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QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Indian Iron and Steel Sector Skill Council

Address:- Royal Exchange, 6 N.S. Road, Kolkata- 700 001

Tel: 09831052652

Name and contact details of individual dealing with the submission

Name: Parimal Biswas

Position in the organisation: Chairman of NOS Committee & Director IISSSC

Address if different from above

Same as above

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List of documents submitted in support of the Qualifications File

1. Qualification Pack
2. RFP for development of Occupational Standards
3. IISSSC Protocol for Accreditation of Assessment Agencies and Assessment Framework.
4. Sample of assessors guide
5. Occupational Map & Progression matrix
6. List of companies and Industry associations participated in the development of this qualification.
7. List of QP/NOS validating companies.

8. QUALIFICATION FILE SUMMARY

Qualification Title	Conveyor Operation and Maintenance (ISC/Q0902)		
Body/bodies which will assess candidates	Affiliated Assessment Agencies		
Body/bodies which will award the certificate for the qualification.	Indian Iron & Steel Sector Skill Council		
Body which will accredit providers to offer the qualification.	Indian Iron & Steel Sector Skill Council		
Occupation(s) to which the qualification gives access	Jobs related to preparation, supply, collection, evaluation and operation of all fluids connected with rolling operations in steel plant.		
Proposed level of the qualification in the NSQF.	3		
Anticipated volume of training/learning required to complete the qualification.	270 hours		
Entry requirements / recommendations.	Class – 10 th Pass and 18 years of age		
Progression from the qualification.	Technician - Conveyor Maintenance Supervisor - Conveyor Operation		
Planned arrangements for RPL.	RPL arrangements and policies are under development. The guidelines should be ready in 2-3 months.		
International Comparability	<p>While writing the NOSs the European, Australian and Canadian NOSs were also referred to and an effort was taken to maintain comparability in the technical part of the NOSs.</p> <p>However Numeracy, literacy and basic science levels are lower in order to match with the existing Indian conditions.</p>		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
ISC/N0915: Inspection of total conveyor system along with operating equipments	Mandatory	270	3
ISC/N0916: Start conveyor belt operation	Mandatory		
ISC/N0917: Perform basic maintenance and troubleshooting on conveyor belt system	Mandatory		
ISC/N0949: Carry out reporting and documentation	Mandatory		
ISC/N0008: Use basic health and safety practices at	Mandatory		

the work place			
ISC/N0009: Works effectively with others	Mandatory		

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.

Give details of the document here: Qualification pack is sent with the Qualification file

SECTION 1

ASSESSMENT

Name of assessment body:

Prima Competencies Pvt. Ltd.

Will the assessment body be responsible for RPL assessment? Yes

RPL will be based on the same 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:

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. The assessment papers are developed by Subject Matter Experts (SME) available with the Assessment Agency as per the performance and assessment criteria mentioned in the Qualification Pack. The assessments papers are also checked for the various outcome based parameters such as quality, time taken, precision, tools & equipment requirement etc. The assessment sets are then reviewed by IISSSC official for consistency. The assessments are designed so as to assess maximum parts during the practical hands on work. Duties and responsibility of a welder are also assessed. The technical limitations at the training centres are taken care in theory and viva. Criteria such as use of lift to pick heavy objects or selection of fire extinguisher during a fire, first aid are also assessed under theory/viva.

Different NDT as well as Destructive Testing carried out on the job as per welding standard.

The assessment agencies are instructed to hire assessors with integrity, reliability and fairness. Each assessor shall sign a document with its assessment agency by which they commit themselves to comply with the rules of confidentiality and conflict of interest, independence from commercial and other interests that would compromise impartiality of the assessments. The assessment agencies are instructed to Ideally have assessor with minimum 15 years industry experience as an ITI graduate / minimum 10 years' industry experience as diploma engineer and minimum 5 years' industry experience as Graduate Engineer / Master Degree holder.

The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to IISSSC Assessment Framework, competency based assessments, assessors guide etc.

