Verifiers recognition kit – subclasses 4.9 and 15.1

Version 1.0 – March 2019

Print double sided.

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Your recognition kit
This kit allows you to demonstrate your competence as a verifier of measuring instruments against the performance criteria and assessment requirements set out in the nationally recognised units of competency detailed below.

Please contact the NMI administrator at any time during your compilation of this kit if you:

- need assistance in understanding the requirements for compiling your kit.
- have difficulties in obtaining access to instruments to test.
- do not have a supervisor or industry mentor.

Email: NMIadministrator@measurement.gov.au
Tel: 02 8467 3789

This kit enables you to provide the evidence required to demonstrate your competency for verification of one or more of the following licence subclasses:

- 4.9 – Grain density measuring instruments
- 15.1 – Protein quality measuring instruments

On successful completion you will be awarded a statement of attainment for:

MSMSS00011 – Trade Measurement Verification (Simple Measuring Instrument)
- MSMTMREF301 – Use and maintain reference standards.
- MSMTMVER302 – Verify simple measuring instruments.

Assessment instructions

Before you complete this assessment

Before you complete and submit your recognition kit, you should have spent time in the field with an experienced verifier learning about:

- the instruments you intend to verify
- the techniques employed in carrying out testing, including any required planning and preparation
- the methods of storing, maintaining and handling reference standards / materials / equipment
- the environment in which instruments are situated and the potential impact of that environment on the function of the instruments and / or the standards you use to verify them
- the work health and safety considerations relevant to testing instruments
- your organisation’s and NMI’s requirements for recording and reporting details of verifications and other licensing matters
- any adjustments or corrections that you may need to employ in the verification process
- how to mark an instrument (what to mark and where to place the mark on the instrument)
- how you should communicate information about the instruments to the owner / user of the instruments or any assistance you may require from them

In addition, you should have personally tested instruments, under supervision, using the relevant national instrument test procedures to develop your skills - either in the workplace or in a simulated workplace environment.

Your supervisor(s) / mentor(s) should have personally observed you testing at least three instrument with at least one instrument from each subclass, where you are being assessed for both subclasses. They should have experience with the current national instrument test procedures and be able to confirm that you have correctly followed them.

In addition, they should have personally observed you selecting, calibrating, using and maintaining appropriate reference standards / materials / equipment in accordance with specified procedures on at least 3 occasions in a real or simulated workplace environment.

If more than one supervisor / mentor can provide evidence to support your assessment, then have each of them complete a separate report for submission.
If you don’t have access to an experienced supervisor / mentor, please contact the NMI administrator.

Completion of the kit

This kit includes a number of forms for you to complete relevant to the subclass(es) you are being assessed for, including:

- your work history
- a report(s) from your supervisor / mentor
- completion of one or more verification forms (Form 6)
- written assessments – some are common to all subclasses, others are specific to the subclass of instrument(s) you wish to be assessed for. Common and specific sections are indicated in the assessment recording form and at the top of each group of questions.
- test report questions, where you complete a test report using data provided for you. These questions are specific to each instrument subclass.

Complete only the questions / test reports relevant to the subclass(es) of instrument for which you wish to be assessed.

In addition, you are required to provide copies of test reports and documents printed from instruments you have tested under supervision. You should have personally completed all the tests required for verification of those instruments. You will need to provide a minimum of three (3) test reports in total for subclasses 4.9 and 15.1 with at least one test report for an instrument of each subclass, if you are being assessed for both subclasses. Try to include examples from instruments which did not meet the requirements for verification to demonstrate your understanding of unacceptable instrument performance.

See also Workplace test reports and documents section

Submission of the kit and enrolment

Once you have completed all relevant forms and the other required documents, you should scan all sides of the documents in the order shown in the kit plus the additional documents. Use the checklist on page 3 to ensure you have included all the documents for the subclass(es) for which you are being assessed.

Only scan the forms you have completed, not these instructions or any parts not relevant to your assessment. Email the scanned copy of your completed kit to nmiadministrator@measurement.gov.au and keep your original kit as your assessor will ask questions about your kit during the interview.

You are now ready to enrol!

Complete enrolment by choosing the appropriate subclass(es) under the header ‘Verifier and Weighbridge Operator Assessments (Recognition kits) on the NMI web page, then adding each subclass to the cart to enrol and pay by credit card. Further instructions for payment by purchase order are given on the website.

Assessment

Your assessor uses a number of forms on which to record the results of assessment for each part. The forms used by the assessor are included at the end of the kit for your information. Once your assessor receives your submitted material, they will:

- assess the submitted material
- determine if any further written evidence is required
- determine whether an observation of you verifying an instrument or instruments will be required, (if so, they will contact you to make the necessary arrangements)
- contact you to arrange a mutually convenient time for a telephone interview to clarify any of the answers you provided, confirm your understanding, discuss the reports you submitted and ask any other questions to confirm your competency (may be combined with the observation assessment)
- advise you of the result of assessment and provide feedback
- record your results on the assessment recording form
- return the kit to our administrator for processing and confirmation of the result of your assessment, including posting out your statement of attainment, when successful.
Assessment recording form (applicant)

Applicant to complete this section

Name: First       Middle       Family

Email address:

Telephone: Work       Mobile

Name of supervisor / mentor:       Supervisor’s / mentor's telephone number:

Supervisor’s / mentor’s email address:

Company name:

Check the subclass(es) of instruments you are being assessed for:

☐ 4.9 – Grain density measuring instruments
☐ 15.1 – Protein quality measuring instruments

Checklist to ensure you have included all required components of this kit. Check all that apply:

☐ Applicant’s work history       ☐ Report from supervisor / mentor
☐ Written assessment (all subclasses)       ☐ Written assessment (4.9)
☐ Written assessment (15.1)

Completed verification form (s) including:

☐ 4.9 – Grain density measuring instruments
☐ 15.1 – Protein quality measuring instruments

Completed test report questions for:

☐ 4.9 – Grain density measuring instruments
☐ 15.1 – Protein quality measuring instruments

3 test reports from instrument tests you have completed in the workplace (Check all relevant to the subclasses you have applied for assessment):

4.9 – Grain density measuring instruments – Number submitted -

15.1 – Protein quality measuring instruments – Number submitted -

I verify that the work submitted in this kit has been completed by me and relates to activities I have completed personally.

