Environmental Protection Authority
Te Mana Rauhī Taiao

Performance Standard for issuing approved handler test certificates for Class 1 explosives

for Test Certifiers

August 2012

PERFORMANCE STANDARD

New Zealand Government

Preface

This standard is one of a series published by the Environmental Protection Authority (EPA) to assist test certifiers in their certification work. The EPA expects all test certifiers to adhere to the information given. The performance of test certifiers will be audited against this standard, as will any complaint made against a test certifier.

The purpose of this performance standard is to provide clarification on:

- the process a test certifier must follow when assessing a person's competency for approved handler test certification for Class 1 explosives
- the content and format of Class 1 approved handler test certificates

As a test certifier, you must be knowledgeable on the HSNO regulations, relevant codes of practice and guidance material published by the EPA, agencies such as the Ministry of Business, Innovation and Employment (formerly Department of Labour), Civil Aviation Authority (CAA), Maritime New Zealand (MNZ), and others as it relates to approved handler test certification for explosives.

This document includes a checklist for test certifiers to use. This checklist (or equivalent) must be completed and kept for future reference and audit.

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Executive summary

Under the Hazardous Substances and New Organisms (HSNO) legislation, a test certifier may issue an approved handler test certificate for Class 1 explosives to a person who they have assessed as having appropriate knowledge and practical experience in handling explosives.

Test certifiers must carry out these assessments to a high standard and in a consistent manner and, wherever possible, against set standards. Standards may be set in regulation, codes of practice, or in guidance material provided by the EPA and/or other regulatory agencies.

Test certifiers must, in the first instance, follow legislative requirements (the Act, regulations). Where the legislation is silent, codes of practice should be followed or, where these are not available, guidance material.

Consistency and comprehensibility of the actual approved handler test certificate is an equally important aspect of test certification. Uniform and comprehensive test certificates simplify the task of explosives' suppliers, enforcement officers and others who have to validate that a person is an approved handler for the substances and lifecycle phases specified on the test certificate.

This performance standard sets out the EPA's expectation of test certifiers in relation to the assessment of approved handlers for 1 explosives, the standard of assessment, and the format and content of the approved handler test certificate.

It provides test certifiers with a standard for issuing approved handler test certificates for Class 1 explosives and is the standard against which test certifier audits will be conducted and/or complaints investigated in relation to approved handler test certificates for explosives.

Test certifiers must familiarise themselves with the requirements of this performance standard and follow it at all times when issuing approved handler test certificates for explosives.

Introduction

When issuing an approved handler test certificate for Class 1 explosives, the test certifier is verifying that the test certificate holder is competent to handle explosives of the type and in the lifecycle phases reflected on the test certificate.

The test certifier's role is to make a formal assessment of a person's knowledge and practical experience handling explosives. The criteria for this assessment are stipulated in regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. Only when a person has been assessed as meeting the requirements of regulation 5 may an approved handler test certificate be issued.

Part 1 of this performance standard advises test certifiers that they must carry out approved handler test certificate assessments to a high standard and in a consistent manner. Wherever possible, test certifiers should assess persons against set standards. These standards may be codes of practice or guidance material provided by the EPA and/or other regulatory agencies. An example of such guidance material is the assessment forms developed for approved handler test certification available on the EPA website.

Test certifiers must, in the first instance, follow legislative requirements (the Acts, regulations) when issuing test certificates. Where the legislation is silent on certain matters, due to the non-prescriptive nature of the legislation, codes of practice or guidance material should become the default requirement to follow.

Equally important is the consistency and comprehensibility of the actual approved handler test certificate. Consistent and comprehensive test certificates simplify the task of explosives suppliers, enforcement officers and others who have to validate that a person is an approved handler for the substances and lifecycle phases specified on the test certificate. Test certificate format and content is discussed in Part 2 of this performance standard.

This performance standard has been developed for the test certifier:

- to clarify that it is the EPA's expectation that the test certifier assess a person and issue an approved handler test certificate according to a set standard
- to set out what the standards are that the test certifier must follow
- to clarify the content, wording and format of approved handler test certificates to ensure uniformity and comprehensibility and to avoid uncertainty around the meaning of types of explosive, lifecycle phases, special conditions or limitations recorded on test certificates
- to clarify that in addition to an approved handler test certificate, there are certain Class 1 substances[1] that trigger a requirement to have a Controlled Substance Licence (CSL). CSLs are issued by the EPA. To be eligible for a CSL, the applicant must have an approved handler test certificate issued in accordance with this standard

[1] A list of Class 1 substances requiring a controlled substances licence (CSL) is available in the form of a link in the "Useful links" section of this document)

- to clarify that special conditions imposed on the approved handler test certificate are not recorded on the CSL card. This means enforcement officers, suppliers and others need to sight the approved handler test certificate when inquiring about the special conditions that may apply to the approved handler. Approved handler test certificates must therefore be consistent, clear and concise in relation to the conditions imposed
- To clarify that if the approved handler test certificate does not meet the requirements set out in this performance standard, a CSL may not be granted to the applicant until the approved handler test certificate is amended to a standard that is in accordance with the requirements in this performance standard. Delays and revisiting requirements will be disruptive for both the client and the test certifier involved

This standard sets out the expectations of the EPA for both the level of competency for approved handlers of Class 1 explosives and the content and format of Class 1 approved handler test certificates.

