Qualification Pack

Green Hydrogen Supply Chain - SHEQ Manager

QP Code: LSC/Q3906

Version: 1.0

NSQF Level: 6

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Qualification Pack

LSC/Q3906: Green Hydrogen Supply Chain - SHEQ Manager

Brief Job Description

The individual in this job role is responsible for ensuring compliance with occupational Safety, Health, Environment, and Quality (SHEQ) parameters across all functions in the Supply chain of Green Hydrogen. S/he will devise and implement strategies, processes, programs and parameters to meet the standards and regulatory requirements. Their duties will also include assessing and mitigating risks, investigating accidents and near-miss incidents, and driving continuous safety and operational excellence improvement. The SHEQ manager is fully responsible for the maintenance of records and incident reports related to health, safety, and quality and their submission during quality audits.

Personal Attributes

The individual must be a DG advisor. He/she must have the analytical ability to work and coordinate with others. They should have good verbal and written communication skills and a ready-to-deploy mindset to work for this profile.

Applicable National Occupational Standards (NOS)

Compulsory NOS:

1. LSC/N3931: Develop policies for SHEQ Management
2. LSC/N3932: Conduct Risk Assessment and Mitigation
3. LSC/N3933: Integrate SHEQ Management for Green Hydrogen Projects
4. LSC/N3934: Ensure compliance with SHEQ standards
5. LSC/N3935: Monitor and ensure continuous improvement
6. LSC/N3936: Prepare for Emergencies and Develop Response Plans
7. LSC/N3926: Follow Safety and Security Guidelines for Green Hydrogen
8. DGT/VSQ/N0103: Employability Skills (90 Hours)

Qualification Pack (QP) Parameters

Sector	Logistics
Sub-Sector	Supply Chain, Liquid Logistics

Qualification Pack

Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
Country	India
NSQF Level	6
Credits	21
Aligned to NCO/ISCO/ISIC Code	NCO-2015/1324
Minimum Educational Qualification & Experience	Post Graduate (Completed PG in Supply Chain or Logistics) with 1 Year of experience relevant experience in supply chain OR Completed 4 year UG program with 2 Years of experience relevant experience OR Completed 3 year UG degree with 3 Years of experience relevant experience in supply chain OR 2-year Diploma after 12th grade (in any field) with 4 Years of experience relevant experience in supply chain OR Previous relevant Qualification of NSQF Level (5.5) with 1.5 years of experience relevant experience in supply chain OR Previous relevant Qualification of NSQF Level (5) with 3 Years of experience relevant experience in supply chain
Minimum Level of Education for Training in School	
Pre-Requisite License or Training	Must be DG certified
Minimum Job Entry Age	25 Years
Last Reviewed On	NA
Next Review Date	22/10/2027
NSQC Approval Date	22/10/2024
Version	1.0
Reference code on NQR	QG-06-TW-03312-2024-V1-LSC
NQR Version	1.0

LSC/N3931: Develop policies for SHEQ Management

Description

This OS is about developing policies and procedures related to Safety, Health, Environment, and Quality (SHEQ) management.

Scope

The scope covers the following :

- Develop SHEQ policies and procedures
- Manage and engage with internal and external stakeholders
- Coordinate with suppliers and contractors
- Life Cycle Assessment (LCA)
- Select Sustainable Packaging and Materials
- Monitor Waste Management

Elements and Performance Criteria

Develop SHEQ policies and procedures

To be competent, the user/individual on the job must be able to:

PC1. Develop SHEQ objectives that align with organisational goals and regulatory requirements, considering the specific risks of hydrogen embrittlement, high-pressure hydrogen storage, and electrolysis processes.

PC2. Develop comprehensive safety, health, environment, and quality compliance policies and procedures, incorporating ISO 45001, ISO 14001, ISO 9001 standards, and PESO regulations.

PC3. Establish performance metrics and KPIs to measure the effectiveness of SHEQ policies for hydrogen in-plant storage and distribution, including leading and lagging indicators.

PC4. Communicate policies and procedures to all stakeholders using advanced communication tools and engagement strategies.

PC5. Identify applicable local, national, and international regulations for green hydrogen projects.

PC6. Develop a detailed compliance checklist to ensure all SHEQ practices are followed, integrating best practices from hydrogen safety management systems and guidelines from the Indian Bureau of Standards (BIS).

PC7. Stay updated with regulatory changes and adjust policies whenever required.

PC8. Regularly review SHEQ policies and procedures for relevance and effectiveness, especially considering technological advancements and new regulations in the hydrogen sector.

PC9. Update strategies based on feedback, incident reports, and changes in regulations.

Manage and engage with internal and external stakeholders

To be competent, the user/individual on the job must be able to:

PC10. Maintain stakeholder relationships by addressing SHEQ concerns using conflict resolution strategies utilising structured communication channels like regular project updates, SHEQ briefings, and stakeholder forums for ongoing dialogue.

PC11. Execute clear plans to engage stakeholders effectively, including Communication Management Plans, Public Relations Strategies, and Crisis Communication Protocols, following industry best practices and the Indian Standard IS 16479:2017.

PC12. Revise SHEQ practices by incorporating stakeholder feedback, employing methodologies like Root Cause Analysis and Continuous Improvement (e.g., PDCA Cycle), and updating management plans to enhance project outcomes.

Coordinate with suppliers and contractors

To be competent, the user/individual on the job must be able to:

PC13. Develop and manage processes to select suppliers and contractors, including creating RFPs, RFQs, and ITTs, using tools like the Supplier Selection Matrix and Technical-Bid Evaluation Framework.

PC14. Evaluate suppliers and contractors using tools like Supplier Audits, Contractor Performance Reviews, and SHEQ Compliance Checklists to assess their adherence to safety, health, environmental, and quality standards, as well as operational effectiveness.

PC15. Ensure suppliers and contractors comply with safety, health, environment, and quality (SHEQ) standards through regular audits, inspections, and evaluations, using techniques like third-party audits, SHEQ compliance tracking systems, and corrective action requests (CARs).

PC16. Ensure performance issues are addressed and corrected using processes like Performance Improvement Plans (PIPs), Root Cause Analysis, and CAPA procedures to rectify non-compliance and enhance performance.

PC17. Maintain detailed records of evaluations, performance reviews, and corrective actions using Performance Management Systems, Contract Management Software, and SHEQ Documentation Standards for accurate and current documentation.

Life Cycle Assessment (LCA)

To be competent, the user/individual on the job must be able to:

PC18. Identify and quantify all environmental inputs (e.g., energy, resources) and outputs (e.g., emissions, waste) associated with green hydrogen transportation activities.

PC19. Assess the potential ecological impacts of the identified inputs and outputs using impact assessment methods.

PC20. Analyse the results of the (Life Cycle Impact Assessment) LCIA, identify areas for environmental improvement, and communicate the findings to stakeholders.

PC21. Identify hotspots, develop and implement strategies to minimise the environmental impact of green hydrogen transportation.

PC22. Monitor the effectiveness of the implemented mitigation strategies by conducting periodic LCA studies to track changes in the ecological footprint of green hydrogen transportation.

Select Sustainable Packaging and Materials

To be competent, the user/individual on the job must be able to:

PC23. Conduct LCA and research to identify sustainable packaging options compatible with green hydrogen properties and regulatory standards.

PC24. Perform safety assessments to ensure chosen packaging materials meet regulatory requirements for hydrogen transport, establishing clear guidelines for their selection and usage across the supply chain.

PC25. Develop a monitoring framework to track metrics such as waste reduction, recycling rates, and packaging costs, enabling continuous improvement of the sustainable packaging strategy.

Monitor Waste Management

To be competent, the user/individual on the job must be able to:

PC26. Monitor and audit the effectiveness of the waste management system for Green Hydrogen transportation.

PC27. Oversee inspections of waste storage areas to ensure proper segregation, labelling, and containment of waste streams.

PC28. Review waste management documentation, including manifests, disposal certificates, and training records, to ensure compliance with regulations and procedures.

PC29. Analyse data on waste generation, transportation, and disposal to identify areas for improvement and cost reduction in the waste management system.

