

As altered 12 January 2006 by authority of the CBIP Board.

Note – This is an interim issue of the document, further changes will be made later in the year.

STANDARD OF PROFICIENCY FOR THE QUALIFICATION AND CERTIFICATION OF PASSENGER ROPEWAY INSPECTORS.

FOREWORD

This document presents a comprehensive scheme for the certification of inspectors performing inspections on passenger ropeways within the scope of the Health and Safety in Employment Act 1992 (HSE) and associated requirements in New Zealand. The Canadian Standards Association document CAN/CSA-Z98-01 Passenger Ropeways including all current supplements and updates now sets the technical requirements for safety inspection in these CBIP examinations.

Inspector certification under this standard is a prerequisite of the Regulatory Authority for equipment inspectors involved with passenger ropeways. This standard will also provide reliable evidence of the experience, technical ability, skill and general competence of personnel performing passenger ropeway inspections. Administration of this standard of proficiency is the responsibility of the Certification Board for Inspection Personnel (CBIP).

1.0 SCOPE

- 1.1 This document introduces the examination and certification procedures by which persons may become recognised for the inspection of passenger ropeways in New Zealand.
- 1.2 The standard provides for the examination and certification of inspectors of passenger ropeways.
- 1.3 Inspectors covered by this standard shall be examined and certificated such that the competency requirements of the Regulatory Authority are maintained.

2.0 DEFINITIONS

2.1 Equipment Inspector (Passenger Ropeways)

Means a person who has passed the CBIP examination and assessment requirements for certification as a passenger ropeway inspector and who meets the criteria specified by the Regulatory Authority and the CBIP standard of proficiency.

2.2 Regulatory Authority

Means the Department of Labour's Occupational Safety and Health Service (OSH) or any department or agency as appointed by the New Zealand Government for the purpose of passenger ropeway safety inspection.

2.3 **Board**

Means the Certification Board for Inspection Personnel (CBIP).

3.0 **QUALIFICATION AND ELIGIBILITY FOR CERTIFICATION**

All applicants applying for examination and certification shall meet the following requirements.

3.1 **Passenger Ropeway Inspectors**

- (i) Meet the eligibility requirements given in Appendix B, which includes training requirements.
- (ii) Have experience in passenger ropeways operation or experience acceptable to the Board. See APPENDIX B.
- (iii) Understand the operations of passenger ropeways.
- (iv) Understand the inspection methods for passenger ropeways. Provide evidence of this understanding by the supply of representative inspection reports to cover the last 5 years activities
- (v) Understand
 - (a) fabrication materials and methods used in passenger ropeways construction, and,
 - (b) the type and cause of defects in passenger ropeways.
- (vi) Provide examples of training and experience received in applying methods of hauling rope inspection and maintenance of ropeway systems.
- (vii) Meet the statutory requirements necessary to ensure safety of persons during inspection of passenger ropeways.
- (viii) Ability to plan inspections and maintain inspection documentation and records.
- (ix) Be capable of assessing and raising inspection reports and reporting on reviews of operational records.
- (x) Have an appreciation of QA/QC procedures outlined in the ISO 9000 series.
- (xi) Demonstrate attainment of the knowledge requirements laid down in Appendix A by the provision of logbooks and training records.
- (xii) Understand the methods of fabrication and inspection used during the construction of passenger ropeways.
- (xiii) Have proven knowledge of welding methods and be able to carry out flaw assessment of welds using visual inspection.
- (xiv) Shall hold CBIP certification as a Certified Welding Inspector.

- (xv) The Passenger Ropeway examination is based on a good understanding of the “Health and Safety in Employment (Pressure Equipment, Cranes and Passenger Ropeways) Regulations 1999” (1999/128) (PECPR regulations), and the technical content and requirements of the Canadian Standards Association document Z98-01, including updates No 2 published July 2002 and No 3 dated October 2003 (the Canadian Standard). This shall include current and future supplements and updates.

4.0 **EXEMPTIONS.**

- 4.1 Exemptions may be given on application to the Board for passenger ropeway inspector for qualifications obtained from other recognised certification bodies.