Part 1: Standard of the assessment for approved handlers

Before issuing an approved handler test certificate, the test certifier must be satisfied that the person has met the requirements of regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. Regulation 5 requires that the person demonstrate:

- Knowledge of HSNO and related controls, notably:
  - Hazard classifications (reg 5(1)(a))
  - Controls (reg 5(1)(c))
  - Obligations & liabilities (reg 5(1)(d))
  - Regulations that apply (reg 5(1)(e))
  - Conditions (reg 5(1)(f))
  - Codes of practice (reg 5(1)(g))
- Knowledge of substances, notably:
  - Adverse effects (reg 5(1)(b))
  - Precautions (reg 5(1)(h))
  - Emergency procedures (reg 5(1)(i))
- Assessment of practical competence (reg 5(2))

Regulation 5(3) provides the test certifier with the criteria on how the above requirements must be assessed. These include *"a written record that is signed by a provider of a course of instruction or work supervisor; and describes the method used to assess a person's knowledge and practical skills and the results of that assessment".*

Details on the level of competency, standard of training or duration of previous practical experience required by a person before being issued with an approved handler test certificate are not specified in the regulations. Because there are no 'minimum entry' requirements, this tends to cause variability in the standard of approved handlers.

To mitigate this, codes of practice and guidance material are developed to provide clarification on acceptable standards and best practice. Test certifiers should follow codes of practice or guidance material wherever these are available.

Assessment standards that must be followed

Before assessing a person for an approved handler test certificate, the test certifier must establish whether codes of practice or guidance material relating to the approved handler process are available and, if so, they should follow these. To illustrate this, a test certifier should only issue an approved handler test certificate for **Explosives - Blasting Explosives, Class 1.1B, 1.1D, 1.5D, 1.4B, 1.4D, 1.4S for surface shot firing** if the person has met the requirements of the approved Code of Practice for Approved Handler Certificates Explosives (HSNOCOP – 5). In this code of practice, to qualify for approved handler test certification, the

person **must** demonstrate competency by completing the following unit standards and undertaking practical experience handling, charging and/or shot firing explosives:

- Unit Standard 21152: “Demonstrate knowledge of storing explosives for use in extractive industries”
- Unit Standard 8907: “Design blasting layout within quarries and aggregate production areas”
- Unit Standard 8918: “Carry out shotfiring operations”
- Unit Standard 17694: “Demonstrate knowledge of explosives and their properties” and

  Either
- Unit Standard 20645: “Describe the requirements of the HSNO Act 1996 relevant to approved handlers”

  or
- Unit Standard 20333: “Outline the legal and operational requirements of mining and blasting for approved handler”

The practical experience to be demonstrated is:

- a minimum of six (6) months experience in handling, charging and/or shot firing explosives used in surface shot firing
- a minimum of twenty (20) shots to be fired over a consecutive twenty four (24) month period

In the above scenario, the role of the test certifier aligns with the requirement of regulation 5(3), which requires the test certifier to assess the written records from a provider of a course of instruction (record of learning which lists unit standards completed) and the work supervisor (log book of practical shot firing undertaken). A list of the codes of practice for assessing an approved handler for explosives is provided in Appendix 1.

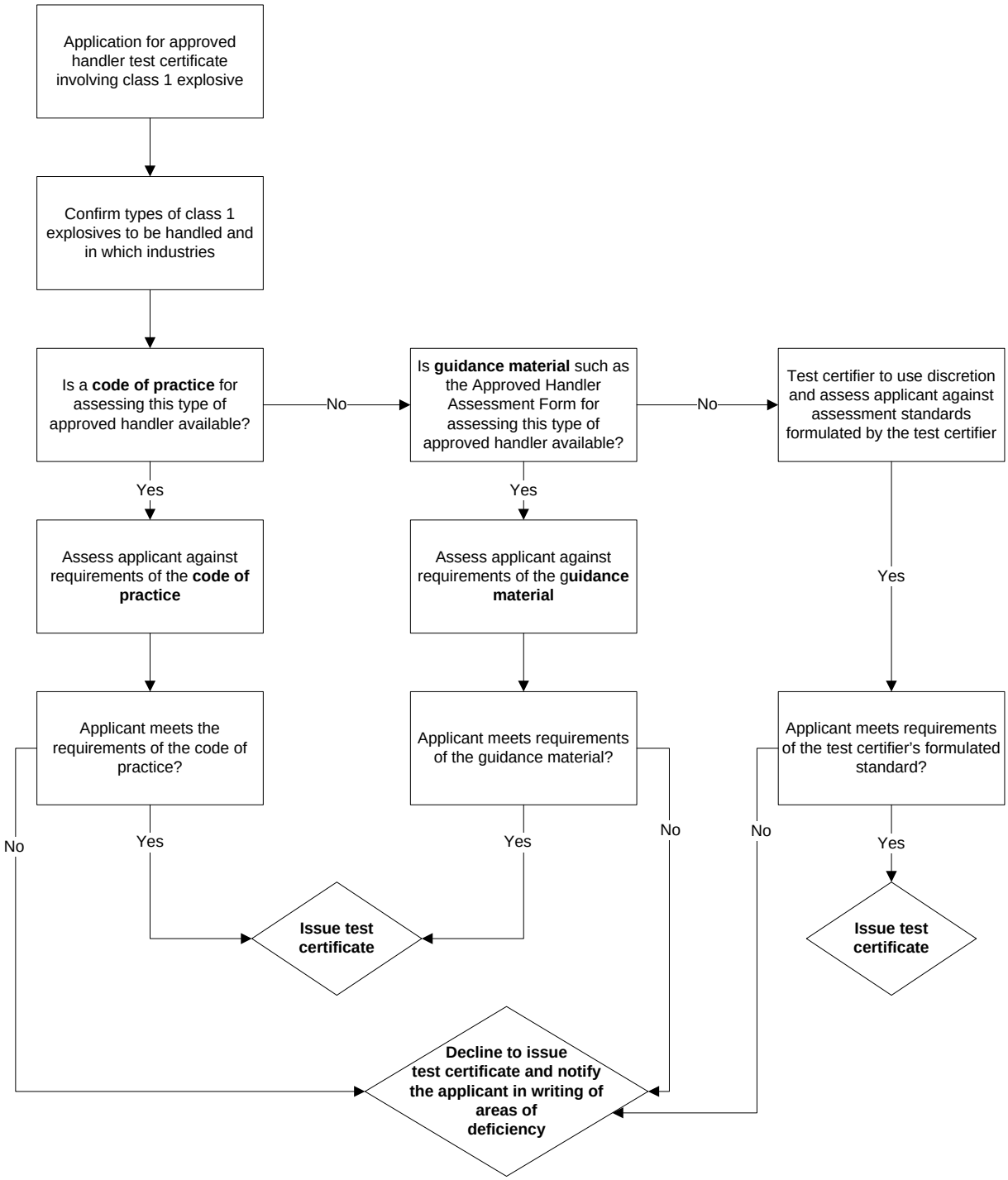
In the absence of codes of practice, the test certifier should follow guidance material provided by the EPA or other regulatory agencies, if this is available. The guidance material, for example the Approved Handler Assessment Forms, provides for a standard level of competency to be demonstrated by the person before being eligible for approved handler status. A working example of the Assessment Forms is in the area of outdoor pyrotechnics. In this case, the test certifier should only issue an approved handler test certificate for **Explosives – Pyrotechnics, Class 1.1G, 1.2G, 1.3G, 1.4G, 1.4S** if the person has met all the requirements set out in **Outdoor Pyrotechnic Display Approved Handler Assessment Forms**.