PC30. Report identified non-conformances and corrective actions taken regarding waste management practices to relevant stakeholders.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. ISO 45001, ISO 14001, and ISO 9001 standards.

KU2. Indian regulations such as the Factories Act 1948 and the Environment Protection Act 1986.

KU3. Petroleum and Natural Gas Regulatory Board (PNGRB) guidelines, PESO regulations, and the Central Pollution Control Board (CPCB) norms.

KU4. Methods for communicating and implementing policies effectively.

KU5. Process of regulatory compliance and the impact of non-compliance.

KU6. Risk assessment methodologies like HAZOP and FMEA.

KU7. Stakeholder identification, engagement, and management techniques.

KU8. Effective communication and relationship management.

KU9. How to incorporate feedback into SHEQ practices.

KU10. Contractor management practices.

KU11. Evaluation criteria for SHEQ performance.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.

GS2. Communicate effectively with stakeholders both verbally and in writing.

GS3. Pay close attention to and grasp the needs of stakeholders.

GS4. Handle complaints and difficult situations professionally.

GS5. Work efficiently with a team to achieve common goals.

GS6. Communicate policies and updates clearly to stakeholders.

GS7. Plan and organise daily tasks to ensure efficient completion of work.

GS8. Use basic numeracy skills for data recording and analysis.

GS9. Foster positive relationships within the workplace.

GS10. Concentrate on tasks without distractions and manage interruptions effectively.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Develop SHEQ policies and procedures	**9**	**18**	**-**	**2.5**
PC1. Develop SHEQ objectives that align with organisational goals and regulatory requirements, considering the specific risks of hydrogen embrittlement, high-pressure hydrogen storage, and electrolysis processes.	1	2	-	0.5
PC2. Develop comprehensive safety, health, environment, and quality compliance policies and procedures, incorporating ISO 45001, ISO 14001, ISO 9001 standards, and PESO regulations.	1	2	-	0.5
PC3. Establish performance metrics and KPIs to measure the effectiveness of SHEQ policies for hydrogen in-plant storage and distribution, including leading and lagging indicators.	1	2	-	0.5
PC4. Communicate policies and procedures to all stakeholders using advanced communication tools and engagement strategies.	1	2	-	0.5
PC5. Identify applicable local, national, and international regulations for green hydrogen projects.	1	2	-	0.5
PC6. Develop a detailed compliance checklist to ensure all SHEQ practices are followed, integrating best practices from hydrogen safety management systems and guidelines from the Indian Bureau of Standards (BIS).	1	2	-	-
PC7. Stay updated with regulatory changes and adjust policies whenever required.	1	2	-	-
PC8. Regularly review SHEQ policies and procedures for relevance and effectiveness, especially considering technological advancements and new regulations in the hydrogen sector.	1	2	-	-
PC9. Update strategies based on feedback, incident reports, and changes in regulations.	1	2	-	-
Manage and engage with internal and external stakeholders	**3**	**6**	**-**	**1**

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. Maintain stakeholder relationships by addressing SHEQ concerns using conflict resolution strategies utilising structured communication channels like regular project updates, SHEQ briefings, and stakeholder forums for ongoing dialogue.	1	2	-	0.5
PC11. Execute clear plans to engage stakeholders effectively, including Communication Management Plans, Public Relations Strategies, and Crisis Communication Protocols, following industry best practices and the Indian Standard IS 16479:2017.	1	2	-	-
PC12. Revise SHEQ practices by incorporating stakeholder feedback, employing methodologies like Root Cause Analysis and Continuous Improvement (e.g., PDCA Cycle), and updating management plans to enhance project outcomes.	1	2	-	0.5
Coordinate with suppliers and contractors	**5**	**10**	**-**	**1**
PC13. Develop and manage processes to select suppliers and contractors, including creating RFPs, RFQs, and ITTs, using tools like the Supplier Selection Matrix and Technical-Bid Evaluation Framework.	1	2	-	0.5
PC14. Evaluate suppliers and contractors using tools like Supplier Audits, Contractor Performance Reviews, and SHEQ Compliance Checklists to assess their adherence to safety, health, environmental, and quality standards, as well as operational effectiveness.	1	2	-	0.5
PC15. Ensure suppliers and contractors comply with safety, health, environment, and quality (SHEQ) standards through regular audits, inspections, and evaluations, using techniques like third-party audits, SHEQ compliance tracking systems, and corrective action requests (CARs).	1	2	-	-
PC16. Ensure performance issues are addressed and corrected using processes like Performance Improvement Plans (PIPs), Root Cause Analysis, and CAPA procedures to rectify non-compliance and enhance performance.	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC17. Maintain detailed records of evaluations, performance reviews, and corrective actions using Performance Management Systems, Contract Management Software, and SHEQ Documentation Standards for accurate and current documentation.	1	2	-	-
Life Cycle Assessment (LCA)	**5**	**10**	**-**	**1.5**
PC18. Identify and quantify all environmental inputs (e.g., energy, resources) and outputs (e.g., emissions, waste) associated with green hydrogen transportation activities.	1	2	-	0.5
PC19. Assess the potential ecological impacts of the identified inputs and outputs using impact assessment methods.	1	2	-	0.5
PC20. Analyse the results of the (Life Cycle Impact Assessment) LCIA, identify areas for environmental improvement, and communicate the findings to stakeholders.	1	2	-	-
PC21. Identify hotspots, develop and implement strategies to minimise the environmental impact of green hydrogen transportation.	1	2	-	-
PC22. Monitor the effectiveness of the implemented mitigation strategies by conducting periodic LCA studies to track changes in the ecological footprint of green hydrogen transportation.	1	2	-	0.5
Select Sustainable Packaging and Materials	**3**	**6**	**-**	**1.5**
PC23. Conduct LCA and research to identify sustainable packaging options compatible with green hydrogen properties and regulatory standards.	1	2	-	0.5
PC24. Perform safety assessments to ensure chosen packaging materials meet regulatory requirements for hydrogen transport, establishing clear guidelines for their selection and usage across the supply chain.	1	2	-	0.5
PC25. Develop a monitoring framework to track metrics such as waste reduction, recycling rates, and packaging costs, enabling continuous improvement of the sustainable packaging strategy.	1	2	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Monitor Waste Management	**5**	**10**	**-**	**2.5**
PC26. Monitor and audit the effectiveness of the waste management system for Green Hydrogen transportation.	1	2	-	0.5
PC27. Oversee inspections of waste storage areas to ensure proper segregation, labelling, and containment of waste streams.	1	2	-	0.5
PC28. Review waste management documentation, including manifests, disposal certificates, and training records, to ensure compliance with regulations and procedures.	1	2	-	0.5
PC29. Analyse data on waste generation, transportation, and disposal to identify areas for improvement and cost reduction in the waste management system.	1	2	-	0.5
PC30. Report identified non-conformances and corrective actions taken regarding waste management practices to relevant stakeholders.	1	2	-	0.5
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3931
NOS Name	Develop policies for SHEQ Management
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3932: Conduct Risk Assessment and Mitigation

Description

This OS unit is about accessing risks and mitigating them.

Scope

The scope covers the following :

- Implement Safe Work Procedures
- Access and mitigate risks
- Monitor and Audit Risk Management Practices
- Risk Assessments Throughout the Chain
- Maintain Documentation

Elements and Performance Criteria

Implement Safe Work Procedures

To be competent, the user/individual on the job must be able to:

PC1. Create and execute Safe Work Procedures (swps) based on identified hazards for the transportation of green hydrogen.

PC2. Determine the precise duties and operations required at each stage of the transportation of green hydrogen (loading, unloading, storage, transportation).

PC3. Analyse potential hazards associated with each task, considering factors like flammability, pressure, leaks, and human error.

PC4. Assess each indicated hazard's severity and likelihood to ascertain the degree of risk involved.

PC5. Develop control measures to mitigate risks.

Access and mitigate risks

To be competent, the user/individual on the job must be able to:

PC6. Identify potential safety, health, environmental, and quality risks in green hydrogen projects.

PC7. Utilising a qualitative scale (low, medium, high, etc.), perform qualitative analysis (risk assessment) to determine the impact and likelihood of each risk.

