
Safe Crane Operation

Legal Scope:

TÜV Rheinland Gulf LLC

Business Scope:

I.02 Elevators & Lifting Equipment

Process Scope:

6.3 Service Delivery

1. Objectives

TÜV Rheinland Gulf Certification Scheme representatives have developed this certification scheme for Crane Operator to ensure the quality and competency of the Crane Operator after completing the assessment stages mentioned below by theoretical and practical assessment / evaluation as per the equipment type and its Safe working load (SWL) / Capacity.

The following potential benefits are result of the Certification of Lifting Equipment Operators:

- Fewer accidents, injuries, and fatalities
- Reduced risk of loss
- Assurance of operators' abilities
- Less property damage.
- Improved safety records
- Enhanced public image of crane operators, riggers and signalpersons.
- Avoid fatalities and reduce work related injuries at worksites.
- Reduce the chances of property damage.
- Reduce the risk of loss of production because of incidents and accidents or violations.

Build a positive safety culture and help to enhance safety records.

2. Terms and Abbreviations

Terms/Abbreviations	Description
TR Gulf	TUV Rheinland Gulf

3. Scope of Application

This Certification scheme states the process and program of Personnel Certification of Lifting Equipment Operators through the accredited Certification Body, TÜV Rheinland Gulf LLC (TR Gulf). Besides this Certification Program, the following international normative documents, which constitute the minimum requirements of personnel certification, are the basis for the accredited personnel certification. Clauses 1 to 8 (including sub clauses) of this scheme will be applicable for the accredited personnel certification program. For the non-accredited personnel certification offered by TR Gulf, requirements of below standards (a&b) will not be applicable.

- a. ISO/IEC 17024

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- b. IAF Guidance for ISO/IEC 17024,

Assessment is carried out to evaluate the competency of operators as in Table 1, in terms of

- a. Understanding the Manufacturer's instructions of safe operation
- b. Meeting the intended purpose of the equipment responding to the set modes of communication with safe operation practices.
- c. Performing the pre-operational checks.
- d. Understanding the safe operating capacities of the equipment.
- e. Understanding the relevant regulatory requirements.

Table 1

No.	Type of Operating Crane
1	Mobile crane
2	Overhead crane
3	Tower crane
4	Lorry loader crane

4. Activities

4.1 General Requirements

- a. Should be able to operate crane with appropriate practical and theoretical knowledge and to assess defects and weaknesses of the crane.
- b. Should be able to understand and execute manufacture's instruction for the rigging operation.
- c. Should be aware of the effects of wind and other climate impacts on the crane in use.
- d. Should be able to identify and resist unsafe operation instructions.
- e. Should be able to identify basic and work site specific hazards and judge on external conditions like presence of power line, excavation etc.

4.2 Specific Requirements

Each candidate has to fill out a registration admission template (application form). Choice of accredited/ non accredited certificate and additional client-based requirements (QP/ Asghal etc.) shall be stated in the application. Other than basic information mentioned in the admission template, each candidate is required to present the following documents:

- a. Passport copy/Valid residence visa copy,
- b. Color photograph,
- c. Proof of training (if relevant),
- d. Evidence of working experience.
- e. Additional requirements according to standards and regulations issued by organizations like Qatar Petroleum, Ashghal, etc. shall be fulfilled by candidates wherever applicable.

Note: Candidates from other countries shall submit valid identification document issued by the relevant governments.

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The prerequisites for granting certification for Lifting Equipment operators:

Requirements	Description
Education level	Minimum Basic Level – Primary Level
Alternative professional experience if missing education	Minimum 5 years.
Professional experience	Minimum 1 Year
Relevant experience in the field of lifting equipment	Minimum 1 Year
Relevant training experience in Lifting Equipment operation	Should be 15 to 20 hours
Physical fitness (if mandatory by client)	Occupational Health Card/ Doctor's report.
Regulatory requirements	Minimum of 18 years of age.
Driving License (for mobile crane/ forklift etc.)	Valid license from relevant authority (if applicable)
Abuse Policy	Comply with substance abuse policy (see section 7)
Code of Ethics	Comply with code of ethics. (see section 7)
Written Examination	Successful completion
Practical Examination	Successful completion
Additional client specific requirements (E.g.: QP/ Ashghal etc.	As per client requirements/ regulations/ standards

Notes:

- "Successful completion "means, passing the written/ practical examinations with scores in accordance with this certification program.