Applicant’s signature:       Date:
Assessment recording form (Assessor)

Assessor to complete this section and attach a separate page of feedback to the applicant

<table>
<thead>
<tr>
<th>Assessor name:</th>
<th>Date kit received:</th>
</tr>
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Summary of evidence used to assess the applicant:

- [ ] Written assessments
- [ ] Completed verification form(s)
- [ ] Review of 3 test reports
- [ ] Review of labels / docket / transaction records
- [ ] Report from supervisor / mentor
- [ ] Questioning / structured interview
- [ ] Practical observation
- [ ] Other – specify:

To obtain the skill set MSMSS00011 - Trade Measurement Verification (Simple Measuring Instrument), applicants must demonstrate competency in both units of competency.

<table>
<thead>
<tr>
<th>This applicant was assessed as:</th>
<th>Competent</th>
<th>Not yet competent</th>
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<tbody>
<tr>
<td>MSMTMVER302 Verify simple measuring instruments</td>
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<tr>
<td>MSMTMREF301 Use and maintain reference standards</td>
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Check the subclass(es) requested and whether they are competent or not yet competent:

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<th>Competent</th>
<th>Not yet competent</th>
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<tr>
<td>4.9 – Grain density measuring instruments</td>
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<tr>
<td>15.1 – Protein quality measuring instruments</td>
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Applicant’s ID checked at interview: [ ]

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<tr>
<th>Signature of assessor:</th>
<th>Date:</th>
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<tr>
<th>RTO Manager’s signature:</th>
<th>Date:</th>
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Applicant’s work history and training

Details of current employment

Organisation:

Postal address:

Period of employment (years):

Title of your current position:

Details of any previous relevant employment

Organisation:

Postal address:

Period of employment (years):

Title of your previous position:

Relevant work experience

Specify the length of time you have been testing each type of instrument, the type of instruments you have worked with, and the approximate number of instruments you have tested (including under supervision and in simulated workplace situations)

Detail any relevant training courses you have attended (name and date) and attach copies of any relevant trade qualifications:
Written assessment (all subclasses)

Instructions

For multiple choice questions, circle the correct answer, or answers. If you make a mistake, cross through any answers that you wish to change with a line and circle the new correct answer.

e.g. Q 3. What is the colour of my dog?

\[\begin{array}{l}
\text{a) Black} \\
\text{b) Brown} \\
\text{c) Brindle} \\
\text{d) Spotty}
\end{array}\]

For free text questions, space is provided below each question where your response should be written, including any calculations.

If you need more space, complete it on a separate piece of paper and identify the question as per the following example:

‘Written assessment – all subclasses Q4’

Questions

1. As part of the licence conditions, a servicing licensee is required to maintain a quality management system. From the following list, select each item that is included in your quality management system manual. Check all that apply.

\[\begin{array}{l}
a) \text{The requirement for all measuring instruments to be of an approved pattern and comply with their certificate of approval.} \\
b) \text{Details of instrument reverification periods.} \\
c) \text{References to the national instrument test procedures relevant to the servicing licence.} \\
d) \text{Procedures relating to instruments that cannot be verified.}
\end{array}\]

2. Which document, maintained by the servicing licensee, details the required format of the verification mark to be applied by verifiers working under that servicing licence? Choose the single correct answer.

\[\begin{array}{l}
a) \text{The National Trade Measurement Regulations 2009.} \\
b) \text{The licensee's quality manual.} \\
c) \text{The National Instrument Test Procedures.} \\
d) \text{The licensee's servicing licence.}
\end{array}\]

3. What are the markings you would apply to an instrument / measure you verified on 26 June 2016 if your servicing licensee code is DBA and you have the verifier number VR 01278? Choose the single correct answer.

\[\begin{array}{l}
a) \text{DBA 01278 F6} \\
b) \text{1278 F 16} \\
c) \text{DBA1278F6} \\
d) \text{1278 DBA F16}
\end{array}\]

4. Select the actions you would take when you test a measuring instrument / measure in use for trade and determine it cannot be verified. Check all that apply.

\[\begin{array}{l}
a) \text{Replace the verification mark with one indicating the instrument can no longer be used.} \\
b) \text{Remove any existing verification mark (where feasible).} \\
c) \text{Notify the owner within 14 days.} \\
d) \text{Notify the owner immediately.} \\
e) \text{Notify NMI within 14 days.} \\
f) \text{Notify NMI immediately.}
\end{array}\]
5. If you verify a measuring instrument or measure, how long do you have to submit notice of the verification to the National Measurement Institute on the approved form? Choose the single correct answer.
   a) 7 days.
   b) 14 days.
   c) 21 days.
   d) 1 month.

6. If you were unsure of the correct way to apply a verification mark on a measuring instrument / measure, or whether or not you should apply a seal, what would you do? Write your answer below.

7. How often must a measuring instrument / measure used for trade be re-verified? Choose the single correct answer.
   a) Whenever an adjustment or repair affects its metrological performance.
   b) Whenever it has been adjusted / repaired or every 2 years.
   c) Every 3 years.
   d) Every 5 years.

8. Can you verify a measuring instrument / measure where the certificate of approval states 'cancelled in respect of new instruments as from 1 January 2014'? Choose the single correct answer.
   a) No, never.
   b) Yes, always.
   c) Yes, if the instrument / measure was manufactured before 1 January 2014.
   d) Yes, provided the instrument is new.

9. What could be the consequence if you failed to provide the trader with a notice of non-verification when you have been unable to verify a measuring instrument / measure used for trade? Check all that apply.
   a) No consequence, provided I told the trader they couldn't use the instrument / measure for trade.
   b) Customers could get incorrect measure.
   c) I could lose my job.
   d) Nothing, it's the trader's responsibility to check the instrument / measure is correctly marked.
   e) I could be fined.
   f) I could be restricted from verifying instruments / measures.
10. List the reference standards or equipment you use when verifying measuring instruments or measures? The answer you give should relate to all instrument subclasses for which you are being assessed. Write your answer below.

_________________________________________________________________________

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11. How do you protect the integrity of the reference standards and equipment you described in the previous question? Your answer should relate to storage, transportation and handling of reference standards and equipment. Write your answer below. Continue on a separate sheet of paper if required.

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

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_________________________________________________________________________
12. From the following list, choose the types of environmental factors that could influence the integrity of the reference standards and equipment that you use when verifying instruments / measures? The answer you give should relate to any instrument subclasses for which you are being assessed. Check all that apply.
   a) Temperature
   b) Humidity
   c) Electrical interference
   d) Wind
   e) Rain and water
   f) Gravity
   g) Dust and dirt
   h) Instrument level
   i) Pressure
   j) Other (detail):

13. How do you control these factors when undertaking a verification? The answer you give should relate to all instrument subclasses for which you are being assessed. Write your answer below.

