APLAC

Asia Pacific Laboratory Accreditation Cooperation

CALIBRATION

INTERLABORATORY COMPARISONS

PURPOSE

This document sets out the requirements, policies and procedures for APLAC calibration interlaboratory comparisons, stipulates the responsibilities of an accreditation body for the organisation of these comparisons and gives guidance on their planning, preparation, execution and preparation of reports.

AUTHORSHIP

This publication has been written by the APLAC Proficiency Testing Committee.

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FURTHER INFORMATION

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1. INTRODUCTION

The purpose of the Asia Pacific Laboratory Accreditation Cooperation (APLAC) is to build up and maintain mutual confidence between national calibration and testing services in order to reach and maintain a state of mutual agreement on the equivalence of the operation of the accreditation bodies and of the certificates issued by their accredited laboratories. This supports the removal of technical barriers to trade.

Calibration activities underpin all testing and measurement activities. APLAC calibration interlaboratory comparisons provide a forum for the comparability and traceability of measurements in the Asia-Pacific region and they are mandatory for APLAC members(1). They also provide confidence in the accreditation process of the APLAC members and also in their ability to take the appropriate corrective actions where an interlaboratory comparison reveals measurement deficiencies.

APLAC calibration interlaboratory comparisons also result in a flow of know-how between the participating accreditation bodies and help establish a common high level of measuring capability within the region.

This document provides guidance for the organisation and conduct of APLAC calibration interlaboratory comparisons (proficiency testing programs) and lays down the responsibilities for their organisation. It has been prepared by the APLAC Proficiency Testing Committee. Equivalent documents have been prepared for the conduct of APLAC testing interlaboratory comparisons(2) and APLAC Measurement Audits(3).

2. ROLE OF THE APLAC PROFICIENCY TESTING COMMITTEE

Overall responsibility for the calibration interlaboratory comparisons lies with the APLAC Proficiency Testing Committee who:-

- after consultation with the APLAC members, select and approve the scheduling of the calibration interlaboratory comparisons;
- approve the overall design and conduct of the calibration interlaboratory comparisons submitted by the accreditation body;
- maintain a status listing of all calibration interlaboratory comparison program (completed, underway, planned)
- approve the accreditation body to organise the calibration interlaboratory comparison;
- review the draft final report prior to publication;
- review any problems which may have arisen in an interlaboratory comparison;
- identify technical development, training needs and follow-up action;
- send a copy of the published final report to the APLAC Secretary for posting on the members only area of the APLAC website.

APLAC members are encouraged to take the initiative for proposing to the Proficiency Testing Committee particular calibration interlaboratory comparisons. A proposal shall include at least the following information :-

- the physical quantities to be measured;
- the artefacts to be circulated (type, accuracy, resolution, stability, owner, etc);

- the prescribed measurement points;
- measurement procedure (normal laboratory procedure or prescribed procedure);
- number and type of laboratories intended as participants;
- transportation method;

The Committee has the final responsibility for the decision on which interlaboratory comparisons will be organised taking into account calibration interlaboratory comparisons that will be of most benefit to the majority of APLAC members. The Committee has no financial responsibility for costs associated with the interlaboratory comparisons.

3. ROLE OF THE ORGANISING ACCREDITATION BODY

3.1 Tasks

The accreditation body that has agreed to organise the interlaboratory comparison has the following tasks:-

- providing suitable artefacts and appropriate containers;
- appointing a coordinator who coordinates all correspondence;
- appointing a technical adviser;
- identifies any collaborators or subcontractors and their roles and responsibilities;
- drafting the preliminary instructions and editing the final instructions;
- inviting the members of APLAC to participate and to timetable participation of each accreditation body;
- defining the sequence of the participating accreditation bodies and the preferred method of transportation;
- assigning confidential code numbers to all participating laboratories;
- minimising problems concerning transportation e.g. by supplying a declaration to Customs authorities (refer Appendix A);
- having the artefacts calibrated by the reference laboratory to a suitable accuracy and at suitable intervals;
- having control over the progress of the calibration interlaboratory comparison;
- collecting the results of the participants and writing the interim and final reports.

The organising accreditation body must comply with the requirements of ISO/IEC Guide 43-1[(4)].

