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QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

Capital Goods Skills Council

FICCI, Federation House, 1 Tansen Marg, New Delhi 110001

Name and contact details of individual dealing with the submission

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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. Selection process of the Consultants to develop Occupational Standards
4. CGSC Protocol for Accreditation of Assessment Agencies and Assessment Framework
5. Sample of Assessors Guide
6. Minutes of the meeting of GC meetings
 - i. Composition of the Technical Committee
 - ii. Approval of Occupational Standards by Technical Committee and Governing Council
7. NSDC Human Resource & Skills Requirement in Capital Goods Sector is
http://cgsc.in/Humanresource_skill_requirement.pdf
8. Occupational Map & Progression matrix
9. Draft MoU with Industry
10. List of companies and Industry associations participated in the development of these qualification packs (part of report)
11. List of QP/NOS validating companies.

QUALIFICATION FILE SUMMARY

Qualification Title	Assistant Oxy Fuel Cutter		
Body/bodies which will assess candidates	<ul style="list-style-type: none"> • Manipal City & Guilds • Multi Skills Assessors Guild • Indian Institute of Welding 		
Body/bodies which will award the certificate for the qualification.	Capital Goods Skills Council		
Body which will accredit providers to offer the qualification.	Capital Goods Skills Council		
Occupation(s) to which the qualification gives access	Welding and Cutting		
Proposed level of the qualification in the NSQF.	2		
Anticipated volume of training/learning required to complete the qualification.	300 hours		
Entry requirements / recommendations.	5th Standard		
Progression from the qualification.	Welders, cutters and Oxy fuel gas cutter Level 3		
Planned arrangements for RPL.	RPL arrangements and policies are under development. The guidelines should be ready in 2-3 months.		
International Comparability	UK- SEMFWE3-07 Australia- AURVTW2008		
Formal structure of the qualification			
Title of unit or other component (include any identification code used)	Mandatory/ Optional	Estimated size (learning hours)	Level
CSC/ N 0201 (Perform simple manual cutting operations on carbon steels using oxy-fuel gas)	Mandatory	140	2
CSC/ N 1335 (Use basic health and safety practices at the workplace)	Mandatory	80	Common across 1-4 levels
CSC/ N 1336 (Work effectively with others)	Mandatory	80	Common across 1-4 levels

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 attached as Annexure 1

SECTION 1

ASSESSMENT

Name of assessment body:

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

- Manipal City & Guilds
- Multi Skills Assessors Guild
- Indian Institute of Welding

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.

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

The process of RPL assessment is under development.

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 CGSC official for consistency. The assessments are designed so as to assess maximum parts during the practical hands on work. 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 are also assessed under theory/viva.

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.

The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to CGSC 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 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 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 CGSC. The Sample of Assessor Guide is attached as Annexure 4

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 123 then the three pieces can be numbered and punched as 123a, 123b and 123c.
- 4 The assessor needs to take a photograph of all the students along with the assessor standing in the middle and 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. This evidence is signed by the trainee at the time of submission of the job piece.
- 8 The assessor needs to measure the dimensions and finish of the submitted job piece as per the tolerance or standards mentioned in the assessment guide.

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

Please attach any documents giving further information about assessment and/or RPL.

Give details of the document(s) here:

- CGSC Protocol for Accreditation of Assessment Agencies and Assessment Framework.
- Sample of Assessors Guide

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

Job Role : Assistant Oxy Fuel Cutter

Qualification Pack : CSC/ Q 0201

Sector Skill Council : Capital Goods Sector Skills 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
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
CSC/ N 0201: Perform simple manual cutting operations on carbon steels using oxyfuel gas	PC1. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines	100	4	1	3
	PC2. take necessary safety precautions for gas cutting operations including equipment, processes and checks		3	0	3
	PC3. interpret cutting procedure data sheets specifications		3	1	2
	PC4. check regulators, hoses and check that valves are securely connected and free from leaks and damage		2	0	2
	PC5. check equipment is calibrated and approved for use		2	0	2
	PC6. check the correct size gas nozzle to the torch		2	0	2
	PC7. ensure preheat and oxygen holes on the tips are clean		2	0	2
	PC8. check that a flashback arrestor is fitted		2	0	2
	PC9. set appropriate gas pressures		2	0	2
	PC10. use the correct procedure for lighting, adjusting and extinguishing the		2	0	2

