

**NSQF QUALIFICATION FILE****Approved in 23<sup>rd</sup> NSQC Meeting, 22<sup>nd</sup> August, 2019****CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE****Name and address of submitting body:****Logistics Skill Council****'Temple Towers', Ground Floor, No 476, Anna Salai, Nandanam, Chennai 600  
035****Name and contact details of individual dealing with the submission****Name** :Mr.Dhanasekar B**Position in the Organization** :Head – HR, Standards & Quality  
Assurance**Address if different from above** : Same as above**Tel number** :+91-7200072711**E-mail address** :dhanab@lsc-india.com**List of documents submitted in support of the Qualifications File**

1. Model Curriculum having indicative list of equipment, lesson plan with training duration and trainer qualification
2. NSDC Human Resource & Skills Requirement in Logistics Sector
3. Qualification pack
4. Validations received from industry
5. Occupational mapping

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### • SUMMARY

1	Qualification Title		<b>Cold Chain lead</b>
2	Qualification Code, if any		LSC/Q8702
3	NCO code and occupation		NCO-2015/ NIL
4	Nature and purpose of the qualification (Please specify whether qualification is short term or long term)		<p><b>Nature:</b> Certificate course of Cold Chain Lead</p> <p><b>Purpose:</b> Learners who attain this qualification are competent in managing cold chain and can get a job in cold storage operations to oversee end to end cold chain operations including refrigerated storage, transportation and data entry operations.</p>
5	Body/bodies which will award the qualification		<b>Logistics Skill Council</b>
6	Body which will accredit providers to offer courses leading to the qualification		<b>Logistics Skill Council</b>
7	Whether accreditation/affiliation norms are already in place or not , if applicable (if yes, attach a copy)		<p>Yes</p> <p>For non PMKVY, both accreditation and affiliation is done by LSC based on due diligence report</p> <p>For PMKVY centres, accreditation happens via SMART portal and review of centre inspection reports. Upon obtaining accreditation from NSDC, centre will be affiliated by LSC based on due diligence</p> <p>Refer Annexure 1 – Affiliation document</p>
8	Occupation(s) to which the qualification gives access		Cold Chain Operations, Packing & Packaging/ Dispatch/Distribution, Maintenance, Engineering, Projects
9	Job description of the occupation		The individual at work is responsible for managing temperature sensitive logistics planning, strategic human resource management, supervise product handling and effective performance in cold storage plant

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10	Licensing requirements		Not Applicable
11	Statutory and Regulatory requirement of the relevant sector (documentary evidence to be provided)		Not Applicable
12	Level of the qualification in the NSQF		7
13	Anticipated volume of training/learning required to complete the qualification		480 hrs
14	Indicative list of training tools required to deliver this qualification		<p><b>For a class of 30 candidates</b></p> <p>Teaching board – 1            Projector – 1            White board - 1            Video player or TV – 1            Printer – 1            Computer – 30            Stationaries – 30            Marker – 2            ERP – 1            Budgeting software -1            Statistical tools - 1</p>
15	Entry requirements and/or recommendations and minimum age		Graduate with 4 years' experience in logistics operations as manager 25 years
16	Progression from the qualification (Please show Professional and academic progression)		<p>Professional - Progression onto Senior managers and then to Assistant general manager, Deputy general manager and General managers for cold chains. As a functional role, they may be in charge of a large cold chain or be placed at a state or regional head of the cold chain as AGM or DGM</p> <p>Professionally Cold chain lead can also move laterally into the sub-sectors of warehousing and ports where with regards to management of reefer cargo</p> <p>Academic – From graduate and onwards to Post graduate</p>

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17	<b>Arrangements for the Recognition of Prior learning (RPL)</b>		<p>LSC currently undertakes RPL through the following modes –</p> <ol style="list-style-type: none"><li>1. The companies outreach to LSC regarding their requirement for RPL. LSC arranges for a trainer or a training agency to conduct the short term RPL programme post which, LSC member conducts assessment and provide accreditation/ certification for the same</li><li>2. The training centre run RPL courses in coordination with industry and companies and post the course conduct assessment and certification</li><li>3. The companies reach out to LSC regarding RPL requirements. They conduct their own training as per the RPL requirements and post training LSC reviews and provides certifications regarding RPL</li><li>4. Online RPL assessment is also an option for candidates, fulfilling the required criteria and willing to appear the requisite MCQ test at the identified place and time as per the training assessment agencies authorized by LSC, basis on the assessment of which upon passing RPL certificates can be given</li></ol>
18	<b>International comparability where known (research evidence to be provided)</b>		<p>ISCO-08/1324</p> <p>We could not find any specialised courses with respect to cold chain logistics management by International skill authorities elsewhere. However, qualification in warehouse and supply chain management are available</p>