PC8. Conduct a quantitative analysis (risk assessment) to estimate the potential financial impact or the likelihood of occurrence using numerical data.

PC9. Create a detailed risk mitigation strategy based on the risk priority and implement appropriate control measures.

PC10. Track the success of risk management techniques and make required adjustments.

PC11. Develop detailed action plans for each risk, outlining the steps to be taken, resources required, and timelines.

PC12. Update the risk register to reflect new risks, changes in existing risks, and the outcomes of mitigation actions.

Monitor and Audit Risk Management Practices

To be competent, the user/individual on the job must be able to:

PC13. Conduct or oversee regular inspections of facilities, equipment, and work practices to ensure compliance with established risk mitigation strategies and Safe Work Procedures (swps).

PC14. Review documentation such as training records, inspection reports, and incident reports to identify any gaps or weaknesses in risk management practices.

PC15. Analyse data from auditing and monitoring operations to spot patterns, reoccurring problems, and places where risk control needs to be strengthened.

PC16. Conduct root cause analysis of incidents and near misses to understand the underlying causes and develop preventative measures.

PC17. Prepare and communicate audit reports that summarise findings, identify non-conformances, and recommend corrective actions.

PC18. Track and oversee the application of corrective measures to guarantee that hazards are adequately addressed.

PC19. Evaluate and revise risk assessments considering new information, operational modifications, or found weaknesses in current controls.

Risk Assessments Throughout the Chain

To be competent, the user/individual on the job must be able to:

PC20. Identify potential hazards at each stage, including storage sites, transportation methods (pipelines, trucks, ships), and unloading points.

PC21. Assess each hazard's likelihood and seriousness, considering things like the possibility of leaks, fires, explosions, and human error.

PC22. Implement mitigation strategies for identified risks as a Site "Dangerous Goods" Safety Advisor (DGSA).

PC23. Document risk assessments and mitigation plans.

Maintain Documentation

To be competent, the user/individual on the job must be able to:

PC24. Develop and utilise a document management system to organise and store risk assessment reports, mitigation plans, Safe Work Procedures (SWPs), training records, and audit reports.

PC25. Ensure clear identification and version control of all documents to maintain the latest and approved versions readily accessible.

PC26. Establish a document retention policy specifying how long different types of documents need to be retained according to regulatory requirements and best practices.

PC27. Train personnel on accessing, utilising, and maintaining documentation related to risk assessments and mitigation strategies.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Entire green hydrogen supply chain.

KU2. Potential for fires and explosions due to leaks or ignition sources.

KU3. Risks associated with pressurisation during transportation and storage.

KU4. Potential hazards related to electrolysis processes, hydrogen compression, and initial storage.

KU5. Risks of spills, leaks, equipment failure due to pressure handling, and human error during transfer between production and transport containers.

KU6. Hazards specific to the chosen mode of transport (road, rail, ship).

KU7. Risks associated with leaks, pressure build-up, fires, or explosions at storage sites.

KU8. National and international regulations governing the safe transportation and storage of hydrogen in India.

KU9. Engineering control methods used to mitigate risks in green hydrogen transportation and logistics.

KU10. Risk matrix to rank risks based on their likelihood and impact.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.

GS2. Deliver exceptional customer service with a friendly, professional, and courteous demeanour.

GS3. Communicate effectively with customers and supervisors, both verbally and in writing.

GS4. Actively listen to and understand the needs of customers and colleagues.

GS5. Handle customer complaints and difficult situations professionally.

GS6. Make informed decisions in response to customer inquiries and operational challenges.

GS7. Work efficiently with a team to achieve common goals.

GS8. Plan and organise daily tasks to ensure efficient completion of work.

GS9. Use basic numeracy skills for data recording and analysis.

GS10. Foster positive relationships within the workplace.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Implement Safe Work Procedures	**5**	**10**	**-**	**2.5**
PC1. Create and execute Safe Work Procedures (swps) based on identified hazards for the transportation of green hydrogen.	1	2	-	0.5
PC2. Determine the precise duties and operations required at each stage of the transportation of green hydrogen (loading, unloading, storage, transportation).	1	2	-	0.5
PC3. Analyse potential hazards associated with each task, considering factors like flammability, pressure, leaks, and human error.	1	2	-	0.5
PC4. Assess each indicated hazard's severity and likelihood to ascertain the degree of risk involved.	1	2	-	0.5
PC5. Develop control measures to mitigate risks.	1	2	-	0.5
Access and mitigate risks	**7**	**14**	**-**	**1**
PC6. Identify potential safety, health, environmental, and quality risks in green hydrogen projects.	1	2	-	0.5
PC7. Utilising a qualitative scale (low, medium, high, etc.), perform qualitative analysis (risk assessment) to determine the impact and likelihood of each risk.	1	2	-	0.5
PC8. Conduct a quantitative analysis (risk assessment) to estimate the potential financial impact or the likelihood of occurrence using numerical data.	1	2	-	-
PC9. Create a detailed risk mitigation strategy based on the risk priority and implement appropriate control measures.	1	2	-	-
PC10. Track the success of risk management techniques and make required adjustments.	1	2	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Develop detailed action plans for each risk, outlining the steps to be taken, resources required, and timelines.	1	2	-	-
PC12. Update the risk register to reflect new risks, changes in existing risks, and the outcomes of mitigation actions.	1	2	-	-
Monitor and Audit Risk Management Practices	**7**	**14**	**-**	**2.5**
PC13. Conduct or oversee regular inspections of facilities, equipment, and work practices to ensure compliance with established risk mitigation strategies and Safe Work Procedures (swps).	1	2	-	0.5
PC14. Review documentation such as training records, inspection reports, and incident reports to identify any gaps or weaknesses in risk management practices.	1	2	-	0.5
PC15. Analyse data from auditing and monitoring operations to spot patterns, reoccurring problems, and places where risk control needs to be strengthened.	1	2	-	-
PC16. Conduct root cause analysis of incidents and near misses to understand the underlying causes and develop preventative measures.	1	2	-	-
PC17. Prepare and communicate audit reports that summarise findings, identify non-conformances, and recommend corrective actions.	1	2	-	0.5
PC18. Track and oversee the application of corrective measures to guarantee that hazards are adequately addressed.	1	2	-	0.5
PC19. Evaluate and revise risk assessments considering new information, operational modifications, or found weaknesses in current controls.	1	2	-	0.5
Risk Assessments Throughout the Chain	**4**	**11**	**-**	**2**
PC20. Identify potential hazards at each stage, including storage sites, transportation methods (pipelines, trucks, ships), and unloading points.	1	2	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC21. Assess each hazard's likelihood and seriousness, considering things like the possibility of leaks, fires, explosions, and human error.	1	3	-	0.5
PC22. Implement mitigation strategies for identified risks as a Site "Dangerous Goods" Safety Advisor (DGSA).	1	3	-	0.5
PC23. Document risk assessments and mitigation plans.	1	3	-	0.5
Maintain Documentation	**7**	**11**	**-**	**2**
PC24. Develop and utilise a document management system to organise and store risk assessment reports, mitigation plans, Safe Work Procedures (SWPs), training records, and audit reports.	1	3	-	0.5
PC25. Ensure clear identification and version control of all documents to maintain the latest and approved versions readily accessible.	1	3	-	0.5
PC26. Establish a document retention policy specifying how long different types of documents need to be retained according to regulatory requirements and best practices.	3	3	-	0.5
PC27. Train personnel on accessing, utilising, and maintaining documentation related to risk assessments and mitigation strategies.	2	2	-	0.5
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3932
NOS Name	Conduct Risk Assessment and Mitigation
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3933: Integrate SHEQ Management for Green Hydrogen Projects

Description

This OS unit is about integrating SHEQ management for green hydrogen projects.

Scope

The scope covers the following :

- Access and manage environmental impact
- Manage health and safety in green hydrogen projects
- Control the quality of green hydrogen products

Elements and Performance Criteria

Access and Manage Environmental Impact

To be competent, the user/individual on the job must be able to:

PC1. Evaluate the environmental impacts of green hydrogen projects using methodologies like Environmental Risk Assessment (ERA) and Strategic Environmental Assessment (SEA).