5.0 **EXAMINATION PROCEDURES**

- 5.1 Examination will be by way of an open book written examination consisting of forty multi choice questions. These cover both legislation and technical requirements. The questions on legislation are based on the PECPR Regulations, those on technical aspects are based on the Canadian Standard.

- 5.2 The written examination is an open book examination and both copies of the PECPR regulations and the Canadian Standard are allowed in the examination room. While these documents may have minor marking up no additional notes or other material is allowed in the examination room.

5.3 **Examination time(s) and requirements:**

- 5.3.1 The examination time is three hours plus ten minutes for the reading of the paper. Any break taken by the applicant during the examination time shall be taken in the presence of the examiner.

- 5.3.2 No examination material shall be removed from the examination room.

5.4 **Pass mark and result**

- 5.4.1 A 70% or better pass mark is required for an examination pass.

6.0 **CERTIFICATION**

NOTE

Prior to the issue of certification, the CBIP Application and Approvals committee will review the candidates application and accompanying

support documentation to ensure that the requirements of this standard have been satisfied.

6.1 Successful Applicants

A Certificate of Proficiency and Pocket Card shall be awarded to the applicant stating the category in which qualification has been achieved. The Certificate and Pocket Card shall remain the property of the CBIP Board.

6.2 Period of Certification

Certification will be valid for a period of five years from the award of the certificate after successful completion of the examination and assessment process. At the ten-year period, a re-certification examination applies.

6.3 Notification to Applicants

All applicants will be notified in writing of the examination results.

Applicants who fail the examination and/or the assessment process may appeal to the Board who shall decide the appropriate action. The applicant may appear at his or her expense in person or submit a written submission stating the reasons for the appeal. The decision of the Board on appeal is final. Details of the appeal process can be supplied where required.

6.4 Withdrawal of Certification

6.4.1 Certification may be withdrawn or suspended where an authenticated complaint concerning an inspector's proficiency and/or competence has been received and substantiated following a fully documented and detailed investigation by the Board. An inspector whose certification is withdrawn or suspended, by such a decision has a right to appeal to the Board. The decision of the Board on appeal is final.

6.4.2 Following a request by the Board the inspector shall surrender and return his/her Certificate of Proficiency and Pocket Card to the Board. If there is any break, suspension or interruption of the named inspector exceeding 12 months from practical work in the category qualified, the inspector's certification shall be suspended until the Board is satisfied by examination that the inspector is competent for re-certification.

6.5 Code of Ethics.

A certified inspector shall recognise that precepts of personal integrity and competence are fundamental, and shall sign the CBIP Code of Ethics at the time

of application, signifying willingness to comply fully during all inspection related activities.

7.0 CERTIFICATE Renewal and Recertification.

7.1 Re-newal - Five years

Inspectors whose certification expires at the end of five years may apply for re-newal after the date of issue of the original certificate. Applicants shall meet the requirements of Appendix B and demonstrate to the Board by an independently verified work history that they are competent for renewal of their current certification.

7.1.2 The applicant shall demonstrate that the eligibility requirements of Clause 3.1 have been met and maintained. The onus for the renewal shall be with the inspector. CBIP will acknowledge receipt of applications and advise of examination dates on the CBIP website.

7.1.3. The inspector shall maintain a current Email address with the Board for the mailing of correspondence regarding certification and recertification.

7.1.4 Inspectors seeking certification renewal shall apply for renewal within four (4) months before the expiry date given on their current Certificate of Proficiency or Pocket Card.

7.2 Re-Certification – 10 years

7.2.1 Individuals holding Passenger Ropeways certification as defined in Clause 2.1 may apply for Re-Certification at 10 years after the date of issue of the original certification, as follows:

An application for a re-certification exam shall be made within four (4) months prior to the expiry date shown on the certificate. The individual, to whom the certificate was issued, is responsible to ensure that the application for Re-Certification is submitted within this period. The Re-Certification examination shall be a multi choice question paper based on theory.