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19	Date of planned review of the qualification.	2022		
20	Formal structure of the qualification			
		<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
<b>A</b>	<b>Mandatory components</b>			
	Introduction	Mandatory	30	7
	LSC/N8708 Administer manpower planning and labour management across cold chain operations	Mandatory	70	7
	LSC/N8709 Ensure smooth and effective execution of cold chain operations	Mandatory	70	7
	LSC/N8710 Monitor and improvise perishable product handling activities	Mandatory	70	7
	LSC/N8711 Oversee route planning for reefer/non-reefer vehicles	Mandatory	70	7
	LSC/N8712 Supervise data entry/ MIS report management	Mandatory	70	7
	LSC/N9901 Maintain food and personnel safety, health and hygiene in cold storage plant	Mandatory	50	7
	LSC/N9902 Communicate effectively with colleagues and clients	Mandatory	50	7
	<b>Sub Total (A)</b>		<b>480</b>	
<b>B</b>	<b>Optional/ elective component</b>			
	<b>Cold Chain Lead</b>	<b>Mandatory/ Optional</b>	<b>Estimated size (learning hours)</b>	<b>Level</b>
	Nil			
	<b>Sub Total (B)</b>			
	<b>Total (A+B)</b>		<b>480 hrs</b>	

### SECTION 1 ASSESSMENT

21	Body/Bodies which will carry out assessment:												
	<table border="1"> <thead> <tr> <th>Sl.No.</th> <th>Assessment Agency</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Hemsen EXIM LLP</td> </tr> <tr> <td>2</td> <td>Mettl</td> </tr> <tr> <td>3</td> <td>I-Vintage solutions Pvt. Ltd.</td> </tr> <tr> <td>4</td> <td>CoCubes</td> </tr> <tr> <td>5</td> <td>Samhit Assessments &amp; research</td> </tr> </tbody> </table>	Sl.No.	Assessment Agency	1	Hemsen EXIM LLP	2	Mettl	3	I-Vintage solutions Pvt. Ltd.	4	CoCubes	5	Samhit Assessments & research
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<b>22</b>	<p><b>How will RPL assessment be managed and who will carry it out?</b></p> <p>RPL courses would be conducted based on the demand and requirement of industry as and when they approach LSC. There are three ways of conducting RPL assessments -</p> <ol style="list-style-type: none"> <li>1. The companies outreach to LSC regarding their requirement for RPL. LSC arranges for a trainer or a training agency to conduct the short term RPL programme post which, LSC member conducts assessment and provide accreditation/ certification for the same</li> <li>2. The training centre run RPL courses in coordination with industry and companies and post the course conduct assessment and certification</li> <li>3. The companies reach out to LSC regarding RPL requirements. They conduct their own training as per the RPL requirements and post training LSC reviews and provides certifications regarding RPL</li> <li>4. Online RPL assessment is also an option for candidates, fulfilling the required criteria and willing to appear the requisite MCQ test at the identified place and time as per the training assessment agencies authorized by LSC, basis on the assessment of which upon passing RPL certificates can be given</li> </ol> <p>The assessment would be done by either LSC or the affiliated assessment agencies listed in the previous point</p>																		
<b>23</b>	<p><b>Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.</b></p> <p><b>1. ASSESSMENT Guideline</b></p> <p>Assessment of the Candidates on completion of the Training is a very important activity that is monitored by Logistics Sector Skill Council (LSC). It ensures sustained quality of training delivery. It also indicates to the LSC the need for any changes in training content. LSC has developed policies related to affiliation of assessment agencies and assessment process to enhance the quality of assessments and they are outlined in succeeding paragraphs.</p>																		

1) Policy on affiliation of assessment agencies:

LSC has created a policy for affiliation of assessment agencies as under mentioned.

- 1) Affiliating Industry as assessment agencies
- 2) Affiliation of assessment agencies set up by individuals with relevant and extensive industry experience
- 3) Affiliation of assessment agencies set up by individuals retired from Defence academies
- 4) Affiliation of academic assessment agencies with strong industry connect and ability to place candidates in logistics sector.

2) Assessment process:

1) The assessment process would begin by developing the correct qualitative questions for theory/practical and viva. Questions papers are submitted by Assessment Bodies (AB) to LSC for approval.

2) AB submits Assessor’s details, their experience and credentials to LSC for approval.

3) Third step in the process would be allocation of batches by LSC to AB for which LSC has shifted from a manual allocation system to automated allocation on the basis of grading system on the below mentioned parameters.