The costs for the organisation of the calibration interlaboratory comparison and transport of the artefacts to the first accreditation body in each loop are to be covered by the organising body.

Note that APLAC funding is generally available to assist the organising accreditation body cover the costs associated with the conduct of the calibration interlaboratory comparison program. (Refer Appendix J & Appendix K)

3.2 Selecting the artefacts

The artefacts used in the calibration interlaboratory comparison shall be stable so that they can be expected to adequately hold their calibration for the period of the program. If this is not possible, more frequent recalibrations will be necessary.

The quantities to be measured should avoid all being "exact" values, e.g. precise decade values, which often do not show up errors in the measurements.

The artefacts should be of an accuracy appropriate to the best measurement capability of the participating laboratories (refer Q5 of Appendix B).

It is an advantage if the artefacts have already been used for an interlaboratory comparison by one of the participating accreditation bodies. In this way a history of the performance and stability of the artefacts is known.

The choice of the artefacts and basic ideas for the procedure to be followed should be such that it will take each participant no more than eight hours to complete the measurements.

3.3 Calibration of the artefacts

An important feature of the calibration interlaboratory comparison is that there should be reference values for the requested measurements against which the laboratories' results can be judged. The reference values are provided by a Reference Laboratory which normally is the national standards laboratory of the organising economy. It may also may be the national standards laboratory of another economy. The organising body must ensure that the Reference Laboratory they select can achieve an uncertainty of measurement that is better than the participating accredited laboratories. Information on the best measurement capability of the participating laboratories is available from Q.5 in the *Invitation to Participate* (Appendix B). They must also ensure that the artefacts are calibrated at intervals suitable to the accuracy required.

3.4 Inviting the participants

The *Invitation to Participate* is sent to all existing APLAC members. An up-to-date list of proficiency contacts can be obtained from the Chairman, APLAC Proficiency Testing Committee..

Where possible, draft instructions should be sent with the *Invitation to Participate*. This will help the participating accreditation bodies decide which of their laboratories can participate.

3.5 Circulation schedule

From the responses to the *Invitation to Participate*, the organising accreditation body then devises and distributes a *Circulation Schedule* which details when each accreditation body will participate. This schedule is based on the following factors:-

- the total circulation should be limited to a maximum of 12 months. Where there are a large number of participants, sufficient artefacts with the same ranges/values should be acquired so that multiple loops can be used in order to maintain the 12 month schedule;
- the allocated time per laboratory should be approximately 1 working week (including transport to and from the laboratory within an economy);
- the maximum period the artefacts are with an accreditation body is 4 weeks;
- a period of two weeks should be included for each international transportation;
- where possible, international travel distances in each loop should be minimised.

3.6 Instructions

The organising body and their technical adviser draft the instructions in English (refer Appendix C and D) and then has them reviewed by the Proficiency Testing Committee. These instructions should contain at least the following information:-

- name and address of the convenor at the organising body;
- name of the Reference Laboratory;
- any special recommendations for transportation;
- any special recommendations for the technical handling and set-up of the artefact;
- any necessary technical information on the artefact;
- if necessary special instructions for reporting the results. It is strongly recommended that pro-forma result sheets are prepared to summarise the results in a simple format. In addition, formal calibration certificates may be requested;
- unless otherwise stated, each participant should be instructed to calibrate the artefacts to their best measurement capability according to their routine (accredited) procedure.

The final instructions are sent to all participating accreditation bodies. One copy accompanies the artefacts.

3.7 Packaging and transport

Rugged containers and packaging must be supplied. It is recommended that metal case be used for housing the artefacts and that this be placed inside a cardboard box for extra protection during transport. The organising body has to cover the risk of damage or loss of the artefacts.

A reliable international courier with a user accessible tracking system is recommended. Door-to-door delivery ("free domicile") must be specified. An example *Declaration to Customs Officials and Shipping Agents* appears in Appendix A.

3.8 Interim Reports

As soon as possible, the organising body shall send *Interim Reports* (stamped CONFIDENTIAL) for each participating laboratory to their accreditation body. These individual *Interim Reports* will give an indication of each participating laboratory's performance in terms of their agreement (or otherwise) with the preliminary reference values based on the initial calibration of the artefacts by the Reference Laboratory. An example *Interim Report* appears in Appendix H.