14. You have damaged a reference standard used to verify measuring instruments / measures. What should you do with it? Choose the single correct answer.
   a) Use it until it can be repaired.
   b) Quarantine it and then use it once repaired, if it is repairable.
   c) Quarantine it, until it has been repaired, tested and approved for use by the appropriate authority.
15. When using reference standards or equipment, what signs / symptoms / measurement results might alert you to a possible problem / fault / damage with those standards or equipment? Provide answers for each of the types of standards or equipment you use when verifying instruments of this / these subclass(es).

________________________________________________________________________

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16. You have verified and marked a measuring instrument or measure when you realise that the reference standard or equipment that you used was damaged or faulty. What should you do with the verified instrument / measure? Write your answer below.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
17. You have just changed your home address. What are you required to do? Choose the single correct answer.

a) Nothing.
b) Notify my employer who will notify NMI within 14 days.
c) Notify my employer who will notify NMI within 2 months.
d) Call my local trade measurement inspector and leave a message.

18. What does your quality management system require your organisation to do when there is a change to the reference standards you use, i.e. when you acquire new standards, when your standards are reverified, when you dispose of standards that are broken / excess to requirements? Check all that apply.

a) Ensure new standards have the appropriate certification.
b) Allocate a junior member of staff to clean the new standards.
c) Update the list of reference standards.
d) Supply a copy of the updated list of reference standards to NMI within 30 days of the change.
e) Supply a copy of the updated list of reference standards to NMI within 14 days.

19. What are the main workplace health and safety hazards that you face when verifying a measuring instrument or measure? Your answer should relate to the verification of the instrument types for which you are currently being assessed. Write your answer below, continue on a separate sheet if required.
20. What do you do to minimise the risks from the hazards that you have identified when undertaking verification activities? Write your answer below. In your answer, reference any relevant company procedures. Continue on a separate sheet, if required.
21. Do you know what a SDS and a SWMS are? Explain these terms in your own words and give two examples of when you might use them.
Written assessment (Subclass 4.9 specific questions)
Complete this section if you are being assessed for grain density measuring instruments

1. What is the name, current version number and release date for the national instrument test procedures used to verify grain density measuring instruments? Choose the single correct answer.
   a) NITP 0 First edition – February 2015
   b) NITP 15.1 First edition, First Revision - January 2014
   d) NMI V 10 Second edition – December 2007

2. What general certificate of approval must grain density measuring instruments comply with? Choose the single correct answer.
   a) NMI 4/10/0
   b) NMI 4/10/0A
   c) NMI 17/1/0
   d) NMI P15/2/1

3. What is the scientific name for a grain density measuring instrument? Choose the single correct answer.
   a) Density hydrometer
   b) Densometer
   c) Grainometer
   d) Chondrometer

4. What are the requirements for the reference standards used for verifying density measuring instruments?

5. What MPE is applied when verifying a density measuring instrument (measuring container part)? Choose the single correct answer.
   a) ± 1 scale interval
   b) ± 0.2% of the capacity of the measure under test
   c) Difference between the average values determined by the reference measure and the measure under test should not be > ± 0.5 kg/hL
   d) ± 10 mL
6. What are the requirements for the grain used during testing of the instrument? Check all / any that apply.
   a) Must be a CRM of known density
   b) Must be large enough to fill the larger of the filling hoppers of the reference standard or the measure under test.
   c) Should be free from impurities and under the same ambient temperature and humidity as found in the place where the instrument will be used.
   d) Should be finely milled whole grain.
   e) The same grain sample should be used in both reference standard and measure under test.

7. What markings are required on the measuring container of a grain density measuring instrument?

8. What are the requirements for the weighing instrument used as part of a grain density measuring instrument?

9. Consider the regulation 13 certificate of verification given below and answer the following questions that relate to it.
   a) When does the reference standard expire?

   b) What level of uncertainty applies to this reference standard measure? Choose the single correct answer.
      i. ± 0.04 mL
      ii. 95%
      iii. 2.0
      iv. ± 0.011 m

   c) What is the verified volume of the measure? Choose the single correct answer.
      i. 1 Litre
      ii. 1003.6 mL
      iii. 15810 mL
      iv. ± 0.04 mL
Copy for training use only

Certificate of Verification of a Reference Standard of Measurement in accordance with Regulation 13 of the National Measurement Regulations 1999 (Cth) in accordance with the National Measurement Act 1960 (Cth)

Certificate Number RN160171

Description of standard of measurement: Kern Drop Weight Chondrometer, Udo Schilling, 1 Litre

Permanent distinguishing marks: Serial No: 15810

Date of verification: 27 January 2016

Period of certificate: From date of verification until 27 January 2018

Value(s) of standard of measurement: 1003.6 mL

Accuracy of verification:
The uncertainty of measurement is ± 0.04 mL. This uncertainty has been calculated in accordance with principles in JCGM 100:2008 - Evaluation of measurement data - Guide to the expression of uncertainty in measurement, and gives an interval estimated to have a level of confidence of 95% at the time of verification, with a coverage factor of 2.0

Reference temperature: 20 °C

Signature: 
Name: Mr Umesh Kotwal
Date: 27 January 2016

Being a person with powers delegated by the Chief Metrologist acting under section 11C of the National Measurement Act 1990 (Cth) in respect of regulation 13 of the National Measurement Regulations 1999 (Cth), I hereby certify that the above standard is verified as a reference standard of measurement in accordance with the regulation.

This document may not be published except in full unless permission for the publication of an approved extract has been obtained in writing from the Chief Metrologist, National Measurement Institute.

Test Method: 14.4.3 Chondrometer

Trade Measurement Laboratory, Sydney
36 Bradfield Road
West Lindfield NSW 2070
Australia

Telephone: +61 2 8467 3898
Facsimile: +61 2 8467 3898

Headquarters:
PO Box 264
Lindfield NSW 2070
Australia
Telephone: +61 2 8467 3898

NATA Accredited for compliance with ISO/IEC 17025.
Accreditation Number 1.

The measurement results presented in this document are traceable to Australian standards.
10. Which part of the volume measure determines the volume the grain sample? Choose the single correct answer.

   a) The internal surfaces of the filling hopper and the upper surface of the levelling blade.
   b) The internal surfaces of the measuring container and the lower surface of the levelling blade.
   c) The internal surfaces of the filling hopper and the measuring container with the blade in place.
   d) The internal surfaces of the filling hopper and the measuring container with the blade removed.

