



CERTIFICATION BOARD FOR INSPECTION PERSONNEL

Standard of Proficiency for the Certification of Elevating Work Platforms Inspectors

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**STANDARD OF PROFICIENCY
FOR THE CERTIFICATION OF
ELEVATING WORK PLATFORMS INSPECTORS**

FOREWORD

This Standard of Proficiency (SOP), in conjunction with the Standard of Proficiency for the Certification of Inspectors – General Requirements, defines the requirements for the issue of Proficiency Certificates to inspectors performing inspection of elevating work platforms within the scope of current Department of Labour approved Industry Best Practice Document or *Approved Code of Practice* as detailed on the CBIP web site, together with any referenced standards, regulations or legislation.

The regulatory authority has indicated a preference for inspectors of elevating work platforms to hold a relevant CBIP Competence Certificate. The CBIP requirements for a Competence Certificate are detailed in the SOP for the Certification of Inspectors - General Requirements, and include that an elevating work platform inspector must hold a relevant Proficiency Certificate before they may hold a Competence Certificate.

Certification and re-certification in accordance with this SOP confirms at the time of examination and re-examination the qualifications, training, experience and examined competence of elevating work platform inspectors.

The qualifications described by this SOP have been prepared for registration at level 4 on the NZQA framework for Type 1 inspectors and level 5 on the NZQA framework for Type 2 inspectors.

This SOP must be read in conjunction with the SOP for the Certification of Inspectors – General Requirements.

1 SCOPE AND GENERAL

1.1 Scope

This Standard of Proficiency (SOP) covers the learning expectations, training, experience and examination requirements for the issue of a Proficiency Certificate to inspectors performing in-service inspection of Elevating Work Platforms (EWPs) and inspection of newly constructed EWPs.

Note: An inspector holding a Proficiency Certificate requires a Competence Certificate before they may practice inspection (See SOP for the Certification of Inspectors – General Requirements).

1.2 Proficiency Certificate Range

Proficiency Certificates which may be granted under this SOP are:

(a) Elevating Work Platforms Type 1. (Inspector EWP Type 1)

An Inspector EWP Type 1 performs the six monthly inspections of EWPs required in New Zealand.

(b) Elevating Work Platforms Type 2. (Inspector EWP Type 2)

The primary role of the Inspector EWP Type 2 is the preparation and implementation of an Inspection and Test Plan (ITP) and the review of the EWP maintenance in-service and disassembly inspection results.

An Inspector EWP Type 2 performs the major inspections of EWPs required in New Zealand.

Note: Previous SOPs allowed for the award of an EWP Type 1 certificate to candidates who gained EWP Type 2 certification. This practice has been discontinued and EWP Type 1 certification is now awarded only through examination or, in accordance with the recognition and exemption process in Section 6. Existing Proficiency Certificates are not affected but inspectors shall, at the appropriate time, separately renew or recertify their EWP Type 1 and EWP Type 2 certification.

2 CERTIFICATION PROCESS

Candidates seeking a Proficiency Certificate shall satisfy the requirements of the Standard of Proficiency for the Certification of Inspectors – General Requirements and this SOP, for their category of EWP inspection discipline, for either:

- Inspector EWP Type 1, or
- Inspector EWP Type 2.

3 PRE-REQUISITES FOR CERTIFICATION

Candidates shall meet the following training, qualifications and experience requirements. Candidates may submit alternative training, qualifications, and experience for consideration which may provide equivalence to that listed.

Candidates shall provide evidence of qualifications with their application for certification. CBIP does not issue a schedule of recognised qualifications, therefore the applicant must provide sufficient information for an evaluation to be completed.

3.1 EWP Proficiency Certificate

Candidates shall have training, qualifications and experience which demonstrates understanding of EWPs, including their manufacture, maintenance or operation.

3.1.1 Inspector EWP Type 1 - Training and Qualifications

Candidates shall have training and a qualification such as:

- A trade qualification in a relevant automotive, electrical, hydraulic or engineering discipline.
- A CBIP Competence Certificate as a crane inspector (any category)
- A diploma in engineering from a recognised training establishment.
- 1st Class Marine Engineer's Certificate.
- Bachelor or Masters Degree in Engineering or a relevant Technology or Science.
- New Zealand Certificate of Engineering or an equivalent qualification, e.g. Higher National Certificate in Engineering.

3.1.2 Inspector EWP Type 1 - Experience

Candidates shall have a minimum of three years' experience, preferably with increasing experience, in EWP inspection, fabrication, maintenance, operation or similar experience in a related field. Maintenance and inspection experience shall preferably include time under the supervision of a holder of a CBIP Competence Certificate as an Inspector EWP Type 1.