3.9 E_n ratio

A convenient and internationally accepted method of judging the quality of each measurement result is by calculating the error normalised (E_n) with respect to the stated uncertainty:-

$$E_n = \frac{LAB - REF}{\sqrt{U_{LAB}^2 + U_{REF}^2}}$$

where U_{LAB} is the uncertainty reported by the participating laboratory and U_{REF} is the total uncertainty of the reference value (including any allowance for drift or instability of the artefact). The Reference value uncertainty must be calculated in a manner consistent with the ISO *Guide to the expression of uncertainty in measurement*[(4)]. Both uncertainties are at a 95% confidence level.

Values of $|E_n|>1$ require investigation. Where laboratories make a number of similar measurements the method of analysis can be refined by comparing the distribution of the values of E_n with a normal distribution.

In addition to such a tabular presentation of the measurement results, they should also be presented graphically whereby the difference between the laboratory's result and the reference value is plotted along with bars indicating their uncertainty of the measurement.

3.10 Final reference values

The organising body needs to monitor the results throughout the program and request return of the artefacts if there is a problem.

The artefacts must be recalibrated at the end of the circulation schedule. In establishing the final reference values, consideration must be given to any deviation caused by insufficient stability of the artefact or damage. If necessary, different reference values may be specified for different laboratories, taking into account any shift of values with time.

Where drift has occurred, the organising body must be very careful in its assumptions so that no laboratory is unfairly disadvantaged. Options include:-

- using the mean of the before and after Reference values;
- reporting two sets of E_n ratios, based on before and after Reference values;
- if drift is known to be linear, using interpolated Reference values (with respect to time);
- where a “step” change is suspected, using the most appropriate of the before and after Reference values;
- in extreme cases not giving a Reference value.

3.11 Confidentiality

It is the responsibility of the organising body to keep confidential at all times the identity of the participating laboratories. Codes numbers are to be randomly assigned i.e. <u>not</u> in

chronological order of participation and should not identify economies or accreditation bodies.

Note that at the completion of the program that the Chairman, APLAC PT will distribute to the APLAC MRA signatories the identity of the APLAC MRA signatory participants.

3.12 Draft Final Report

Once results have been received from all participants and the final calibrations have been carried out by the Reference Laboratory, the organising body will draft a *Final Report* which identifies participating laboratories only by a random code no. and includes :-

- APLAC logo on the cover page;
- E_n ratios;
- a graph for each measured parameter of laboratory's errors and uncertainty bars;
- technical commentary on results, possible sources of error, methods, uncertainties of measurement;
- a list of the participating accreditation bodies and the dates of receipt and dispatch;
- a copy of the measurement instructions;
- a statement of any measurement results that require investigation.

This draft report shall be forwarded to participating accreditation bodies for their information and to the members of the APLAC Proficiency Testing Committee for review.

3.13 Final Report

The organising accreditation body incorporates comments from the APLAC PT Committee. Upon receipt of approval the organising accreditation body distributes the report to each participating accreditation body and to the Chairman, APLAC PT Committee.

4. ROLE OF THE PARTICIPATING ACCREDITATION BODIES

4.1 Tasks

Each accreditation body is responsible for the following actions (refer Appendix G):-

- responding to the *Invitation to Participate* and designating the laboratories (maximum of 4) in the economy that will participate in the interlaboratory comparison;
- upon arrival of the artefacts sending the standard RECEIPT FORM (refer Appendix E) to the organising body;
- translating the measurement instructions into the economy's language, if necessary;
- arranging the circulation schedule and transportation in its own economy;
- ensure that the time schedule for its laboratories is kept (maximum 4 weeks); a delay caused by one of the participants should not result in a delay in sending the artefacts to the next accreditation body so it may be necessary to reduce the number of participants if a delay occurs;

- when dispatching the artefacts sending the standard DISPATCH FORM (refer Appendix F) to the next participating accreditation body **and** the organising body;
- sending the artefact to the next participating accreditation body using a **door-to-door courier service ("free domicile")**. The accreditation body must ensure that their shipper is capable of doing this (many only send it to the nearest airport);
- collecting the result sheets and calibration certificates/ reports of the participants (within two weeks), translating into English where necessary and forwarding them to the organising body along with details of any problems that occurred;
- conducting and documenting any necessary follow-up associated with unsatisfactory performance ($|E_n|>1$) by their participating laboratories.