- i. Quality of the assessors submitted by the assessment agency
- ii. Certification of the assessor by LSC basis the training of assessor’s program conducted by LSC
- iii. Adherence to schedule of assessments by the assessment agencies
- iv. Integrity of the assessor in conducting quality assessments
- v. Quality of the question papers submitted by the assessment agencies to LSC
- vi. Submission of quality documents of the assessments conducted as insisted by LSC
- vii. Time of submission of the required assessment related documents to LSC for approval
- viii. Time of submission of results in SDMS system post approval by LSC

Basis the above grading metrics the system would allocate the batches to the assessment agencies, which has brought transparency in the system of who are allocated how many batches and it is made very clear to the ecosystem that performance matters a lot.

This has in turn also helped to improve the quality of the trainings as the check list of documents advised by LSC to be submitted by the assessment agencies speaks on the quality of trainings happening.

**2. ASSESSORS**

Sl.No.	Assessment Agency
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13	Eminence Solutions

### 3. ELIGIBILITY TO APPEAR IN THE EXAM:

**Minimum Educational Qualification:** Graduate in any stream with relevant experience

**Work experience:** Graduate with 4 years of experience in logistics operation as manager

### 4. MARKING SCHEME:

Sr. No.	Method of Assessments	Weightage (Max. marks)
1	Theory	30%
2	Practical	70%
<b>Total</b>		<b>100</b>

**5. PASSING MARKS:** Every trainee should score minimum 70 % in every NOS

**6. RESULTS AND CERTIFICATION:** Logistics Skill Council

Please attach most relevant and recent documents giving further information about assessment and/or RPL.

## ASSESSMENT EVIDENCE

Complete a grid for each component as listed in “Formal structure of the qualification” in the Summary.

*NOTE: this grid can be replaced by any part of the qualification documentation which shows the same information – ie Learning Outcomes to be assessed, assessment criteria and the means of assessment.*

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### 24. Assessment evidences

**Guidelines for Assessment**

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on these criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of unsuccessful completion, the trainee make seek re-assessment on the Qualification Pack

#### Title of Component:

Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
1	Administer manpower planning and labour management across cold chain operations	To be competent, the user/ individual must be able to <ol style="list-style-type: none"><li>1.1. identify HACCP (Hazard Analysis and Critical Control Points), HAZMAT (Hazardous Material) and other training certifications required to be taken by workers</li><li>1.2. ensure timely revision of training requirements based on technological developments and new equipments introduced in the facility</li><li>1.3. attend conferences and seminars conducted by national cold chain associations for updates in cold chain segment</li><li>1.4. update maintenance and quality assurance department about technological developments incorporated in company's cold chain; operations</li><li>1.5. ensure updated training requirements are</li></ol>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
		<p>appropriately communicated to workers</p> <p>1.6. keep track of workers employed across departments</p> <p>1.7. identify location from where workers should be hired, based on urgency of requirement</p> <p>1.8. identify skill sets required in workers for product specific operations, for eg: ability to handle stress during urgent delivery requirement etc.</p> <p>1.9. provide prior information on expected labor force requirement to head hr</p> <p>1.10. supervise transfer of employees from one department to the other based on requirement</p> <p>1.11. initiate discussion with workers to analyze the cause of worker attrition</p> <p>1.12. assist head hr in designing corrective mechanism to reduce attrition</p> <p>1.13. take charge of illness or injury incurred to workers during cold chain operations and update the same to head hr</p> <p>1.14. ensure timely fitness reports are prepared for every employee</p> <p>1.15. take non conformance decision in case employee fitness levels do not match the requirements</p> <p>1.16. analyze the cause of illness or injury of employees</p> <p>1.17. update the instructions on fitness requirements and safety measures in the cold storage facility</p>
2	Oversee Ensure smooth and effective execution of cold chain operation	<p>To be competent, the user/ individual must be able to</p> <p>1.1. initiate action to prevent occurrence of any microbiological non-conformities at any stage of cold chain operations</p> <p>1.2. analyze and find root cause in case of delays at different stages of the cold chain operations. for e.g.: a delay in grading of goods may be due to excessive drying of goods in the previous stage of grading line operations or due to extra time taken in</p>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
		<p>unloading because of improper space management</p> <ol style="list-style-type: none"> <li>1.3. stop operations whenever there is likelihood of occurrence that could affect product safety and personnel safety or any other emergence</li> <li>1.4. ensure effective implementation of cleaning schedule for all equipments and machines is followed</li> <li>1.5. understand requirements of cold storage equipments from perishable product handling specialist</li> <li>1.6. identify expenditure required on refrigeration equipments and associated tools</li> <li>1.7. estimate maintenance and upgradation expenditure expected to be incurred on machines and equipment</li> <li>1.8. identify worker expenses incurred for day-to-day activities such as food, travel etc.</li> <li>1.9. ensure correct details of number of workers is provided to budget control team</li> <li>1.10. estimate maximum expenditure that might be required to be incurred in situations of crisis, for e.g.: accident, leakage, injury etc.</li> <li>1.11. ensure timely compliance of calibration schedule for equipment is followed</li> <li>1.12. update maintenance head and follow up in case equipment and instruments are not functioning properly</li> <li>1.13. follow up with maintenance head in case of uninterrupted supply of electricity and water</li> <li>1.14. ensure equipment are replaced in appropriate time period based on their working efficiency and inputs from workers, for eg: timely replacement of refrigeration valves</li> <li>1.15. supervise upgradation of evaporators, compressors etc.</li> </ol>
3	Monitor and improvise perishable product handling activities	<p>To be competent, the user/ individual must be able to:</p> <ol style="list-style-type: none"> <li>1.1. utilize alternate technologies and energy sources in the cold chain with the aim to have a positive impact on the environment, for eg: solar powered refrigeration equipments</li> </ol>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
.		<ol style="list-style-type: none"><li>1.2. ensure standardisation of handling units of perishable products across all stages of cold chain</li><li>1.3. explore multi modal transport options that can be used in the perishables logistics chain, especially as speed and good handling is critical to maintaining quality control</li><li>1.4. supervise modernisation or up gradation of refrigeration systems in existing cold storages so as to result in substantial and measurable reduction in carbon footprint of the facility and reduction in recurring cost of the power consumed</li><li>1.5. attend seminars and conferences organized by cold chain associations to get information about latest updates in the sector</li><li>1.6. identify the appropriate product flow capacity – volume of commodities that must be handled per unit of time</li><li>1.7. determine the appropriate cooling method and system based on volume of commodity handled per unit of time</li><li>1.8. conduct regular check up of the ripening chamber and ensure proper documentation is done at every stage</li><li>1.9. supervise pre-cooling temperature and storage conditions</li><li>1.10. identify scope for resource integration or cross-functional utilization of equipments across the cold chain</li><li>1.11. participate in decision making for no. of fans, water pump capacity, refrigeration of condensing unit etc.</li><li>1.12. supervise grading, sorting, washing and drying activities on the goods received in pack house</li><li>1.13. identify multiple market routing or value realization options of the graded units, for eg: sending fresh produce directly to market for refrigeration, sending to pre-cooling units</li></ol>