Again, in the above scenario, the role of the test certifier aligns with the requirements of regulation 5(3), and the assessment is undertaken at a set standard. A list of the guidance material for assessing an approved handler for explosives is provided in Appendix 1.

In cases where neither codes of practice nor guidance material are available, the test certifier should use their discretion when assessing the person. In these cases, the test certifier should set their own assessment standard based on their previous experience, industry standards, national and international best practice. The test certifier should formalise their assessment standards to ensure consistency in application.

Chart 1 illustrates the decision path test certifiers should follow when assessing an applicant’s approved handler application.

Chart 1. Decision path for assessing an approved handler application



Before issuing a test certificate, the test certifier must sight documentary evidence, such as the record of learning, log books, and other relevant material, and be satisfied that the person has met the requirements of the code of practice or guidance material where these are available. In all cases, documentary evidence of the assessment must be kept for record keeping purposes, in accordance with the publication *Performance Standard for Record Keeping* (EPA0019).

Renewing outdoor pyrotechnic display approved handler test certificates

When renewing an approved handler test certificate for outdoor pyrotechnic displays, the test certifier **must**:

- assess the candidate against the regulatory matters described on the approved handler renewal page on the EPA website and complete the form *Application for an Approved Handler Test Certificate Renewal* (EPA0009, March 2012), available on the EPA website
- evaluate the candidate's previous experience and proficiency in conducting outdoor pyrotechnic displays while the holder of an approved handler test certificate

Evaluation of previous display experience is necessary so that the test certifier can issue the renewal at the appropriate level (Level 1, Level 2, or Level 3). All renewed approved handler test certificates for outdoor pyrotechnic displays **must** be issued at one of the three levels and the level **must** be clearly shown on the renewed test certificate. The outdoor pyrotechnic display criteria for each level is attached in Appendix 2.

Before renewing an approved handler test certificate, the test certifier **must** require the candidate to provide evidence of his/her experience in conducting outdoor pyrotechnic displays in the previous five years.

Examples of acceptable evidence include copies of outdoor pyrotechnic display test certificates on which the candidate is named and/or letters from clients or from work supervisors that attest to the types of displays the applicant has conducted. If the test certifier has personal knowledge of the competency of the candidate, the test certifier may write a letter on his/her behalf as acceptable evidence. The 'number of displays' criteria for first-time approved handler candidates **should not** be used when assessing candidates for renewal of a test certificate.

The test certifier **must** maintain adequate hard copy records of the evidence you used to assign a renewal candidate to Level 1, Level 2, or Level 3.

Part 2: Information requirements for a test certificate

The following information is to be recorded on a test certificate.

Document identifier and type

The certificate **must** be identified as a test certificate and must include the type of certificate being issued:

- Approved handler test certificate

Identifying the Act and regulations

An approved handler test certificate is a legal document issued pursuant to the HSNO Act 1996. The certificate **must** identify the section of the Act and the regulations under which the certificate is issued. The certificate must state:

- *Issued pursuant to Section 82 of the Hazardous Substances and New Organisms Act 1996;* ***and***
- *This certificate is issued in accordance with Regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. This certifies that the handler has met the relevant requirements for the substances and lifecycles specified below.*

Certificate number

A certificate number **must** be recorded.

The certificate number must consist of the test certifier's approval number (prefix) plus a unique identifier (suffix)[2]. For example, 100999-001 where 100999 is the test certifier's approval number and 001 is the unique identifier.

When renewing a test certificate, the certificate number must still be unique. This can be achieved by changing the suffix on a renewed certificate, for example, 100999-002.