The assessors are provided with assessors guide developed by the Subject Matter Expert of the assessment agency as per the assessment framework. The assessment guides are developed to ensure the maximum possible consistency / transparency in the assessment by different assessors and elaborate on the following

1 Qualification Pack Structure

2 Guidance for the assessor to conduct theory, practical and viva assessments

3 Guidance for trainees to be given by assessor before the start of the assessments.

4 Guidance on assessments process, practical brief with steps of operations practical observation checklist Attendance Sheet and mark sheet

5 Viva guidance for uniformity and consistency across the batch.

6 Guidance on assessment evidence collection

A sample format of Assessment Guide for Fitter-Fabrication is attached. Similar Assessor Guides are developed and shared with the assessors before the start of the assessments as standard practices for all assessments by IISSSC. The Sample of Assessor Guide is attached as Annexure.

The assessment results are backed by evidences collected by assessors.

1 The assessor needs to collect a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In charge /Head of the Training Centre.

2 The assessor needs to verify the authenticity of the candidate by checking the photo ID card issued

by the institute as well as any one Photo ID card issued by the Central/Government. The same needs to be mentioned in the attendance sheet. In case of suspicion, the assessor should authenticate and cross verify trainee's credentials in the enrolment form.

3 The assessor needs to punch the trainee's roll number on all the test pieces. Different sections can have alpha numbering. For example a student roll number is ABC then the three pieces can be numbered and punched as ABC1, ABC2 and ABC3.

4 The assessor needs to take a photograph of all the students along with the centre name/banner at the back as evidence.

5 The assessor needs to carry a camera to click photograph of the trainees working on the job and giving theory exam as evidence.

6 The assessor also needs to carry a photo ID card.

7 The assessor also needs to take the photographs as evidence from appropriate angles/sides of the final work piece/job submitted by the trainee.

8 The assessor needs to indicate the parts for different Destructive testing as per standards mentioned in the assessment guide.

The details on assessment framework are elaborated in IISSC Protocol for Accreditation of Assessment Agencies and Assessment Framework.

All IISSC accredited Assessment Agency follow the "IISSC Protocol for Accreditation of Assessment Agencies and Assessment Framework". The assessment by assessment agency will be completely based on the assessment criteria as mentioned in the Qualification Pack. Each NOS in the Qualification Pack (QP) will be assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Performance Criteria in the NOS will be assigned marks for or practical based on relative importance, criticality of function and training infrastructure.

The following tools are proposed to be used for final assessment:

1 Practical Assessment: This will comprise of a test hands on job to be prepared as per figure/engineering drawing by following appropriate working steps, using necessary tools, equipment and instruments.

Candidate's aptitude, safety consciousness, quality consciousness etc. will be ascertained by observation and will be marked in observation checklist.

The end product will be measured against the specified dimensions and standards (like tolerance, finish, accuracy, time etc.) to gauge the level of his skill achievements

2 Viva/Structured Interview: This tool will be used to assess the conceptual understanding and the behavioural aspects as regards the job role and the specific task at hand. It will also include questions on safety, quality, environment, tools and equipment's etc.

3 Written Test: Under this test few key items which cannot be assessed practically will be assessed.

The written assessment will comprise of

- i. True / False Statements
- ii Multiple Choice Questions
- iii Matching Type Questions.

Optical Mark Recognition (OMR)/ Online System for this will be preferred on place of written test subject to available required infrastructure.

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 per the assessment criteria. Insert the required number of rows.

