

Qualification File

NSDA Reference
To be added by NSDA

Revised Application Documentation: Version 3 Final /4 March, 2015

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

Name: Nirbhay Srivastava

Position in the organisation : Assistant Director

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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
 - a. Composition of the Technical Committee
 - b. 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 SECTION 1

SUMMARY

| | | | |
|---|---|-------------------------|--------------|
| Qualification Type | Qualification Pack | | |
| Qualification Title | Assistant Manual Metal Arc Welding/Shielded Metal Arc Welding Welder | | |
| Classification code | CSC/ Q 0202 | | |
| Body/bodies which will assess candidates | Capital Goods Skills Council | | |
| 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 | | |
| Legal and/or other basis of the qualification. | <p>Has been developed following all guidelines laid down by NSDC for NOS and Qualification Pack development. The same can be viewed at http://nsdcindia.org/documents-nos-creation</p> <p>Has been cleared by the due diligence and QRC process of NSDC and has been put up as National Occupational Standards in public view by NSDC. The link to the web page is http://nsdcindia.org/nos</p> <p>Has been validated by 39 Employers, 11 large, 12 medium and 16 small. The names of industry is mentioned at Annexure 11</p> | | |
| Occupation(s) to which the qualification gives access | Assistant to a Manual metal arc (MMAW/SMAW) welder or Basic welder roles | | |
| Proposed level of the qualification in the NSQF. | 2 | | |
| Notional Learning Hours. | 400 hours | | |
| Entry requirements / recommendations. | 5th standard | | |
| Progression from the qualification. | MMAW/SMAW Welder, TIG or MIG welders, Fitter - Fabrication | | |
| Planned arrangements for RPL. | RPL arrangements and policies are under development. The guidelines should be ready in 2-3 months. | | |
| International comparability where known. | <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 | Mandatory/ | Estimated size | Level |
| (include any identification code used) | Optional | (learning hours) | |
| CSC/ N 0202 (Manually weld carbon and low alloy steels in simple welding positions using Manual Metal Arc Welding /Shielded Metal Arc | Mandatory | 120 | 2 |

| Qualification Type | Qualification Pack | | |
|--|--------------------|-----|--------------------------|
| Welding) | | | |
| CSC/ N 0201 (Perform simple manual cutting operations on low carbon and low alloy steels using oxy-fuel gas) | Mandatory | 120 | 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 – e.g. a Curriculum or Qualification Pack.

Give details of the document here:

- Qualification Pack is attached as Annexure 1

QUALIFICATION FILE 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

Criteria for selection of Assessment body

Selection and due diligence of applicants are done as per CGSC Protocol for Assessment Bodies and Assessment Framework. The same is attached as Annexure 4.

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.

ASSESSMENT POLICY

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.

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

Explain how assessment for the qualification will be carried out and quality assured to achieve consistency.

All CGSC accredited Assessment Agency follow the "CGSC 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.

Detail any particular arrangements relating to candidates with disabilities or other special needs:

Based on the requirement, the candidates with disabilities or other special needs can be exempted from written/viva test and the same will be facilitated by assessor through best possible alternative means.

Detail any particular assessment policy or arrangements which have been put in place relating to the validation of prior learning:

Under Development

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 a 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.

Title of NOS/Unit/Component 1: CSC/ N 0202 (Manually weld low carbon and low alloy steels in simple welding positions using Manual Metal Arc Welding / Shielded Metal Arc Welding)