11. Describe in your own words the processes you would go through when verifying a grain density measuring instrument.
12. You have recently been employed by a licensee who holds a licence for instruments of subclasses 4.9, 6.1 and 15.1. You have obtained your statement of attainment for 6.1 and 15.1 but have yet to complete your assessment and obtain a statement of attainment for instrument subclass 4.9. Your manager tells you to verify a batch of grain density measuring instruments for a grain exporter who needs the instruments verified this week, as they are just about to start receiving grain for export. Usually your manager would do the verification, but he is overseas and he says he has confidence that you have the capability to verify the instruments. He says you can use his verifier number, if you like. What should you do? Choose the single correct answer.

   a) Verify the instruments, using your verifier number.
   b) Verify the instrument using your manager's verifier's number.
   c) Test the instruments, but don't apply a mark, and send them to the customer saying they are accurate and can be used and your manager will apply the mark next week when he returns.
   d) Tell your manager that you are not yet competent verify the instruments.

13. You are carrying out pre-harvest accuracy tests on a number of grain density measuring instruments for a customer. The instruments have been tested regularly over the last 5 years and shown consistent accuracy each time. From the first instrument you test, you notice significant measurement errors outside MPE. As you continue on, you find the same pattern of errors with all the instruments. What might be the reason for this and what should you do?

14. You are carrying out a regular accuracy check at a grain buyer’s premises and note that one of the staff members determining the grain density of customer’s grain is not using the filler hopper to fill the measuring container, which is then insufficiently filled, resulting in lower grain density measurements. What should you do? Check all appropriate answers

   a) Nothing, it is none of your business.
   b) Have a chat to the employee to see if he understands how to use the instrument correctly.
   c) Raise the issue with the site manager – advising there could be consequences if employees use the instruments incorrectly and provide incorrect measurement.
   d) Issue a non-compliance notice to the company.
   e) Say nothing and report the company to the local trade measurement office.

15. Which of the following would trigger the need to re-verify a density measuring instrument? Check all that apply?

   a) Replacement of worn markings
   b) Replacement of a levelling blade
   c) Replacement of the filler hopper.
   d) All of the above
Written assessment (Subclass 15.1 questions)
Complete ONLY if you are being assessed for this subclass

1. What is the name, current version number and release date for the test procedures used to verify grain protein measuring instruments? Choose the single correct answer.
   a) NMI V 10 First edition – December 2005
   b) NMI V10 Second edition – December 2007
   c) NITP 15.1 First edition – December 2011
   d) NITP 15.1 First edition, first revision – January 2014

2. What measuring instrument does the pattern approval number 15/1/1 relate to? Choose the single correct answer.
   a) Perten Instruments model Inframatic IM9200 Grain Protein Measuring Instrument
   b) Infratec model 1241 Grain Protein Measuring Instrument
   c) Leco model FP-328 Grain Protein Measuring Instrument
   d) Foss model EyeFoss Grain Analysing Instrument

3. Which of the following are required specifications for reference materials used to test grain protein measuring instruments? Choose all that apply.
   a) Must have a current Regulation 13 certificate
   b) Must have a current test report.
   c) Must have a current Regulation 48 certificate.
   d) Must contain 3-5 different whole grains that cover the spread of protein concentration across the operating range of the instrument under test.
   e) Must contain 5-10 different whole grains that cover a spread of protein concentrations within the operating range of the instrument under test.

4. These questions relate to the Regulation 48 certificate included on the following pages.
   a) What does the acronym CRM stand for? Choose the single correct answer.
      i. Certified reference mass.
      ii. Certified reference material.
      iii. Certified rice meter.
      iv. Commonwealth reference number.
   b) When does the CRM expire?
   c) What is the number of the CRM? Choose the single correct answer.
      i. 78234
      ii. 56287
      iii. 56345
      iv. 25665
   d) What are the CRM grain type, protein value and uncertainty, and moisture value?
   e) Who can issue Regulation 48 certificates? Choose the single correct answer.
      i. The National Association of Testing Authorities (NATA).
      ii. A verifying authority.
      iv. A certifying authority.
Certificate of Analysis

Applied Technology Department
700 Abemethy Road
Forrestdale WA 6058

Name of material: Wheat

Serial number of the CRM: 56287

Description: WA grown grains

Intended use: This document is issued in accordance with NATA's accreditation requirements. Accredited for compliance with ISO guide 34.

For the calibration of instrumentation used for testing grain.

Instructions for intended use:
The property values of this material are based on “whole” grain. Improper handling or pre-test treatment of the sample (such as removal of foreign material) will invalidate the results shown on this certificate. Allow sample to equilibrate to ambient temperature before use.

This sample may be used more than once providing due care is taken not to contaminate or subject it to adverse conditions such as heat sources and ensure sample is re-sealed immediately after use.

The uncertainty of the property values stated on this certificate is based on the entire sample (750g). Testing less than the entire sample will invalidate the uncertainty value stated on this certificate.

Certified values and their uncertainty intervals:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Uncertainty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein (%N x 5.7 11% mb)</td>
<td>13.7</td>
<td>+/- 0.39</td>
<td>% W/W</td>
</tr>
<tr>
<td>Moisture (Uncertified)</td>
<td>11.0</td>
<td></td>
<td>% W/W</td>
</tr>
</tbody>
</table>

Standard Methods Used (Where Applicable):

Property values have been determined by Near Infrared equipment, calibrated to the following methods and traceability:

Protein – Royal Australian Chemical Institute (RACI) – Cereal Chemistry Division (CCD) method 02-03 (Dumas combustion method) using 2-Amino-2-(hydroxymethyl)-1,3-propanediol commonly referred to as TRIS to set up Dumas instruments. The TRIS (The current TRIS in use is SRM 723d) used is a traceable NIST nitrogen reference material.

Moisture - American association of Cereal Chemists (AACC) – method 44-15A - traceable to Australian national standards of mass and temperature.
The uncertainty has been calculated at a 95% confidence interval using a coverage factor of 2.

Certification date: 16/5/2012
Expiry date: 16/5/2013
Shelf life: 12 months or 90 days after opening

This certified reference material is certified under Regulation 48 of the National Measurement Regulations 1999.

__________________________________________

Ian Sproul
Certifying Officer
Manager Applied Technology
5. What is the MPE for protein measuring instruments used to measure protein for the following grains? Choose the single correct answer in each case.

   a) Barley:
      i. 0.5%
      ii. ± 0.4%
      iii. ±0.5%
      iv. ±0.3%

   b) Wheat:
      i. 0.5%
      ii. ± 0.4%
      iii. ±0.5%
      iv. ±0.3%

6. The protein content of grains indicated by protein measuring instruments is corrected to a standard moisture content value. What is the specified moisture content for the following grains? Choose the single correct answer in each case.

   a) Barley.
      i. 0%
      ii. 7%
      iii. 11%
      iv. 13%

   b) Wheat.
      i. 0%
      ii. 7%
      iii. 11%
      iv. 13%

7. Other than wheat and barley, what other grains may have their protein measured using an approved grain protein measuring instrument?