Occupational health evaluation/ screening and to continue to meet occupational health screening requirements throughout their certification period is the responsibility of candidate and his employer. TR Gulf do not conduct health and physical evaluation for the candidates.

At the time of granting of the certificate all requirements must be met. The training must be carried out by an educational provider recognized and qualified by the Certification Body. In exceptional cases, the Certification Body can accept different proof of knowledge and skills as a prerequisite for certification. An alternative entrance option for testing and certification must be planned for autodidacts. The candidate's qualification is assessed in advance. Online training is accepted as an entrance prerequisite for the participation in the examination as Lifting Equipment Operators, as far as their concept and teaching materials handle the respective topics of this guideline in full with learning objectives, tests and the candidate provides proof of successful completion of the learning objectives.

Certificates with the Accreditation Body's logo or accreditation information confirm the capability of the candidate's qualification level stated and are normally recognized by other Personnel Certification Bodies as equivalent to their corresponding certification programs.

The certificate must be granted within one (1) month after the examination has been passed. The applicant is granted the opportunity to prove missing prerequisites within this period. The validity of a certificate normally begins with a positive certification decision. If the certificate can only be granted later due to missing prerequisites (see above), the duration of the certification is reduced accordingly. In any case, the examination/ assessment date will be the start date of certificate validity.

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4.3 Qualification Criteria

The knowledge and skills belonging to the learning content are not shown as isolated acquirable qualifications, but rather always in conjunction with and oriented towards the demands of technical standards.

This certification scheme is designed to certify the operators who are trained and currently operating the crane at worksites. The Crane Operator is a person with theoretical and practical knowledge as well as relevant experience to identify major faults in the cranes and to evaluate its fitness for operation.

The criteria shown in the following table summarize the knowledge and learning content, which Crane Operators should hold in order to fulfill their technical tasks.

Written Examination

- Hold Qualification for the safe operation of crane within the manufacturer guidelines and as per the organizational safe working procedure.
- Knowledge on how to conduct pre-use inspections.
- Awareness of his scope of work and limitations.
- Awareness of crane capacities (SWL) Safe Working Load.
- Knowledge on how to set up, adjust, position, stabilize crane before lifting operation.
- Knowledge about maintenance procedure.
- Knowledge about the safety of personnel and to save assets and environment at all time

Practical Examination

- Basic knowledge about crane components
- Ability to identify major faults
- Awareness about the manufacturer's instructions about the operation, limitations, maintenance, rigging and slinging and use of attachments
- Ability to read, understand and apply the load chart
- Aware how to support outrigger feet and to monitor stability throughout operation.
- Knowledge on the environmental effects of crane operation's i.e. wind, visibility, fog, rain, snow falling, heat etc.
- Knowledge of emergency stop procedure of crane
- Knowledge of control panel, and all other related control system in crane
- Knowledge on how to move, stop, swing, load and unload the materials safely
- Ability to use fire extinguisher fitted on the crane.
- Basic knowledge about manufacture / owner's operational manual for the type of crane he is using
- Knowledge on the speed limits within the specified circumstances and environment
- Knowledge on the importance of ground condition before lifting operation and setting up the outriggers whenever required

The crane operator Assessment process includes two stages:

- a. Written examination: The written assessment will have questions related to the relevant crane.
- b. Practical examination at site: During the practical assessment, the competency of the operator will be tested against the scope of the certification.

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4.4 Examination Modalities

The qualification criteria for Crane Operators defined in section 4.3 provide the basis for the examination. The examiner shall personally identify the candidate at the time of examination as per submitted documents and photograph. Candidates must pass written exams and a practical exam in the category(s) for which they seek certification. Candidates may take their written/ oral and practical exams in any order.