| Assessable outcomes | Assessment criteria for the outcome |
|---|---|
| <p>Working safely</p> <p>PC1. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines</p> <p>PC2. adhere to procedures or systems in place for health and safety, personal protective equipment (PPE) and other relevant safety regulations</p> <p>PC3. check the condition of, welding leads, earthing arrangements and electrode holder</p> <p>PC4. report any faults or potential hazards to appropriate authority</p> <p>PC5. follow fume extraction safety procedures</p> | <p>Practical: 11 marks out of 100</p> <p>Theory: 3 marks out of 100</p> |
| <p>Preparing for welding operations</p> <p>PC6. read and interpret routine information on written job instructions and drawings</p> <p>PC7. identify welding machines eg. transformers, rectifiers, inverters and generators, according to the task</p> <p>PC8. prepare the work area for the welding activities</p> <p>PC9. perform measurements for joint preparation and routine MMAW</p> <p>PC10. prepare the raw materials joint in readiness for welding</p> <p>PC11. verify set up by running test weld specimen (scrap plate)</p> <p>PC12. tack weld the joint at appropriate intervals, and check the joint for accuracy before final welding</p> <p>PC13. use manual metal-arc welding and related equipment to include a. alternating current (AC) equipment b. direct current (DC) equipment</p> <p>PC14. receive the set up equipment and connect to power source</p> <p>PC15. report any faults or problem to appropriate authority</p> | <p>Practical: 34 marks out of 100</p> <p>Theory: 2 marks out of 100</p> |
| <p>Carrying out welding operations</p> <p>PC16. strike and maintain a stable arc</p> <p>PC17. stop and properly re-start arc to avoid welding defects (scratch start, tapping techniques)</p> <p>PC18. maintain constant puddle by using appropriate travel speed</p> <p>PC19. maintain proper bead sequence with respect to groove/fillet configurations and positions</p> <p>PC20. remove slag in an appropriate manner (eg. wire brush, hammer, etc.)</p> <p>PC21. produce fillet and groove joints in simple welding positions as per specific instructions given using single or multi-run welds(as instructed)</p> <p>PC22. produce joints on carbon and low alloy steel materials using various methods</p> <p>PC23. weld the joint to the specified quality standards, dimensions and profile for sheets and plates from 1.5 mm – 24 mm</p> <p>PC24. ensure full penetration groove welds are back clipped prior to back welding</p> <p>PC25. deal promptly and effectively with problems within their control, and</p> | <p>Practical: 29 marks out of 100</p> <p>Theory: 4 marks out of 100</p> |

| | |
|---|---|
| <p>seek help and guidance from the relevant people if they have problems that they cannot resolve</p> <p>PC26. ensure welding is done according to welding parameter specified in WPS</p> <p>PC27. shut down and make safe the welding equipment on completion of the welding activities</p> | |
| <p>Testing for Quality</p> <p>PC28. measure and check that all dimensional and geometrical aspects of the weld are as per instructions</p> <p>PC29. identify various weld defects using visual inspection</p> <p>PC30. detect and report surface imperfections to appropriate authority</p> <p>PC31. deal with defects in welding as per instructions given</p> | <p>Practical: 15 marks out of 100</p> <p>Theory: 2 marks out of 100</p> |
| <p>Means of assessment 1</p> <p>The assessment comprises of a combination three assessment techniques i.e.</p> <ol style="list-style-type: none"> 1 Practical Assessment 2 Viva/ Structured Interview 3 Written Assessments | |
| <p>Means of assessment 2</p> | |
| <p>Pass/Fail</p> <p>The pass marks for Practical is 80% and for Viva and Theory is 60%.</p> | |

Title of NOS/Unit/Component 2: CSC/ N 0201 - Perform simple manual cutting operations on carbon steels using oxy-fuel gas

| Assessable outcomes | Assessment criteria for the outcome |
|---|---|
| <p>Work safely</p> <p>PC1. work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines</p> <p>PC2. take necessary safety precautions for gas cutting operations including equipment, processes and checks</p> | <p>Practical: 4 marks out of 100</p> <p>Theory: 2 marks out of 100</p> |
| <p>Prepare for cutting operations</p> <p>PC3. interpret cutting procedure data sheets specifications</p> <p>PC4. check regulators, hoses and check that valves are securely connected and free from leaks and damage</p> <p>PC5. check equipment is calibrated and approved for use</p> <p>PC6. check the correct size gas nozzle to the torch</p> <p>PC7. ensure preheat and oxygen holes on the tips are clean</p> <p>PC8. check that a flashback arrestor is fitted</p> <p>PC9. set appropriate gas pressures</p> <p>PC10. use the correct procedure for lighting, adjusting and extinguishing the flame</p> <p>PC11. adjust torch valve for type of flame such as neutral, carburizing and</p> | <p>Practical: 36 marks out of 100</p> <p>Theory: 7 marks out of 100</p> |