PC2. Identify and document the main environmental effects, such as greenhouse gas emissions, resource use, waste handling, and risks to soil and water from both immediate and long-term impacts.

PC3. Create effective plans to minimise harm to the environment, following ISO 14001 and industry guidelines.

PC4. Prepare a detailed Environmental Impact Statement (EIS) based on EIA findings for review by regulatory authorities and stakeholders, ensuring compliance with MoEFCC regulations.

PC5. Create and apply Environmental Management Plans (EMPs) using EIA findings and EIS reviews, aligning with ISO 14001 standards for green hydrogen.

PC6. Monitor environmental performance using real-time monitoring systems and periodic audits to ensure compliance with EMP requirements.

PC7. Define clear roles and responsibilities of project personnel, contractors, and vendors in implementing the EMP, ensuring accountability and compliance.

PC8. Outline procedures for handling environmental emergencies, covering spill response, leak detection, containment, and remediation strategies.

PC9. Ensure all environmental practices comply with local and national regulations, including the Environment Protection Act of 1986 and CPCB guidelines.

PC10. Maintain records of environmental performance and regulatory compliance.

Manage health and safety in green hydrogen projects

To be competent, the user/individual on the job must be able to:

PC11. Develop comprehensive health and safety management plans for green hydrogen projects.

PC12. Identify specific hazards in green hydrogen projects: hydrogen leaks, fires, explosions, spills, and exposure to high-pressure systems. Use advanced risk assessment tools like HAZOP and FMEA.

PC13. Create and follow clear guidelines for handling hydrogen, covering its storage, and transportation in line with PESO regulations and best practices.

PC14. Conduct routine inspections and audits using Behaviour-Based Safety (BBS) and safety performance indicators to ensure compliance with health and safety plans.

PC15. Review incident reports and analyse trends using advanced statistics to find recurring issues and enhance health and safety practices.

PC16. Create training programs, drills, and campaigns to raise awareness about health and safety, specifically addressing risks and emergency responses related to hydrogen.

PC17. Engage with the local community to inform them about the project, potential risks, and safety measures in place.

Control the quality of green hydrogen products

To be competent, the user/individual on the job must be able to:

PC18. Create and enforce rigorous quality assurance plans for green hydrogen products and processes, following ISO 9001 standards and industry guidelines.

PC19. Ensure compliance with ISO 14687, which sets quality standards for hydrogen fuel, focusing on purity, safety, and performance.

PC20. Monitor green hydrogen products and processes regularly utilising methods such as Statistical Process Control (SPC) and Six Sigma to ensure quality standards are met and find areas to improve.

PC21. Ensure that all quality assurance and control practices for green hydrogen products and processes meet local, national, and international regulations, including standards from the Bureau of Indian Standards (BIS) and the International Energy Agency (IEA).

PC22. Check and verify test results for produced green hydrogen using advanced instruments like gas chromatographs and mass spectrometers to ensure they meet specified ranges.

PC23. Maintain comprehensive documentation to demonstrate compliance with industry standards, regulatory requirements, and quality assurance practices, ensuring traceability and audit readiness.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Environmental Impact Assessment (EIA) methodologies and environmental impact evaluation.

KU2. The Bureau of Indian Standards (BIS) and the International Energy Agency (IEA).

KU3. Statistical Process Control (SPC) and Six Sigma.

KU4. Environmental Regulations and best practices for impact mitigation.

KU5. Environmental management systems and principles (e.g., ISO 14001, ISO 14687).

KU6. ISO 9001

KU7. PESO regulations.

KU8. Strategies for managing environmental impacts in green hydrogen projects.

KU9. Health and safety regulations relevant to green hydrogen projects.

KU10. Safety management systems and risk control measures.

KU11. Training techniques for health and safety awareness.

KU12. Methods for fostering a safety culture in the workplace.
KU13. Quality assurance principles and methodologies (e.g., Six Sigma, Total Quality Management).
KU14. Quality standards and certifications (e.g., ISO 9001).
KU15. Quality control techniques and tools for process improvement.
KU16. Methods for monitoring and evaluating quality performance.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.
GS2. Engage effectively with stakeholders through both verbal and written communication.
GS3. Pay close attention to and grasp the needs of stakeholders.
GS4. Handle stakeholders and difficult situations professionally.
GS5. Make informed decisions in response to customer inquiries and operational challenges.
GS6. Work efficiently with a team to achieve common goals.
GS7. Concentrate on tasks without distractions and manage interruptions effectively.
GS8. Use basic numeracy skills for data recording and analysis.
GS9. Foster positive relationships within the workplace.
GS10. Adjust schedules and priorities in response to changing circumstances or unexpected events.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Access and Manage Environmental Impact	**10**	**22**	**-**	**3.5**
PC1. Evaluate the environmental impacts of green hydrogen projects using methodologies like Environmental Risk Assessment (ERA) and Strategic Environmental Assessment (SEA).	1	2	-	0.5
PC2. Identify and document the main environmental effects, such as greenhouse gas emissions, resource use, waste handling, and risks to soil and water from both immediate and long-term impacts.	1	2	-	0.5
PC3. Create effective plans to minimise harm to the environment, following ISO 14001 and industry guidelines.	1	2	-	0.5
PC4. Prepare a detailed Environmental Impact Statement (EIS) based on EIA findings for review by regulatory authorities and stakeholders, ensuring compliance with MoEFCC regulations.	1	2	-	0.5
PC5. Create and apply Environmental Management Plans (EMPs) using EIA findings and EIS reviews, aligning with ISO 14001 standards for green hydrogen.	1	2	-	0.5
PC6. Monitor environmental performance using real-time monitoring systems and periodic audits to ensure compliance with EMP requirements.	1	2	-	0.5
PC7. Define clear roles and responsibilities of project personnel, contractors, and vendors in implementing the EMP, ensuring accountability and compliance.	1	2	-	0.5
PC8. Outline procedures for handling environmental emergencies, covering spill response, leak detection, containment, and remediation strategies.	1	2	-	-
PC9. Ensure all environmental practices comply with local and national regulations, including the Environment Protection Act of 1986 and CPCB guidelines.	1	3	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. Maintain records of environmental performance and regulatory compliance.	1	3	-	-
Manage health and safety in green hydrogen projects	**7**	**21**	**-**	**3.5**
PC11. Develop comprehensive health and safety management plans for green hydrogen projects.	1	3	-	0.5
PC12. Identify specific hazards in green hydrogen projects: hydrogen leaks, fires, explosions, spills, and exposure to high-pressure systems. Use advanced risk assessment tools like HAZOP and FMEA.	1	3	-	0.5
PC13. Create and follow clear guidelines for handling hydrogen, covering its storage, and transportation in line with PESO regulations and best practices.	1	3	-	0.5
PC14. Conduct routine inspections and audits using Behaviour-Based Safety (BBS) and safety performance indicators to ensure compliance with health and safety plans.	1	3	-	0.5
PC15. Review incident reports and analyse trends using advanced statistics to find recurring issues and enhance health and safety practices.	1	3	-	0.5
PC16. Create training programs, drills, and campaigns to raise awareness about health and safety, specifically addressing risks and emergency responses related to hydrogen.	1	3	-	0.5
PC17. Engage with the local community to inform them about the project, potential risks, and safety measures in place.	1	3	-	0.5
Control the quality of green hydrogen products	**13**	**17**	**-**	**3**
PC18. Create and enforce rigorous quality assurance plans for green hydrogen products and processes, following ISO 9001 standards and industry guidelines.	1	3	-	0.5
PC19. Ensure compliance with ISO 14687, which sets quality standards for hydrogen fuel, focusing on purity, safety, and performance.	1	3	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC20. Monitor green hydrogen products and processes regularly utilising methods such as Statistical Process Control (SPC) and Six Sigma to ensure quality standards are met and find areas to improve.	1	3	-	0.5
PC21. Ensure that all quality assurance and control practices for green hydrogen products and processes meet local, national, and international regulations, including standards from the Bureau of Indian Standards (BIS) and the International Energy Agency (IEA).	4	3	-	0.5
PC22. Check and verify test results for produced green hydrogen using advanced instruments like gas chromatographs and mass spectrometers to ensure they meet specified ranges.	3	3	-	0.5
PC23. Maintain comprehensive documentation to demonstrate compliance with industry standards, regulatory requirements, and quality assurance practices, ensuring traceability and audit readiness.	3	2	-	0.5
NOS Total	**30**	**60**	**-**	**10**

Qualification Pack

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3933
NOS Name	Integrate SHEQ Management for Green Hydrogen Projects
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3934: Ensure compliance with SHEQ standards

Description

This OS unit is about ensuring compliance with SHEQ standards.