CRITERIA FOR ASSESSMENT OF TRAINEES

Conveyor Operation and Maintenance

ISC/Q0902

Indian Iron & Steel Sector Council

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 further each trainee must also score a minimum of 40% in each element assessed within 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 Outcome	Assessment criteria	Marks Allocated			
		Total Marks 1000	Out Of	Theory	Practical
ISC/N0915: Inspection of total conveyor system along with operating equipments	PC1. Adhere to time limits given by supervisor	250	15	5	10
	PC2. Check oil levels of gear box and prime movers with couplers, driving pulleys		15	5	10
	PC3. Check driving pulleys with lagging		15	5	10
	PC4. Check the belt conveyor for any damages and belt joints		15	5	10
	PC5. Check condition of conveying and return side idlers		15	5	10
	PC6. Check the cleanliness of conveyor gallery and conveyor deck		15	5	10
	PC7. Check position of gravity pulleys		15	5	10
	PC8. Check feeding chutes with wire plates		15	5	10
	PC9. Check operation of gates		15	5	10

	PC10. Check all shuttle belts with trolley etc.		15	5	10
	PC11. Check the level of bunkers to be filled		15	5	10
	PC12. Apply grease to all bearings		15	5	10
	PC13. Ensure the raw material stock at bunker and yard		15	5	10
	PC14. Keep all conveyor gallery and stair cases clean and free from mud, spillage and other foreign materials		15	5	10
	PC15. Ensure proper illumination of all work area/transfer chutes		15	5	10
	PC16. Check al safety switches as per schedule		6	1	5
	PC17. Report defects precisely to the supervisor if beyond scope of his role		6	1	5
	PC18. Maintain a checking/maintenance logbook to record all activities performed before starting the conveyor system		13	3	10
		Total	250	80	170
ISC/N0916: Start conveyor belt operation	PC1. Study the log book and organize the job according to requirement	200	10	5	5
	PC2. Inspect the worksite to identify cleanliness of the conveyor gallery, walkway and stair cases.		6	1	5
	PC3. Start the conveyor on no-load condition using the pushbutton switch for conveyor sequence operation		11	1	10
	PC4. Adjust feeding mechanism for optimum loading of conveyor		11	1	10
	PC5. Ensure the main bunker is filled up to the required level for safe operation		12	2	10
	PC6. Ensure after filling to specific volume of main bunker the transit bunkers gates to be closed slowly for emptying out the belt		15	5	10
	PC7. Adhere to time limits given by supervisor		15	5	10
	PC8. Perform in-operation visual checks on bunker level depending on the requirement for smooth operation		13	3	10
	PC9. Select and use the right type of operation for proper feeding of the conveyor belt		11	1	10

	PC10. Ensure that conveyor gallery and walkway are free from all hazards for starting the belt operation		11	1	10
	PC11. Utilize judiciously various communicating devices available in the conveyor gallery and control cabin		15	5	10
	PC12. Ensure that the belt operation is safe from all hazards by raising appropriate signal/alarm		11	1	10
	PC13. Ensure that the dust extraction/suppression system is working properly during the belt operation		12	2	10
	PC14. Ensure that the conveyor belt is emptied out before stopping.		11	1	10
	PC15. Ensure that hot material does not come in contact with conveyor belt.		11	1	10
	PC16. Ensure that no other persons move on the conveyor gallery other than the operators		14	4	10
	PC17. Inform supervisor of any problems while operating the Conveyor Belt		11	1	10
		Total	200	40	160
ISC/N0917: Perform basic maintenance and troubleshooting on conveyor belt system	PC1. Understand proper operating/loading of conveyor belt to assess the right maintenance schedule	150	6	1	5
	PC2. Clean conveyor gallery and walkway		11	1	10
	PC3. Clean stair cases, hand railings for safe movement		11	1	10
	PC4. Drain tail end pulley pits/pumping accommodated water from the pits to avoid belt slippage		11	1	10
	PC5. Repair damaged belt joints, repair belt cuts/replace damaged portion of conveyor belt		11	1	10
	PC6. Grease all bearings, maintain lubrication oil level of all gear boxes		8	3	5
	PC7. Check all driving couplings and replace damaged components		11	1	10
	PC8. Check and replace damaged idlers, skirt plates, wear plates etc.		11	1	10
	PC9. Complete timely and legibly daily/weekly maintenance sheets as provided by the company		10	5	5
	PC10. Ensure the conveyor belt is in good condition for operation		10	5	5