__________________________________________________________________________________________

8. When must un-networked grain protein measuring instruments be tested? Check all that apply.

   a) After any repair, adjustment or change that affects metrological performance
   b) Once a week
   c) Pre-harvest
   d) Annually
   e) Before the instrument is first used for trade
   f) Daily

9. May you use the same sample of grain for each of the repeat test runs? Explain your answer.

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________
10. What error is permitted when an instrument that measures wheat protein is tested after correction using bias zeroing adjustments (without requiring adjustment of the instrument and reverification)?

a) ±0.1%
b) ±0.2%
c) ±0.25%
d) ±0.3%
e) ±0.35%
f) ±0.4%

11. Determine the error for the following results, add the results into the following table and state whether each result is within MPE.

<table>
<thead>
<tr>
<th>Grain Type</th>
<th>Protein Content ACRM %</th>
<th>Protein Content Indicated %</th>
<th>Difference %</th>
<th>Within MPE? Y or N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>9.85</td>
<td>9.4</td>
<td>0.45</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>10.06</td>
<td>10.4</td>
<td>-0.34</td>
<td></td>
</tr>
<tr>
<td>Wheat</td>
<td>12.89</td>
<td>12.6</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>Barley</td>
<td>11.85</td>
<td>11.4</td>
<td>0.45</td>
<td></td>
</tr>
</tbody>
</table>

12. The following questions relate to the connection of auxiliary devices to measuring equipment.

a) Which document specifies the requirements for the installation of auxiliary indicating or printing devices and POS systems installed prior to 1 August, 2012? Choose the single correct answer.
   i. S1/0/A
   ii. S1/0B
   iii. Supplementary certificate of approval for the device / system
   iv. Measuring instrument approval

b) Which document specifies the requirements for the installation of auxiliary indicating or printing devices installed after 1 August, 2012, excluding POS or Control systems? Choose the single correct answer.
   i. S1/0/A
   ii. S1/0B
   iii. Supplementary certificate of approval for the device / system
   iv. Measuring instrument approval

c) Which document specifies the requirements for the installation of POS systems installed after 1 August, 2012? Choose the single correct answer.
   i. S1/0/A
   ii. S1/0B
   iii. Supplementary certificate of approval for the device / system
   iv. Measuring instrument approval

d) When verifying an instrument which has an auxiliary device (other than a POS or control system) connected to it, what are the requirements for verification marking? Choose the single correct answer. Choose the single correct answer.
   i. Apply a mark to the instrument only
   ii. Apply a mark to the auxiliary device only
   iii. Apply a mark to both the auxiliary device and the instrument
13. Following which of the following repairs would you need to re-verify a grain protein instrument? Check all/any that apply.

   a) Replacement of a worn data plate.
   b) Calibration adjustment for instrument outside MPE.
   c) Replacement of unreadable display
   d) Replacement with same model printer
   e) Replacement of light source

14. You are carrying out an annual accuracy check at a site when you notice that a grain protein measuring instrument approval number 15/1/8 is being used to measure protein in ground sorghum and the business is using the results to determine the price of sorghum they purchase. What should you do? Check all/any that apply.

   a) Nothing, the instrument can be used for sorghum.
   b) Nothing, it is their instrument, they can use it any way they like.
   c) Remove the mark, as the instrument no longer meets the requirements for verification.
   d) Advise the controller that he cannot use the instrument to measure protein in sorghum for trade as it is not approved to do so.
   e) Advise the controller that the measurement of protein will not be accurate, as it has not been calibrated to measure protein in sorghum.
   f) Issue a notice of non-compliance to the business.
   g) Advise the controller that an accuracy check should be carried out once all sorghum contamination has been removed, to ensure there has been no effect on the accuracy of measurement.

15. You have just been employed by a licensee who holds a licence for instruments of subclasses 6.2 (weighing instruments 30 kg or less classes 3 and 4), 18.2 (point of sale systems) and 4.9 (grain density measuring instruments). You have previous experience of working with grain density measuring instruments from your previous employer. You currently hold statements of attainment for instruments of subclasses 18.1 and 15.1.

   Your employer has just received a call out from a valued customer, with whom he has a maintenance contract, to repair a grain density instrument that has been rejected by a trade measurement officer. His usual verifier is on leave for a week, so he asks you to go and repair and re-verify the instrument. What should you do? Check all/any that apply.

   a) Verify the instrument.
   b) Verify the instrument, using the other verifier’s verification number.
   c) Tell your employer that although you are happy to repair the instrument, you won’t be able to verify it.
   d) Repair the instrument and leave without verifying it, providing no explanation to the customer.
   e) Tell your employer to do it himself.
**Verification form task**

Download a Certificate of Verification or notice of non-verification of a measuring instrument form ([Form 6](#)) from the NMI website, for each subclass being assessed. Complete each form using the information given below.

Once you have completed the form(s), scan it /them and include with your submitted recognition kit.

**For subclass 4.9**

- Verification carried out at Outwest Grains Pty Ltd, 62 Kate St, Dirranbandi, QLD 4486.
- Verification carried out on the 13/11/2018 by Zac Schiller Verifier number VR-01111.
- Licensee is Agritec Group Pty Ltd SL-0889, Licensee’s Mark is ATQ. Licensee’s ABN is 434353536565.
- Instrument Verified has approval number NMI 4/10/0A, manufactured by Graintec Scientific Pty Ltd, with maximum capacity of 0.5 L, serial number GT173356.
- Instrument was verified as a new instrument.

**For subclass 15.1**

- Verification carried out at Greenfields Grainstores, Lot 456 Excalibur HWY, Mount Marron, SA 5099
- Verification carried out on the 14/11/18 by Angelique Roscoe, verifier number VR-06999.
- Licensee is Calpak Pty Ltd SL-0865, Licensee’s Mark is XXX. Licensee’s ABN is 56785678567
- Instrument verified is an Infratec Model 1229 Grain Protein Measuring Instrument, approval number 15/1/150, serial number IN4254737
- Instrument was verified following repair.
Test report questions

Complete the test report question(s) specific to the subclass(es) of instrument are being assessed for.

