



Australian Government

**National Measurement
Institute**



NMI P 106

Approval and Certification Procedures for Measuring Instruments
Suitable for Use for Trade and Other Legal Purposes

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minor clarification & addition of POS

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1 INTRODUCTION

The *National Measurement Act 1960* (Cth) provides the legal basis for examining and approving patterns (designs) of measuring instruments suitable for use for trade and other legal purposes. This document provides administrative details of the procedure for applying for the pattern approval of such instruments.

The Pattern Approval Laboratory of the National Measurement Institute (NMI) is able to test and approve:

- non-automatic weighing instruments;
- liquid measuring instruments;
- spirit dispensers;
- length measuring instruments;
- area measuring instruments;
- milk tanks;
- load cells;
- digital indicators;
- weighing-in-motion systems;
- belt weighers;
- totalising hopper weighers;
- automatic catch-weighing instruments;
- multi-dimensional instruments;
- automatic tank level gauges;
- fuel dispensers for motor vehicles;
- fuel dispenser control systems;
- fuel dispenser calculator/indicators;
- liquefied petroleum gas systems;
- compressed natural gas systems;
- grain protein measuring instruments;
- utility meters (electricity meters and water meters)¹; and
- evidential breath analysers¹.

The majority of patterns the NMI approves are instruments for use for trade.

1.1 Instruments Suitable for Use for Trade

Unless a class of instrument has been specifically exempted, the national legislation requires that every measuring instrument that is in use for trade be of a pattern approved by the Chief Metrologist.

¹ NMI appoints other authorities to **test** utility meters and evidential breath analysers (partial testing). However NMI **approves** the patterns of such instruments.

A certificate of approval is issued for each instrument pattern after it has satisfactorily completed its approval testing and assessment.

It is an offence for an instrument which is not of an approved pattern (or specifically exempted from this requirement), to be used for trade purposes.

The NMI can provide information on whether the instrument comes under the definition of in use for trade.

1.2 Instruments Suitable for Any Other Legal Purpose

In addition to issuing certificates of approval for instruments in use for trade, the Chief Metrologist can issue certificates of approval for the patterns of instruments used for other legal purposes.

If a measuring instrument is required by a government authority to be used for regulatory purposes, it is considered to be a legal measuring instrument and the pattern of such an instrument may need to be approved for conformance with specified requirements.

2 DEFINITIONS

In this document, unless the contrary intention appears:

Applicant means the person or persons (whether corporate or natural) who is, or are, applying for approval of a measuring instrument for use for trade or other legal purposes.

Family of measuring instruments comprises instruments of the same design and that use the same measuring technique to measure the same physical quantity. All of the instruments of the family are subject to the same metrological requirements (e.g. accuracy class, maximum permissible errors) but may be of different capacities and sensitivities and may vary in other operating and performance characteristics.

Measuring instrument has the same definition as defined in the *National Measurement Act 1960* (Cth).

Module means an element or component of a measuring instrument that performs a specific metrological function that can be separately examined and is subject to specified partial error limits.

Pattern in relation to a measuring instrument, includes the design of the measuring instrument.

Pattern approval means the process by which the NMI examines the pattern (design) of an instrument to ensure that it is fit for use for trade or other legal purposes, in such a way that it is expected to provide reliable measurement results within the maximum permissible error (MPE) over a range of operating conditions.

Point of Sale means a component of a measuring instrument approved for use for trade used for the purpose of creating labels, receipts or dockets and that is capable of converting the result of a measurement by the instrument approved for use for trade but not capable of controlling it or affecting its metrological performance.

Variant is a change made to the pattern of an instrument. Variants can include physical changes or those made to the software.

Variation is a change made to the approval documentation which describes the pattern and variants.

Wildcard is a symbol that indicates a character whose value can be replaced by another character, typically an asterisk or X (see [clause 4.1.1 Software version update or change](#))

3 PROCEDURE TO FOLLOW WHEN APPLYING FOR APPROVAL

When applying for a certificate, the applicant shall complete the online application form and checklist (available on our website at <http://www.measurement.gov.au/patternapproval>)

[application](#)).

When accepting an application for approval, it is assumed that the performance specifications and range of operating conditions included in the application form are those for which the manufacturer has designed the instrument.

See clause *Fees Payable* for the costs associated with pattern approval.