3.1.3 Inspector EWP Type 2 - Training and qualifications

Candidates shall have training and a qualification such as:

- Successful completion of an independently assessed, verified and recognised course in EWP inspection.
- An advanced trade qualification in a relevant automotive, electrical, hydraulic or engineering discipline.
- A CBIP Inspector EWP Type 1 Competence Certificate.
- A CBIP Crane Inspector Competence Certificate (any category)
- A diploma in engineering from a recognised training establishment.
- 1st Class Marine Engineer's Certificate.
- Bachelor or Masters Degree in relevant Engineering, or a relevant Technology or Science.

3.1.4 Inspector EWP Type 2 - Experience

Candidates shall have a minimum of three years' experience, preferably with increasing experience, in EWP inspection, fabrication, maintenance, operation or similar experience in a related field. Maintenance and inspection experience shall preferably include time under the supervision of a holder of a CBIP Competence Certificate as an Inspector EWP Type 2.

4 TRAINING EVIDENCE

Candidates shall undertake training sufficient for them to be knowledgeable in the requirements of section 5. Candidates shall provide with their application an affidavit signed by their employer which certifies that the candidate has completed the required training.

Candidates who are not employees of an inspection body should refer to section 6 of the SOP for the Certification of Inspectors – General Requirements for guidance on providing the necessary evidence of training.

5 COMPETENCY AND PERFORMANCE REQUIREMENTS FOR EWP INSPECTION

The competency and performance requirements for EWP inspection are given in Appendix B.

6 EXAMINATIONS

6.1 Inspector EWP Type 1 and Type 2

The examinations for Inspector EWP Type 1 and Inspector EWP Type 2 Proficiency Certificates are comprised of the following:

- (a) Written examination: EWP inspection
- (b) Practical examination: Field assessment and reporting

6.1.1 Examination References

References for the EWP examinations and completing the examinations are listed on the CBIP website at www.cbip.org.nz/Documents/ref/ref-EWP.pdf.

Candidates should bring with them to the written examination an unmarked hardcopy (electronic not permitted) of whatever references they wish to bring from those listed, which shall have no additional markings that may advantage the candidate.

6.1.2 Written Examination

The EWP inspection paper examines candidates on the knowledge requirements outlined in Appendix B.

It is an **open book examination** comprised of thirty questions with multi-choice answers plus other questions requiring short narrative answers. Sample questions are provided in Appendix A.

The level of the examination is set, as required, for either Inspector EWP Type 1 or Inspector EWP Type 2.

6.1.3 Practical Examination

The practical examination is based on an assessment of the candidate's inspection of EWPs at the candidate's place of work. The type or types of EWP to be used in the assessment will be determined by the assessor and will generally not be restricted to a single simple EWP type.

6.1.4 Technical Content of Examinations

Examiners may question candidates on the application of industry standards and use photographs and samples illustrating operation and maintenance problems pertinent to in-service inspection of EWPs.

- (a) Candidates for Inspector EWP Type 1 will be examined on the current Department of Labour approved Industry Best Practice Document or *Approved Code of Practice* as detailed on the CBIP web site (See 6.1.1), together with any referenced standards, regulations or legislation. In particular, this will focus on the six month inspection and testing requirements.
- (b) Candidates for Inspector EWP Type 2 will be examined on the prevailing Department of Labour approved Industry best Practice Document or *Approved Code of Practice* as detailed on the CBIP web site (See 6.1.1), together with any referenced standards, regulations or legislation. In particular, this will focus on the major inspection and testing requirements.

Candidates are required to demonstrate competence in the following matters pertinent to the inspection and testing of EWPs:

- (a) Knowledge of legislation and the responsibilities of inspectors
- (b) Operation of equipment.
- (c) Inspection methods and procedures.
- (d) Safe working during inspection
- (e) Knowledge of materials of construction
- (f) Type and causes of deterioration and defects
- (g) Planning and documenting inspections, and interpreting, evaluating and reporting of inspection results, including approval of inspection and test plans and preparation/approval of any specific inspection procedures required.
- (h) Maintenance of inspection records
- (i) Assessing operating and maintenance records
- (j) Welding processes, including use of approved welding procedures
- (k) NDT methods
- (l) Review and implementation of repair procedures
- (m) Fitness of equipment for service.

6.2 Recertification

6.2.1 Inspector EWP Type 1

The recertification exam will entail the applicant re-sitting the Inspector EWP Type 1 examination.

6.2.2 Inspector EWP Type 2

The recertification exam will entail the applicant re-sitting the Inspector EWP Type 2 examination.

6.3 Sample Questions

Sample questions for examination papers are given in Appendix A.

6.4 Knowledge Requirements

The knowledge requirements underlying the examination papers for EWP inspectors are given in Appendix B.

6.5 Exemptions from Examination

CBIP will consider applications for exemption from examinations.