Subclass 4.9 Grain density measuring instruments

Complete the test report for a grain density measuring instrument (page 27) using the information provided. Where any calculations are required to complete any parts of the test report, then complete the calculations so you can fully populate the test report form. At the bottom of the form state whether the instrument has passed or failed and give reasons for any failure.

Scan the completed form and include it with your recognition kit.

Assume that ALL tests required to be completed for the instrument for INITIAL verification have been carried out and passed, where not described below, and complete the form appropriately.

If you do not currently have a verifier number, use the verifier number VR-09999.

Details:

Verification carried out at Outwest Grains Pty Ltd, 62 Kate St, Dirranbandi, QLD 4486 on 12th November 2018.

Site contact person – Quality manager Vince Riddell

Instrument owned by same company, head office at 472 North St, Toowoomba, 4350

Instrument verified – approval number NMI 4/10/0A, new Grain density measuring instrument manufactured by Graintec Scientific Pty Ltd, with maximum capacity of 0.5 L, serial number GT173356.

Data plate markings:

Pattern approval mark – 4/10/0A

Manufacturer’s name – Graintec Scientific Pty Ltd

Serial number - GT173356

Maximum capacity – 0.5 L

Weighing instrument details:

NMI 6/4C/244 maximum capacity 3100 g, verification scale interval 0.1 g, verified by local licensee for weighing instruments 10th October 2018.

Instrument data:

Visual inspection: All components are as per certificate of approval other than an Epson model TM–T7011 printer is used. System includes a barcode reader for tracking parcels.

The instrument is in good condition, with no adverse findings.

Test results:

<table>
<thead>
<tr>
<th>Measurement number</th>
<th>Net weight of filled reference measure (Capacity 501.2 mL)</th>
<th>Net weight of filled instrument under test (Nominal capacity 0.5 L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>357.4 g</td>
<td>355.5 g</td>
</tr>
<tr>
<td>2</td>
<td>360.2 g</td>
<td>359.5 g</td>
</tr>
<tr>
<td>3</td>
<td>358.4 g</td>
<td>358.3 g</td>
</tr>
</tbody>
</table>

Include any additional information calculated from the data and determine whether the instrument has passed the required tests.
Test report reference number: ................................................................. Date of test: .................................................................

Type of test (tick one)  □ Verification  □ In-service inspection

For in-service inspection or reverification, record the verification mark: .................................................................

Name of owner/user: .................................................................................................................................

Address of owner/user: .................................................................................................................................

Name of contact person on premises: ........................................................................................................

Address of instrument location: ................................................................................................................

Manufacturer: ................................................................. Model: .................................................................

Serial number: ................................................................. Certificate of Approval number: .................................................................

Details of the Reference (clause 2)

<table>
<thead>
<tr>
<th>Reference</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Make (if applicable)</td>
<td></td>
</tr>
<tr>
<td>Model (if applicable)</td>
<td></td>
</tr>
<tr>
<td>Serial number</td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Reference certificate number (e.g. Regulation 13 certificate, etc.)</td>
<td></td>
</tr>
<tr>
<td>Certificate expiry date</td>
<td></td>
</tr>
</tbody>
</table>

General Characteristics (clause 3.2)

<table>
<thead>
<tr>
<th>Yes, no or N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the instrument comply with its Certificate(s) of Approval?</td>
</tr>
<tr>
<td>Is the instrument being used in an appropriate manner?</td>
</tr>
<tr>
<td>Are all mandatory descriptive markings clearly and permanently marked on the data plate?</td>
</tr>
<tr>
<td>If applicable, is the data plate fixed on the instrument?</td>
</tr>
<tr>
<td>Is the instrument complete?</td>
</tr>
<tr>
<td>Is the instrument clean?</td>
</tr>
<tr>
<td>Is the instrument operational?</td>
</tr>
<tr>
<td>Is the operation of the instrument free of any apparent obstructions?</td>
</tr>
<tr>
<td>If applicable, is the instrument securely mounted on a firm and level base?</td>
</tr>
<tr>
<td>Does the operator (and where applicable, the customer) have a clear and unobstructed view of the indicating device and the entire measuring process?</td>
</tr>
<tr>
<td>If applicable, is the instrument adequately protected against abnormal dust, air movement, vibrations, atmospheric conditions and any other influence likely to affect its performance?</td>
</tr>
</tbody>
</table>
Test report for grain density measuring instruments

Test Results

Comments

Verifier's name: ........................................ Identification number: ....................................

Signature: ..........................................................................................................................
**Subclass 15.1 Grain protein quality measuring instruments**

Complete the test report for a grain protein quality measuring instrument (page 31) using the information provided. Where any calculations are required to complete any parts of the test report, then complete the calculations so you can fully populate the test report form. At the bottom of the form state whether the instrument has passed or failed and give reasons for any failure.

Scan the completed form and include it with your recognition kit.

Assume that ALL tests required to be completed for the instrument for INITIAL verification have been carried out and passed, where not described below, and complete the form appropriately.

If you do not currently have a verifier number, use the verifier number VR-09999.

**ACRM details:**

<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Reg 48 No.</th>
<th>Protein concentration</th>
<th>Expiry</th>
</tr>
</thead>
<tbody>
<tr>
<td>2838456</td>
<td>CBH 4124</td>
<td>9%</td>
<td>31/7/2019</td>
</tr>
<tr>
<td>2838398</td>
<td>CBH 4118</td>
<td>11.5%</td>
<td>14/4/2019</td>
</tr>
<tr>
<td>2837189</td>
<td>CBH 4104</td>
<td>13.8%</td>
<td>28/12/2018</td>
</tr>
</tbody>
</table>

**Details:**

Verification carried out on 12/10/2018 at Dawson’s Grainstore, Lot 468 Chances Plain Rd, Chinchilla QLD 4413, site contact - manager Ed Dawson. Instrument owned by same company.

Instrument verified - Infratec Model Sofia Grain Protein measuring Instrument NMI 15/1/6, with a scale interval of 0.1%, and an operating range of 8.5 - 18% protein, used to measure the protein content of a whole grain sample of wheat only. Serial Number 546342355

New instrument. Epson printer is connected which provides a basic printout of the test results and the date (see below), it is marked S1/0B and the printout meets the requirements of S1/0B.

**Data plate markings:**

Pattern approval mark – NMI No. 15/1/6

Manufacturer's name – Foss

Model designation – Sofia

Serial number – 546342355

Approved operating range - 8.5 - 18% protein

Scale interval 0.1%

Grain type - Wheat

Special temperature limits – 5 to 40 °C

Power supply – 100-240 V VAC, 50 Hz or 12 V DC

**Instrument data:**

Visual inspection: All components are as per certificate of approval and the instrument is in good condition, with no adverse findings.

