General Rules for the Certification of Persons

Specific Requirements for the Certification of Persons

Natural Gas Compression Operation and Maintenance Personnel

1. GENERAL

This document defines any supplementary and/or substitutive procedures applied by RINA to the certification of Natural Gas Compression Operation and Maintenance personnel, with reference to the requirements of the General Rules for the certification of Persons RC/C 85.

The paragraphs of these Rules refer to (and keep the same numbering of) the corresponding paragraphs of the general Rules for the certification of persons which were subject to any changes and/or integrations.

This document defines the requirements and modalities for the certification of competence of Natural Gas Compression Operation and Maintenance Personnel.

2. DEFINITIONS

In addition to the requirements of p. 2 of document RC/C 85, the terms and definitions listed below apply:

Natural Gas Compression Operator (NGCO): a person who has proven the necessary competence to operate in the Natural Gas Compressor field consciously and safely individually or as part of a team, following instruction and under the supervision of the Technician or Expert (NGCT or NGCE).

Natural Gas Compression Technician (NGCT): a person already certified NGCO, with proven work experience in the Natural Gas Compressor field, with high technical and safety in the workplace knowledge, able to direct and advise operators (NGCO) in accordance with the directives of the expert (NGCE) and/or the equipment manufacturer.

Natural Gas Compression Expert (NGCE): a person already certified NGCT with a proven work experience, with a high level of knowledge of the entire working process in the Natural Gas Compression field, with the responsability of directiong technicians (NGCT) and operators (NGCO), evaluating and improving the system and the safety of workers.

3. REFERENCE DOCUMENTS

- General Rules for the Certification of Persons, RC/C 85, issued by RINA Services SpA

4. EXAMINATION ADMISSION REQUIREMENTS

ACCESS REQUIREMENTS

- *Physical fitness*:

  the candidate shall provide evidence of medical certification of good physical health and good vision, being able to read the Jaeger 1 eye chart or 4.5 Times New Roman character or equivalent characters with 1.6 mm height at a distance of 1.6 m, with one eye or both, with the aid of spectacles, if necessary.

- *Education and experience*:

  in order to obtain access to the certification process, the candidate shall provide one of following requirements as evidence:

  - Three years of work experience in the industrial field

  - A two year technical college degree

- *Training*:

  Natural Gas Compression Operator (NGCO):

  the candidate must provide evidence of having the knowledge required to carry out the tasks for the requested profile by attendance to a training course with duration of 40 hours that allows the acquisition of the following knowledge and skills:

  - Complete unit description (Frame & crosshead guide; Crankshaft, connecting rods, pins & crossheads)
  - Lubrication system (Main lubrication system; force feed lubricators)
  - Compressor details (Sequence of Events – reciprocating compressor cylinder)
  - Compressor rings & rider bands; pressure packing; valves & unloaders
  - Support systems (coolers, water pumps; control systems)
  - Description of installation & commissioning (inspection and set up procedure
  - Rod run-out and coupling alignment
  - Description of recommended operational procedures (Start-up procedures, normal & emergency shut down procedures, compressor performance control)
  - Description of recommended maintenance procedures (performing prescribed maintenance tasks & handling critical repairs; regular servicing; condition monitoring & troubleshooting)

5. ASSESSMENT AND CERTIFICATION PROCESS

To be admitted to the certification process, a candidate shall provide evidence of compliance with the pre-requisites set out in p. 4 of these Rules by sending the "Certification Contract" duly filled in with any required annexes to RINA.

Upon receiving the documentation, RINA checks for its completeness and reserves the right to request and examine further documents/additional information, as an integration and support to the previously received information.

If the examination result is positive, RINA shall inform the candidate of the start of the certification procedure and the examination date together with the relevant examination board (qualified by RINA according to its own instructions).

The candidates and the examination board will be present at the examination, which will be held at RINA offices or another suitable center; the examination board shall be made up of at least one examiner every 20 candidates.

The examination shall be generally held in one day, except in the presence of a high number of candidates and/or special agreements with the examination board.

Before the examination starts, the examination board shall check that each candidate:
- shows a valid identity document,
- signs the "List of Attendees" sheet, which is previously provided by RINA to the examination board.

The subjects of the tests focus on the subjects described in Chapter 4 of this document.

