquefied Petroleum Gas
FAQ	Frequently Asked Questions
BP	Business Partner
KYC	Know Your Consumer
FAB	Feature Advantage Benefit