Scope

The scope covers the following :

- Monitor and audit SHEQ compliance
- Compliance with Environmental Regulations
- Quality Control

Elements and Performance Criteria

Monitor and audit SHEQ compliance

To be competent, the user/individual on the job must be able to:

PC1. Perform routine audits and inspections to ensure adherence to SHEQ standards.

PC2. Identify non-compliance issues and develop corrective plans of action.

PC3. Develop, deliver, and evaluate training programs on SHEQ compliance for employees.

PC4. Document audit findings, prepare reports for internal and external stakeholders, and ensure timely submission for review.

Compliance with Environmental Regulations

To be competent, the user/individual on the job must be able to:

PC5. Implement comprehensive safety protocols for Green Hydrogen transportation, addressing loading/unloading, storage, and potential emergencies.

PC6. Conduct thorough training programs for personnel on safe handling practices, including proper use of specialised PPE for Green Hydrogen (respirators, cryogenic suits).

PC7. Facilitate regular risk assessments throughout the Green Hydrogen supply chain, identifying and mitigating potential hazards at every stage (in-plant storage, transportation).

PC8. Maintain compliance with relevant environmental regulations for Green Hydrogen transportation, covering emissions, waste disposal, and leak handling protocols.

Quality Control

To be competent, the user/individual on the job must be able to:

PC9. Conduct or oversee inspections of specialised containers and equipment used for Green Hydrogen transportation to ensure they meet quality and safety standards.

PC10. Analyse data from monitoring systems and inspections to identify potential quality deviations.

PC11. Implement corrective actions when quality deviations are identified, such as purging contaminated gas or adjusting storage conditions.

PC12. Maintain accurate and complete documentation of quality control procedures, monitoring data, and corrective actions taken.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Competence in conducting regular audits and inspections to assess adherence to SHEQ standards.

KU2. Safety protocols specific to Green Hydrogen transportation, including procedures for loading/unloading, storage, and emergency response.

KU3. Specialised PPE requirements for handling Green Hydrogen, such as respirators and cryogenic suits, and ensuring proper use and maintenance.

KU4. Green Hydrogen supply chain.

KU5. Environmental regulations concerning Green Hydrogen transportation, including emissions control, waste disposal procedures, and protocols for handling leaks.

KU6. Green Hydrogen transportation to ensure compliance with quality and safety standards.

KU7. Monitoring systems and inspections to detect quality deviations, and implementing appropriate corrective actions such as purging contaminated gas or adjusting storage conditions.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.

GS2. Engage effectively with stakeholders through both verbal and written communication.

GS3. Pay close attention to and grasp the needs of stakeholders.

GS4. Handle stakeholders and difficult situations professionally.

GS5. Make informed decisions in response to customer inquiries and operational challenges.

GS6. Work efficiently with a team to achieve common goals.

GS7. Concentrate on tasks without distractions and manage interruptions effectively.

GS8. Use basic numeracy skills for data recording and analysis.

GS9. Foster positive relationships within the workplace.

GS10. Adjust schedules and priorities in response to changing circumstances or unexpected events.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Monitor and audit SHEQ compliance	**10**	**20**	**-**	**4**
PC1. Perform routine audits and inspections to ensure adherence to SHEQ standards.	2.5	5	-	1
PC2. Identify non-compliance issues and develop corrective plans of action.	2.5	5	-	1
PC3. Develop, deliver, and evaluate training programs on SHEQ compliance for employees.	2.5	5	-	1
PC4. Document audit findings, prepare reports for internal and external stakeholders, and ensure timely submission for review.	2.5	5	-	1
Compliance with Environmental Regulations	**10**	**20**	**-**	**4**
PC5. Implement comprehensive safety protocols for Green Hydrogen transportation, addressing loading/unloading, storage, and potential emergencies.	2.5	5	-	1
PC6. Conduct thorough training programs for personnel on safe handling practices, including proper use of specialised PPE for Green Hydrogen (respirators, cryogenic suits).	2.5	5	-	1
PC7. Facilitate regular risk assessments throughout the Green Hydrogen supply chain, identifying and mitigating potential hazards at every stage (in-plant storage, transportation).	2.5	5	-	1
PC8. Maintain compliance with relevant environmental regulations for Green Hydrogen transportation, covering emissions, waste disposal, and leak handling protocols.	2.5	5	-	1
Quality Control	**10**	**20**	**-**	**2**
PC9. Conduct or oversee inspections of specialised containers and equipment used for Green Hydrogen transportation to ensure they meet quality and safety standards.	2.5	5	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. Analyse data from monitoring systems and inspections to identify potential quality deviations.	2.5	5	-	0.5
PC11. Implement corrective actions when quality deviations are identified, such as purging contaminated gas or adjusting storage conditions.	2.5	5	-	0.5
PC12. Maintain accurate and complete documentation of quality control procedures, monitoring data, and corrective actions taken.	2.5	5	-	0.5
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3934
NOS Name	Ensure compliance with SHEQ standards
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	3
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3935: Monitor and ensure continuous improvement

Description

This OS unit is about monitoring and ensuring continuous improvement of SHEQ activities in the GH2 environment.

Scope

The scope covers the following :

- Investigate and report incidents
- Set safety performances for employees
- Maintain health and safety protocols
- Monitor environmental impact
- Design and execute a Quality Assurance Program for Green Hydrogen

Elements and Performance Criteria

Investigate and report incidents

To be competent, the user/individual on the job must be able to:

PC1. Investigate accidents and near-miss events to identify root causes.

PC2. Develop detailed investigation reports with findings and recommendations.

PC3. Propose and implement corrective actions to prevent the recurrence of incidents.

PC4. Track the effectiveness of corrective actions and adjust as needed.

PC5. Document incident investigations, corrective actions, and follow-ups.

Set safety performances of employees

To be competent, the user/individual on the job must be able to:

PC6. Track and analyse incident data, including near misses, to identify trends and potential hazards in green hydrogen storage and transportation.

PC7. Monitor the effectiveness of existing safety controls and procedures, recommending and implementing improvements as needed.

PC8. Oversee the use of personal protective equipment (PPE) and ensure proper training for the safe handling of hydrogen.

PC9. Perform routine safety audits and inspections of facilities and equipment, identifying and resolving any non-compliance issues.

Maintain health and safety protocols

To be competent, the user/individual on the job must be able to:

PC10. Monitor potential health risks associated with hydrogen, including exposure to electrolytes or electrical hazards.

PC11. Ensure proper ventilation and air monitoring systems are in place to maintain safe working conditions.

PC12. Review and update health and safety protocols based on evolving research on hydrogen health effects.

PC13. Collaborate with occupational health experts to develop and implement employee health monitoring programs.

Monitor environmental impact

To be competent, the user/individual on the job must be able to:

PC14. Monitor greenhouse gas emissions associated with green hydrogen, including potential leakages.

PC15. Oversee the management of wastewater and waste products generated.

PC16. Track water usage and identify opportunities for water conservation and recycling.

Design and execute a Quality Assurance Program for Green Hydrogen

To be competent, the user/individual on the job must be able to:

PC17. Monitor the quality and purity of green hydrogen, ensuring it meets industry standards and customer specifications.

PC18. Oversee the performance of hydrogen storage equipment and conduct preventive maintenance to minimise downtime and ensure quality output.

PC19. Establish quality control procedures throughout the process, incorporating sampling and testing.

PC20. Analyse quality data and identify opportunities for process optimisation to improve efficiency and consistency.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Root cause analysis.

KU2. Data analysis skills for tracking and analysing incident data.