Requests for minor changes to an approval certificate shall be made in writing to the Pattern Approval Section. Major changes require an application for a variant (see [clause 4.1](#)).

3.1 OIML Certificate System

The International Organisation of Legal Metrology (OIML) has developed a certificate system for measuring instruments. The aim of the system is to issue a certificate of conformity for a measuring instrument to testify that the instrument conforms to the requirements of the relevant OIML recommendations applicable within the system.

National approval authorities may take the certificate of conformity and its associated test report into consideration in providing national pattern approval certificates.

An applicant requiring an approval based on an OIML certificate of conformity must provide:

- (a) a certificate of conformity issued by an OIML issuing authority (the issuing authority must be accredited under a scheme recognised by Australia and must perform satisfactorily in interlaboratory comparisons); and
- (b) a completed pattern evaluation report.

NMI should be contacted prior to making the application to confirm whether condition a) has been met.

NMI is an OIML issuing authority for the following categories of measuring instruments:

- (a) continuous totalising automatic weighing instruments;
- (b) automatic catch-weighing instruments;
- (c) metrological regulation for load cells;
- (d) non-automatic weighing instruments;

- (e) automatic rail weighbridges; and
- (f) measuring systems for liquids other than water.

If you require an OIML certificate, it should be requested when the application for pattern approval is made. Additional fees are applicable.

3.2 Documentation to Accompany Applications

The application form has provision for noting documentation provided. The applicant shall advise if these documents have been supplied for a previous application and shall detail their relevance to the current application. The following documentation should accompany each application:

- (a) Detailed drawings and specifications of the pattern of the measuring instrument such as working drawings, functional drawings, electrical diagrams, piping diagrams, operating and service manuals;
- (b) A declaration of safety:
 - (i) for all measuring instruments there shall be a declaration that the instrument has been designed and constructed to the relevant Australian safety standard; and
 - (ii) where appropriate, compliance of the measuring instrument with the relevant safety test scheme.
- (c) sufficient specifications, photographs and descriptions for a complete understanding to be obtained of the construction and method of operation of the instrument and its variants;
- (d) a completed test report where available and documentation file;
- (e) for measuring instruments such as utility meters, test reports in an approved form from the approving authorities which have conducted the tests.

All descriptive material shall be in English. Illustrations intended for inclusion in the certificate of approval shall comply with the

¹ All measuring instruments used for trade purposes require verification.

requirements specified in [clause 11.2 Illustrations for Approval Documents](#).

Documentation may be retained by NMI.

4 CERTIFICATES OF APPROVAL

A certificate of approval of measuring instruments is issued under regulation 60 of the *National Measurement Regulations 1999* (Cth) (the Regulations).

The certificate of approval usually comprises three sections:

- (a) a certificate which consists of the advice of the approval together with the conditions of the approval;
- (b) a technical schedule (which may include illustrations) which describes the pattern and any variants; and
- (c) a test procedure which specifies the tests which are to be performed for verification¹ or certification² of instruments conforming to the pattern and its variants and the applicable maximum permissible errors (mpe).

A new certificate of approval and technical schedule are issued for each variant to the pattern subsequently approved.

Fees are charged in accordance with our schedule of fees (see [clause 12 Fees Payable](#)).

Published certificates may be viewed at <http://www.measurement.gov.au/certificatesofapproval>.

A certificate of approval attests that the pattern of the measuring instrument is suitable for trade or legal purposes, namely a sample instrument has been examined and has been found to comply with Australian pattern approval specifications.

Certificates of approval follow the requirements of the legislation and include:

- (a) the name and address of the NMI
- (b) description of the pattern of the measuring instrument to which the certificate relates
- (c) the number of the approved pattern

² All measuring instruments used for legal purposes require certification.

- (d) the date of issue of the certificate
- (e) a statement that the pattern of the measuring instrument is approved under the Regulations as suitable for use for trade or as a legal measuring instrument
- (f) any conditions to which approval is subject, such as those documented in clause 5.

4.1 Variation of approval of patterns of measuring instruments

A variation to a certificate of approval is required in the following instances:

- (a) when the applicant changes, removes or adds a component of a pattern, thereby altering the approved performance or operation of the pattern.
- (b) where there is a software version update or change (see clause 4.1.1 for further clarification).

To be considered a variant to the pattern, rather than a separate pattern, the arrangement of the components of the instrument and the measuring element must be substantially of the same design as that of the approved pattern.