Certifiers must have a system for assigning certificate numbers.

Contact details

The following contact details relating to the person being issued the test certificate **must** be recorded on a certificate:

- surname
- forename/Christian name, or the name by which the person may commonly be known by
- residential contact information (provide the street address and telephone number as a minimum)[3]
- work contact information (provide the company/organisation name, street address and telephone number as a minimum)[4]

[2] The unique identifier may be alpha numeric and have a maximum of 5 digits
[3] Whilst the requirement to record the street address and telephone number is not mandatory under HSNO legislation, the inclusion of the street address and telephone number is considered best practice, and therefore is a requirement of this performance standard.

The person's date of birth should also be recorded on the test certificate as it is considered a means by which the person holding the test certificate may be authenticated.

Omission of certain information on a test certificate

There is a legal requirement to provide personal details of the approved handler on the approved handler test certificate. Regulation 4(2) of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations states:

> *"A test certificate as an approved handler must state the name of the approved handler, and his or her residential and work contact information (such as a street address and telephone number)."*

Test certifiers must record all information required by the legislation on the test certificate. Test certifiers **have no discretion** to omit information from a test certificate.

Hazardous substance name, type and classifications

The requirement to record certain information on an approved handler test certificate is given in regulation 4 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations. Regulation 4(1) requires the following information to be included:

- *hazardous substances, or a combination of hazardous substances; or*
- *hazardous substances with one or more hazard classification.*

The test certificate **must** record the name or type of explosives (this can refer to the category e.g. Pyrotechnics) **and** the hazard classification(s) of the substance(s) for which the approved handler has been assessed. Examples include:

- Explosives – Pyrotechnics, Class 1.1G, 1.2G, 1.3G, 1.4G, 1.4S
- Explosives – Blasting Explosives, Class 1.1B, 1.1D, 1.5D, 1.4B, 1.4D, 1.4S
- Explosives – Propellant powders, Class 1.1C, 1.3C

Lifecycle phase(s)

One or more phases of the lifecycle **must** appear on the test certificate. Only the following phases are to be used:

- use
- manufacture
- storage
- disposal
- transport

The lifecycle phases are defined in the section headed "Lifecycles defined".

[4] Recording the name of the place of work is a requirement under s82A of the Act. Whilst the requirement to record the street address and telephone number is not mandatory under HSNO legislation, the inclusion of the street address and telephone number is considered best practice, and therefore is a requirement of this performance standard.

Standard conditions

The following standard conditions **must** appear on all approved handler test certificates:

- *This certificate must be produced at the request of an enforcement officer appointed under the HSNO Act 1996*
- *Unless surrendered or revoked beforehand, this certificate shall remain in force until (expiry date **dd/mm/yyyy**) and may be renewed thereafter by an authorised test certifier*

Special conditions

A test certifier **must** include conditions on an approved handler test certificate to reflect the person's knowledge and competency in using the specific explosives for which the test certificate is being issued.

Special conditions remove doubt and ensure that an approved handler test certificate reflects the substances and the level of skill the handler has been assessed to. Conditions can be placed on industry types, explosives type (e.g. size of aerial shell that a pyrotechnics approved handler can fire), activities within a lifecycle phase, etc.

In the case of an approved handler test certificate for pyrotechnics, there should be a special condition that reflects the person's skill and competency. The test certifier must use the outdoor pyrotechnic display level criteria listed in Appendix 2.

A person's skill and competence in the lifecycle phase "manufacture" must also be reflected as a special condition (see "manufacture" in the "Lifecycles defined" section).

Examples of special conditions that may be placed on approved handler test certificates are:

- Restricted to types/areas of work within an industry:
  - For mining industry: restricted to underground metalliferous mines
  - For transport industry: restricted to transfer operations of explosives in a port facility from one mode of transport to another mode of transport
- Restricted to appropriate level of pyrotechnic training:
  - For a Level 3 approved handler for pyrotechnics
- Restriction within a lifecycle phase:
  - For 'manufacture': restricted to manufacture of ANFO explosives
  - For 'transport': restricted to road transport

A list of special conditions that test certifiers should use is provided in Appendix 3.

Issue date

The issue date of the test certificate **must** be recorded in date/month/year (dd/mm/yyyy) format.

Expiry date

The expiry date of the test certificate **must** be recorded in date/month/year (dd/mm/yyyy) format. The expiry date **must** be five years from the issue date.

Test certifier identification

The test certifier's name and registration (approval) number given on the test certifier's Approval Certificate **must** be recorded on the approved handler test certificate.

Test certifier signature

The test certifier's signature (electronic or manual) **must** appear on the test certificate. This signature must be the standard signature used by the test certifier, not an abbreviated form or their initials. The test certificate is a legal document, and there will be times when its authenticity needs to be validated. The test certifier's signature is an important means of doing this.

Optional

The test certifier may record additional information on a test certificate such as their company logo and contact details.

IMPORTANT: Under no circumstances may the EPA logo be included on a test certificate, or any reference made to the EPA that implies we endorse the test certificate.

Examples

Three examples of approved handler test certificates for Class 1 explosives are provided in Appendix 4 to illustrate the approved handler test certificate format and content for various scenarios.

Lifecycles defined

A lifecycle phase may only be added to a test certificate after the test certifier has thoroughly assessed the person's skill, knowledge and competency in that phase of the lifecycle.

Only lifecycle phase(s) listed below may be added on an approved handler test certificate.