| | |
|--|---|
| <p>oxidizing</p> <p>PC12. follow sequence of operations such as pre-heating material and initiating cut</p> <p>PC13. check if the locations for cutting have been marked out by authorised persons</p> <p>PC14. use appropriate and safe procedures for handling and storing of gas cylinders</p> <p>PC15. prepare the work area for the cutting activities</p> <p>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</p> <p>PC17. check that the oxy-fuel gas cutting equipment is set up for the operations to be performed</p> <p>PC18. adjust cylinder valves and adjust regulator for operating pressure to achieve specifications for required operations</p> <p>PC19. seek clarification where marking out is not done or is not clear from authorised person</p> <p>PC20. perform trial cut to check for cut defects</p> | |
| <p>Carry out cutting operations</p> <p>PC21. operate the oxy-fuel gas cutting equipment to produce items/cut shapes to the dimensions and profiles as per instructions given</p> <p>PC22. use various oxy-fuel gas lighting and cutting procedures</p> <p>PC23. perform various cutting operations correctly</p> <p>PC24. produce thermal cuts in low carbon steel (1.5mm to 10mm thickness)</p> <p>PC25. produce cut profiles for various type of materials and forms</p> <p>PC26. produce thermally-cut components which meet specified quality criteria</p> <p>PC27. recognize and correct burnback and flashback</p> <p>PC28. detect and correct defects in cut</p> <p>PC29. ensure the work area is left in a safe and tidy condition on completion of the cutting activities</p> | <p>Practical: 23 marks out of 100</p> <p>Theory: 7 marks out of 100</p> |
| <p>Test for accuracy</p> <p>PC30. check that the finished components meet the standard required</p> <p>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</p> <p>PC32. identify various cutting defects and follow organisation recommended procedures to address them</p> | <p>Practical: 6 marks out of 100</p> <p>Theory: 3 marks out of 100</p> |
| <p>Dealing with contingencies</p> <p>PC33. report any difficulties or problems that may arise with the cutting activities, and carry out any agreed actions</p> <p>PC34. detect equipment malfunctions and deal with them appropriately</p> <p>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</p> <p>PC36. shut down and make safe the cutting equipment on completion of the cutting activities</p> <p>PC37. in case of emergencies follow standard emergency procedures</p> | <p>Practical: 10 marks out of 100</p> <p>Theory: 2 marks out of 100</p> |

Means of assessment 1

The assessment comprises of a combination three assessment techniques i.e.

- 4 Practical Assessment
- 5 Viva/ Structured Interview
- 6 Written Assessments

Means of assessment 2**Pass/Fail**

The pass marks for Practical is 80% and for Viva and Theory is 60%.

Title of NOS/Unit/Component 3: CSC/ N 1335 - Use basic health and safety practices at the workplace

| Assessable outcomes | Assessment criteria for the outcome |
|---|--|
| <p>Health and safety</p> <p>PC1. use protective clothing/equipment for specific tasks and work conditions</p> <p>PC2. state the name and location of people responsible for health and safety in the workplace</p> <p>PC3. state the names and location of documents that refer to health and safety in the workplace</p> <p>PC4. identify job-site hazardous work and state possible causes of risk or accident in the workplace</p> <p>PC5. carry out safe working practices while dealing with hazards to ensure the safety of self and others</p> <p>PC6. state methods of accident prevention in the work environment of the job role</p> <p>PC7. state location of general health and safety equipment in the workplace</p> <p>PC8. inspect for faults, set up and safely use steps and ladders in general use</p> <p>PC9. work safely in and around trenches, elevated places and confined areas</p> <p>PC10. lift heavy objects safely using correct procedures</p> <p>PC11. apply good housekeeping practices at all times</p> <p>PC12. identify common hazard signs displayed in various areas</p> <p>PC13. retrieve and/or point out documents that refer to health and safety in the workplace</p> | <p>Practical: 29 marks out of 100</p> <p>Theory: 21 marks out of 100</p> |
| <p>Fire safety</p> <p>PC14. use the various appropriate fire extinguishers on different types of fires correctly</p> <p>PC15. demonstrate rescue techniques applied during fire hazard</p> <p>PC16. demonstrate good housekeeping in order to prevent fire hazards</p> <p>PC17. demonstrate the correct use of a fire extinguisher</p> | <p>Practical: 11 marks out of 100</p> <p>Theory: 4 marks out of 100</p> |
| <p>Emergencies, rescue and first-aid procedures</p> <p>PC18. demonstrate how to free a person from electrocution</p> <p>PC19. administer appropriate first aid to victims where required eg. in case of bleeding, burns, choking, electric shock, poisoning etc.</p> | <p>Practical: 24 marks out of 100</p> <p>Theory: 11 marks out of 100</p> |

| | |
|---|--|
| <p>PC20. demonstrate basic techniques of bandaging</p> <p>PC21. respond promptly and appropriately to an accident situation or medical emergency in real or simulated environments</p> <p>PC22. perform and organize loss minimization or rescue activity during an accident in real or simulated environments</p> <p>PC23. 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</p> <p>PC24. demonstrate the artificial respiration and the CPR Process</p> <p>PC25. participate in emergency procedures</p> <p>PC26. complete a written accident/incident report or dictate a report to another person, and send report to person responsible</p> <p>PC27. demonstrate correct method to move injured people and others during an emergency</p> | |
| <p>Means of assessment 1</p> <p>The assessment comprises of a combination three assessment techniques i.e.</p> <ol style="list-style-type: none"> 1 Practical Assessment 2 Viva/ Structured Interview 3 Written Assessments | |
| <p>Means of assessment 2</p> | |
| <p>Pass/Fail</p> <p>The pass marks for Practical is 80% and for Theory and Viva is 60%</p> | |

