NSDA Reference
To be added by NSDA

QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Food Industry Capacity & Skill Initiative (FICSI)
Federation House
1, Tansen Marg
New Delhi - 110001

Name and contact details of individual dealing with the submission

Name: Ms. Mallika Verma

Position in the organisation: Chief Executive Officer

Address if different from above: Address same as above

Tel number(s): 9891272185

E-mail address: ceo.ficsi@ficci.com

List of documents submitted in support of the Qualifications File

1. Career Map of Fish and Seafood Processing Technician - Annexure 1
2. Qualification Pack of Fish and Seafood Processing Technician - Annexure 2
3. List of QP/NOS validating companies – Annexure 3
4. NSDC Human Resource and Skill Requirement study – Annexure 4

QUALIFICATION FILE SUMMARY

Qualification Title	Fish and Seafood Processing Technician (FIC Q4001)
Body/bodies which will assess candidates	Mettl, Stamp, IQAG, Skills Mantra, Aspiring Mind
Body/bodies which will award the certificate for the qualification.	Food Industry Capacity & Skill Initiative (FICSI)
Body which will accredit providers to offer the qualification.	Food Industry Capacity & Skill Initiative (FICSI)
Occupation(s) to which the qualification gives access	Fish and Seafood Processing Technician
Proposed level of the qualification in the NSQF.	Level 4
Anticipated volume of training/learning required to complete the qualification.	240 hours
Entry requirements / recommendations.	Class V
Progression from the qualification.	Supervisor (Fish and Seafood Processing) (Level 5)
Planned arrangements for RPL.	RPL arrangements and policies are under development.
International Comparability	Not done as yet.

Formal structure of the qualification

Title of unit or other component (include any identification code used)	**Mandatory/ Optional**	**Estimated size (learning hours)**	**Level**
FIC/N4001 Prepare and maintain work area and process machineries for processing fish and seafood	Mandatory	16	4
FIC/N4002 Prepare for execution of fish and sea food processing	Mandatory	32	4
FIC/N4003 Execution of fish and sea food processing	Mandatory	144	4
FIC/N4004 Complete documentation and record keeping related to processing of fish and seafood	Mandatory	16	4
FIC/N9001 Food safety hygiene and sanitation for processing food products	Mandatory	32	Common across levels

Please attach any document giving further detail about the structure of the qualification – e.g. a Curriculum or Qualification Pack.
Give details of the document here:

1. Qualification Pack of Fish and Seafood Processing Technician - Annexure 2

SECTION 1

ASSESSMENT

Name of assessment body:

If there will be more than one assessment body for this qualification, give details.

The assessment bodies include Mettl, Stamp, IQAG and Skills Mantra, Aspiring Mind

Will the assessment body be responsible for RPL assessment?

Yes

Give details of how RPL assessment for the qualification will be carried out and quality assured.

The RPL assessment will be based on the approved Qualification Pack and Assessment Criteria mentioned in the Qualification Pack.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:

Assessment will be done through third parties who will be affiliated to FICSI as an Assessment Body. The assessment plan will contain the following information:

- What will be assessed, i.e. the competency based on each NOS
- How assessment will occur i.e. methods of assessment
- When the assessment will occur
- Where the assessment will take place i.e. context of the assessment (workplace/simulation)
- Criteria for decision making i.e. those aspects that will guide judgements
- Where appropriate, any supplementary criteria would be used to make a judgement on the level of performance

The assessment would be conducted through theory, viva voce and practical.