When applying for a variant, it is advisable to assign the instrument with a model number which differs from the pattern and other variants.

On approval of a variant to the pattern, the Chief Metrologist issues a variation stating the changes applicable to the pattern and any subsequent effect on the operating conditions. If there is any doubt as to whether there is a need for a variant to be obtained the NMI should be contacted.

An application for a variation shall not be accepted for a cancelled, expired or withdrawn certificate.

4.1.1 Software version update or change

Where a software version described in a certificate of approval is expected to be updated frequently, appropriate wildcard fields may be permitted to describe the version used. Wildcards may only be used to indicate software changes which do not affect the metrological function or are not legally relevant.

Wildcards in the legally relevant software version do not permit changes to be made to the

software without consideration or assessment by the NMI. The NMI will hold a register of all possible software version numbers and it will be the responsibility of the applicant to advise the NMI of any updated software, before that version is applied to an instrument in use for trade.

Software changes that involve fixes or updates that do not affect measurement functionality (any function of the instrument subject to metrological control by the NMI), and which have been included in the NMI software register, are permitted to the extent that the wildcard allows and no changes to the certificate are required.

Where the software change does impact measurement functionality, details of the changes made must be provided and will be assessed by the NMI. Where it is considered that the changes to measurement functionality require an examination or update to the certificate, the applicant will be required to make an application for a variant.

Where the updated version of software is approved, the certificate shall be updated to describe the changes including the new software version and updated wildcards.

4.2 Changes to Certificates of Approval

Requests for minor changes to an approval document shall be made in writing to the Pattern Approval Section (see <http://www.measurement.gov.au> for further details).

Minor changes to approval documents such as changes of address or markings, clarification of descriptive material, alteration to periods of validity and other administrative matters, shall be notified by means of a notification of change (change notice).

Where a notification of change is the most convenient method of altering the documentation, either to include a variant or due to applicant error, the applicant will be required to pay a fee in accordance with our schedule of

fees (see [clause 12 Fees Payable](#)).

Where a new certificate is issued to replace an existing one and a new approval number is used, a notice of cancellation will be issued with regard to the original certificate.

4.3 Cancellation of Certificate of Approval

A holder of a certificate of approval may, apply to have a certificate of approval cancelled. The NMI would consequently issue a written notice of the cancellation to the applicant and anyone else the NMI considers should be given notice of the cancellation regarding the approval or series of approvals.

The NMI may have grounds for cancelling a certificate of approval, other than on application, in the following instances:

- an instrument does not comply with the metrological criteria required by Australian pattern approval specifications;
- an instrument is not manufactured or used in accordance with the approved pattern as described in drawings and specifications lodged with NMI;
- the certificate expires; or
- other appropriate reasons.

Instruments which were manufactured in accordance with the pattern before the expiry or cancellation date of the certificate of approval may be represented as being of an approved pattern and used for trade or other legal purposes i.e. marked with the approval number and submitted for certification or verification.

4.3.1 Repairs to a Measuring Instrument of a Cancelled Certificate

Where a certificate of approval has been cancelled but not withdrawn, instruments may remain in use for trade. This may lead to a situation where the instrument requires maintenance.

Such repairs may be made using a certificate of approval specifying supplementary conditions, provided that the repairs are limited to replacing mechanical parts, structural parts and indicating devices (digital for digital, mechanical for

mechanical but not digital for mechanical other than as covered by Certificate 6B/0).

While replacement parts should be identical to those being replaced, this may not be possible due to the age of the instrument. Where original parts are not available, replacement parts must be of similar design, construction and materials as the original parts. Replacement modules should have a current certificate of approval. See Certificate 6B/0 for special conditions for replacement of load cells covered by a cancelled certificate. Once repaired, the instrument must be verified. The original nameplate must be retained or copied without alteration except for any change of supplementary number for the replaced module.

Instruments for which the certificate of approval has been cancelled, and which are removed from a site, may be relocated and used for trade provided they have not been altered (although they may be repaired or refurbished) and pass a verification testing.

4.4 Withdrawal of Certificate of Approval

The NMI may withdraw a certificate of approval where cancellation is not considered appropriate. All instruments shall be removed from use for trade after a certificate of approval has been withdrawn.

5 CONDITIONS

Conditions can be stipulated to which the approval of the pattern is subject.