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		<p>located at cold storage facility etc.</p> <p>1.14. supervise packaging for safe transport if the routing requires long travel to reach the pre-cooling unit or refrigerated consumption centres</p> <p>1.15. identify rural areas to be supported in the form of back end village level pack houses</p> <p>1.16. ensure goods are properly transported from back end pack house to the appropriate cold chain facility</p> <p>1.17. ensure uniform practices are followed at all cold storage facilities</p> <p>1.18. maintain high levels of hygiene at all stages of the product's life</p> <p>1.19. together with the haccp (hazard analysis critical control point) team (including microbiologists and process engineers) construct a flow diagram for all product/process operations - list all hazards associated with each process step and the measures to eliminate or reduce hazards</p> <p>1.20. determine the step at which ccp (critical control point) can be applied in order to eliminate the hazard</p> <p>1.21. establish the target levels/tolerances for controlling the ccps</p> <p>1.22. establish/implement monitoring systems for controlling ccps</p> <p>1.23. identify corrective actions when a deviation occurs at a ccp</p> <p>1.24. establish a documentation system for procedures and records</p>
4	Oversee Route Planning and reefer/non-reefer vehicle coordination	<p>To be competent, the user/ individual must be able to:</p> <p>1.1. answer phone calls and emails of the clients regularly and promptly</p> <p>1.2. follow proper behavioural etiquettes with the clients whether face to face or on phone or e-mail</p> <p>1.3. be updated on availability of the products with the order received</p>

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.		<ol style="list-style-type: none"><li>1.4. ensure the availability of vehicle and the vehicle operator for the delivery</li><li>1.5. be aware of the other delivery schedules for the day</li><li>1.6. review and revise transportation and delivery schedule based on priority</li><li>1.7. take confirmations from the client and schedule the delivery</li><li>1.8. update the order details and the time of booking to the MIS person for record</li><li>1.9. understand from the clients on the type of products, the delivery date, quantity, delivery address, etc.</li><li>1.10. confirm the delivery details with the clients</li><li>1.11. update the clients on non availability of any products or reefer/non reefer vehicle as per their order and requirement</li><li>1.12. send confirmation message or email to the clients along with the delivery summary and invoice</li><li>1.13. maintain good rapport and relationships with the client</li><li>1.14. ensure the order details and the products match</li><li>1.15. check the reefer vehicle maintenance and cleanliness on daily basis</li><li>1.16. ensure reefer vehicle is in proper working condition and meets the required safety standards</li><li>1.17. check the temperature and pre cool of the reefer unit as set by the reefer vehicle operator</li><li>1.18. verify the reefer/non reefer vehicle papers are in order</li><li>1.19. ensure the safety precautions to be taken with respect to the product quality in terms of temperature maintenance and other storage conditions based on the type of product</li><li>1.20. assign the reefer/ non reefer vehicle operator to be sent for the delivery</li><li>1.21. brief the operator about the client and delivery details</li><li>1.22. coordinate the transportation routes and time schedule based on customer requirement</li><li>1.23. advice the reefer/non reefer vehicle operators on their duty and responsibility to be carried out during the trip</li></ol>