**Test results:**

Instrument warm-up cycle completed

Instrument clean prior to commencement of testing
Results of protein analysis:

<table>
<thead>
<tr>
<th>CRM % Protein</th>
<th>Run 1</th>
<th>Run 2</th>
<th>Run 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9%</td>
<td>9.2%</td>
<td>9.2%</td>
<td>9.1%</td>
</tr>
<tr>
<td>9%</td>
<td>9.1%</td>
<td>9.0%</td>
<td>8.9%</td>
</tr>
<tr>
<td>9%</td>
<td>9.0%</td>
<td>8.9%</td>
<td>8.9%</td>
</tr>
<tr>
<td>11.5%</td>
<td>11.1%</td>
<td>11.2%</td>
<td>11.1%</td>
</tr>
<tr>
<td>11.5%</td>
<td>11.1%</td>
<td>11.1%</td>
<td>11.0%</td>
</tr>
<tr>
<td>11.5%</td>
<td>11.2%</td>
<td>11.1%</td>
<td>11.1%</td>
</tr>
<tr>
<td>13.8%</td>
<td>13.6%</td>
<td>13.6%</td>
<td>13.4%</td>
</tr>
<tr>
<td>13.8%</td>
<td>13.5%</td>
<td>13.4%</td>
<td>13.3%</td>
</tr>
<tr>
<td>13.8%</td>
<td>13.4%</td>
<td>13.3%</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

Include any additional information calculated from the data. Determine whether the instrument has passed the required tests and add comments as applicable.
Test Report for Grain Protein Measuring Instrument

Test report reference number ........................................ Date of test ........................................

Type of test (tick one)  □ Verification  □ In-service inspection

For in-service inspection or reverification, record the verification mark: ........................................

Name of owner/user ....................................................................................................................

Name of owner/user ....................................................................................................................

Address of owner/user ...............................................................................................................  

Address of owner/user ...............................................................................................................  

Name of contact person on premises .........................................................................................  

Address of instrument location .................................................................................................  

Description of instrument .........................................................................................................  

Approved operating range (% protein) .....................................................................................  

Manufacturer ........................................... Model .................................................................

Serial number ........................................... Certificate of Approval number ......................  

Grain type (wheat and/or barley) ...............................................................................................  

Calibration names (if more than one for a grain type) .........................................................  

Identification of grinder (make, model) if applicable ............................................................  

<table>
<thead>
<tr>
<th>General Characteristics (clause 3.2)</th>
<th>Yes, no or N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the instrument comply with its Certificate of Approval?</td>
<td></td>
</tr>
<tr>
<td>Is the instrument being used in an appropriate manner?</td>
<td></td>
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<tr>
<td>Are all mandatory descriptive markings clearly and permanently marked on the data plate?</td>
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<td></td>
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<tr>
<td>If applicable, is the instrument adequately protected against abnormal dust, air movement, vibrations, atmospheric conditions and any other influence likely to affect its performance?</td>
<td></td>
</tr>
<tr>
<td>If applicable, do the additional indicating devices exactly repeat the information on the primary indication and any device for ticket/label printing comply with the requirements of General Supplementary Certificate of Approval S1/0/A or S1/0/B?</td>
<td></td>
</tr>
</tbody>
</table>
### Test results (copy additional pages if required)

**Grain type or Calibration ID (if applicable)**

<table>
<thead>
<tr>
<th>ACRM sample ID:</th>
<th>Protein content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument results (%)</td>
<td></td>
</tr>
<tr>
<td>Difference (ACRM and instrument)</td>
<td></td>
</tr>
</tbody>
</table>

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</table>

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<tbody>
<tr>
<td>Instrument results (%)</td>
<td></td>
</tr>
<tr>
<td>Difference (ACRM and instrument)</td>
<td></td>
</tr>
</tbody>
</table>

**Overall result**

- [ ] Pass
- [ ] Fail

---

<table>
<thead>
<tr>
<th>ACRM sample ID:</th>
<th>Protein content (%)</th>
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</thead>
<tbody>
<tr>
<td>Instrument results (%)</td>
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<th>Protein content (%)</th>
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</thead>
<tbody>
<tr>
<td>Instrument results (%)</td>
<td></td>
</tr>
<tr>
<td>Difference (ACRM and instrument)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACRM sample ID:</th>
<th>Protein content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument results (%)</td>
<td></td>
</tr>
<tr>
<td>Difference (ACRM and instrument)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACRM sample ID:</th>
<th>Protein content (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument results (%)</td>
<td></td>
</tr>
<tr>
<td>Difference (ACRM and instrument)</td>
<td></td>
</tr>
</tbody>
</table>

**Overall result**

- [ ] Pass
- [ ] Fail
### Details of the Whole Grain Australian Certified Reference Materials (clause 2)

<table>
<thead>
<tr>
<th>Grain type</th>
<th>ACRM ID</th>
<th>Reg. 48 certificate number</th>
<th>Certificate expiry date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Comments: ........................................................................................................................................
........................................................................................................................................
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........................................................................................................................................
........................................................................................................................................

Verifier’s name: ___________________________  Identification number: ___________________________

Signature: ........................................................................................................................................
Workplace test reports and documents

In your workplace you need to develop your skills by testing instruments of the subclasses for which you are being assessed under the supervision of an experienced, competent verifier. When completing tests, record your results in test reports using the template test report from the test procedure or the report used in your workplace.

If you have a supervisor, ask them to sign each test report relating to instruments you have tested under their supervision.

From those test reports you have produced, select three (3) test reports that represent your best work and demonstrate your understanding of the test procedures, perhaps because the instrument failed the tests. Try to include reports of testing of different types of instrument and examples of non-compliant documents to demonstrate your knowledge of the requirements.

If you are being assessed for both subclasses 4.9 and 15.1, you must include at least one test report per subclass.

Scan the test report(s) /documents and include them with your completed recognition kit.

Once you have completed all your written assessments and test reports, ask your supervisor / mentor to complete the following form before you scan and email your whole kit to NMI.
Report of supervisor / mentor

We are seeking reports from a supervisor / mentor who works closely with the applicant and who can comment on his / her ability to verify measuring instruments in accordance with statutory requirements either in the workplace or a simulated workplace environment. If the applicant has been supervised / mentored by a number of different people in different situations, each supervisor / mentor should complete this report.