The individual making the application for renewal shall comply with the following:

- (i) Meet the requirements of Clause 3.1.
- (ii) Hold current certification at the time of application.
- (iii) Provide a written summary of relevant inspections, work experience and employment covering the previous five year certification period. This must show a representative coverage of the various types of passenger ropeways.
- (iv) Include representative samples of at least five reports embracing aspects of meaningful investigations carried out. (note that the report may be submitted with references to the client removed)

7.4.2. Further Re-Certification. The pattern described above which includes a 5 year renewal and a 10 year period for re-certification by examination shall be repeated at subsequent five (5) and ten (10) year intervals.

7.4.3 Non Re-newal or Non Re-Certification.

Where an individual is not granted renewal of certification or Re-Certification in accordance with Clause 7.1 or 7.4.1 the reason shall be given to that individual by the Certification Body.

To attempt to satisfy the Certification Body in terms of the reasons for non-renewal the candidate shall have the option of -

- Submitting further evidence to the Certification Body, or
- Sitting or re-sitting the appropriate examination or examinations.

Alternatively, the individual may make a formal submission to the Certification Body for resolution under the Complaints and Appeals processes.

Where an individual does not seek renewal or Re-Certification, their certification will automatically lapse and be noted in the register on expiry of twenty one (21) days. No communication will be made to the certificate holder by the Certification Board.

8.0 FAILURE TO PASS EXAMINATION - CONDITIONS OF RETEST

8.1 Shall not proceed to the assessment process however the candidate may apply to re-sit the examination again after a lapse of three months.

9.0 EXAMINATION DATE(S) AND TIMES

9.1 Examinations shall be carried out at the dates and times specified by CBIP or arranged as a "SPECIAL" examination acceptable to CBIP and the candidate.

9.2 Special examinations arranged for the applicants convenience may incur additional charges to be met by the applicant.

APPENDIX A

PASSENGER ROPEWAYS, REQUIREMENTS OF TECHNICAL KNOWLEDGE

A1: ASPECTS OF INSPECTION

A1.1 Objectives of Inspection

- To comply with the PECPR regulations and the Canadian Passenger Ropeways standard Z98-01.
- To verify fabrication, installation, commissioning and testing in accordance with the design and the Canadian standard.
- To ascertain when repairs, replacements, overhauls or modifications are required.
- To assess and report upon the condition of ropeway and associated equipment.
- To ensure that the ropeway performs reliably under operating conditions between inspections.

A1.2 Ingredients of Inspection

- Recognise the importance of performing inspections impartially, competently and efficiently.
- Recognise the correct inspection method.
- Recognise the importance of experience gained from other inspections.
- Recognise the value of operating data and equipment records.
- Ensure the extent, level and frequency of inspections is adequate to ensure equipment reliability.
- Use fabrication and inspection history.
- Communicate openly and efficiently on all safety related matters promptly, clearly and effectively.
- Relationships with others.

A1.3 Stages of inspection

- Fabrication - local and overseas components.
- Installation.
- Commissioning and initial certification.
- Periodic inspection.
- Operation - within design limits and correct sequence.
- Servicing - maintenance, modification
- Repairs - checks and assessments.

A2: PASSENGER ROPEWAY INSPECTION

A2.1 Construction Documentation Requirements

A2.1.1 NZ manufactured components

Verification of:

- Component size and configuration.
- Material certificates and identification.
- Welding procedures.

- Welder qualification.
- Interpretation of non-destructive testing (NDT) reports.
- Interpretation of destructive testing (DT) reports.
- Load testing.

A2.1.2 Imported components

- Verification and identification with certificates.

A2.2 Installation

Compliance to approved manufactured drawings and the Canadian standard.

- Location
- Width of clearing.
- Electrical protection.
- Lightning protection.
- Acceptance tests and inspection.
- Anchor connections.
- Machine rooms.
- Exposed equipment.
- Protection against moving parts.
- Prime movers.
- Internal combustion engines.
- Fuel storage.
- Speed reducers.
- Bearings, couplings and shafts.
- Clutches
- Foundations
- Tension systems.
- Tension system adjustment.
- Buildings and structures.
- Wire ropes.
- Telephone and signal cables.
- Design check requirements for new ropeways.
- Approval and inspection requirements.