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.		<p>1.24. ensure the reefer/non reefer vehicle operators carry the necessary materials such as maps, GPS, client details, etc.</p> <p>1.25. monitor the various actions of the reefer/ non reefer vehicle operator such as maintenance of the vehicle, defrosting the reefer unit etc.</p> <p>1.26. ensure the reefer/non reefer vehicles leave for delivery at the designated time</p> <p>1.27. plan the driving routes to ensure on time delivery</p> <p>1.28. provide the reefer/non reefer vehicle operator with GPS services for routes</p> <p>1.29. supervise the maps and driving directions of the reefer/non reefer vehicle operator to ensure efficient route service is provided</p> <p>1.30. incorporate changes to the schedule if required</p> <p>1.31. ensure safety and maintenance at the reefer vehicle</p> <p>1.32. verify the trip sheets submitted by the reefer/non reefer vehicle operator for mileage and fuel usage</p> <p>1.33. listen to the customer complaints and problems</p> <p>1.34. ensure to take proper steps to rectify those problems with immediate action</p> <p>1.35. monitor the issues of reefer/non reefer vehicle operator such as licensing, safety, accidents, etc.</p> <p>1.36. investigate on various staff problems and provide with proper solution</p> <p>1.37. ensure the quality of products on delivery</p> <p>1.38. communicate with the reefer/non reefer vehicle operators during trip in case of any emergency</p> <p>1.39. monitor the safe delivery of products at the appropriate temperature, pressure, humidity and other required parameters maintained</p> <p>1.40. verify the documentations provided by the reefer/non reefer vehicle operator</p> <p>1.41. coordinate with the client for payment details</p> <p>1.42. report and document the details of the travel</p> <p>1.43. monitor the control and discipline of the reefer/non reefer vehicle operator with the work</p> <p>1.44. track the vehicles before and during the journey</p>

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		1.45. achieve client satisfaction ensuring high level service with timely and quality delivery as per requirement
5	Supervise data entry/MIS reports management	<p>To be competent, the user/ individual must be able to:</p> <ol style="list-style-type: none"> <li>1.1. coordinate with the different departments such as storage, transportation, etc.</li> <li>1.2. brief the data entry executive on the various documentations to be done</li> <li>1.3. check the obtained information and documents to be updated</li> <li>1.4. study the documents in detail and understand the requirements</li> <li>1.5. check the best software tool identified to update the data</li> <li>1.6. identify the latest technology updates that would support the data entry requirements</li> <li>1.7. examine the required software to perform the MIS and data entry operation</li> <li>1.8. monitor the working of the software and the procedure to update</li> <li>1.9. coordinate with the respective departments in case if any additional inputs or documents are required</li> <li>1.10. review the entered information and compare with the original source document</li> <li>1.11. verify the output for errors and brief the data entry operators</li> <li>1.12. ensure the update happens on a regular basis</li> <li>1.13. ensure to maintain the documentation and quality standards to be used in the data entry operation</li> <li>1.14. conduct consistent check on the software and database stored</li> <li>1.15. ensure to maintain the files updated in software as well as the source documents securely</li> <li>1.16. listen to the complaints or problems of the staff</li> <li>1.17. monitor the issues such as software problem, malfunctions, inadequate or unclear information or any other technical problems</li> <li>1.18. ensure access to relevant files, documents and information to the data entry operator as</li> </ol>