KU3. Personal protective equipment (ppe) and training protocols.

KU4. Safety audit and inspection procedures.

KU5. Potential health risks in hydrogen, such as exposure to electrolytes and electrical hazards.

KU6. Ventilation and air monitoring systems.

KU7. Health and safety protocols.

KU8. Wastewater and waste product management techniques.

KU9. Operation of hydrogen storage equipment.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.

GS2. Engage effectively with stakeholders through both verbal and written communication.

GS3. Pay close attention to and grasp the needs of stakeholders.

GS4. Handle stakeholders and difficult situations professionally.

GS5. Make informed decisions in response to customer inquiries and operational challenges.

GS6. Collaborate effectively with a team to accomplish shared goals.

GS7. Concentrate on tasks without distractions and manage interruptions effectively.

GS8. Use basic numeracy skills for data recording and analysis.

GS9. Foster positive relationships within the workplace.

GS10. Adjust schedules and priorities in response to changing circumstances or unexpected events.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Investigate and report incidents	**5**	**15**	**-**	**2.5**
PC1. Investigate accidents and near-miss events to identify root causes.	1	3	-	0.5
PC2. Develop detailed investigation reports with findings and recommendations.	1	3	-	0.5
PC3. Propose and implement corrective actions to prevent the recurrence of incidents.	1	3	-	0.5
PC4. Track the effectiveness of corrective actions and adjust as needed.	1	3	-	0.5
PC5. Document incident investigations, corrective actions, and follow-ups.	1	3	-	0.5
Set safety performances of employees	**4**	**12**	**-**	**2**
PC6. Track and analyse incident data, including near misses, to identify trends and potential hazards in green hydrogen storage and transportation.	1	3	-	0.5
PC7. Monitor the effectiveness of existing safety controls and procedures, recommending and implementing improvements as needed.	1	3	-	0.5
PC8. Oversee the use of personal protective equipment (PPE) and ensure proper training for the safe handling of hydrogen.	1	3	-	0.5
PC9. Perform routine safety audits and inspections of facilities and equipment, identifying and resolving any non-compliance issues.	1	3	-	0.5
Maintain health and safety protocols	**7**	**12**	**-**	**2**
PC10. Monitor potential health risks associated with hydrogen, including exposure to electrolytes or electrical hazards.	1	3	-	0.5
PC11. Ensure proper ventilation and air monitoring systems are in place to maintain safe working conditions.	2	3	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Review and update health and safety protocols based on evolving research on hydrogen health effects.	2	3	-	0.5
PC13. Collaborate with occupational health experts to develop and implement employee health monitoring programs.	2	3	-	0.5
Monitor environmental impact	**6**	**9**	**-**	**1.5**
PC14. Monitor greenhouse gas emissions associated with green hydrogen, including potential leakages.	2	3	-	0.5
PC15. Oversee the management of wastewater and waste products generated.	2	3	-	0.5
PC16. Track water usage and identify opportunities for water conservation and recycling.	2	3	-	0.5
Design and execute a Quality Assurance Program for Green Hydrogen	**8**	**12**	**-**	**2**
PC17. Monitor the quality and purity of green hydrogen, ensuring it meets industry standards and customer specifications.	2	3	-	0.5
PC18. Oversee the performance of hydrogen storage equipment and conduct preventive maintenance to minimise downtime and ensure quality output.	2	3	-	0.5
PC19. Establish quality control procedures throughout the process, incorporating sampling and testing.	2	3	-	0.5
PC20. Analyse quality data and identify opportunities for process optimisation to improve efficiency and consistency.	2	3	-	0.5
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3935
NOS Name	Monitor and ensure continuous improvement
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3936: Prepare for Emergencies and Develop Response Plans

Description

This OS unit is about emergency preparation and response plan development.

Scope

The scope covers the following :

- Prepare for emergencies and respond
- Utilise technologies for SHEQ emergency preparedness

Elements and Performance Criteria

Prepare for emergencies and respond accordingly

To be competent, the user/individual on the job must be able to:

PC1. Identify emergency scenarios specific to green hydrogen projects.

PC2. Conduct emergency drills and simulations to test the effectiveness of response plans, improve response times, and familiarise personnel with their roles and responsibilities.

PC3. Conduct comprehensive training programs for all personnel on emergency procedures, hazard recognition, and the use of emergency equipment.

PC4. Maintain adequate emergency equipment supplies, such as first aid kits, fire extinguishers, etc.

PC5. Frequently assess and revise emergency response plans based on drill results and past incident reports.

PC6. Document the final emergency response procedures and communication plans.

Utilise technologies for SHEQ emergency preparedness

To be competent, the user/individual on the job must be able to:

PC7. Research and identify new technologies and innovations for improving SHEQ performance.

PC8. Evaluate the potential benefits and feasibility of new technologies for green hydrogen projects.

PC9. Monitor the impact of new technologies like Automated Incident Reporting and Management Systems, Drones, Muster Point Tracking Systems, etc., on SHEQ emergency performance and make recommendations.

PC10. Document the adoption process, outcomes, and lessons learned by the employees from technology innovations.

PC11. Prepare reports on the effectiveness of new technologies and their contributions to SHEQ emergency preparedness.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Different types of emergencies specific to green hydrogen projects.

KU2. Factors influencing the severity and impact of each emergency scenario.
KU3. Emergency response planning and procedures.
KU4. Emergency drill evaluation methods.
KU5. Emergency response plans.
KU6. Automated Incident Reporting and Management Systems, Drones, Muster Point Tracking Systems, etc.
KU7. Emerging technologies in green hydrogen and SHEQ management.
KU8. Documentation and reporting practices for technology management.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Read manuals, work orders, health and safety instructions, etc.
GS2. Engage effectively with stakeholders through both verbal and written communication.
GS3. Pay close attention to and grasp the needs of stakeholders.
GS4. Handle stakeholders and difficult situations professionally.
GS5. Make informed decisions in response to customer inquiries and operational challenges.
GS6. Work efficiently with a team to achieve common goals.
GS7. Plan and organise daily tasks to ensure efficient completion of work.
GS8. Use basic numeracy skills for data recording and analysis.
GS9. Foster positive relationships within the workplace.
GS10. Prioritise tasks and activities based on importance, urgency, and deadlines.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Prepare for emergencies and respond accordingly	**18**	**36**	**-**	**6**
PC1. Identify emergency scenarios specific to green hydrogen projects.	3	6	-	1
PC2. Conduct emergency drills and simulations to test the effectiveness of response plans, improve response times, and familiarise personnel with their roles and responsibilities.	3	6	-	1
PC3. Conduct comprehensive training programs for all personnel on emergency procedures, hazard recognition, and the use of emergency equipment.	3	6	-	1
PC4. Maintain adequate emergency equipment supplies, such as first aid kits, fire extinguishers, etc.	3	6	-	1
PC5. Frequently assess and revise emergency response plans based on drill results and past incident reports.	3	6	-	1
PC6. Document the final emergency response procedures and communication plans.	3	6	-	1
Utilise technologies for SHEQ emergency preparedness	**12**	**24**	**-**	**4**
PC7. Research and identify new technologies and innovations for improving SHEQ performance.	3	6	-	1
PC8. Evaluate the potential benefits and feasibility of new technologies for green hydrogen projects.	3	6	-	1
PC9. Monitor the impact of new technologies like Automated Incident Reporting and Management Systems, Drones, Muster Point Tracking Systems, etc., on SHEQ emergency performance and make recommendations.	2	6	-	0.5
PC10. Document the adoption process, outcomes, and lessons learned by the employees from technology innovations.	2	3	-	0.5

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC11. Prepare reports on the effectiveness of new technologies and their contributions to SHEQ emergency preparedness.	2	3	-	1
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3936
NOS Name	Prepare for Emergencies and Develop Response Plans
Sector	Logistics
Sub-Sector	
Occupation	Green Hydrogen Operations/ Handling, Liquid Transport Operations, Supply Chain Operations, Documentation and Reporting
NSQF Level	6
Credits	2
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

LSC/N3926: Follow Safety and Security Guidelines for Green Hydrogen

Description

This unit is about adhering to regulation and safety standards at the Green Hydrogen facility.