Please attach any documents giving further information about assessment and/or RPL.
Give details of the document(s) here:

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role: Fish and Seafood Processing Technician

Qualification Pack: FIC/Q4001

Sector Skill Council: Food Industry Capacity & Skill Initiative (FICSI)

Guidelines for Assessment:

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

Assessable Outcomes	Assessment Criteria	Total Marks	Out Of	Theory	Skills Practical
1. FIC/N4001 (Prepare and maintain work area and process machineries for processing fish and seafood)	PC1. Clean and maintain the cleanliness of the work area using approved sanitizers and keep it free from dust, waste, flies and pests		25	10	15
	PC2. Ensure that the work area is safe and hygienic for food processing		10	3	7
	PC3. Dispose waste materials as per defined SOP's and industry requirements		15	5	10
	PC4. Check the working and performance of all machineries and tools such as de-heading		15	5	10

	machine, gutting machine, fillet machine, pin bone puller, de-boning machine, skinning machine, vacuum packer, freezing equipments, packaging machines, etc.				
	PC5. Clean the machineries and tools used with approved sanitizers following the company specifications and SOP's		15	5	10
	PC6. Place the necessary tools required for process		5	2	3
	PC7. Attend to minor repairs/ faults of all machines, if required		15	5	10
		Total	**100**	**35**	**65**
2. FIC/N4002 (Prepare for execution of fish and sea food processing)	PC1. Read and understand the production order from the supervisor		10	4	6
	PC2. Check the availability of raw materials, packaging materials, equipment and manpower		5	2	3
	PC3. Support in planning production sequence by: • Grouping raw material (various types of fish and seafood) of same type/species • Selecting raw materials that do not impact the quality of the other • Avoiding CIP after processing each raw material • Using the same equipment and machinery for various types of fish and seafood • Planning maximum capacity utilization of machineries • Considering the process time for each product • Planning efficient utilization of resources/manpower • Prioritizing urgent orders		15	5	10
	PC4. Calculate the batch size based on the production order and machine		5	2	3

capacity				
PC5. Calculate the raw material requirement (considering process loss) to obtain required quantity of finished product(s)		5	2	3
PC6. Calculate the raw materials (including ingredients, if any), packaging materials and manpower requirement for completing the order		5	2	3
PC7. Ensure the working and performance of each equipment required for process		7	2	5
PC8. Calculate the process time for effective utilization of machineries		7	2	5
PC9. Plan batch size considering full capacity utilization of machineries		3	1	2
PC10. Plan to utilize machineries for multiple products without affecting the quality of the finished products, and to optimize production and save energy		3	1	2
PC11. Allot responsibilities/ work to the assistants and helpers		5	2	3
PC12. Refer to the process chart for raw material to be processed		3	1	2
PC13. Weigh the raw materials required for order		3	1	2
PC14. Check the conformance of raw material quality to organization standards, through physical analysis, and by referring to the quality analysis report from the supplier / internal lab analysis report		6	2	4
PC15. Ensure working and performance of required machineries and tools		6	2	4
PC16. Keep the tools accessible to attend repairs/faults in case of		2	0.5	1.5

	breakdown				
	PC17. Check the cold storage room for its condition and space availability		5	1.5	3.5
	PC18. Set and maintain required temperature of storage area		5	2	3
		Total	**100**	**35**	**65**
3. FIC/N4003 (Execution of fish and sea food processing)	PC1. Receive live or chilled raw material (fish and sea food) in refrigerated trucks		1	0.5	0.5
	PC2. Check the raw material and condition of the transporting vehicle for any possible contamination		1	0.5	0.5
	PC3. Check the container to see if the raw material is adequately iced and storage temperature is maintained; check temperature of the raw material		2	0.5	1.5
	PC4. Inspect raw material quality through physical parameters like odour, scales, eyes, gills and overall appearance/ physical condition		3	1.5	1.5
	PC5. Inspect frozen/chilled seafood for shipping temperature, signs of freezer burn, adequacy of protective covering and integrity of packaging, inspect live shellfish through tap test (tapping live oysters, mussels etc), leg movement (for lobsters, crab)		3	1.5	1.5
	PC6. Dump raw material into washing tank for washing , remove washed raw material from water and place in crates/containers		2	0.5	1.5
	PC7. Prepare ice flakes and place fresh whole fish and seafood on a bed of ice flakes, cover each layer of fish with layer of ice and store until further processing or weigh the washed raw material and transfer to the pre-processing		2	0.5	1.5