The costs of any import duties or taxes, transport within their economy and transport to the next accreditation body is to be covered by each particular participating accreditation body.

4.2 Participating laboratories

The participating laboratories should be accredited by their national accreditation body, or be applying for accreditation, for the particular measurements which are covered by the interlaboratory comparison. In order that a representative sample of laboratories be compared, the accreditation body should, where possible, avoid selecting the same laboratories that have participated in previous APLAC programs.

National standards laboratories participate in the Asia Pacific Metrology Program (APMP) interlaboratory comparisons and therefore should normally not participate in APLAC programs.

When the APLAC Proficiency Testing Committee considers it useful and feasible, laboratories outside APLAC may be invited to participate. An up-to-date list of APLAC proficiency contacts can be obtained from the APLAC Proficiency Testing Committee Chairman. This listing also details contacts for the European co-operation for Accreditation (EA), Inter America Accreditation Cooperation (IAAC) and unaffiliated bodies.

Participating accreditation bodies are to advise their laboratories that the preliminary reference values (in the Interim Report) are to be kept **strictly confidential** until the program has finished in all economies.

4.3 Transport

Participating accreditation bodies should make every effort to determine from the Customs authorities in their economy the most reliable method for expediting Customs clearance. A sample declaration appears in Appendix A. It is the responsibility of the accreditation body to liaise with their Customs authorities when artefacts are held by Customs.

Transport to the next accreditation body should be by a reliable international courier with a user accessible tracking system. Door-to-door delivery ("free domicile") must be specified.

4.4 Corrective action

Corrective action, if required, is the responsibility of the laboratory and their accreditation body and should be undertaken as soon as possible (refer Appendix I). Corrective action may vary from a discussion with the laboratory to withdrawal of the accreditation for the measurements involved. Corrective action may be taken at the following stages:-

- after having received the *Interim Report* which is based on preliminary reference values;
- after receiving the draft *Final Report*.

Where $|E_n|$ ratios are marginally greater than 1, the accreditation body may decide to wait for the draft *Final Report* which will be based on the final reference values.

5. REFERENCES

(1) APLAC MR001 (2006) *Procedures for establishing and maintaining mutual recognition agreements between laboratory accreditation bodies.*

(2) APLAC PT002 (2008) *Testing interlaboratory comparisons.*

(3) APLAC PT004 (2006) *Measurement Audits*

(4) ISO/IEC Guide 43-1(1997) *Proficiency testing by interlaboratory comparisons - Part 1: Development and operation of proficiency testing schemes.*
Part 2: Selection and use of proficiency testing schemes by laboratory accreditation bodies.

(5) ISO/IEC 17025 (2005) *General requirements for the competence of testing and calibration laboratories.*

(6) BIPM/IEC/IFCC/ISO/IUPAC/IUPAP/OIML (1995) *Guide to the expression of uncertainty in measurement.*

(7) ISO 13528 (2005) Statistical methods for use in proficiency testing by interlaboratory comparisons.

Appendix A

This document must stay with the box

ASIA PACIFIC ECONOMIC COOPERATION (APEC)

APLAC INTERLABORATORY COMPARISON - APM00_

DECLARATION TO CUSTOMS OFFICIALS AND SHIPPING AGENTS

This box contains scientific equipment for an international interlaboratory comparison coordinated by *name of the organising accreditation body* on behalf of the Asia Pacific Laboratory Accreditation Cooperation (APLAC). APLAC is classed as a Specialist Regional Body under the APEC Sub-Committee on Standards and Conformity Assessment.

This instrument is of the highest accuracy and should not be dismantled. If a customs inspection is required then please contact the person nominated on the back of this form so that they can be present. Details of the contents of the box are listed below. The contents are not hazardous in any way.

The equipment is for scientific purposes only and no commercial transactions will take place. The box will remain in each country for approximately 4 weeks and then it will be reexported, hence no import duty or taxes are payable. Details of the participating laboratory accreditation bodies in each country are given on the next page.