Scope

The scope covers the following :

- Compliance with GH2 regulations and standards
- Safety procedure and First aid

Elements and Performance Criteria

Compliance with GH2 Regulations and Standards

To be competent, the user/individual on the job must be able to:

PC1. Stay informed about the latest hydrogen production, storage, and distribution regulations.

PC2. Keep away any ignition sources from hydrogen storage areas and maintain a strict no-smoking policy within this zone.

PC3. Follow signage and warnings for usage of hazardous areas and equipment.

PC4. Always wear appropriate cryogenic protective clothing, gloves and equipment when handling liquid hydrogen.

PC5. Report any non-compliance issues promptly to relevant personnel.

PC6. Adhere to safety protocols when using materials, tools, and equipment for handling GH2.

PC7. Follow established safety procedures for working with hydrogen, including permit systems,lockout/tagout procedures, and access controls.

Safety Procedures and First Aid

To be competent, the user/individual on the job must be able to:

PC8. Activate alarms and evacuate personnel according to emergency plans, ensuring everyone's safety.

PC9. Provide clear and concise information about the incident to the emergency responders and rescue personnel.

PC10. Participate in regular emergency response drills and training, demonstrating competence and composure in simulated scenarios.

PC11. Use appropriate fire extinguishers compatible with hydrogen and fire hoses to isolate the fire at the source.

PC12. Respond promptly and effectively to emergencies and potential hydrogen leaks, including evacuation procedures, communication with emergency services, and implementation of emergency response plans.

PC13. Follow first aid instructions according to the type of injury/ incident.

PC14. Move yourself or the injured person away from the source of the cryogenic liquid or gas to stop further exposure.

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. Principles of hydrogen storage, and dispensing equipment.
KU2. Safety protocols and regulations governing the operation and storage of hydrogen.
KU3. Hydrogen fire, cryogenic temperatures and high-pressure systems.
KU4. Wearing cryogenic protective clothing.
KU5. Common signs of equipment malfunction, leaks, or pressure irregularities.
KU6. Interpretation of monitoring tools and indicators.
KU7. Electric equipment in hazardous areas/zones.
KU8. PASS technique of using a fire extinguisher.
KU9. Common safety hazards associated with green hydrogen.
KU10. Emergency shut-off systems and alarms.
KU11. Apply basic knowledge of MSDS used for KOH, H2, O2.

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. Communicate clearly and concisely with colleagues, supervisors, and emergency services.
GS2. Collaborate effectively with maintenance personnel to diagnose and address equipment issues.
GS3. Actively listen to and consider feedback from colleagues and supervisors.
GS4. Make quick and informed decisions during emergencies.
GS5. Adapt to changing circumstances and unforeseen situations.
GS6. Remain up-to-date on the latest regulations and standards.
GS7. Maintain composure and clear thinking under pressure.
GS8. Evaluate risks and benefits before taking any action.
GS9. Utilize the principles of time management and organizational skills to prioritize tasks, manage workload, and meet deadlines effectively.
GS10. Engage in ongoing professional development for enhanced job performance.

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Compliance with GH2 Regulations and Standards	**14**	**31**	**-**	**4**
PC1. Stay informed about the latest hydrogen production, storage, and distribution regulations.	2	4	-	-
PC2. Keep away any ignition sources from hydrogen storage areas and maintain a strict no-smoking policy within this zone.	2	4	-	-
PC3. Follow signage and warnings for usage of hazardous areas and equipment.	2	5	-	1
PC4. Always wear appropriate cryogenic protective clothing, gloves and equipment when handling liquid hydrogen.	2	5	-	1
PC5. Report any non-compliance issues promptly to relevant personnel.	2	5	-	-
PC6. Adhere to safety protocols when using materials, tools, and equipment for handling GH2.	2	4	-	1
PC7. Follow established safety procedures for working with hydrogen, including permit systems,lockout/tagout procedures, and access controls.	2	4	-	1
Safety Procedures and First Aid	**16**	**29**	**-**	**6**
PC8. Activate alarms and evacuate personnel according to emergency plans, ensuring everyone's safety.	3	4	-	1
PC9. Provide clear and concise information about the incident to the emergency responders and rescue personnel.	3	4	-	1
PC10. Participate in regular emergency response drills and training, demonstrating competence and composure in simulated scenarios.	2	5	-	1
PC11. Use appropriate fire extinguishers compatible with hydrogen and fire hoses to isolate the fire at the source.	2	5	-	1

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC12. Respond promptly and effectively to emergencies and potential hydrogen leaks, including evacuation procedures, communication with emergency services, and implementation of emergency response plans.	2	4	-	1
PC13. Follow first aid instructions according to the type of injury/ incident.	2	3	-	1
PC14. Move yourself or the injured person away from the source of the cryogenic liquid or gas to stop further exposure.	2	4	-	-
NOS Total	**30**	**60**	**-**	**10**

National Occupational Standards (NOS) Parameters

NOS Code	LSC/N3926
NOS Name	Follow Safety and Security Guidelines for Green Hydrogen
Sector	Logistics
Sub-Sector	Port Terminals, ICD and CFS, Liquid Logistics
Occupation	Green Hydrogen Operations/ Handling
NSQF Level	5.5
Credits	2
Version	1.0
Last Reviewed Date	22/10/2024
Next Review Date	22/10/2027
NSQC Clearance Date	22/10/2024

DGT/VSQ/N0103: Employability Skills (90 Hours)

Description

This unit is about employability skills, Constitutional values, becoming a professional in the 21st Century, digital, financial, and legal literacy, diversity and Inclusion, English and communication skills, customer service, entrepreneurship, and apprenticeship, getting ready for jobs and career development.

Scope

The scope covers the following :

- Introduction to Employability Skills
- Constitutional values - Citizenship
- Becoming a Professional in the 21st Century
- Basic English Skills
- Career Development & Goal Setting
- Communication Skills
- Diversity & Inclusion
- Financial and Legal Literacy
- Essential Digital Skills
- Entrepreneurship
- Customer Service
- Getting ready for Apprenticeship & Jobs

Elements and Performance Criteria

Introduction to Employability Skills

To be competent, the user/individual on the job must be able to:

PC1. understand the significance of employability skills in meeting the current job market requirement and future of work

PC2. identify and explore learning and employability relevant portals

PC3. research about the different industries, job market trends, latest skills required and the available opportunities

Constitutional values – Citizenship

To be competent, the user/individual on the job must be able to:

PC4. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.

PC5. follow environmentally sustainable practices

Becoming a Professional in the 21st Century

To be competent, the user/individual on the job must be able to:

PC6. recognize the significance of 21st Century Skills for employment

PC7. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life

PC8. adopt a continuous learning mindset for personal and professional development

Basic English Skills

To be competent, the user/individual on the job must be able to:

PC9. use basic English for everyday conversation in different contexts, in person and over the telephone

PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English

PC11. write short messages, notes, letters, e-mails etc. in English

Career Development & Goal Setting

To be competent, the user/individual on the job must be able to:

PC12. identify career goals based on the skills, interests, knowledge, and personal attributes

PC13. prepare a career development plan with short- and long-term goals

Communication Skills

To be competent, the user/individual on the job must be able to:

PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings

PC15. use active listening techniques for effective communication

PC16. communicate in writing using appropriate style and format based on formal or informal requirements

PC17. work collaboratively with others in a team

Diversity & Inclusion

To be competent, the user/individual on the job must be able to:

PC18. communicate and behave appropriately with all genders and PwD

PC19. escalate any issues related to sexual harassment at workplace according to POSH Act

Financial and Legal Literacy

To be competent, the user/individual on the job must be able to:

PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.

PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook

PC22. identify common components of salary and compute income, expenses, taxes, investments etc

PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation

Essential Digital Skills

To be competent, the user/individual on the job must be able to:

PC24. operate digital devices and use their features and applications securely and safely

PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.