Title of NOS/Unit/Component 4: CSC/ N 1336 - Work effectively with others

| Assessable outcomes | Assessment criteria for the outcome |
|---|--|
| <p>Work effectively with others</p> <p>PC1. accurately receive information and instructions from the supervisor and fellow workers, getting clarification where required</p> <p>PC2. accurately pass on information to authorized persons who require it and within agreed timescale and confirm its receipt</p> <p>PC3. give information to others clearly, at a pace and in a manner that helps them to understand</p> <p>PC4. display helpful behavior by assisting others in performing tasks in a positive manner, where required and possible</p> <p>PC5. consult with and assist others to maximize effectiveness and efficiency in carrying out tasks</p> <p>PC6. display appropriate communication etiquette while working</p> <p>PC7. display active listening skills while interacting with others at work</p> <p>PC8. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism</p> <p>PC9. demonstrate responsible and disciplined behaviors at the workplace</p> <p>PC10. escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict</p> | <p>Practical: 70 marks out of 100</p> <p>Theory: 30 marks out of 100</p> |

Means of assessment 1

The assessment comprises of a combination three assessment techniques i.e.

- 1 Practical Assessment
- 2 Viva/ Structured Interview
- 3 Written Assessments

Means of assessment 2**Pass/Fail**

The pass marks for Practical is 80% and for Theory and Viva is 60%

QUALIFICATION FILE SECTION 3

EVIDENCE OF NEED

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|---|
| <p>What evidence is there that the qualification is needed?</p> <p>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.</p> |
| <p>What is the estimated uptake of this qualification and what is the basis of this estimate?</p> <p>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</p> <ul style="list-style-type: none">• 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 |
| <p>What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?</p> <ul style="list-style-type: none">• NSDC list of Approved and Under-Development QPs was checked prior to commissioning the work• NSDC QRC team also confirmed the same |
| <p>In the research and/or development, what steps were taken to identify potential barriers to access (eg related to education, race, caste, religion, gender or disability) and eliminate or overcome these?</p> <ul style="list-style-type: none">• Education was discussed explicitly and in Industry discussions the lowest qualification accepted for the entry into job was considered, though some other companies preferred higher educated personnel. Employers were made aware of the potential of candidates to acquire necessary formal school education outcomes required for the job through focused training courses and other learning.• Also numeracy, science and literacy requirements were mentioned as part of the core skills so training institutions include it in the curriculum.• Companies included in the research were from different parts of the country and people from different regions and religions were interviewed for the purpose of development.• An inclusive policy is being advocated by CGSC and made mandatory for all centres being enrolled by it.• Language of the QP is gender neutral, and no religion or such terminology is referred to in the entire documentation, development process and working of CGSC |
| <p>Has the qualification been through a formal approval procedure(s)? (If so, explain the process and the outcome.)</p> <p>Yes, NSDC QRC process was adhered to. This included minimum 30 validations for the QP from employers in the sector. This was across small, medium and large companies with minimum 10 companies in each category.</p> |
| <p>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?</p> <ul style="list-style-type: none">• 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 |
| <p>What arrangements are in place to inform people about the qualification(s) and the advantages it offers?</p> |

- Employer workshops for buy-in and recognition DURING THE DEVELOPMENT STAGE.
- Training centres are being enrolled and informed of the potential
- Counselling sessions by training provider for potential recruits are being encouraged
- A newsletter is being developed, information on the website is being put
- Participation and presentation to industry associations, state and national meetings on skills and groups of training providers
- Participation in public forums/rozgar or skill mela/mahotsavs at local etc.