	area			
	PC8. Weigh the washed raw material and transfer to the pre-processing area	1	0.5	0.5
	PC9. Weigh and transfer raw material to the sorting table	1	0.5	0.5
	PC10. Inspect and separate different species of fish and seafood, remove damaged, spoiled, diseased seafood and discard it	3	1	2
	PC11. Grade the sorted fish and seafood based on size and quality and place in designated container	3	1	2
	PC12. Wash graded fish and seafood manually (or) open valves of the spraying system for water and adjust pressure to wash by spraying water on fish	2	0.5	1.5
	PC13. Discard the rejects following the disposal procedure	1	0.5	0.5
	PC14. Weigh the graded fish and sea food for pre-processing	1	0.5	0.5
	PC15. Remove the shell (in case of shellfish)	5	2	3
	PC16. Slit the fish from the throat to the end of the abdomen (gutting)	5	2	3
	PC17. Remove the head manually (or) place and position the fish in the deheader machine and press button or lever to cut fish head mechanically (deheading)	5	2	3
	PC18. Pull out the gut and egg sac, either before or after deheading (gut pulling)	5	2	3
	PC19. Clean out any leftover gut and remove the organs that run down the spine of the fish (spooning)	3	1	2
	PC20. Wash with water or by showering with ice water	2	0.5	1.5
	PC21. Grade the pre-processed fish and seafood based on size, weight and	2	0.5	1.5

	quality and stack in respective bins			
PC22.	Weigh the graded fish and sea food and transfer to the processing area (or) to cold storage room and store maintaining temperature as per organisation standards until further processing	2	0.5	1.5
PC23.	Receive pre-processed raw material (fish and sea food) for processing	2	0.5	1.5
PC24.	Thaw fish and seafood (in case of frozen fish and sea food) following SOP	2	0.5	1.5
PC25.	Prepare/measure moisture retention agent following SOP, weigh raw material and soak in moisture retention agents for retention of moisture, texture, flavour and nutrients	3	1	2
PC26.	Control and maintain temperature to pasteurize fish for removal of microbial load	3	1	2
PC27.	Transfer pasteurized fish into chilled water to prevent overcooking	1	0.5	0.5
PC28.	Remove fish from chilled water, place chilled fish in vibrate belt, adjust controls and start vibrate belt to remove excess water from fish	3	1	2
PC29.	Set controls such as temperature, conveyor speed of tunnel freezer and push buttons to start, place fish and seafood on conveyor and allow it to pass through the tunnel freezer to freeze to specified temperature (or) place fish and seafood in trays and load trays in freezer, maintain and control temperature of freezer to freeze fish	5	2	3
PC30.	Dip frozen fish in water/ chilled water manually and remove after specified time for glazing (or) start	4	1.5	2.5

	pump to circulate water or control spraying system to spray water, adjust controls to maintain water temperature in glazing machine, adjust speed of the conveyor to allow the frozen fish to dip in water for specified time, and remove glazed fish from conveyor			
PC31.	Prepare fillet, cut fillets (dorsal and abdominal muscles) from the backbone and remove the collarbone, remove skin if required, remove pin bones, inspect fillets and remove damages, cut into portions based on weight and parts (like loin, belly flap, tail, etc.), freeze to specified temperature and glaze fillets	4	1.5	2.5
PC32.	Pack weighed quantity of the glazed fish and sea food products in primary packaging material and label as well as pack the primary packaged product in cartons	5	1	4
PC33.	Sample the product for quality analysis to ensure conformance to standards	3	1	2
PC34.	Transfer packed products to cold storage room, and ensure storage temperature is maintained by verifying the temperature gauge at regular intervals	2	0.5	1.5
PC35.	Clean the machineries used with approved sanitizers following CIP procedure	3	1	2
PC36.	Clean the work area, machineries, equipment and tools using recommended cleaning agents and sanitizers	2	0.5	1.5
PC37.	Attend minor repairs/faults of all machines (if any)	2	0.5	1.5
PC38.	Ensure periodic (daily/weekly/monthly/quarterly/ half yearly/annual) maintenance of all machines and equipment following the SOP or following	1	0.5	0.5