- use
- manufacture
- storage
- disposal
- transport

These permitted lifecycles are described below:

Use

Use of explosives means setting up and firing explosives, including:

- setting charges
- attaching fusing and detonation cord
- adding blasting caps
- detonating a charge
- setting up, rigging, and firing an outdoor pyrotechnic display

- removing and replacing fusing with electric fuseheads
- detonating a special effect

Use also includes rendering safe a misfired explosive. **Rendering a misfired explosive safe is <u>not</u> considered disposal in terms of a lifecycle phase to be included on an approved handler test certificate.**

Manufacture

The lifecycle “manufacture” means to manufacture explosives by mixing, blending, or combining compounds or components to produce a resultant explosive substance. This would usually result in a substance with a different hazard classification from the classification(s) of the component parts with the exception of preparing ANFO mixtures. Very few approved handlers in New Zealand have the expertise, knowledge and experience to manufacture explosives.

Manufacture is defined in the Hazardous Substance (Classes 1 to 5 Controls) Regulations as:

> *manufacture, in relation to a class 1 substance or article, includes the following processes:*
>
> *(a) making an explosive substance or article*
>
> *(b) adapting an explosive substance or article to make any other explosive substance or article*
>
> *(c) dividing up an explosive article into component parts*
>
> *(d) breaking-up or unmaking an explosive article*
>
> *(e) remaking or altering or repairing an explosive article*
>
> *(f) separating or picking out defective or damaged portions of an explosive article*
>
> *(g) assembling, inspecting, or packaging an explosive substance or article*

This definition was intended to be read in the context of Part 3 of those regulations and should be used carefully when considered in relation to the lifecycle “manufacture”. While clauses (a) to (f) would generally be considered to fit the lifecycle “manufacture”, actions under (g) may or may not be part of this lifecycle.

Any test certificate with manufacture listed as a lifecycle phase must have a special condition which explains precisely what activity the holder is permitted to undertake under that lifecycle.

Examples of special conditions related to manufacture include:

- manufacture limited to blending of ammonium nitrate and diesel to make the explosive ANFO
- manufacture limited to removing and replacing lift charges of category class 1 aerial shells

Manufacture as a lifecycle phase does not include combining the necessary elements (e.g. detonator, booster, bulk explosive) of an explosive charge. This is considered as “use”. For a useful reference of activities that constitute ”manufacture of pyrotechnics”, refer to the below extract from clause A6.3 of Appendix 6, of the Code of Practice for Outdoor Pyrotechnic Displays – HSNOCOP 30 – 1.

> *“A Test Certificate to manufacture pyrotechnics is required for any operation involving the following manufacturing pyrotechnics devices:*
>
> - *a step or process for producing a pyrotechnic (e.g. star composition mixing)*
> - *remaking or reconditioning a pyrotechnic*

- *redesigning, rectifying or otherwise modifying a pyrotechnic*
- *altering the chemical or physical properties of an explosive (e.g. match fuse manufacture**Error! Bookmark not defined.**, granulation of meal black powder to make lifting or bursting charge, rolling or pumping star compound, priming stars**Error! Bookmark not defined.** and aerial shell manufacture)*
- *breaking up or sorting out explosives (e.g. dismantling pyrotechnics to recover stars**Error! Bookmark not defined.** or powder)*
- *breaking down multishot cakes into smaller cakes*
- *manufacturing any pyrotechnics for sale to others*
- *removing, modifying or replacing the lift charge**Error! Bookmark not defined.** from aerial shells**Error! Bookmark not defined.** unless specifically trained as an approved handler**Error! Bookmark not defined.** for this*
- *using pyrotechnics to produce effects in a manner other than as intended or specified by the manufacturer**Error! Bookmark not defined.** unless proven by tests"*

Storage

Storage includes temporary storage of minor quantities of explosives under lock and key and the storage of larger quantities in a certified explosives magazine. Storage would also generally be an applicable lifecycle phase for anyone approved for use. However, applicants may be approved for storage without being approved for use.

Any test certificate with storage listed as a lifecycle phase should have a special condition that describes the type of explosives the handler is competent to store. The values given in Table 1 can be used here.

Any person with storage as a lifecycle phase on their test certificate must have been assessed on their knowledge of segregation of explosives and on emergency procedures to follow in the event of unintended ignition of the stored explosives.

Table 1: Quantities of substance that activate requirements to list as a special condition for storage on an approved handler test certificate.

Explosives hazard classification	Quantities
1.1B, 1.2B, and 1.4B	1 kg (NEQ)
1.1 (other than 1.1B or 1.1C and gunpowder of 1.1D), 1.2, and 1.5	5 kg (NEQ)
1.1C and 1.3 (other than 1.3G) and gunpowder of 1.1D	15 kg (NEQ)
1.3G and 1.4 (other than 1.4S)	100 kg (NEQ)
1.4S	200 kg (NEQ)
Fireworks in hazard classifications 1.3G, 1.4G, and 1.4S that are controlled under the Hazardous Substances (Fireworks) Regulations 2001	1 000 kg (gross weight)

Note: This table is taken from Table 5, Schedule 2 of the Hazardous Substance (Classes 1 to 5 Controls) Regulations

Disposal

Disposal of a Class 1 substance is a specialist activity and very few approved handlers should have this as a lifecycle phase.

Rendering a misfired explosive safe is <u>not</u> considered disposal in terms of a lifecycle phase to be included on an approved handler test certificate. The lifecycle "use" includes rendering safe a misfired explosive.