The assessment examination shall be structured as follows:

Natural Gas Compression Operator (NGCO):

a) Knowledge assessment
   The knowledge assessmenet consists of 50 multiple-choice questions, selected from RINA's set of questions.
   The maximum time allowed to the candidate for the knowledge assessment is 2 hours.

b) Performance assessment

Candidates in order to obtain the certification shall take a performance assessment on sampled equipment. The candidate shall also be able to present the operations that will be requested and answer the specific questions that might be asked during the assessment. The final evaluation will be verified by the examiner through the table below.

Subject	Weight (%)
General knowledge of the equipment	10%
Application of the rules and instructions per equipment manual	10%
Individual skill and problem solving	80%

The maximum time allowed to the candidate for the performance assessment is 2 hours.

To be deemed ready for certification a candidate must obtain the 80% minimum pass grade foreseen for each test.

A candidate who fails to successfully complete a part of the assessment shall repeat said assessment for the failed test(s) within one calendar year; if this term is exceeded, the candidate shall repeat the entire certification process.

5.1 Assessments carried out remotely

In particular cases of emergency, it is possible to take a part or the entire assessment remotely, that shall be conducted as if the examiner was on-site. After checking the possibility to ensure the effectiveness of all phases, it will be necessary to proceed with the most suitable audiovisual techniques agreed upon with the client (e.g.: wearable technology, Facetime, Skype, video conferencing, etc.).

It is worth considering that:

- the candidate will be informed of the methods used for the examination;
- the candidate must provide at least a webcam;
- the connection method must guarantees the confirmation of the candidate's identity and continuous surveillance by the examiner and/or supervisor so that the candidate is always alone in the room where the examination is taking place; the microphone must be kept on during the entire duration of the examination;
- it is possible that the examination will be recorded (record of the "common" part concerning presentation of the examination rules, identification of the candidates by a currently-valid identity document, delivery of questionnaires and subsequent return with the evidence of compliance with the time limits and keep the record of the practical test of a candidate chosen as a sample);
- the performance assessment could be carried out using slides or pictures to simulate the equipment or by the development of an operative instruction.

Should any doubts arise, attributable to the conduction of the knowledge assessment in remote mode, this may entail further questions during the performance assessment.

6 – ISSUE OF CERTIFICATES

The result of the Examination Board assessment is sent to RINA for an independent check and the decision about certificate issue; if the assessment result is positive, RINA issues, for each examined candidate, a specific certificate with a validity of 3 years that attests that the candidate has successfully passed the assessment.

7 – CERTIFICATION VALIDITY

The period of validity of the certificate issued by RINA is three years.

8 – CERTIFICATION MAINTENANCE

8.1 Maintenance of certification

The validity of the certification obtained is subject to the maintenance of the certification requirements:

- every 6 months the person responsible for the activity shall confirm that the certified technician has worked within the range of qualification and extends the validity of the qualification for a further 6 month period.

- every year the candidate confirms the physical fitness requirements.

If any claims or legal disputes arise, RINA will evaluate their management and decide whether to maintain, suspend or revoke certification.

8.2 Renewal

The certificate validity can be renewed for 3 more years provided that the candidate:

a) confirms the physical fitness requirements;
b) provides evidences of having carried out his/her working activity without significant interruptions.

If any claims or legal disputes arise, RINA will evaluate their management and decide whether to maintain, suspend or revoke certification.

Following the above documental review, RINA reserves the right to request further documents.

RINA informs the candidate of the assessment result and, if positive, extends the certificate validity for 3 more years.

9 – RECERTIFICATION

Every three years, within the expiry date of the certificate and preferably with a certain advance, the person who intends to renew certification shall:

a) confirm the physical fitness requirements;
b) provide evidence of having carried out his/her activity satisfactorily without significant interruptions;
c) attend the performance assessment tests mentioned in p. 5 (b) above.

If the candidate fails the performance assessment, he / she shall repeat the entire certification process as illustrated in chapter 4.

If any claims or legal disputes arise, RINA will evaluate their management and decide whether to maintain, suspend or revoke certification. RINA informs the candidate of the assessment result and, if positive, extends the certificate validity for 3 more years.

10 – TRANSFER OF CERTIFICATES

Not applicable

11 – SUSPENSION, REINSTATEMENT, REDUCTION AND REVOCATION OF A CERTIFICATE

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

12 – ENROLLMENT IN THE REGISTER OF CERTIFIED PERSONS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

13 – USE OF CERTIFICATION LOGOTYPES

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

14 – MANAGEMENT OF CLAIMS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.

15 – CONTRACTUAL TERMS AND CONDITIONS

The requirements set out in the General Rules for the Certification of Persons RC/C 85 apply.