Candidates have one month after they pass their first exam (written or practical) to pass the corresponding written or practical exam(s) in the same category(s). The candidate's expertise and capability to master their tasks are evaluated.

The written/ oral and practical examination must be evaluated using a point system or a corresponding evaluation system. The criteria according to which the evaluation is carried out must be established. Each examination section must be evaluated separately. The Written examination is considered passed if a minimum of 70% of the theoretically highest possible score is achieved. The practical examination is considered passed with score not less than 70%. The examinations of lifting equipment operators are conducted by at least one nominated TR Gulf examiner.

4.5 Written / Oral Examination

The written examination for Lifting Equipment Operators shall include at least 20 multiple-choice questions and 5 to 15 descriptive/ problem type questions. Written examination will be close book.

The examiner will make all the necessary arrangements to ensure the quality and transparency and will make all the arrangements including seating arrangements to stop cheating or copying by any means. The standard time for written examination is maximum 90 minutes. The examiner may explain questions if not understood by the examinee. The examiner allow another 10 minutes extension in genuine cases.

4.6 Practical Examination

TÜV Rheinland Gulf will conduct practical assessment at a client facility or any other available place for the desired model of crane. The Practical assessment can include oral examination.

The client/ candidate's employer will inform the examiner of the model number, type and use of crane in order to conduct the examination properly. The examiner will evaluate the Crane Operator proficiency in operation. For this, the examiner will set the criteria for assessment, the required movement or any other operation. There is no specific time limit for the practical examination. Usually it should take 40 to 60 minutes per candidate to demonstrate his/her proficiency. The examination area shall be for the exam purpose only. It is not allowed to integrate the practical exam with any actual ongoing job or task.

4.7 Combining Certification Requirements

4.7.1 Written / Oral Examination

Independent written exam may be administered separately if the candidate would like to take more than one Certification.

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4.7.2 Practical Examination

Once a practical examination starts for any certification area, it shall be finished prior to starting other practical examination in other areas.

Examiners are not allowed to combine the performance requirement of different schemes.

4.8 Unsafe Operation / Act

In case of any unsafe act performed by candidates during pre-examination or examination, examiners must disqualify the candidates from continuing the exam. The following acts are considered, but not limited to, as unsafe acts:

- Failure to respond to hand signals.
- Dropping load from the crane
- Hitting any other object on the way during operation
- Uncontrolled or reckless operation
- Failure to respond to stop signal.
- Putting anyone in danger during the operation

The examiner has the authority to stop the exam at any time for reasons of safety. Records shall be kept. If the candidate is disqualified due to an unsafe act, the case will be reviewed by the relevant authority, and the candidate will be notified with the department decision of the eligibility for rescheduling the practical exam or otherwise.

4.9 Weather Conditions and Equipment Problems

The examiner has the responsibility to determine if weather conditions or equipment problems are such that an exam needs to be suspended. If the test is interrupted due to weather conditions or equipment problems, the procedure for restarting is as follows:

- The Candidate will resume the test at the beginning of the task they were performing at the time of the interruption, as appropriate.
- If the candidate resume the exam on a different machine, candidates may retake the whole exam
- If the examination is delayed to a different day, the test must be restarted from the beginning.

The Examiner must keep record of the candidates' performance. The examination results will be taken and recorded in Evaluation / Assessment Template / Mark Sheet and will be kept in record for at least three years.

4.10 Special Needs and Support

TÜV Rheinland Gulf may provide any additional support to candidates with special needs. TR Gulf verify and accommodate special needs, within reason and where the integrity of the assessment is not violated, taking into account national regulation. Additional Support may lead to additional charges.