Application for exemptions from examination papers shall be made in accordance with the requirements of the SOP for the Certification of Inspectors – General Requirements.

APPENDIX A

Sample Examination Questions (Informative)

Sample – Multi-Choice Questions

- Q1 According to the Approved Code of Practice the testing of fibreglass boom sections is required every:
- a) 6 months
 - b) every year
 - c) every two (2) years
 - d) every three (3) years
- Q2 According to the Approved Code of Practice the stated Safe Working Load (SWL) assumes that:
- a) the machine is set up
 - b) the machine is set up on firm ground
 - c) the machine is set up on firm ground and levelled
 - d) the operator is trained
- Q3 The non-destructive testing method that requires the material being inspected to be ferromagnetic is:
- a) liquid penetrant inspection
 - b) ultrasonic inspection
 - c) magnetic particle inspection
 - d) visual inspection

Sample – Short Answer Questions

- Q4 State how you would check the levelling and tilt system on an Elevating Work Platform during the six monthly inspection.
- Q5 State at least 5 (five) safety features that need to be fitted to or be part of an Elevating Work Platform

APPENDIX B

Outline of Knowledge Requirements (Normative)

B1 Introduction - Inspectors all levels

It is an important factor in the safe and reliable operation of any elevating work platform (EWP) to ensure mechanical integrity, reliability, safety and fitness for purpose and service. It is therefore essential that the inspectors who perform the inspection functions have the necessary knowledge to be competent in the inspections that they perform.

B2. General Requirements

B2.1 Introduction

The following sub-sections define the core requirements of knowledge required in order to guide candidates on both the examinations and their future work. Appendix B outlines the requirements and knowledge for the Inspector EWP Type 1 and Inspector EWP Type 2.

B2.2 Process operation

It is essential that an Inspector understand the operation of the EWP equipment's operational conditions and underlying reasons that dictate materials selection in order to determine where to give attention during the inspection.

B2.3 Degradation mechanisms

An Inspector needs to understand the EWP equipment's operational conditions and underlying reasons that dictate materials selection in order to identify where and what damage, corrosion/degradation mechanisms are expected and consequently where to give attention during the inspection..

B2.4 Welding

Welding knowledge is taken as a limited knowledge requirement by means of an Inspector being able to identify the welding processes and have an appreciation of welding and welder approval procedures. As a minimum, an Inspector needs to have an appreciation of the various forms of common welding techniques as well as procedures and welder approvals that apply to the common welding processes i.e. SMAW, GMAW, FCAW, GTAW, SAW.

B2.5 Electrical, hydraulic and pneumatics

Electrical, hydraulic and pneumatic knowledge is taken as a limited knowledge requirement by means of an Inspector being able to understand the basic principles and have an appreciation of the conditions that may have an effect on the operation of the EWP. As a minimum, the Inspector needs to have an appreciation of:

- (a) the various forms of deterioration that may occur.
- (b) the visual recognition of deterioration, wear and damage to electrical, hydraulic and pneumatic systems.
- (c) the safety aspects for inspecting electrical, hydraulic and pneumatic systems, e.g. fuses, interlocks, levels etc.

The Inspector's knowledge on this subject should be such that they can converse with specialists in the field and also evaluate the results of their examinations. Training in these fields is required to create basic knowledge.

B2.6 Inspection techniques and NDT

An Inspector needs to have an understanding of the applicability, safety and accuracy of various methods and inspection techniques (invasive and non-invasive) used to detect defects or degradation mechanisms in EWPs. Appropriate techniques used and commonly applied inspection methods include visual and NDT techniques.

An Inspector needs to understand the principles of operation and limitations of the various methods. Their knowledge of this subject should be such that they can measure and appraise the results of their examinations. Training in the methods and techniques of NDT is only required to create an awareness of NDT methods and their application; it is not required for an Inspector to execute routine NDT activities. For these activities certified NDT technicians shall be used where applicable.

B2.7 Mechanical maintenance

An Inspector shall be aware of the purpose, tasks and roles of the maintenance function. They should have a clear understanding of routine and non-routine activities.

An Inspector shall have sound knowledge and experience in the use of the applicable codes and standards covering design, manufacturing, repair and maintenance with the applicable type of EWP. An Inspector shall understand the fundamental principles within the standards.

It is essential that an Inspector is fully aware of the requirements for the implementation of inspection procedures.

B2.8 Inspection options

An Inspector shall be aware of the various options available to determine “fitness for purpose” of equipment. They must recognise the limitations of the various inspection methods used and take this into account when deciding on the values of the methods and techniques employed (i.e. it may be necessary to supplement the method used with another one to increase confidence).

B2.9 Record keeping and report writing

An Inspector shall prepare and maintain accurate records and reports of all relevant inspections to build up the necessary historic data to maintain the reliability of the equipment and also meet statutory requirements.