flame			
PC11. adjust torch valve for type of flame such as neutral, carburizing and oxidizing	3	0	3
PC12. follow sequence of operations such as pre-heating material and initiating cut	3	1	2
PC13. check if the locations for cutting have been marked out by authorised persons	2	0	2
PC14. use appropriate and safe procedures for handling and storing of gas cylinders	3	1	2
PC15. prepare the work area for the cutting activities	2	0	2
PC16. obtain the appropriate tools and equipment for the oxy-fuel gas cutting operations, and check that they are in a safe and usable condition	2	0	2
PC17. check that the oxy-fuel gas cutting equipment is set up for the operations to be performed	2	0	2
PC18. adjust cylinder valves and adjust regulator for operating pressure to achieve specifications for required operations	3	0	3
PC19. seek clarification where marking out is not done or is not clear from authorised person	2	0	2
PC20. perform trial cut to check for cut defects	3	0	3
PC21. operate the oxy-fuel gas cutting equipment to produce items/cut shapes to the dimensions and profiles as per instructions given	5	1	4
PC22. use various oxy-fuel gas lighting and cutting procedures	5	1	4
PC23. perform various cutting operations correctly	4	0	4
PC24. produce thermal cuts in low carbon steel (1.5mm to 10mm)	3	0	3
PC25. produce cut profiles for various type of materials and forms	3	0	3
PC26. produce thermally-cut components which meet specified quality criteria	4	1	3
PC27. recognize and correct burnback and flashback	2	0	2
PC28. detect and correct defects in cut	2	0	2
PC29. ensure the work area is left in a safe and tidy condition on completion	2	0	2

	of the cutting activities				
	PC30. check that the finished components meet the standard required	3	1	2	
	PC31. use appropriate methods and equipment to check the quality, and that all dimensional and geometrical aspects of the cut material are to the specification	3	1	2	
	PC32. identify various cutting defects and follow organisation recommended procedures to address them	3	1	2	
	PC33. report any difficulties or problems that may arise with the cutting activities, and carry out any agreed actions	2	0	2	
	PC34. detect equipment malfunctions and deal with them appropriately	3	0	3	
	PC35. deal promptly and effectively with problems within their control, and seek help and guidance from the relevant people if they have problems that they cannot resolve	2	0	2	
	PC36. shut down and make safe the cutting equipment on completion of the cutting activities	2	0	2	
	PC37. in case of emergencies follow standard emergency procedures	3	1	2	
	Total	100	11	89	
CSC/ N 1335: Use basic health and safety practices at the workplace	PC1. use protective clothing/equipment for specific tasks and work conditions	100	5	2	3
	PC2. state the name and location of people responsible for health and safety in the workplace		3	1	2
	PC3. state the names and location of documents that refer to health and safety in the workplace		3	1	2
	PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace		5	2	3
	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		4	2	2
	PC6. state location of general health and safety equipment in the workplace		3	2	1
	PC7. inspect for faults, set up and safely use steps and ladders in general use		5	2	3