	suppliers instructions/manuals				
		Total	**100**	**35**	**65**
4. FIC/N4004 (Complete documentation and record keeping related to processing of fish and seafood)	PC1. Record details of all raw materials used in the process such as name and variety of raw materials, supplier details, receiving date/ date of manufacture, expiry date, supplier quality document, quality parameters of all raw materials, internal quality analysis report, etc. As per organization standards	**100**	10	6	4
	PC2. Maintain record of observations (if any) related to raw materials, packaging materials		5	3	2
	PC3. Load the raw materials details in ERP for future reference		5	3	2
	PC4. Verify the documents and track from finished product to raw materials, in case of quality concerns and during quality management system audits		5	3	2
	PC5. Document process plan with details such as product details, process sequence, equipments and machinery details, efficiency and capacity utilization of equipment		10	6	4
	PC6. Document process details such as type/ variety/species of raw material used, process parameters (temperature, time) in process chart or production log for all types of raw materials handled		15	9	6
	PC7. Document batch size, raw material used, yield after each stage of process, wastage, energy utilization and final yield		10	6	4
	PC8. Maintain record of observations (if any) or deviations related to process and production		5	3	2
	PC9. Load the production plan and process details in ERP for future reference		5	3	2

	PC10. Verify documents and track from finished product to ingredients, in case of quality concerns and for quality management system audit		5	3	2
	PC11. Document and maintain record of types of processed food		3	2	1
	PC12. Document the processed food details such as batch number, time of packing, date of manufacture, date of expiry, other label details, primary and secondary packaging materials for all finished products, storage conditions, etc. As per organization standards		7	4	3
	PC13. Maintain record of observations or deviations (if any) related to processed food		5	3	2
	PC14. Load the finished product details in ERP for future reference		5	3	2
	PC15. Verify the documents and track them from processed food to raw materials, in case of quality concerns and for quality management system audits		5	3	2
		Total	**100**	**60**	**40**
5. FIC/N9001 (Food safety hygiene and sanitation for processing food products)	PC1. Comply with food safety and hygiene procedures followed in the organisation		5	2	3
	PC2. Ensure personal hygiene by using of gloves, hairnets, masks, ear plugs, goggles, shoes, etc.		6	1	5
	PC3. Ensure hygienic production of food by inspecting raw materials, ingredients, finished products, etc. for compliance to physical, chemical and microbiological parameters		5	2	3
	PC4. Pack products in appropriate packaging materials, label and store them in designated area, free from pests, flies and infestations		10	4	6

	PC5. Clean maintain and monitor food processing equipment periodically, using it only for specified purpose		5	2	3
	PC6. Use safety equipment such as fire extinguisher, first aid kit and eye-wash station when required		10	4	6
	PC7. Follow housekeeping practices by having designated area for materials/tools		5	2	3
	PC8. Follow industry standards like GMP and HACCP and product recall process		10	4	6
	PC9. Attend training on hazard management to understand types of hazards such as physical, chemical and biological hazards and measures to control and prevent them		5	1	4
	PC10. Identify, document and report problems such as rodents and pests to management		5	1	4
	PC11. Conduct workplace checklist audits before and after work to ensure safety and hygiene		5	1	4
	PC12. Document and maintain raw material, packaging material, process and finished products for the credibility and effectiveness of the food safety control system		4	1	3
	PC13. Determine the quality of food using criteria such as aroma, appearance, taste and best before date, and take immediate measures to prevent spoilage		5	2	3
	PC14. Store raw materials, finished products, allergens separately to prevent cross-contamination		5	2	3
	PC15. Label raw materials and finished products and store them in designated storage areas according to safe food practices		5	2	3
	PC16. Follow stock rotation based on		10	4	6

	FEFO / FIFO				
		Total	**100**	**35**	**65**

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

During the industry interactions carried out while creating occupational maps and prioritization of job roles for Qualification Pack development, the mentioned qualification was indicated as a key requirement by the industry. Governing Council of FICSI shared the final approval for the development of the role.