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		<p>required</p> <p>1.19. ensure to take proper steps to resolve the issues</p>
6	<p>Maintain food and personnel safety, health and hygiene in cold storage</p>	<p>To be competent, the user/ individual must be able to:</p> <ol style="list-style-type: none"> <li>1.1. assess the various health, safety and environmental hazards in the cold storage</li> <li>1.2. take necessary steps to eliminate or minimize the hazards</li> <li>1.3. analyze the causes of accidents at the workplace</li> <li>1.4. take preventive measures to avoid risk of cold burns and other injury due to contact with hot surfaces, gas, fire, hot fluids/ liquids, etc.</li> <li>1.5. ensure the employees have access to first aid kit when needed</li> <li>1.6. ensure to use personal protective equipment and safety gear such as gloves, jacket, footwear etc. for loading and unloading material in cold rooms to protect themselves from hypothermia, frostbite etc</li> <li>1.7. ensure to display safety signs at places where necessary for people to be cautious</li> <li>1.8. use rubber mats in the places where floors are constantly wet</li> <li>1.9. ensure electrical precautions such as insulated clothing, adequate equipment insulation, dry work area, switch off the power supply when not required, etc</li> <li>1.10. display emergency exit plan at prominent places and have emergency assembly area earmarked as a grid for easy counting of on duty associates and workers.</li> <li>1.11. unplug the control panel, compressor, condensor etc before performing maintenance</li> <li>1.12. report to the superior on any problems and hazards identified</li> </ol>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
.		<p>1.13. install fire alarms (electrical/manual) in cold store/deep freeze and keep other safety devices like hammer/mallet in the storage area</p> <p>1.14. maintain appropriate ventilation in the cold rooms to avoid unacceptable accumulation of heat, condensation or odours</p> <p>1.15. check and review the cold storage areas frequently</p> <p>1.16. stack items in an organized way and use safe lifting techniques to reduce risk of injuries from handling procedures at the storage areas</p> <p>1.17. ensure no sign of pest infestation and install rodent traps, fly glues and insectocutors wherever needed</p> <p>1.18. follow hygiene &amp; sanitation standards of Government bodies like FSSAI, APEDA and /or EIA or importing countries like FAO, EU standards after PC 20</p> <p>1.19. use effective loading and unloading systems</p> <p>1.20. proper stock rotation (First in First out) to be practised</p> <p>1.21. segregate damaged/ non-conforming products from other products to designate area for appropriate disposition</p> <p>1.22. fumigate containers depending upon product and contamination or as per customers' requirement</p> <p>1.23. avoid smoking, spitting, eating etc near food storage area</p> <p>1.24. ensure reefers are covered, clean, free from pest infestation &amp; other contaminants</p> <p>1.25. dispose cold storage plant waste in the designated areas safely as per company's policies and rules</p> <p>1.26. ensure to be safe while handling machines(generator, compressor, condensor etc), gas (ammonia) and chemicals(ethylene, refrigerants etc)</p> <p>1.27. keep the floors free from oil, water and</p>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
		<p>grease to avoid slippery surface</p> <p>1.28. cut nails regularly and avoid applying nail paint. Avoid wearing bangles, rings, and chains in cold storage</p> <p>1.29. wash hands with soap solution and dry under a dryer as they enter for duty or after using wash room</p> <p>1.30. periodic examination of protective devices, pressure vessels and pipelines, and parts of pipework by a competent person to prevent defect that may give rise to danger</p> <p>1.31. ensure workers suffering from abscess, boils etc should be relieved from food handling</p> <p>1.32. develop personal hygiene habits like brushing teeth, taking shower everybody, wearing clean and tidy clothes after ironing etc</p>
7	Communicate effectively with colleagues and clients	<p>To be competent, the user/ individual must be able to:</p> <p>1.1. understand the work output requirements, targets, performance indicators and incentives</p> <p>1.2. deliver quality work on time and report any anticipated reasons for delays</p> <p>1.3. escalate unresolved problems or complaints to the relevant superior</p> <p>1.4. communicate project progress proactively to the superior</p> <p>1.5. receive feedback on work standards</p> <p>1.6. document the completed work schedule and handover to the superior</p> <p>1.7. exhibit trust, support and respect to all the colleagues in the workplace</p> <p>1.8. aim to achieve hassle free cold chain operation</p> <p>1.9. help and assist colleagues with information and knowledge</p> <p>1.10. seek assistance from the colleagues when required</p>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
.		<ul style="list-style-type: none"><li>1.11. identify the potential and existing conflicts with the colleagues and resolve</li><li>1.12. pass on essential information to other colleagues on timely basis</li><li>1.13. maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviors to the colleagues</li><li>1.14. interact with colleagues from different departments: ripening chamber, cold storage, transport, packhouse etc to effectively carry out the work among the team and understand the nature of their work</li><li>1.15. put team over individual goals and multi task or share work where necessary supporting the colleagues</li><li>1.16. highlight any errors of colleagues, help to rectify and ensure quality output</li><li>1.17. work with cooperation, coordination, communication and collaboration, with shared goals and supporting each others performance</li><li>1.18. ask relevant questions to the client and identify their needs</li><li>1.19. possess strong knowledge on market and cold chain operation</li><li>1.20. brief the client clearly on potential costs and challenges involved in the cold chain industry</li><li>1.21. communicate with the client in a polite, professional and friendly manner</li><li>1.22. build effective but impersonal relationship with the client</li><li>1.23. ensure the appropriate language and tone are used with clients</li><li>1.24. listen actively and have a two-way communication</li><li>1.25. be sensitive to the gender, cultural and social differences such as modes of greeting, formality, etc.</li><li>1.26. understand the client expectations correctly</li></ul>