PC26. display responsible online behaviour while using various social media platforms

PC27. create a personal email account, send and process received messages as per requirement

PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications

PC29. utilize virtual collaboration tools to work effectively

Entrepreneurship

To be competent, the user/individual on the job must be able to:

PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research

PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion

PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity

Customer Service

To be competent, the user/individual on the job must be able to:

PC33. identify different types of customers and ways to communicate with them

PC34. identify and respond to customer requests and needs in a professional manner

PC35. use appropriate tools to collect customer feedback

PC36. follow appropriate hygiene and grooming standards

Getting ready for apprenticeship & Jobs

To be competent, the user/individual on the job must be able to:

PC37. create a professional Curriculum vitae (Résumé)

PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively

PC39. apply to identified job openings using offline /online methods as per requirement

PC40. answer questions politely, with clarity and confidence, during recruitment and selection

PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements

Knowledge and Understanding (KU)

The individual on the job needs to know and understand:

KU1. need for employability skills and different learning and employability related portals

KU2. various constitutional and personal values

KU3. different environmentally sustainable practices and their importance

KU4. Twenty first (21st) century skills and their importance

KU5. how to use English language for effective verbal (face to face and telephonic) and written communication in formal and informal set up

KU6. importance of career development and setting long- and short-term goals

KU7. about effective communication

KU8. POSH Act

KU9. Gender sensitivity and inclusivity

KU10. different types of financial institutes, products, and services

KU11. components of salary and how to compute income and expenditure
KU12. importance of maintaining safety and security in offline and online financial transactions
KU13. different legal rights and laws
KU14. different types of digital devices and the procedure to operate them safely and securely
KU15. how to create and operate an e- mail account
KU16. use applications such as word processors, spreadsheets etc.
KU17. how to identify business opportunities
KU18. types and needs of customers
KU19. how to apply for a job and prepare for an interview
KU20. apprenticeship scheme and the process of registering on apprenticeship portal

Generic Skills (GS)

User/individual on the job needs to know how to:

GS1. read and write different types of documents/instructions/correspondence in English and other languages
GS2. communicate effectively using appropriate language in formal and informal settings
GS3. behave politely and appropriately with all to maintain effective work relationship
GS4. how to work in a virtual mode, using various technological platforms
GS5. perform calculations efficiently
GS6. solve problems effectively
GS7. pay attention to details
GS8. manage time efficiently
GS9. maintain hygiene and sanitization to avoid infection

Assessment Criteria

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
Introduction to Employability Skills	**1**	**1**	**-**	**-**
PC1. understand the significance of employability skills in meeting the current job market requirement and future of work	-	-	-	-
PC2. identify and explore learning and employability relevant portals	-	-	-	-
PC3. research about the different industries, job market trends, latest skills required and the available opportunities	-	-	-	-
Constitutional values – Citizenship	**1**	**1**	**-**	**-**
PC4. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-	-
PC5. follow environmentally sustainable practices	-	-	-	-
Becoming a Professional in the 21st Century	**1**	**3**	**-**	**-**
PC6. recognize the significance of 21st Century Skills for employment	-	-	-	-
PC7. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-	-
PC8. adopt a continuous learning mindset for personal and professional development	-	-	-	-
Basic English Skills	**3**	**4**	**-**	**-**
PC9. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC10. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-	-
PC11. write short messages, notes, letters, e-mails etc. in English	-	-	-	-
Career Development & Goal Setting	**1**	**2**	**-**	**-**
PC12. identify career goals based on the skills, interests, knowledge, and personal attributes	-	-	-	-
PC13. prepare a career development plan with short- and long-term goals	-	-	-	-
Communication Skills	**2**	**2**	**-**	**-**
PC14. follow verbal and non-verbal communication etiquette while communicating in professional and public settings	-	-	-	-
PC15. use active listening techniques for effective communication	-	-	-	-
PC16. communicate in writing using appropriate style and format based on formal or informal requirements	-	-	-	-
PC17. work collaboratively with others in a team	-	-	-	-
Diversity & Inclusion	**1**	**1**	**-**	**-**
PC18. communicate and behave appropriately with all genders and PwD	-	-	-	-
PC19. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-	-
Financial and Legal Literacy	**2**	**3**	**-**	**-**
PC20. identify and select reliable institutions for various financial products and services such as bank account, debit and credit cards, loans, insurance etc.	-	-	-	-
PC21. carry out offline and online financial transactions, safely and securely, using various methods and check the entries in the passbook	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC22. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-	-
PC23. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-	-
Essential Digital Skills	**3**	**5**	**-**	**-**
PC24. operate digital devices and use their features and applications securely and safely	-	-	-	-
PC25. carry out basic internet operations by connecting to the internet safely and securely, using the mobile data or other available networks through Bluetooth, Wi-Fi, etc.	-	-	-	-
PC26. display responsible online behaviour while using various social media platforms	-	-	-	-
PC27. create a personal email account, send and process received messages as per requirement	-	-	-	-
PC28. carry out basic procedures in documents, spreadsheets and presentations using respective and appropriate applications	-	-	-	-
PC29. utilize virtual collaboration tools to work effectively	-	-	-	-
Entrepreneurship	**2**	**3**	**-**	**-**
PC30. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-	-
PC31. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-	-
PC32. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-	-
Customer Service	**1**	**2**	**-**	**-**
PC33. identify different types of customers and ways to communicate with them	-	-	-	-

Assessment Criteria for Outcomes	Theory Marks	Practical Marks	Project Marks	Viva Marks
PC34. identify and respond to customer requests and needs in a professional manner	-	-	-	-
PC35. use appropriate tools to collect customer feedback	-	-	-	-
PC36. follow appropriate hygiene and grooming standards	-	-	-	-
Getting ready for apprenticeship & Jobs	**2**	**3**	**-**	**-**
PC37. create a professional Curriculum vitae (Résumé)	-	-	-	-
PC38. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-	-
PC39. apply to identified job openings using offline /online methods as per requirement	-	-	-	-
PC40. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-	-
PC41. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-	-
NOS Total	**20**	**30**	**-**	**-**

National Occupational Standards (NOS) Parameters

NOS Code	DGT/VSQ/N0103
NOS Name	Employability Skills (90 Hours)
Sector	Cross Sectoral
Sub-Sector	Professional Skills
Occupation	Employability
NSQF Level	5
Credits	3
Version	1.0
Last Reviewed Date	08/05/2025
Next Review Date	08/05/2028
NSQC Clearance Date	08/05/2025

Assessment Guidelines and Assessment Weightage

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 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% for NSQF level 4 & above job roles and 50% for NSQF level 1 to 3 job roles

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

Minimum Aggregate Passing % at QP Level : 70

(**Please note**: Every Trainee should score a minimum aggregate passing percentage as specified above, to successfully clear the Qualification Pack assessment.)

Minimum Passing % at NOS Level: 50

(**Please note**: A Trainee must score the minimum percentage for each NOS separately as well as on the QP as a whole.)

Assessment Weightage

Compulsory NOS

National Occupational Standards	Theory Marks	Practical Marks	Project Marks	Viva Marks	Total Marks	Weightage
LSC/N3931.Develop policies for SHEQ Management	30	60	0	10	100	15
LSC/N3932.Conduct Risk Assessment and Mitigation	30	60	0	10	100	15
LSC/N3933.Integrate SHEQ Management for Green Hydrogen Projects	30	60	0	10	100	15
LSC/N3934.Ensure compliance with SHEQ standards	30	60	0	10	100	15
LSC/N3935.Monitor and ensure continuous improvement	30	60	0	10	100	15
LSC/N3936.Prepare for Emergencies and Develop Response Plans	30	60	0	10	100	10
LSC/N3926.Follow Safety and Security Guidelines for Green Hydrogen	30	60	0	10	100	10
DGT/VSQ/N0103.Employability Skills (90 Hours)	20	30	-	-	50	5
Total	**230**	**450**	**-**	**70**	**750**	**100**

Acronyms

NOS	National Occupational Standard(s)
NSQF	National Skills Qualifications Framework
QP	Qualifications Pack
TVET	Technical and Vocational Education and Training

Glossary

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 organisation.
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 which together specify the technical, generic, professional and organisational specific knowledge that an individual needs in order to perform to the required standard.
Organisational Context	Organisational context includes the way the organisation 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. These skills are typically needed in any work environment. 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.