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

Give details of the document(s) here:

1. Report to the Governing Council
2. Minutes of the meeting of GC meetings
3. NSDC Human Resource & Skills Requirement in Capital Goods Sector is

http://cgsc.in/Humanresource_skill_requirement.pdf

QUALIFICATION FILE SECTION 4

SUMMARY EVIDENCE OF LEVEL

Level of qualification:

2

Summary of Direct Evidence (from learning outcomes):

| Learning Outcome | Process Required | Professional Knowledge | Professional Skills | Core Skills | Responsibility |
|--|---|------------------------|---------------------|-------------|----------------|
| Working safely | 3 | 3 | 3 | 2 | 3 |
| Preparing for welding operations | 2 | 2 | 2 | 2 | 2 |
| Carrying out welding operations | 2 | 2 | 2 | 2 | 2 |
| Test for quality | 2 | 2 | 2 | 2 | 2 |
| Prepare for cutting operations | 2 | 2 | 2 | 2 | 2 |
| Carry out cutting operations | 2 | 2 | 2 | 2 | 2 |
| Test for accuracy | 2 | 2 | 2 | 2 | 2 |
| Dealing with Contingencies | 2 | 2 | 2 | 2 | 2 |
| Fire safety | These are common for all roles from NSQF levels 2-5 and cover the minimum requirement in terms of health and safety and working effectively with others in a workplace. Level 2 | | | | |
| Emergencies, rescue and first-aid procedures | | | | | |
| Work effectively with others | | | | | |

Summary of other evidence (if used):

QUALIFICATION FILE SECTION 4, EVIDENCE OF LEVEL (Continued)

LEVELLING SCORECARD

| Assessed outcome | Comment | 1 ✓ | 2 ✓ | 3 ✓ |
|----------------------------------|--|--------|--------|--------|
| Working safely | <ul style="list-style-type: none"> Includes safety measures specific for the job role. Most of the measures require a limited range of routine and predictable activities. (3) It does require knowledge of hazards and precautions to be taken, which is factual but doesn't require any field of study.(3) The precaution are to be followed routinely and the activities are predictive though limited to the particular work that they are doing.(3) The safety measures require basic reading and arithematic skills and an understanding of hygiene and working with others.(2) With respect to the precautions and safety measures the candidate is expected to perform them independently.(4) | | | ✓ |
| Preparing for welding operations | <ul style="list-style-type: none"> All activities to be performed are simple, routine and does not require too much skill. Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. Requires only basic communication skills. Works under supervision | | ✓ | |
| Carrying out welding operations | <ul style="list-style-type: none"> Simple tasks to be done repetitively but carefully. Requires more practice than theoretical learning. Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. Requires use of basic arithmetic and basic communication skills. Works under supervision | | ✓ | |
| Test for quality | <ul style="list-style-type: none"> Simple tasks done repetitively but carefully. Requires more practice than theoretical learning. Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. Requires use of basic measurement and basic communication skills. Works under supervision | | ✓ | |
| Prepare for cutting operations | <ul style="list-style-type: none"> All activities to be performed are simple, routine and does not require too much skill. Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. Requires only basic communication skills. | | ✓ | |

| | | | | |
|------------------------------|---|--|---|--|
| | <ul style="list-style-type: none"> • Works under supervision | | | |
| Carry out cutting operations | <ul style="list-style-type: none"> • Simple tasks to be done repetitively but carefully. Requires more practice than theoretical learning. • Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. • Requires use of basic arithmetic and basic communication skills. • Works under supervision | | ✓ | |
| Test for accuracy | <ul style="list-style-type: none"> • Simple tasks done repetitively but carefully. Requires more practice than theoretical learning. • Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. • Requires use of basic measurement and basic communication skills. • Works under supervision | | ✓ | |
| Dealing with Contingencies | <ul style="list-style-type: none"> • Simple tasks done repetitively but carefully. Requires more practice than theoretical learning. • Needs to learn about materials and tools and various activities however in a limited context and has to just follow given instructions. • Requires use of basic communication skills. • Works under supervision | | ✓ | |
| Overall : | | | ✓ | |

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

| Nature of Evidence | Comments | EL-1 | ✓ | EL ¹ | ✓ | EL+1 | ✓ |
|--------------------|----------|------|---|-----------------|---|------|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

QUALIFICATION FILE SECTION 5

EVIDENCE OF RECOGNITION OR PROGRESSION

In the course of the research and/or development was there any direct evidence that the qualification(s) will be recognised by particular bodies – e.g. for entry to work or further study?

- ☒ As of now industry associations and companies have come forward to participate in the development of these.
- ☒ Formal recognition is being sought through MoUs with Industry
- ☒ Formal recognition is also being sought from technical training institutions for recognizing these as entry qualifications for their further study and training programmes
- ☒ A target of 300 MoUs is being planned over the next few years.

List any agreements which have been reached with regulatory bodies on recognition.

Not yet.

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:

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

QUALIFICATION FILE SECTION 6

EVIDENCE OF INTERNATIONAL COMPARABILITY

List any comparisons which have been established.