PC8. work safely in and around trenches, elevated places and confined areas	5	2	3
PC9. lift heavy objects safely using correct procedures	5	2	3
PC10. apply good housekeeping practices at all times	4	2	2
PC11. identify common hazard signs displayed in various areas	5	2	3
PC12. retrieve and/or point out documents that refer to health and safety in the workplace	3	1	2
PC13. use the various appropriate fire extinguishers on different types of fires correctly	4	1	3
PC14. demonstrate rescue techniques applied during fire hazard	4	1	3
PC15. demonstrate good housekeeping in order to prevent fire hazards	3	1	2
PC16. demonstrate the correct use of a fire extinguisher	4	1	3
PC17. demonstrate how to free a person from electrocution	4	1	3
PC18. administer appropriate first aid to victims where required e.g. in case of bleeding, burns, choking, electric shock, poisoning etc.	4	1	3
PC19. demonstrate basic techniques of bandaging	3	1	2
PC20. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments	4	1	3
PC21. perform and organize loss minimization or rescue activity during an accident in real or simulated environments	3	1	2
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	3	1	2
PC23. demonstrate the artificial respiration and the CPR Process	3	1	2
PC24. participate in emergency procedures	3	2	1
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		4	1	3
		Total	100	36	64
CSC/ N 1336: Work effectively with others	PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required	100	10	3	7
	PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt		10	3	7
	PC3. give information to others clearly, at a pace and in a manner that helps them to understand		10	3	7
	PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible		10	3	7
	PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks		10	3	7
	PC6. display appropriate communication etiquette while working		10	3	7
	PC7. display active listening skills while interacting with others at work		10	3	7
	PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism		10	3	7
	PC9. demonstrate responsible and disciplined behaviors at the workplace		10	3	7
	PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict		10	3	7
			Total	100	30

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 CGSC 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 Capital Goods Sector is http://cgsc.in/Humanresource_skill_requirement.pdf

- 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.
- Monitoring of results of assessments
- Employer feedback will be sought post-placement
- A formal review is scheduled in two year time

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

- Report to the Governing Council
- Minutes of the meeting of GC meetings
- NSDC Human Resource & Skills Requirement in Capital Goods Sector

SECTION 3

SUMMARY OF DIRECT EVIDENCE OF LEVEL

Justify the NSQF level allocated to the QP. Relate information about the job role and build upon the five descriptors for the level to justify.

Fire Safety, Emergencies and rescue, First Aid and Work effectively are common for all roles from NSQF levels 2-4 and cover the minimum requirement in terms of health, safety and working effectively with others in a workplace. Level 2

Qualification Title and Classification Code- Assistant Oxy Fuel (Gas) Cutter CSC/ Q 0201

Process required	Professional knowledge	Professional skill	Core skill	Responsibility	Level
<p>Assistant Oxy Fuel (Gas) Cutter performs manual oxy-fuel cutting for a range of standard cutting job requirements using oxy-fuel gas.</p> <p>Assistant Oxy Fuel Cutter can cut carbon steels in the basic positions.</p>	<p>Assistant Oxy Fuel (Gas) Cutter must have knowledge of basic facts and cutting operations on carbon steel in the basic positions.</p> <p>Must have knowledge to use and correct procedure for lighting, adjusting and extinguishing the flame and equipment. Must have understanding and knowledge to set-up, prepare and operate oxy fuel gas cutters.</p> <p>Must have knowledge to identify the consumables, gas mixing ratios and other materials etc.</p> <p>Have knowledge of possible contingencies and standard emergency procedures.</p>	<p>Assistant Oxy Fuel (Gas) Cutter must have skills and competencies required for simple manual cutting operations on carbon steels using oxy-fuel gas such as oxy-acetylene.</p> <p>The person must be able to set ratios of gasses and carry out simple oxy-fuel cutting operations on carbon steels as per specific instructions given.</p>	<p>Assistant Oxy Fuel (Gas) Cutter is required to have good motor coordination skills and basic knowledge of numerical and computational abilities, communications, health, safety, first aid, self and work management and efficiently and effectively working with others etc.</p>	<p>The candidate will be expected to work under constant supervision, taking no responsibility.</p>	2
Level: 2	Level: 3	Level: 2	Level: 2	Level: 2	

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):

nil

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.
- Vertical: Sr. Oxy Fuel Gas cutter, etc.
- Horizontal: Assistant MMAW

Please attach any documents giving further information about any of the topics above.

Give details of the document(s) here:

- Occupational Map and progression matrix
- Draft MoU
- List of companies and Industry associations participated in developed of these qualifications (part of report)