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4.11 Code of Ethics for Certified Lifting Equipment Operators

Certified lifting equipment operators, riggers and signalman must comply with Code of Ethics during their certification, as set below:

- Free of bias with regard to religion, ethnicity, gender, age, national origin, and disability
- So as to place the safety and welfare of workers associated with the lifting operation above all other considerations.
- So as to protect nearby general public property and the environment
- Make management aware if he has safety concerns relating to the lifting operations that he is performing.
- Not knowingly violate safety-related regulations, warnings, or instructions set forth by the authority, recognized safety standards, the lifting equipment manufacturer, or relevant department.
- Not misrepresent or knowingly deceive others concerning the experience or the capabilities of himself or the crane he is operating.
- Not misrepresent or misuse his certification card, both of which are the property; and understand that he must return the card to the issuing authority immediately if required to do so.

In Addition to the above “TÜV Rheinland Code of Conduct” will be applicable.

4.12 Substance Abuse Policy

It is the policy of the TÜV Rheinland Gulf that Crane Operators shall not use prescribed or over-the-counter substances that would impair their ability to operate cranes safely. This includes illegal drugs, controlled substances (including trace amounts), look-alike drugs, designer drugs, or any other substance that may have an effect on the human body of being a narcotic, depressant, stimulant, or hallucinogen.

An exception to this rule is that an operator may use such a substance or drug if it is prescribed by a licensed medical practitioner who is familiar with the operator’s medical history and all assigned duties, and who has advised the operator the prescribed substance will not adversely affect the operator’s ability to operate a crane safely.

4.13 Certification

4.13.1 Duration and Clarity of Certificates

The respective certificate is valid from minimum one year to maximum three years. The client is legally bound to renew the operator certificate before the date of expiry.

Accredited certificates must be easy and clear to distinguish from non-accredited certificates. Non-accredited certificates will not contain the Accreditation Body’s logo in connection with the qualification designation. Candidates need to specify whether he need accredited certificate or non- accredited certificate in the application form.

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4.13.2 Certification Awarding Process

The examiner/ assessor will submit all the documents and examination records to the Certification Personnel. The Certification Personnel of TR Gulf will then take a decision for certification on the basis of the collected data.

TÜV Rheinland Gulf LLC. will then issue the competency certificate and an ID card.

TÜV Rheinland Gulf LLC shall provide a certificates along with the conditions for use and the rights for usage and representation. TÜV Rheinland Gulf LLC shall have sole ownership of the use of the certification marks and holds all rights related to use of marks.

TÜV Rheinland Gulf LLC require that a certified person signs an agreement for the following reasons:

- to comply with the relevant provisions of the certification scheme.
- to make claims regarding certification only with respect to the scope for which certification has been granted.
- not to use the certification in such a manner as to bring TÜV Rheinland Gulf LLC into disrepute, and not to make any statement regarding the certification which the certification body considers misleading or unauthorized.
- to discontinue the use of all claims to certification that contain any reference to TÜV Rheinland Gulf LLC or certification upon suspension or withdrawal of certification, and to return any certificates issued by TÜV Rheinland Gulf LLC.
- not to use the certificate in a misleading manner.

TÜV Rheinland Gulf LLC shall address, by means of corrective measures, any misuse of its certificates.

4.13.3 Certification Cards

Competency certificates will be issued by TÜV Rheinland Gulf LLC., signed by the authorized signatory of TR Gulf. In addition to the requirements by ISO/IEC 17024, certificates shall include, at least but not limited to:

- Name of certified crane operator
- Color photo of the certified crane operator
- Type of crane and its capacity
- Date of Issue and validity of certificate
- Unique identification number for tracking
- Photo ID card (Preferably digital or laminated)

Certified Lifting Equipment Operators shall keep their original certification card with them at all times to be verified by the relevant authorities during an inspection.

Certificates will not substitute or replace the driving license. Driving licenses shall be also available for checking.

In case of failure to pass the exam by either means, the examiner will submit a report to the Certification Personnel. The candidate and /or the candidate`s employer will then be informed by TR Gulf.

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4.14 Monitoring and Recertification

The standard ISO/IEC 17024 requires rulings for monitoring and recertification.