You should complete all pages of this report, in particular, you must include written comments to support your responses in the checklist, particularly detailing how the applicant ensured safety for self and others and how well the applicant communicated with clients / colleagues in all situations.

We thank you for your contribution. The applicant's assessor may need to contact you to clarify your responses or to gain additional information where insufficient information is provided.

During the last 12 months I have observed the applicant (add name) test the undermentioned instruments (including those detailed in the test reports I have signed) in accordance with the National Instrument Test Procedures with close attention to detail and accuracy, while correctly selecting, using and handling the appropriate reference standards / equipment:

<table>
<thead>
<tr>
<th>Instrument Type</th>
<th>Yes</th>
<th>No</th>
<th>If yes, number of instruments tested</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9 Grain density measuring instruments</td>
<td></td>
<td></td>
<td>&lt;3 □ 3+ □</td>
</tr>
<tr>
<td>15.1 Grain protein quality measuring instruments</td>
<td></td>
<td></td>
<td>&lt;3 □ 3+ □</td>
</tr>
</tbody>
</table>

In addition, the applicant has demonstrated to me on at least three occasions (in a simulated environment) how a verification label should be marked and where it should be applied to instruments of this / these subclasses.

Name of supervisor / mentor:

Telephone number of supervisor / mentor:

Signature: Date:
# Report of supervisor / mentor

<table>
<thead>
<tr>
<th>To your knowledge, does the applicant:</th>
<th>Yes</th>
<th>No</th>
<th>Not applicable or not able to comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>• liaise with site management in planning and conducting site visits to ensure quality outcomes and minimise impacts on traders, their suppliers and employees?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• explain verification procedures and outcomes clearly to traders including communicating any inadequacies in the way traders use the instrument(s)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• demonstrate professionalism and respect the rights of traders at all times?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• correctly select and ensure the suitability of reference standards / test equipment for the specific task?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• maintain the integrity of reference standards during their storage, transport and use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify, access and correctly interpret and apply certificates of approval and verification?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify, access and correctly interpret and apply relevant test procedures?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• evaluate and adjust the impact of the operating environment on the performance of the instrument / standards?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify local hazards and apply appropriate safety precautions as relevant to the hazard(s) in accordance with local legislation and company procedures?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• use reference equipment and conduct testing safely?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• use required calculations to determine the instrument performance result?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• apply appropriate maximum permissible errors?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• analyse test results to determine whether the instrument could be marked for trade use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• record, report and maintain test results and findings clearly, accurately and securely?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• understand the requirements for attaching printing and indicating devices to measuring instruments?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• work safely and effectively without close supervision?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• solve routine or unexpected problems and seek advice, when required?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Name of supervisor / mentor:**

**Signature:**

**Date:**
Report of supervisor / mentor

Please provide comments to support the responses contained in this form (continue on a separate page, if required):

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________________________________________________________________________

Name of supervisor / mentor:

Signature: ___________________________ Date: ___________________________
Report of supervisor / mentor

Are you a verifier or inspector of trade measurement?

Yes ☐ No ☐ Verifier / inspector number:

Do you hold a statement of attainment for the subclass(es) being assessed? Yes ☐ No ☐

Have you verified instruments within the last 12 months?

State approximate numbers verified – 4.9 15.1

Please describe briefly your level of experience in testing and verifying instruments of these subclasses:

For mentors, please describe your business relationship with the applicant:

Name of supervisor / mentor:

Signature: Date:
Review of applicant’s test reports / labels / dockets / transaction records (to be completed by the assessor)

As part of your assessment, your assessor will use this form to record the accuracy of your submitted workplace documents.

Use the check boxes to record if the documents have been completed / evaluated correctly

<table>
<thead>
<tr>
<th>Instrument subclass</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9 Grain density measuring instruments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>15.1 Grain protein quality measuring instruments</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Please provide comments to support your findings on the submitted documents:

________________________________________________________________________

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Assessor’s signature: ___________________________ Date: ___________________________
Record of interview with the applicant  
(to be completed by the assessor)

As part of your assessment, you will have a conversation with your assessor who may ask questions to clarify your knowledge in the following areas. Your assessor will use this checklist to record your responses.

Use the check boxes to record where questions have been asked in relation to the following topics. It is not mandatory to ask questions for all topics if satisfactory evidence of competency has already been provided. Assessor to attach a list of questions asked, with expected answers, and responses given (Tick each correct answer provided or detail any incorrect response)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Not asked / not required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation, planning and communication with trader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using and maintaining reference standards and / or equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificates of approval</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work, health and safety inc. use of SWMS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum permissible errors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test procedures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test points</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis of test results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marking instruments and verification documentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auxiliary devices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting test results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate use of instruments by trader</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Servicing licence documentation and procedures including maintaining confidentiality and security of data</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applicant's ID checked at interview: ☐

Assessor's signature:                                      Date:
Practical observation report
(to be completed by the assessor)

As part of your assessment, your assessor may wish to observe you conducting a simulated verification of the instrument(s) subclass(es) for which you are being assessed. Your assessor will contact you to discuss arrangements for this part of your assessment. Your assessor will use this checklist to record your ability to verify measuring instruments in accordance with legal requirements.

Assessor to copy this form, as required, where more than one subclass is to be observed.

I have observed the applicant complete a simulated verification test on the following instrument(s): (Include details of instrument(s) tested and dates / locations):

Use the check boxes to record your observations and attach an additional sheet, detailing your observations and how they provide evidence of the items checked below.

<table>
<thead>
<tr>
<th>Did the applicant:</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>• liaise and communicate effectively with the trader prior to, during and after testing to ensure testing was carried out safely and with minimal disruption?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• select and validate the suitability of reference standards for the specific verification task?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• determine whether reference standards were suitable / defective?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• maintain the integrity of reference standards during their transport, storage and use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• evaluate and adjust the impact of the operating environment on the performance of the instrument / standards?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• apply appropriate safety precautions and conduct testing safely?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify, access, interpret and apply certificates of approval and verification?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify, access, interpret and apply relevant test procedures?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Assessor's signature: ____________________________  Date: ____________________________
Practical observation report
(to be completed by the assessor)

<table>
<thead>
<tr>
<th>Did the applicant:</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>• use specified calculations to determine the performance result?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• apply appropriate maximum permissible errors?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• analyse test results to determine whether the instrument could be marked for trade use?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• report results and findings clearly and accurately?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• demonstrate how to apply the verification mark?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>• identify and communicate any inadequacies in trader's use of the instrument?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Assessor's signature: ___________________________  Date: ___________________________