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Sr. No	Outcomes to be assessed	Assessment criteria for the outcome
.		<p>and provide the appropriate products and services</p> <p>1.27. understand the client dissatisfaction and address or escalate their complaints effectively</p> <p>1.28. maintain a positive, sensible and cooperative manner all time</p> <p>1.29. ensure to maintain a proper body language, dress code, gestures and etiquettes towards the client</p> <p>1.30. avoid interrupting the client while they talk</p> <p>1.31. ensure to avoid negative questions and statements to the client</p> <p>1.32. inform the client on any issues or problems before hand and also on the developments involving them</p> <p>1.33. ensure to respond back to the client immediately for their voice messages, e-mails, apps, etc.</p> <p>1.34. develop good rapport with the client and promote other products and services</p> <p>1.35. seek feedback from the client on their understanding to what was discussed</p> <p>explain the terms and conditions clearly</p>

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### SECTION 2

#### 25. EVIDENCE OF LEVEL

Option B – Cold Chain Lead – This QP does not have any options or electives

Title/Name of qualification/component: Cold Chain Lead (NSQF – 7)			
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	<ul style="list-style-type: none"> <li>The outcome of the qualification would be that the job holder would develop the skills to perform routine as well as non-routine activities related to the cold chain and manage the entire cold chain unit business covering operations, business functions and ensure safety and security</li> </ul>	<p>The process involves commanding wide range of specialized skills both in theory as well as practical across both routine and non-routine activities. The job holder exercises command over the routine jobs of oversight of operations, manpower and resource planning, resolving daily bottleneck and continuous monitoring of product handling, in and out transports and perishable health. At the same time, the job holder is required to have the technical knowledge and practical skills to manage and handle specific instances of quarantine requirements of crops, conducting periodic maintenance and inspection runs, authorizing and overseeing maintenance activity, handling emergencies and situation of microbial growth. S/he is also accountable and responsible for the entire cold chain business and process operations</p>	7
Professional knowledge	<ul style="list-style-type: none"> <li>The person will gain knowledge on the theoretical aspects as well as practical exposure regarding the concepts of budgeting, planning, business development, cold chain mechanics and engineering</li> </ul>	<p>The job holder understands the overall value chain and backward and forward linkages of the cold chain with other sub-sectors. S/he poses both theoretical and practical knowledge of operational requirements, planning and budgeting, business development, resource monitoring and allocation on the operational and managerial front. S/he</p>	7

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	<p>requirements, product specifics and limitations, temperature control and their possible impacts and procedures for quarantine, emergencies, etc.</p>	<p>has the broad understanding machinery requirement, understanding of the microbial growth, contamination and associated controls, ambient environment for storage for different products as well as product handling and movement precautions and techniques with respect to product handling. In addition to these s/he is also knowledgeable about the various limitations and precautions to be taken for different scenarios like product contamination, quarantining, inspections, reefer transports, maintaining hydration, chlorination and ambient environment and emergency responses.</p> <p>Along with these factual and theoretical knowledge about cold chain, its linkages and operations, the person also has understanding of the supply chain network, different sub-sectors and their relative roles and positioning in the supply chain network, different operating modalities like Multi-modal centre, 3PL and 4 PL, etc.</p>	
<p>Professional skill</p>	<ul style="list-style-type: none"> <li>The job holder would be able to have the skills required to understand and operate the cold chain with respect to products, precautions, planning, resource monitoring, business development, etc.</li> </ul>	<p>The job holder has to demonstrate practical and cognitive skills to anticipate and provide solutions for not just routine operational challenges but also specific instances arising due due to external sources beyond one's control. The routine problem solving and cognitive skills would include identifying idle resources and utilizing them, moving product and setting temperature based on periodic review</p>	<p><b>7</b></p>

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		<p>and inspections, taking routine preventive measures for contamination, routine transports, etc. On the other hand non-routine special scenarios include locust or bacterial infestation leading to contamination of products, failure of cooling and mechanical systems, emergency and hazardous situations, etc. S/he should have the skills to identify the problem, chalk out a mitigation plan and accordingly allocate resource and monitor the progress for successful resolution.</p>	
Core skill	<ul style="list-style-type: none"> <li>The job holder would be able to have the refined skills for logical planning, organizing, superior communication and presentation skills and will understand the social-political factors while communicating</li> </ul>	<p>The job holder is required to have good mathematical and logical reasoning so as to anticipate different upcoming challenges and prepare accordingly and also to assess the possible end and cascading results of various actions taken. S/he should have good mathematical and organizational skills to deduce the productivity and utilization, profitability and fitness of business efforts and accordingly re-organize the resources both workforce and machines towards better productivity. S/He is required to have a continuous interaction with various stakeholder and clients and must understand the various social and political scenarios while communicating with others. S/he is required to run good presentation, write memos, reports and letters to convince the clients, internal and external stakeholders as well as senior management which makes good communication and presentation skills imperative for the role</p> <p>The job holder have to read instructions on workplace hazards and handling requirements for goods, communicate with HR regarding worker performance, recruitment procedure, reason for attrition etc., maintain</p>	7