Transport

Before issuing an approved handler test certificate with the lifecycle phase "transport", the test certifier must assess[5] the candidate's knowledge of:

- packaging, labelling, and marking of explosives
- the required transport documents for road transport of explosives
- segregation of incompatible explosives and dangerous goods
- placarding a vehicle or a load containing explosives
- general procedures for road transport of explosives under the Dangerous Goods Rule and the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
- the responsibilities of an approved handler in relation to the transport of explosives

The ERMA approved code of practice 35-1 "Code of Practice for the Transport and Transfer of Explosives"[6] is a useful reference when assessing the transport of explosives. You should require anyone seeking an

[5] The EPA recommends that the test certifier assesses the candidate's knowledge of these matters even if the candidate holds a D-endorsement

[6] Available from HazKnow Ltd. Email: HazKnow@clear.net.nz

approved handler test certificate with transport as a lifecycle phase to have knowledge of the applicable sections of this code of practice.

The lifecycle “transport” should also be issued for persons involved in transfer operations where explosives are transferred from one mode of transport to another, e.g. at a port.

Approved handler and controlled substance licence requirements for transporting explosives

A person wishing to transport by road quantities of explosives equal to or less than those shown in Table 2 needs an approved handler test certificate if they do not have a D-endorsement. If they have a D-endorsement, they do not need transport as a lifecycle phase on their approved handler test certificate. In either case, however, a person would require a CSL to authorise possession of the explosive(s).

Table 2: Quantities of substance that activate requirements for transport as a lifecycle on an approved handlers test certificate.

Explosives hazard classification	Quantities
1.1B, 1.2B, and 1.4B	5 kg (NEQ)
1.1 (other than 1.1B or 1.1C), 1.2, and 1.5	50 kg (NEQ)
1.1C and 1.3 (other than 1.3G)	100 kg (NEQ)
1.3G and 1.4 (other than 1.4S)	200 kg (NEQ)
1.4S	1 000 kg (NEQ)
Fireworks in hazard classifications 1.3G, 1.4G, and 1.4S that are controlled under the Hazardous Substances (Fireworks) Regulations 2001	10 000 kg (gross weight)
Safety ammunition including pre-primed cartridges and primers of class 1.4S	25 000 kg (gross weight)

Note: This table is taken from Table 6, Schedule 2 of the Hazardous Substance (Classes 1 to 5 Controls) Regulations.

If a person transports by road quantities of explosives *greater than* those shown in Table 2, the person must hold an approved handler test certificate with ‘transport’ as a lifecycle phase and they must also hold a controlled substance license.

A commercial transport operator (i.e. for hire or reward) also needs a D-endorsement in addition to having an approved handler test certificate with “transport” as a lifecycle phase.

If a person transports explosives as tools-of-trade and has “transport” as a lifecycle phase on the approved handler test certificate, they do not need to hold a D-endorsement if the person wishes to transport less than 50 kg (gross weight) of explosives other than cartridges for weapons, inert projectiles or cartridges, small

arms (UN 0012) or less than 250 kg (gross weight) cartridges for weapons, inert projectiles or cartridges, small arms (UN 0012).

A test certificate with the lifecycle "transport" **cannot** be used in lieu of a D-endorsement if a tools-of-trade operator wishes to transport by road quantities greater than 50 kg (gross weight) of explosives other than cartridges for weapons, inert projectiles or cartridges, small arms (UN 0012) or more than 250 kg (gross weight) of cartridges for weapons, inert projectiles or cartridges, small arms (UN 0012). This is because the Dangerous Goods Rule imposes requirements for a transport course that is delivered and assessed by a person who has been approved by the New Zealand Transport Agency (NZTA). However, no one has been approved by NZTA to deliver or assess a transport course as part of the approved handler training, as no such course currently exists.

You may issue an approved handler test certificate with "transport" as a lifecycle phase if a person does not hold a D-endorsement as long as you assess the candidate's knowledge as specified under "Transport" in "Lifecycles defined" section.

Recording of information for the EPA test certificate register

All certificates issued **must** be recorded in the EPA test certificate register. This **must** be done within 30 days of a certificate being issued. The Test Certifier Register User Manual, available on the test certifier secure page, provides instructions on entering information into the register.

Checklist

A checklist is provided in this document (Appendix 5) to help you ensure the completeness and accuracy of the information that you record on a test certificate. This checklist is also available on the test certifier secure area of the EPA website. The use of a checklist (whether the one provided or an equivalent version) is an important quality assurance step when issuing a test certificate.

Appendix 1

Links to approved handler assessment codes of practice and guidelines

Code of practice

Information on the Code of Practice for Approved Handler Certificates - Explosives
http://www.epa.govt.nz/publications-resources/publications/codes-of-practice/Pages/COP-5-AH-explosives.aspx

Code of Practice for Approved Handler Qualifications for Land Blasting
http://www.epa.govt.nz/Publications/COP26.pdf

Guidelines

Outdoor Pyrotechnic Display Approved Handler Assessment Forms (for first-time candidates, not for renewal candidates):
http://www.epa.govt.nz/Publications/Approved-Handle-%20Assessment-pyrotechnics-form.pdf

Other useful links

Approved handler test certificate renewal page
http://www.epa.govt.nz/hazardous-substances/certifications/people/approved-handlers/Pages/renew-ah-tc.aspx

Test Certificates Register Test Certifiers' manual TBC wait for new TC secure area
http://testcertifiers.ermanz.govt.nz/testcert/User%20Guide/ERMA%20Manual%20-%20Test%20Certificates.pdf

Code of Practice for Outdoor Pyrotechnic Displays:
http://www.epa.govt.nz/Publications/COP30.pdf

Controlled substance licence (CSL) information:
http://www.epa.govt.nz/hazardous-substances/certifications/csl/Pages/What-is-csl.aspx

Class 1 Substances Requiring a Controlled Substances Licence
http://www.epa.govt.nz/Publications/explosives-decision.pdf

Test Certifier Performance Standard for Record Keeping
http://www.epa.govt.nz/Publications/Record-Keeping-for-Test-Certifiers.pdf

Appendix 2

Outdoor pyrotechnic display level criteria

These criteria are taken from the outdoor pyrotechnic display approved handler assessment forms and vary slightly from those described in the Code of Practice for Outdoor Pyrotechnic Displays (HSNOCOP 30-1).

