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### 3 CONTRACTOR'S QUALITY PERSONNEL

#### 3.1 INTRODUCTION

##### 3.1.1 General

- 1 The Contractor shall, throughout the construction stage of the project have within his Project Team a dedicated Quality Team dealing only with matters with regards to the quality assurance and control of the executed of Works. This team shall be sufficiently qualified and experienced in the quality field and shall have the authority to issue instructions and take protective measures to prevent the execution of Works that do not comply with the Specifications. The quality team shall maintain an independence from the Contractors construction management team and the quality team lead report directly to the Contractors top tier management.
- 2 The quality team designated in the Quality Organisation Plan are to be subject to an approved by the Engineer prior to deployment on the project.
- 3 The Contractor shall notify the Engineer in writing prior to re-assigning or replacement of any of the quality team designated in the Quality Organisation Plan.
- 4 The Contractor shall deploy sufficient quality personnel on the site during all production operations, including adequate coverage during night shift operations and off site work.
- 5 The Contractor's quality team shall have the authority to stop any portion of the work which does not comply with the requirements of the Contract or QCS.
- 6 The qualifications and experience of the Contractor's Quality Personnel shall be as mentioned in the contract, Recommended guid for qualifications and experience of the Contractor's Quality Personnel are mentioned in this part.

##### 3.1.2 Quality Assurance Manager

- 1 Where required by this section, the Contractor shall designate and assign a full time Quality Assurance Manager who shall be responsible for overseeing the implementation and operation of the Project Quality Plan at all levels. The Quality Assurance Manager shall report directly to top tier management and be independent of the Contractors organisation responsible for construction.

##### 3.1.3 Quality Control Manager

- 1 Where required by this section, the Contractor shall designate and assign a full time Quality Control Manager who reports directly to the Quality Assurance Manager and shall be responsible for supervision of the construction quality control management activities and ensuring compliance with the Contractors Inspection and Test Plans and associated specification and contract documentation.

### 3.1.4 Quality Engineer

- 1 Where required by this section, the Contractor shall designate and assign a Quality Engineer who reports directly to the Quality Assurance Manager or Quality Control Manager and shall be responsible for assisting them with their day to day responsibilities and may be assigned to cover several locations or areas of work relating to the Contract. Where a Quality Assurance Manager or Quality Control Manager are not required by this section the Quality Engineer shall be assigned all the responsibilities defined in clause 3.1.2, 3.1.3, and 3.1.7.

### 3.1.5 Quality Inspector

- 1 The Contractor shall designate and assign a Quality Inspector for each shift for each location where work is being performed. Each Quality Inspector shall be qualified by training and experience in all the construction or fabrication activities being conducted at the location of work and is directly responsible for ensuring compliance with the Contractors Inspection and Test Plans and associated specification and contract documentation.

### 3.1.6 Personnel Qualifications

- 1 The Contractor shall identify activities requiring qualified production, inspection, and test personnel and establish their minimum competence level.
- 2 The Contractor shall maintain records of personnel qualifications as quality records.

### 3.1.7 Quality Staff Requirement

- 1 Unless otherwise specified by the Engineer the Contractor shall employ fulltime qualified quality personnel for the Work as per below tables.

**Quality Staff Requirement**

No	No of workers on Worksite	Requirement
1.	Less than 10	1 Quality Inspector (Part time, 15 hours of duty per week)
2.	More than 11 but less than 50	1 Quality Inspector
3.	More than 51 but less than 500	1 Quality Engineer and 1 Quality Inspector per 100 workers
4.	More than 501 but less than 1500	1 Quality Assurance Manager and 1 Quality Engineer per 500 workers and 1 Quality Inspector per 100 workers
5.	More than 1501	1 Quality Assurance Manager and 1 Quality Control Manager and 1 Quality Engineer per 500 workers and 1 Quality Inspector per 100 workers

**Quality Management and Control staff Qualifications & Experience Matrix**

<b>Position</b>	<b>Minimum Qualifications Required</b>	<b>Minimum Years of Experience</b>	<b>Minimum Key Competencies</b>
Quality Assurance Manager	Bachelor's Degree in relevant Engineering discipline and related training in Quality Management Techniques. Internationally recognised Lead Auditor Certificate	12 years, 5 of which at Management Level and 3 years Regional experience	Qualified Professional who can manage a Quality Management System and coordinate specialised activities. Excellent written & verbal communication skills in English
Quality Control Manager	Bachelor's Degree in relevant Engineering discipline, materials related experience and related training in Quality Management Techniques. Internationally recognised Lead Auditor Certificate	10 years, 5 of which at Management Level and 3 years Regional experience	Excellent written & verbal communication skills in English
Quality Engineer	Bachelor's Degree in relevant Engineering discipline, materials related experience and Internationally recognised Auditor Certificate	6 years' experience in related Quality Control Activities	Good written & verbal communication skills in English
Quality Inspector	Certificate or Diploma in the appropriate engineering discipline and materials related experience	3 years' experience in related Quality Control and Materials Testing activities	Good written & verbal communication skills in English

- 2 The Contractor shall appoint deputy quality personnel who are capable of performing all the duties of the quality personnel in the event of their absence.
- 3 The Contractor shall appoint support staff in sufficient numbers to ensure the effective function of the quality related work within the Contractor's organisation.
- 4 The Contractor shall ensure that every Sub-contractor engaged on the Worksite appoints suitably qualified quality staff to ensure the effective function of the quality related issues within the Sub-contractor's organisation. The Sub-contractor shall appoint and deploy fulltime on the Worksite one Quality Inspector for every 100 workers that they employ at the Worksite. Any Sub-contractor that employs more than 100 workers will appoint a Quality Engineer. This shall be in addition to the Contractor's Quality Team.

### 3.1.8 Quality Training for Contractor's Employees and Labour

- 1 The Contractor shall conduct quality training including Contract specific induction, pre-work briefings, skills training, tool box talks, lessons learned arising from Nonconformity. Formal training should be conducted by training professionals or agencies for all the Contractor's employees. The Contract specific induction shall be at least 1 hour duration, approved by the Engineer and provided for all persons involved in the Works. Such induction training will be reviewed, revised and repeated at intervals not exceeding 12 months throughout the duration of the Work. All training shall be provided in the languages preferred by the recipients of the training. Training shall focus on improving the capability, competency and skill sets for those performing activities that impact the quality of the work.
- 2 The Contractor must conduct regular tool box talks to his Labour workforce Such training should include as a minimum Health and Safety issues and Construction Method best practice.
- 3 The Owner or delegated authority may organise quality related training, meetings, seminars, workshops or similar events at any time throughout the Contract Period. The Contractor is required to participate in such events when requested at his own expense.
- 4 The Contractor shall maintain records of all training undertaken including details of the training provided and a list of the attendees, including attendee's signature and ID numbers.
- 5 The Contractor shall evaluate his training effectiveness every month. The results of the evaluation when carried out shall be discussed at the monthly quality meeting with the Engineer.

END OF PART