Some of the conditions include:

- a review date generally five years from the date of approval with certain exceptions (see [clause 8 Review of Approvals](#)).
- stipulating whether the certificate relates to a single, or small number of, particular instruments (as distinct from a pattern of an instrument)
- any additional conditions, as deemed necessary by the NMI, dependent on the type of measuring instrument or component.

The various conditions stipulated in a certificate vary depending on the type of measuring instrument as indicated below.

5.1 Modules/Components

Certificates with conditions pertaining to modules or components of measuring instruments are commonly known as supplementary certificates.

The conditions specified in these certificates include those by which a module/component of a measuring system shall be fitted to the complementary part of an approved measuring instrument. For example a load cell shall be limited to use in baseworks of approved weighing instruments in which the force applied by the load is within a specified range; a flowmeter calculator/indicator shall be limited to those approved flowmeters in which the volume per revolution or pulse output of the meter is compatible with the calculator/indicator input.

5.2 Instruments Requiring Field Testing

Conditions are also specified for instruments, which, normally due to their size, installation requirements or other features, cannot be fully examined in the laboratory or require field testing, for example large bulk flowmeters. Such certificates are commonly known as Provisional Certificates.

A certificate of approval may be issued on completion of a laboratory examination (not necessarily complete) of the whole instrument or those modules which can be laboratory tested. Consequently, the certificate is normally conditional on reports of field testing being received as required by NMI. Approval may be withdrawn or cancelled if such reports are not received as specified.

In this case two applications shall be made; one for the certificate of approval and the other for a certificate of approval (provisional certificate) nominating a limited number of instruments and location details. Each application attracts a separate fee.

The applicant, in agreeing to the latter, accepts the risk involved, as in the event of unsatisfactory performance the certificate of approval is

normally withdrawn and any instrument whether verified or not under that certificate, shall no longer be legal for trade or legal use (see clause 4.4).

Such certificates have an additional condition stipulating a date of review. Exemptions to this condition are considered on an individual basis. After this period, if field evaluation proves satisfactory and all conditions of approval have been met, the provisional condition is removed and the normal review period is set based on the original date of the approval (see clause 5).

6 MEASURING INSTRUMENTS CAPABLE OF BEING MANUFACTURED TO A COMMON STANDARD

These are commonly known as general certificates. These approval certificates are issued for particular categories of simple measures which are not submitted for pattern approval examination by NMI. In this instance instruments which fall under the category of the general certificate must be manufactured in accordance with the certificate and then can be submitted directly for verification.

In addition General Certificates can be used to complement certificates of approval by providing general data and calculations, installation requirements and other information pertinent to the approval; such general certificates do not replace the need to obtain a certificate of approval for a pattern of a measuring instrument but are intended to remove the need for numerous and repetitive variants.

In such instances, the Chief Metrologist specifies a set of design and/or installation parameters in the certificate of approval.

General certificates have been issued for:

- Simple Length Measures
- Fabric Measuring Instruments
- Metric and Metric Carat Masses
- Alcoholic Beverage Measures
- Lubricating Oil Measures
- Pharmaceutical dispensing measures
- Laboratory Apparatus for Volume Measurement
- Volume Measures 0.5 to 20 L

- Brim Measures for Volume of Flowable Solids
- Grain Density Measuring Instruments
- Measuring Container Bottles
- Conversion of Weighing Instruments – See Section 7.
- Vehicle Tanks Including those for Sullage or Effluent
- Density Hydrometers
- Electronic Indicating and Printing Devices for Measuring Instruments
- Nozzles for Use With Fuel Dispensers for Motor Vehicles

7 CONVERSION CERTIFICATE

A conversion certificate allows the applicant to modify some types of weighing instruments under specific conditions. The conditions under which such a conversion can be made are specified in the general certificate 6B/0 and the applicants' conversion certificate 6B/xxx.

Conversion certificates can be issued to modify weighing instruments for static loads of not less than 100kg. General certificate 6B/0 should be consulted before an application for a conversion certificate is made.

The conversion certificate, in such instances does not allow new instruments to be manufactured to the pattern, however, it does allow an existing instrument to be converted to a different type, or certain approved components to be changed.

8 REVIEW OF APPROVALS

The review of certificates of approval occurs generally every five years as stated in the conditions of each of the certificates of approval (see clause 5).

This period is set to allow instruments manufactured to the original pattern to be sold without having to be rechecked by the NMI. If after five years, the applicant still intends to sell the equipment, the applicant must apply for a review of the certificate.