	PC11. Ensure all operating equipment are in healthy condition for smooth operation		11	1	10
	PC12. Ensure all pulley laggings are in good condition		11	1	10
	PC13. Ensure that all bunker gates are in operating condition for proper operation		8	3	5
	PC14. Assess when the problem is beyond his competence and report the problem to suitably qualified and competent personnel		9	4	5
	PC15. Complete timely and legibly daily/weekly defect sheets		11	1	10
		Total	150	30	120
ISC/N0949: Carry out reporting and documentation	PC1. Report data/problems/incidents as applicable in a timely manner	150	15	5	10
	PC2. Report to the appropriate authority as laid down by the company		15	5	10
	PC3. Follow reporting procedures as prescribed by the company		15	5	10
	PC4. Identify documentation to be completed relating to one's role		15	5	10
	PC5. Record details accurately in an appropriate format		15	5	10
	PC6. Complete all documentation within stipulated time according to company procedure		11	1	10
	PC7. Ensure that the final document meets with the requirements of the persons who requested it or make any amendments accordingly		19	4	15
	PC8. Make sure documents are available to all appropriate authorities to inspect		15	5	10
	PC9. Respond to requests for information in an appropriate manner whilst following organizational procedures		15	5	10
	PC10. Inform the appropriate authority of requests for information received		15	5	10
		Total	150	45	105
ISC/N0008: Use basic health and safety practices at the workplace	PC1. Use protective clothing/equipment for specific tasks and work conditions	150	9	4	5
	PC2. State the name and location of people responsible for health and safety in the workplace		6	1	5

PC3. State the names and location of documents that refer to health and safety in the workplace	2	1	1
PC4. Identify job-site hazardous work and state possible causes of risk or accident in the workplace	8	4	4
PC5. Carry out safe working practices while dealing with hazards to ensure the safety of self and others state methods of accident prevention in the work environment of the job role	6	1	5
PC6. State location of general health and safety equipment in the workplace	6	1	5
PC7. Inspect for faults, set up and safely use steps and ladders in general use	6	1	5
PC8. Work safely in and around trenches, elevated places and confined areas	6	1	5
PC9. Lift heavy objects safely using correct procedures	6	1	5
PC10. Apply good housekeeping practices at all times	2	1	1
PC11. Identify common hazard signs displayed in various areas	6	5	1
PC12. Retrieve and/or point out documents that refer to health and safety in the workplace	5	1	4
PC13. Use the various appropriate fire extinguishers on different types of fires correctly	9	4	5
PC14. Demonstrate rescue techniques applied during fire hazard	8	4	4
PC15. Demonstrate good housekeeping in order to prevent fire hazards	2	1	1
PC16. Demonstrate the correct use of a fire extinguisher	6	1	5
PC17. Demonstrate how to free a person from electrocution	6	1	5
PC18. Administer appropriate first aid to victims as required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.	8	3	5
PC19. Demonstrate basic techniques of bandaging	6	1	5

	PC20. Respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments		7	2	5
	PC21. Perform and organize loss minimization or rescue activity during an accident in real or simulated environments		6	1	5
	PC22. Administer first aid to victims in case of a heart attack or cardiac arrest due to electric shock, before the arrival of emergency services in real or simulated cases		6	1	5
	PC23. Demonstrate the artificial respiration and the CPR Process		6	1	5
	PC24. Participate in emergency procedures		6	1	5
	PC25. Complete a written accident/incident report or dictate a report to another person, and send report to person responsible		4	1	3
	PC26. Demonstrate correct method to move injured people and others during an emergency		2	1	1
		Total	150	45	105
ISC/N0009: Work effectively with others	PC1. Accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	5	5
	PC2. Accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		9	4	5
	PC3. Provide information to others clearly, at a pace and in a manner that helps them to understand		11	1	10
	PC4. Display helpful behaviour by assisting others in performing tasks in a positive manner, where required and possible		10	5	5
	PC5. Consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	5	5
	PC6. Display appropriate communication etiquette while working		11	1	10