Level 1

Ground level and low level displays less than 60m in height. This category excludes all aerial shells.

Limited to the following pyrotechnic products:

- multi shot cakes/mines (pre-loaded, chain-fused shells in non-reusable mortars) with a maximum internal diameter of 30 mm
- fountains with a maximum internal diameter of 75 mm
- mines with a maximum internal diameter of 75 mm
- single shot comets with a maximum internal diameter of 50 mm
- roman candles with a maximum internal diameter of 30 mm
- any set piece made with lances or sparklers
- cracker chains
- Catherine wheels
- falls
- streamers or confetti mines
- flares
- electrical igniters
- limited to the above pyrotechnics with hazard classification 1.3G,1.4G, 1.4S

Level 2

Limited to the following pyrotechnic products:

- all pyrotechnics permissible at Level 1, plus
- multi shot cakes/mines greater than 30 mm internal diameter
- fountains greater than 75 mm internal diameter
- mines greater than 75 mm internal diameter
- single shot comets greater than 50 mm internal diameter
- roman candles with an internal diameter greater than 30 mm
- other ground effect products
- star or aerial shells not exceeding 125 mm diameter
- limited to the above pyrotechnics with hazard classification 1.3G, 1.4G, 1.4S

Level 3

Includes the following Class 1.1G, 1.2G, 1.3G, 1.4G, and 1.4S pyrotechnic products:

- all pyrotechnics permissible at Level 2, plus
- aerial shells up to 300 mm diameter
- specialist localities

Appendix 3

Phrases for special conditions on approved handler test certificates of Class 1 explosives.

Restricted to Level 1 outdoor display pyrotechnics
Restricted to Level 2 outdoor display pyrotechnics
Level 3 outdoor display pyrotechnics
Restricted to snow avalanche control
Restricted to manufacture of ANFO explosives
Restricted to electrical transmission line work
Restricted to use of pyrotechnics for special effects in the movie industry
Restricted to road transport of explosives
Restricted to surface mines and quarries
Restricted to underground coal mines
Restricted to underground metalliferous mines
Restricted to construction blasting
Restricted to surface shot firing
Restricted to land blasting
Restricted to metalliferous or tunnel shot firing
Restricted to rail transport
Transfer of explosives from one form of transport to another permitted form
Valid for indoor pyrotechnics displays
Restricted to manufacture of explosives for avalanche control only
Restricted to propellant powders and safety fuses
Manufacture for category 1G explosives
Repair and replacement of lift charges on aerial shells permitted
Manufacture restricted to model rocket motors
Restricted to manufacture of ANFO and emulsion explosives
Valid for the transfer of explosives in the hours of darkness
Restricted to canine training
Restricted to the manufacture of small arms ammunition and processes

Appendix 4

Examples of test certificates

To illustrate the information that must be produced on an approved handler test certificate, three scenarios and their corresponding test certificates are given in Examples 1 to 3. The approved handler test certificates are for persons handling explosives in various industries and environments. These are hypothetical situations.

The format or layout of each test certificate is slightly different, but this is not important as these examples are meant to illustrate the various certificate templates that different test certifiers use. What is important, however, is the content of each test certificate.

Example 1

The applicant, Joe Bloggs, works in the mining industry where they carry out blasting for tunnel development and mining for ore extraction, and also blasting for quarries. Joe needs to make ANFO as part of their blasting work. The test certifier is satisfied that Joe is competent.

Certificate No: 123456-001

TEST CERTIFICATE
Approved Handler

Issued pursuant to Section 82 of the Hazardous Substances and New Organisms Act 1996

Name: Joe Bloggs

Date of Birth: 10-06-1965

Residential contact details:
123 Alpha Road
Te Kuiti

Telephone: (04) 123 4567

Work contact details:
Explosions R Us Ltd
457 Bravo Street
Te Kuiti

Telephone: 0800 123 456

This certificate is issued in accordance with Regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. This certifies that the handler has met the relevant requirements for the substances and lifecycles specified below:

Substances/Classes	Lifecycles
Explosives – Blasting 1.1B, 1.4B, 1.4D, 1.5D, 1.4S	Use, Storage, Transport
Explosives – Blasting 1.1D	Use, Storage, Transport, Manufacture

Conditions:

1. Unless surrendered or revoked beforehand, this certificate shall remain in force until **6 December 2011** and may be renewed thereafter by an authorised test certifier.
2. This certificate must be produced at the request of an enforcement officer appointed under the HSNO Act 1996.

Special conditions:

1. Detonation of Class 1 in surface extraction (quarry), underground metalliferous and tunnelling operations only.
2. Manufacture is restricted to assembly of ANFO explosives only.