In addition, the NSDC Human Resource and Skill Requirement study has indicated that Indian seafood processing units are being encouraged to pursue value addition and export by establishment of new units, capacity expansion and diversification of current activities. The market share of this sub sector is expected to increase manifold.

The evidence of the qualification has been endorsed by the Sea Food Exporters Association of India (SEAI). The need for the same was also endorsed through workshops with major Fish and Seafood Processing units and export houses. The workshops included representation from companies such as Falcon Marine Exports, Odisha Aqua Traders and Marine Exporters, Teekay Marines, etc.

Evidence of the qualification is supported by 31 validations with representation across large, medium and small scale industries from across India. The complete list of validating companies has been enclosed as an annexure to the Q file.

What is the estimated uptake of this qualification and what is the basis of this estimate?

As per the NSDC Human Resource and Skill Requirement study, the projected size of the Fish and Seafood sub sector till year 2022 is Rs. 343 billion (CAGR of 6.6%). The incremental human resource requirement (annual) in Fish and Seafood is expected to be 1,000 year on year.

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

The qualification discussed above is checked for any duplication across sectors. Given the qualification is niche to Food Processing sector, there is no duplication or pre-existing similar qualifications.

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?

The comments, feedback and suggestions were collected through interaction with industry during December '14 to August'15. The same will be compiled and justifiable changes will be incorporated in the next/updated version of the QP. This QP is set to be revised post 15th September, 2016.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

- List of QP NOS validating companies – Annexure 3
- NSDC Human Resource and Skill Requirement study – Annexure 4

SECTION 3

SUMMARY EVIDENCE OF LEVEL

Level of qualification: Level 4

Summary of Direct Evidence (from learning outcomes):

The job activities are exhaustively studied and their outcomes are evaluated to understand their mapping with the NSQF framework. The same had been reviewed and validated by sector skill council and industry representatives.

Summary of other evidence (if used):

Fish and Seafood Processing Technician – QP FIC/Q 4001					
Process required	**Professional Knowledge**	**Professional Skills**	**Core Skills**	**Responsibility**	**Level**
The job holder is expected to process fish and seafood. This involves working in familiar, predictable, routine, situation of clear choice such as prepare and maintain work area and process machineries, support in planning production sequence, receive and handle raw material, sort and grade Since it does not involve several choices to be made even in a familiar context, the role does not	The job holder is expected to have factual knowledge of field of knowledge or study. For example, the job holder is expected to have knowledge of types of raw materials (fish and seafood) and products obtained from each raw material, process requirements for each variety of seafood, various production processes, process parameters, process requirements for all species of fish and	The job holder is expected to carry out routine and repetitive activities in a narrow range of application, using appropriate rule and tool. For instance, the job holder has to receive and handle raw material, sort and grade the raw material, pre process fish and seafood, carry out final processing of fish and seafood, transfer packed products to cold storage room, carry out post production cleaning and	The job holder is expected to communicate with clarity, have basic arithmetic skills and a basic understanding of political and natural environment. For instance, s/he should be able to note the information communicate, note the readings of process parameters, write information documents to internal departments/ internal teams, read and interpret the process flow chart for products	The job holder is responsible for only own work and learning. S/he is a skilled worker who carries out activities after reading and understanding the production order , check availability of raw materials, provide support in planning production sequence for fish and seafood processing, refer to the process chart/ production flow chart/ formulation chart for raw materials to be processed and ensure working and	4