When the application for a review is received it is assessed by the NMI to determine whether or

not any of the instruments covered by the certificate are required for review testing. If an instrument requested for review is not received within the required timescale, or if the instrument fails its review and the fault cannot be rectified, or if the review is not requested then the certificate of approval will expire (see clause 4.3).

If the instrument successfully passes the assessment and/or tests, a reviewed certificate of approval or a notification of change is issued and the review period is extended for another five years.

The review criteria apply to the original pattern and to the variants covered in the certificate of approval. The review date is based on the issue date of the original pattern and will apply to the pattern and all variants even if the date of approval of a variant is later than that of the pattern.

Failure to satisfactorily conduct reviews may result in cancellation of the certificate of approval.

8.1 Review Pursuant to the Regulations

Review under regulation 65 may arise as a result of the detection of non-compliance of an instrument in the field and requires that a sample instrument be examined. If the non-compliance is substantiated, the certificate may be withdrawn and all instruments shall be removed from use for trade.

9 OTHER SERVICES PROVIDED BY NMI

NMI will provide advice on technical matters relating to trade or legal measuring instruments. Fees may be charged to cover the costs for the following services:

- (a) advice to industry and government authorities, who are users rather than applicants, on tender specifications or equipment involving trade or legal measurement submitted for tender;
- (b) advice on test methods and equipment necessary for testing equipment for trade or legal measurement;
- (c) overviews of the design and operation of a production pattern, or a proposed pattern, to

ensure that there are no obvious conflicts with Australian pattern approval specifications or particular problems which may be posed by testing;

- (d) visits to industry prior to the submission of an application for approval of an instrument for trade or legal measurement;
- (e) assistance with field trials of instruments for trade or legal measurement;
- (f) an interpretation or explanation of NMI examination results as they relate to an instrument; and
- (g) the reappraisal of technical decisions arising from an examination where there is a difference in emphasis or design philosophy between the applicant and the Chief Metrologist.

NMI also provides training and assistance for potential applicants unfamiliar with national or international test procedures.

9.1 Non-Pattern Approval Testing

Non-pattern approval testing may be requested, in which case an instrument test report may be issued. An instrument test report is based on the performance of a module or a complete instrument and may or may not make reference to Australian pattern approval specifications. Such a test generally involves accuracy tests only, performed under the conditions specified by the applicant. Instrument test reports are only made available to the applicant.

An instrument test report does not imply approval for trade use but may be useful for the designer, manufacturer or user to assess the performance of the equipment, for example a load cell manufacturer may wish to assess the performance of a load cell for engineering, scientific or promotional purposes. Such a test report is similar to that issued by a NATA-registered laboratory. NATA endorsed reports can be issued for some instruments.

10 THE SAMPLE INSTRUMENT

10.1 Assessing Instruments

NMI evaluates the application for pattern approval and determines what testing is required,

what additional instruments and/or modules need to be tested, identifies the pattern and determines the variants applicable to the application. This assessment may change as a result of testing.

When it is not possible to determine these factors, or if NMI considers it advisable to discuss points relating to the application before proceeding to an approval examination, the applicant shall make use of our consultative service.

If it becomes apparent that the instrument is not acceptable for approval prior to tests commencing, the applicant will be notified. The applicant may be advised to make use of the consultative service and will be charged for the assessment already undertaken at the applicable hourly rate, in addition to any charges applicable to any consultation.

If the applicant decides not to continue with an application, the applicant shall be charged for the assessment undertaken to that date. The application fee is non-refundable.

10.2 Instruments Required for Test

The following guidelines are used to determine what instruments covered by the application will be tested. The guidelines also apply to modules when the application is for an approval of a module.

- (a) If the application for approval covers a single pattern of an instrument, then one sample instrument (unless stated otherwise for a particular type of instrument or module, e.g. load cells) is required for testing.
- (b) If the application for approval is for a family of instruments, more than one sample instrument will be required for testing. Unless the performance characteristics of the instruments overlap significantly, at least the following instruments shall be tested:
 - (i) the instrument with the lowest performance characteristic(s);
 - (ii) the instrument with mid performance characteristic(s);
 - (iii) the instrument with the highest performance characteristic(s).

Note: Performance characteristics include capacity of weighing instruments,

flow rate of flowmeters, rated operating conditions (e.g. temperature) and value of the scale interval of a load cell or weighing instrument etc.