	PC7. Display active listening skills while interacting with others at work		11	1	10
	PC8. Use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		8	3	5
	PC9. Demonstrate responsible and disciplined behaviours at the workplace		14	4	10
	PC10. Escalate grievances and problems to supervisor		6	1	5
		Total	100	30	70

SECTION 2

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

While collecting data from the companies for the occupational map, we also took feedback from industry, which was collected with respect to roles 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 feels they face. Governing council of IISSSC gave final approval and endorsement for the same.

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

Skills Gap analysis Reports for industry demand and secondary research data, though these do not lend to accurate demand projection. The link to NSDC Human Resource & Skills Requirement in IISSSC

- Feedback from industry for demand though again sample size may not lend to accurate figures
- Training duration, and current and potential training capacity envisaged
- An LMIS development initiative is being put in place to be more precise regarding the demand and supply

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

NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work
NSDC QRC team also confirmed the same

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?

Agencies have been appointed by the SSC to interact with training providers to gather feedback in implementation.

Employer feedback will be sought post- placement.

A formal review is scheduled after two year time.

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

SECTION 3

SUMMARY EVIDENCE OF LEVEL

Summary of Direct Evidence:

- Conduct pre-operation checks to ensure the Conveyor Belt System is safe for operation
- Record details of checking and maintenance activities
- Start the conveyor belt in no load condition
- Load the conveyor gradually by opening the bunker gates as required
- Discharge the material in conveyor chutes by proper adjustment of deflector plate, gate and after feeding equipment
- Conduct Routine Maintenance & Major conveyor system maintenance
- Carry out reporting and documentation
- Use Health and safety procedures, Fire safety procedures & Emergencies, rescue and first-aid procedures at workplace
- Ensure appropriate communication with superiors, peers and others as applicable at work place
- Demonstrate appropriate behaviour and etiquette at work place

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role.

Conveyor operation and maintenance (ISC/Q0902)					
Process required	Professional Knowledge	Professional Skills	Core Skills	Responsibility	Level
The job holder is expected to be responsible for inspection of the total belt driving	The job holder is expected to understand the basic	The job holder is expected to be able to handle control systems of	The job holder is expected to express ideas with clarity. He should be	The job holder is expected to complete tasks assigned by the supervisor like	3

<p>system including the controls of conveyor belt as per the required sequence for feeding different raw materials (coal, lime stone, Iron ore etc.) in the service bunker through crushers/screener etc. The nature of job is routine and predictable and involves limited range of activities. The job also involves identifying and troubleshooting of the problems and report to supervisor if he is unable to solve the same problem</p>	<p>details, process and principles of mechanical and electrical equipment with control system, He should also know how to operate control switch in order to maintain proper belt sequence</p>	<p>conveyor belts and tools associated with the same. He should be able to Identify possible ways to improve operational efficiency. He should perform troubleshooting of problems related to narrow range of application</p>	<p>able to understand the job requirements. He should be able to understand health and safety instructions, memos, reports, job cards, etc. and should be able to communicate with team members & supervisor</p>	<p>operating conveyor belts for safe feeding of different raw materials (coal, lime stone, Iron ore etc.) in the service bunker through crushers/screener etc. under close guidance & supervision. He should be able to identify and troubleshoot problems of usual nature & report any defects or deviation precisely to the supervisor if it is beyond the scope of his role. He is expected to work under close supervision & responsible for his own work & learning.</p>	
Level 3	Level 3	Level 3	Level 3	Level 3	

OTHER EVIDENCE OF LEVEL [This need only be filled in where evidence other than primary outcomes was used to allocate a level] (Optional)

Summary of other evidence (if used):

Accepted by QRC and validated by industry

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?

Horizontal and vertical mobility options have been articulated

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