A2.3 Periodic Inspection and Tests as specified in the Canadian standard.

- Maximum speeds.
- Minimum spacing between carriers.
- Emergency drives.
- Acceleration and speed control.
- Brakes and backstops.
- Stops
- Drive and return sheaves. (Bull wheels)
- Sheaves and bearings.
- Loading and unloading areas.
- Line structures. (Towers)
- Rope and connections.
- Service and inspection platforms.
- Passenger carriers.

- Rope grips.
- Carriage wheels.
- Communication
- Operational wind limits.

A2.4 Operation and Maintenance

- Competence of personnel.
- Minimum operating personnel.
- Control and safety of passengers.
- Signs
- Control of ropeway operations.
- Communications
- Inspections
- Lighting
- Engine fuel supply.
- Operating under wind conditions.
- Earthing
- Fire protection.
- Maintenance
- Routine procedures.
- Wire ropes.
- Records

A2.5 Evacuation Equipment

A3: ASSESSMENT OF PASSENGER ROPEWAY INTEGRITY

A3.1 Responsibility

- Owner
- Passenger Ropeway Inspector
- Regulating Authority.

A3.2 Documentation

- Health and Safety in Employment Act.
- Hazardous Equipment Regulations.
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A4: OWNER'S RECORDS

- #### A4.1
- Technical information and manufacturer's technical specification
 - Commissioning date.
 - Number of intermediate stations.
 - Number of chairs/gondolas.
 - Number of passengers per chair/gondola.
 - Up hill/down hill load limitations.
 - Speed limitations. Skiers/foot passengers.
 - Fault log.
 - Outstanding fault log.
 - Maintenance log.
 - Operation log.

- Component certificates.
- General arrangement drawings.
- Circuit drawings. Mechanical and electrical.
- Manufacture maintenance manuals.
- Accidents/incidents.
- Inspection dates.
- Inspection organisation.
- Operation manual.
- Staff training manual.

APPENDIX B

Eligibility Requirements:

Applicants shall meet the following requirements:

Physical

- (i) have the physical and mental ability to be able physically to reach all possible parts of the passenger ropeway under examination. Heights or confined spaces shall not present a mental or physical barrier to access
- (ii) an eyesight examination, uncorrected or corrected, within six months from date of application to prove –
 - (a) near vision acuity of Snellen English 5 or equivalent, at 12 inches, and
 - (b) far vision acuity of 20/40, or better, also,
 - (c) a colour perception test for red/green and blue/yellow differentiation
- (iii) be able to demonstrate that their hearing is satisfactory to carry out the designated tasks
- (iv) be able to read, to write and to communicate orally in the English language, so as to be suitable to carry out the designated tasks

Experience and Qualifications

The applicant shall:

- (i) Have been employed in a position of responsibility in a combination of maintenance, erection, installation and inspection of passenger ropeways for a minimum of 5 years

or

- (ii) Hold a relevant NZCE or Engineering degree or First Class Marine Engineers Certificate or hold a Certificate in Mechanical Engineering from a technical college e.g. NZCE Stage 3,

and

- (iii) Be mature and have minimum of 15 years current experience acceptable to CBIP in a position of responsibility in a combination of maintenance, erection, installation or / and inspection of aerial ropeways

Training

Candidates for initial certification, renewal or re-certification shall show a structured independently verified training and professional development regime acceptable to CBIP. The candidates are expected to provide a logbook of the various training programmes undertaken stating the content, presenters (including presenters qualifications & experience) and course assessments, together with the duration of the tutorial hours.

Accurate records are required from all candidates detailing the range and type of equipment inspected with copies of representative inspection reports. Candidates should be aware that the quality of the reports and records are assessed in conjunction with the examination results prior to the granting of any certification, renewal or re-certification.