Test certifier name: Charlie Foxtrot
Test certifier registration number: TST123456

Issues date: 7 December 2006

Example 2

The applicant, John Adam Smith, is self-employed and works as a freelance pyrotechnician contracting to various companies and doing events. The test certifier is satisfied that John is competent and satisfactorily meets the requirements for Level 3 approved handler for pyrotechnics. John has a ‘D’ endorsement on his driver’s license and therefore does not need to have “transport” as a lifecycle as he never carries more than 50kg (NEQ) of 1.1G and 1.2G, or 200kg (NEQ) of 1.3G and 1.4G, or 1000kg (NEQ) of 1.4S at any one time.

Certificate Number: 98765-105A

APPROVED HANDLER TEST CERTIFICATE

Issued pursuant to Section 82 of the Hazardous Substances and New Organisms Act 1996

Name: **John Adam Smith**
Date of Birth: **29/7/1990**

Residential contact details:
555 Yellow Brick Road
Epsom
Auckland

Telephone: **(09) 111 2222**

Work contact details:
Smithie's Fireworks Ltd
888 Long Road
PO Box 33333
Auckland

Telephone: **021 444 555**

This certificate is issued in accordance with Regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. This certifies that the handler has met the relevant requirements for the substances and lifecycles specified below:

Substances/Classes:	Lifecycles:
Explosives - Pyrotechnics Class 1.1G, 1.2G, 1.3G, 1.4G, 1.4S	**Storage & use**

Conditions:

1. *Unless surrendered or revoked beforehand, this certificate shall remain in force until **16/10/2015** and may be renewed thereafter by an authorised test certifier.*
2. *This certificate must be produced at the request of an enforcement officer appointed under the HSNO Act 1996.*

Special conditions:

The certificate is limited to handlers in control of substances used in:

[X] Outdoor pyrotechnic displays [ ] Indoor pyrotechnic displays

The certificate is limited to handlers in control of:

[ ] Level 1 [ ] Level 2 [X] Level 3

outdoor pyrotechnic displays only (Criteria for display Levels 1 - 3 are provided on the reverse of this certificate)

The certificate is limited to handlers in control of the following display types:

[X] Hand fired	[X] Floating vessels and floating platforms
[X] Electrically fired	[X] Moving platforms
[X] General outdoor	[ ] Aircraft
[X] Elevated position	[X] Stadiums

Test certifier name: **James Bond** Test certifier approval number: **TST98765**

Test certifier signature SBond Issue date: **17/10/2010**

Example 3

The applicant, John Wayne, works in the fencing industry and needs to use explosives to develop land to erect fences. The test certifier is satisfied that John is competent. John does not have a ‘D’ endorsement in his driver’s license and was given ‘transport’ as a lifecycle after checking that John has the appropriate training in Class 1 requirements for transporting explosives. John will not be transporting more than 50kg (gross weight) of explosives at any one time.

Certificate No: 555555-014/B

TEST CERTIFICATE
Approved Handler

Issued pursuant to Section 82 of the Hazardous Substances and New Organisms Act 1996

Name: John Wayne

Date of Birth: 2-01-1984

Residential contact details:	Work contact details:
123 Alpha Road	Bigg Bang Ltd
Katikati	457 Pluto Street
	Katikati
Telephone: (06) 123 4567	Telephone: 0800 111 456

This certificate is issued in accordance with Regulation 5 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. This certifies that the handler has met the relevant requirements for the substances and lifecycles specified below:

Substances/Classes	Lifecycle
Explosives - Blasting 1.1B, 1.4B, 1.1D, 1.5D, 1.4S	Use, Storage, Transport

Standard Conditions:

1. Unless surrendered or revoked beforehand, this certificate shall remain in force until 9 July 2013 and may be renewed thereafter by an authorised test certifier.

2. This certificate must be produced at the request of an enforcement officer appointed under the HSNO Act 1996.

Special conditions:

1. Limited to land operations blasting only.

Test certifier name: Sheldon Cooper
Test certifier registration no: TST555555
Issue date: 10 July 2008

Appendix 5

Checklist

This checklist (or an equivalent version) should be used whenever you issue a test certificate. It will help ensure the completeness and accuracy of information you record on the test certificate.

Complete the checklist before you give the test certificate to the applicant. You should sign and date the completed checklist and file it with the other information and documentation you have from the applicant for the test certificate being issued. Further instructions on record keeping can be found in the Test Certifier Performance Standard for Record Keeping available on the test certifier secure page on the EPA website.

Check	Item
☐	**Document identifier and type**
☐	**Phrases identifying the section of the Act and regulations under which the certificate is issued**
☐	**Certificate number**
	Contact details
☐	• Surname
☐	• Forename/Christian name
☐	• Residential address and telephone number
☐	• Work address and telephone number
☐	• Date of birth (optional)
	Hazard substances and classifications
☐	• Hazardous substance and category of use
☐	• Hazard classifications
	Lifecycle phase(s)
☐	• Use
☐	• Manufacture
☐	• Storage
☐	• Disposal
☐	• Transport
	Standard conditions
☐	• This certificate must be produced at the request of an enforcement officer appointed under the HSNO Act 1996
☐	• Unless surrendered or revoked beforehand, this certificate shall remain in force until (expiry date) dd/mm/yyyy and may be renewed thereafter by an authorised test certifier

	Special conditions (limitations)
☐	(Free text but purpose is to provide clarity on any lifecycle phase)
	Dates
☐	Issue date
☐	Expiry date (5 years from issue date)
	Test certifier identification
☐	• Test certifier name
☐	• Test certifier EPA registration (approval) number
☐	• Test certifier signature

Environmental Protection Authority
Te Mana Rauhī Taiao

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New Zealand Government