The application form requires the performance characteristics of the family of instruments to be specified. The sample instruments will be tested to establish that they perform correctly within the specified characteristics. By specifying these characteristics, the applicant is stating that instruments can be manufactured to perform consistently within the limits specified. The performance characteristics specified should therefore be carefully chosen as any request to change them after determining the test results will have to be further assessed.

- (c) If an instrument in the family has additional metrological or operational functions (e.g. tare, price computing) a sample of this instrument will also be required for testing.
- (d) Where possible instruments will be selected with appropriate combinations of performance characteristics and operational functions to minimise the number of instruments required for testing.
- (e) Where possible an instrument will be tested as a single device at NMI for all influence factors and disturbances. However when this is not possible (e.g. due to instrument size) then the modules of the instrument will be tested separately at NMI for all influence factors and disturbances. A test of the instrument in the field under field conditions will then be necessary to complete the evaluation.

A supplementary certificate will not be issued for the modules tested unless a separate application for such a certificate has been made by the applicant.

- (f) If the application requires that the various modules of the instrument may be replaced by other modules, it will be necessary to test the modules separately as well as testing a complete instrument. Supplementary certificates may be necessary for each module in some cases. The application shall

state the requirements.

- (g) If the application for approval is for variant instruments of the family to be added to an existing approval, then the guidelines for submission of instruments for test follow the above (see [clause 2 Definitions](#) for what instruments are included in a family of measuring instruments).

If the variant only covers a module of the pattern, then only that module needs to be submitted for testing.

10.3 Examination On-Site

The examination is either carried out at NMI's premises, or at a site selected by the NMI in consultation with the applicant. Measuring instruments covered by provisions of the *National Measurement Act 1960* (Cth) or *National Measurement Regulations 1999* (Cth), pertaining to utility meters, may be tested by approving authorities (details of which are available on our website).

The applicant shall be responsible for:

- (a) the delivery, erection, calibration and disassembly of the instrument;
- (b) the provision of any facilities as determined by us that are required for testing; and
- (c) site costs (see clause 9).

10.4 Retention and Removal of Instruments

NMI may hold the sample instrument, or any of its modules, for identification purposes, as long as any instrument conforming to the pattern is in use for trade or another legal purpose. This applies particularly to modules which incorporate the measurement or computational functions of the instrument.

The applicant shall be responsible for packaging and removing the instruments and/or parts of instruments from the NMI's premises (or the agreed examination site) when notified that the instruments are no longer required.

The NMI reserves the right to pack and return to the applicant, at the applicant's expense (under reasonable terms), instruments (or parts thereof)

not removed from the NMI after three months from the date of any such notification.

11 APPROVAL PROCEDURE

When an application for a certificate of approval is received by Pattern Approval, an acknowledgment letter will be sent to the submitter. If you have not received this within 10 working days of submitting the application, please contact Pattern Approval.

A brief assessment will normally be carried out to determine if the NMI has the capability to perform the evaluation. Any immediately identifiable missing information will be communicated to the submitter. Please note that full documentation checks will normally only be carried out at the time of assessment.

On completion of a successful examination an interim certificate may be prepared and an approval number is allocated to the pattern. The interim certificate is sent to the applicant to allow instruments to be installed and verified or certified before the final documentation is issued. The interim certificate may also include testing procedures, in addition to those given for verification, and certification in the uniform test procedures (those publications with an NMI V prefix).

11.1 Certificate Documents

During the process of pattern approval, draft documents including a certificate of approval, technical schedule and test procedure are sent to the applicant for comment and agreement. At the same time the applicant is asked to provide any illustrations (see [clause 11.2 Illustrations for Approval Documents](#)) necessary for inclusion in the technical schedule.

The certificate of approval nominates the pattern and variants (if any), applicant's name, manufacturer, date of approval, review date, approval number and conditions of approval. The pattern is described in the technical schedule and the test procedure specifies the tests necessary to confirm the performance of the instrument.

Once illustrations (if requested) and written agreement to the draft documents are received from the applicant, the final certificate of

approval, technical schedule and test procedure are issued.

11.2 Illustrations for Approval Documents

All illustrations (drawings and/or photographs) used in the technical schedule must comply with the requirements detailed below. Failure to provide correct illustrations may result in delays and additional charges.