Requirements for Recertification

Upon expiry of the duration of validity of the certificate following initial certification, recertification can take place if applied for, by the certificate owner.

For recertification, the certificate owner must prove to the Certification Body (via written confirmation by the employer or client) that the candidate

- Continues to meet Occupational Health card requirements
- Has a valid driving license from the relevant authority, where applicable
- Complies with the Substance Abuse Policy in section 4.4.
- Complies with the Code of Ethics in section 4.4.

In case of any uncertainties, the Certification Body is entitled to request further proof and/or to invite the certificate owner for a personal interview. Recertification can be done one month prior to certificate expiry. If no scope specific experience in the past year can be proven, the certificate is not renewed. Recertification can take place when the experience set down in the respective technical standards has been proven and full examination has been successfully completed.

Recertification candidates must complete all recertification requirements prior to their certification's expiration date. Candidates who are not certified in all schemes may add a new a scheme at the same time as they take their recertification examination by taking the full examination in that scheme.

In accordance with the scheme requirements, recertification by TR Gulf consider at least the following:

- a) On-site assessment;
- b) Professional development;
- c) Structured interviews;
- d) Confirmation of continuing satisfactory work and work experience records;
- e) Examination;
- f) Checks on physical capability in relation to the competence concerned.

4.15 Retake of Examinations for Certification

As per TÜV Rheinland Gulf normal certification and re-certification requirements, the candidate must pass both written / oral and practical examination to receive the competency certification. In case of failure of either of the examinations, the applicant can re-sit a 2nd attempt. In case of another failure in both or either of the exams, the candidate cannot undertake a third attempt for certification. Instead, they must again participate in relevant training to be eligible for certification or re-certification. This shall not be less than, but not limited to:

- Safe operation of crane for 1 days with minimum of 5-7 Hrs. per day

In case of failure, TR Gulf will charge the following for the 2nd attempt:

- 100% for the examination.

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4.16 Withdrawal and Suspension

Suspension/ withdrawal of certification shall be imposed on misuse of certification or violation of basic principles of certification as per suspension and withdrawal process of TUV Rheinland Gulf.

4.17 Recertification Scope

Recertification can only confirm standards already confirmed in the initial certificate. If a new scope is to be confirmed in recertification, this is only permissible if corresponding proof of training is presented as well as the examination criteria is fulfilled. Change/ update in scope will be considered as a new certification.

4.18 Non- Accredited Personnel Certification

Non accredited certificates can be issued by TR Gulf, on its own discretion, fully or partially in conjunction with the clauses 1 to 4.19 of this scheme. Certificates of training and certificate of practical assessment can be issued separately or as a single document. Accreditation logo will not be available in the non- accredited certificates. Applicable clauses of the scheme will be stated in the certificate. Candidates/ clients can choose the applicable clauses as per their site requirement. Non- accredited Training/ Practical assessment certificate will only be confirming the current operation proficiency and not any previous experience or training/ educational background under clause 4.18 (only) of the scheme.

4.19 Reference Standards / Codes

- a) QP-PAI-STD-005 REV 0
- b) ISO 15513: 2000E
- c) BS7121-1

5. Roles & Responsibilities

Process Roles	Responsibilities
MD/LSM	Overall responsible for establishing and implementing this WI and provide required resources.
LFM	As Process Owner accountable for effective implementation of this WI.
Deputy LFM	Function as LFM during his absence.
TM	Responsible to maintain the effectiveness and adequacy of this WI.
Deputy TM	Function as TM during his absence.
Service Delivery employee (Coordinator, Application Reviewer, Examiner, Certification Decision Authority, etc.)	Responsible to execute service delivery activities in compliance with this WI.

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6. Specifications

N/A

7. Attachments

N/A

8. Related Documents

MS-0033171 - Master SOP Generic Service Delivery Process

MS-0048306 - Suspension and Withdrawal of a Certification

MS-0046888 - Work Instruction for I-02 Training & Personnel Certification Services

MS-0046880 - Appendix 3 Application form

9. External Reference Documents

N/A