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		records of workers who got injured, were replaced or substituted in place of another worker etc. And initiate discussion with workers to understand their grievance.	
Responsibility	<ul style="list-style-type: none"> <li>The job holder would be responsible and accountable for overall operations and business of the cold chain unit including safety and security of assets and resources</li> </ul>	The job holder is responsible to oversee end to end cold chain operations including refrigerated storage, transportation and data entry operations. S/he is responsible and accountable for business operations, profitability, hiring requirements, maintenance and repairs and new client and business generation for the cold chain unit that he commands. S/he is accountable for safety and security of all the workforce, resources, infrastructure and product being stored and handled within the cold chain making them completely responsible and accountable for the unit.	7

### SECTION 3 EVIDENCE OF NEED

26	Estimated uptake of Qualification? Basis	<p><b>What evidence is there that the qualification is is needed?</b></p> <p><b>What is the this qualification and what is the basis of this ?</b></p> <p><b>(Applicable for SSCs)</b></p>
	Need for the qualification	While collecting data from the companies for the occupational map, we also took feedback from industry players regarding the skill gap that they foresee and select areas where the requirement is immediate and or expected to come in near future for which qualification packs development, was to be prioritized. This was largely based on volume of people required, quantitative and qualitative shortfall which the Industry

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		<p>feels they face. Governing council of LSC gave final approval and endorsement for the same.</p> <p>The same are also indicated in various skill studies conducted for the logistic sector –</p> <p>1. Skill requirement in logistics sector  <a href="https://drive.google.com/file/d/0B5rqF9xqytDIUIF4WEtyWXJBbIE/view">https://drive.google.com/file/d/0B5rqF9xqytDIUIF4WEtyWXJBbIE/view</a></p>
	Industry Relevance	<p>As part of the exercise for development of qualification pack and Q-file, LSC interacted with industry bodies, select companies and collected validation from industry players employing people for this job role in the sub-sector. The details of the industry interaction and validation collected have been shared as a separate folder along with the Q file.</p>
	Usage of the qualification	<p>Previously Agriculture Skill council has also come out with qualification file for cold chain manager numbers – ASC/Q7506 under the post-harvest supply chain management which was reviewed by the QRC in March 2017. However since it is not listed in the NQR training have not been conducted yet and hence realisation from past data is not available</p>
	Estimated uptake	<p>Skills Gap Analysis Reports for industry demand and secondary research data, though these do not lead to accurate demand projection. The link to NSDC Human Resource &amp; Skills Requirement in Logistics Sector is  <a href="https://drive.google.com/file/d/0B5rqF9xqytDIUIF4WEtyWXJBbIE/view?usp=sharing">https://drive.google.com/file/d/0B5rqF9xqytDIUIF4WEtyWXJBbIE/view?usp=sharing</a>                      And  <a href="http://www.nccd.gov.in/PDF/CCSG_Final%20Report_Web.pdf">http://www.nccd.gov.in/PDF/CCSG_Final%20Report_Web.pdf</a></p> <ul style="list-style-type: none"> <li>• Feedback from industry players</li> </ul>

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			<ul style="list-style-type: none"><li>• Training duration, and current and potential training capacity envisaged</li></ul>
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27	<p><b>Recommendation from the concerned Line Ministry of the Government/Regulatory body. To be supported by documentary evidence.</b></p> <p>Line Ministry Validation was conducted by Ministry of Commerce in the presence of industry representatives on 29<sup>th</sup> April, 2019 at Delhi. Following the incorporation of feedback, in-principle approval has been provided by the Line Ministry</p>
28	<p><b>What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF? Give justification for presenting a duplicate qualification</b></p> <p>NSDC list of Approved and Under-Development QPs was checked prior to commissioning the and no such file is uploaded on NQR as well</p>
29	<p><b>What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated? Specify the review process here</b></p> <ul style="list-style-type: none"><li>• Qualification that has been developed would be valid for 3 years from the primary interaction with the end user and future requirement also is covered. However, the internal review will happen with NOS sub-committee members who are all representatives from the industry</li><li>• Periodical interaction with the training partners to gather feedback in implementation.</li><li>• Employer feedback will be sought post-placement on performance and training standards.</li></ul>

Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

### **SECTION 4**

#### **EVIDENCE OF PROGRESSION**

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30	<p><b>What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?</b> <b><i>Show the career map here to reflect the clear progression</i></b></p> <p>Horizontal and vertical progression has been highlighted in the Occupational map. The same is attached in the following page for reference</p>
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Please attach most relevant and recent documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

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