The illustrations shall be labelled and show the complete system and its major components. An explanation should be provided if the labelling is not the same as that used in the technical schedule.

Illustrations may be supplied electronically (as a TIFF or JPG file) or as hard copy (see clauses 11.2.1 and 11.2.2).

Upon request from an applicant, NMI will arrange to have photographs and drawings prepared for inclusion in the technical schedules. The applicant shall pay the full cost of any work.

11.2.1 Drawings

Where drawings are to be included in the technical schedule, two copies of each drawing shall be supplied, one with and one without labelling, and these shall:

- a) be approximately 210 × 297 mm (A4);
- b) generally follow good drawing practice principles, e.g. as set out in the relevant Australian standard;
- c) consist of black lines on white paper, and be original drawings or high quality prints;
- d) include only those details relevant to the approval;
- e) not be dimensioned unless NMI so directs; and
- f) have one copy clearly and unambiguously identify the major components of the instrument.

11.2.2 Photographs

Photographs shall:

- (a) have the object of the photograph substantially filling a rectangle of

approximately 130 × 205 mm and not less than 100 × 180 mm so that they may be printed without reduction or enlargement;

- (b) be in sharp focus and of good contrast;
- (c) have a neutral or contrasting background; and
- (d) include only those details relevant to the approval.

11.3 Distribution of Approval Documents

The applicant receives a copy of the certificate of approval which includes the technical schedule and test procedure and at the same time a copy is placed on our website.

Test reports are only made available to the applicant.

11.4 Change in Ownership of Certificates

Copies of certificates of approval issued by the NMI are retained for record keeping purposes.

Where a certificate of approval is sold or transferred (assigned) to another person (or persons) the purchaser or assignee shall notify the NMI to effect a change in details of the certificate. It is the responsibility of the purchaser or assigner to manufacture, supply and/or install measuring instruments in accordance with the detail provided in the certificate of approval.

11.5 Responsibility for Compliance of Instruments with the Certificate

It is the responsibility of the applicant nominated in the certificate of approval, whether as agent or manufacturer, to ensure that all instruments manufactured to a pattern and installed for trade use, comply with the certificate of approval, its technical schedule and the drawings and documentation retained by the NMI. Instruments shall not deviate in any significant structural or metrological fashion from the sample instrument, or its approved variants.

It is an offence for a person, other than the applicant or an agent nominated to the NMI in writing by the applicant, to mark an approval number on any instrument for which they do not hold the certificate or an authority to manufacture (or import) from the applicant, thereby

purporting that it complies with that certificate. This may constitute an offence under the *National Measurement Act 1960* (Cth).

However, a supplier/installer may copy an approval number from one part of an instrument to a central nameplate, for example when a dial is replaced with a digital indicator and the basework number which appears on the dial has to be transferred to the digital indicator.

11.6 Repair of an Approved Measuring Instrument

Repairs to pattern approved measuring instruments may be made, in certain circumstances. Repairs are limited to:

- Replacement of parts with identical like for like parts.
- Replacement of supplementary approved modules with alternative supplementary approved modules. Replacement modules must be of a similar type and have a current certificate of approval.
- Replacement of parts to create a different type of measuring instrument, e.g. converting mechanical to digital indication (see clause *Conversion Certificate* for details of this process).

Once repaired, the instrument must be subsequently verified. The original nameplate must be retained or copied without alteration except for any change of supplementary number for the replaced module.

11.7 Discontinuing an Application

An application may be discontinued if:

- (a) a sample instrument or full documentation is not received within three months of being requested; or
- (b) an applicant fails to reply to an examination report within one month of its date of issue; or
- (c) an applicant fails to rectify the non-compliance of the instrument within an additional two months from the reply to the

examination report; or

- (d) an applicant fails to supply illustrations suitable for, the draft certificate and technical schedule within two months of the date of the covering letter to the draft.

Where the application is considered to be discontinued or abandoned, the applicant will be liable for the costs of all work done up to that point in time. The fees will be payable on NMI's normal terms and conditions.

12 FEES PAYABLE

Fees are charged according to regulation 90B and schedule 13 of the *National Measurement Regulations* 1999 (Cth).

The following action may be taken if an applicant does not pay an account within the required terms (normally 30 days from the date of invoice):

- (a) assessment work may be stopped;
- (b) the certificate may not be issued until the account is cleared; and/or
- (c) action may be taken to recover the outstanding debt.