qualify for Level 5.	seafood, types of machineries used in processing and machineries used in the organization, handling of machineries, quality parameters, basic food microbiology, types of packaging materials, food safety and hygiene, etc. Since all the above mentioned areas are related to factual knowledge of field of knowledge, the role qualifies for Level 4.	regular maintenance of equipments. All these activities are mostly repetitive and have a narrow range of application, hence qualifying the role for a Level 4.	produced, effectively communicate with team members and cross department teams on the issues faced during process. Hence, this role qualifies for Level 4.	performance of required machineries and tools. Hence, this role qualifies for Level 4. It does not comprise of any supervisory activities.	
Level 4	Level 4	Level 4	Level 4	Level 4	Level 4

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

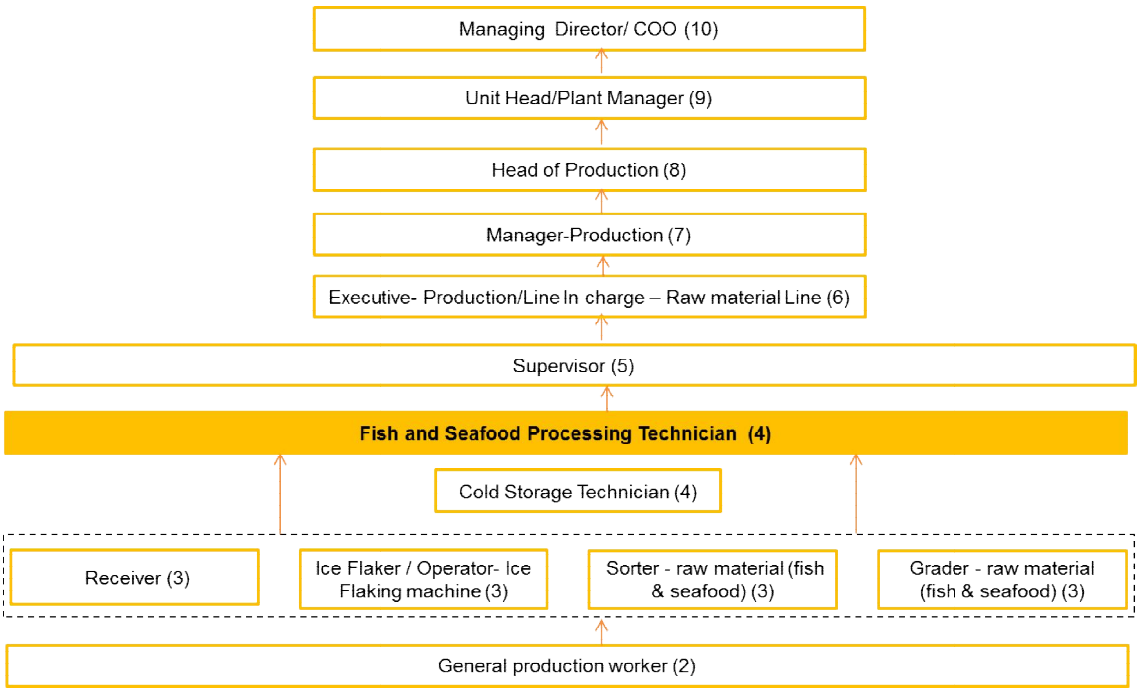
What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

1. Discussing the growth trajectory within each occupation after studying organisational charts of various industry players across small, medium and large scale organizations.
2. Exploring various lateral career opportunities for the discussed qualification
3. Ensuring that there is a clear role up in terms of performance criteria qualification experience and skill requirement from lower NSQF Level to higher levels in the hierarchy.

Please refer to the career path as per Annexure 1 which clearly defines the career path.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

Annexure 1: Career Map of Fish and Seafood Processing Technician



Annexure 2: Qualification Pack of Fish and Seafood Processing Technician (separate file)

Annexure 3: List of QP/NOS validating companies (separate file)