CONTENTS OF THE BOX

Item No.	**Description**	
1.	*make, model*	S/No. _____
2.	*make, model*	S/No. _____

COMMERCIAL VALUE :$ NIL **MATERIAL VALUE:** $ *estimated value*

TOTAL BOX WEIGHT: ___ kg **BOX DIMENSIONS:** _.__ m x _.__ m x _.__ m

I declare that the above particulars are true and correct.

_____ _____

organiser's name DATE

for APLAC Proficiency Testing Committee

Appendix B

Invitation to accreditation bodies to participate in APLAC INTERLABORATORY COMPARISON - APM00_

Organising Accreditation Body : _____

Q1. Would you like to receive the artefacts described in the attached proposal ? Yes/No (*please circle*)

Q2. If yes, what months between _____ 2008 and _____2009 would **NOT** be convenient ?

Q3. How many laboratories in your country will participate (maximum 4) ? _____

Q4. How long do you estimate you would require the artefacts (maximum 4 weeks) ? _____

Q5. What is the **best** measurement capability of participant laboratories in your country ? (e.g. *least uncertainty of measurement of 0.01% of reading*) _____

Please provide below current details of the most appropriate contact person in your organisation to receive the artefacts and all future correspondence for this APLAC calibration program. Attach any comments you have on the draft instructions or on the program in general.

Name: _____

Title: _____

Organisation: _____

Physical Address: _____
(*not a PO Box*)

_____

Phone No.: _____ Fax No.: _____

Email Address: _____

Please complete and send to *organiser's contact details.*

Appendix C
APLAC INTERLABORATORY COMPARISON APM00_
INSTRUCTIONS TO ACCREDITATION BODIES

1. EQUIPMENT
On receipt, unpack the artefacts and inspect them for any defects. *List other specific checks.*
Complete the attached "*RECEIPT FORM*" and fax to the organising body.

Please note, these instructions and attached *Result Sheet* are master copies and must remain in the box from country to country. The national accreditation body should make copies for distribution to the participating laboratories in their country.

2. TRANSPORT
The artefacts can be carried by hand, car or by plane, whatever is considered the safest way.

3. CUSTOMS
NO ATA Carnet is provided with these artefacts. A *Declaration to Customs Officials and Shipping Agents* is enclosed in the plastic envelope attached to the outside of the box. Please make it is in place before dispatching to the next country otherwise it will not pass through their Customs authorities. Please attach 3 extra photocopies of the *Declaration*.

4. MEASUREMENTS TO BE CARRIED OUT
Please refer to *INSTRUCTIONS TO LABORATORIES* enclosed. If necessary, these should be translated into the appropriate language by the accreditation body.

5. CIRCULATION SCHEME
At the beginning and at the end of the circulation scheme, measurements will be performed by the reference laboratory *name*
It is the responsibility of the accreditation body to make sure that the artefacts are dispatched to the next participant by the date specified. Two weeks have been allowed for each international transport and customs clearance. If a delay occurs with one laboratory then the number of participating laboratories in that country will have to be reduced so that the artefacts leave by the scheduled date. When ready for dispatch, fill in the attached *DISPATCH FORM* and fax to the next participant and to *organising body*

6. DOCUMENTS TO BE SUBMITTED
Within one week of the completion of the measurements, participating laboratories are required to fax or send the *Result Sheet* to their accreditation body. No other documentation is required. The accreditation body is required to ensure that the *Result Sheet* has been filled in correctly and completely. The accreditation body should provide details of any problems that their laboratories had. The accreditation body is required to fax the documentation to the organising body within two weeks of dispatching the artefacts.

On receipt of the information, the organising body for this APLAC interlaboratory comparison, will prepare interim reports on each laboratory which are then sent back to the national accreditation body. A final report will be issued at the end of the program with each laboratory only identified by a **confidential** code number.

7. GENERAL INFORMATION
For general queries, please contact: *organiser's contact details*

Appendix D

APLAC INTERLABORATORY COMPARISON APM00_

INSTRUCTIONS TO LABORATORIES

1. EQUIPMENT

Full list of equipment, accessories & documentation

On receipt, unpack the artefacts and inspect them for any defects. *List other specific checks.* Contact your accreditation body if there is any damage.

2. MEASUREMENTS TO BE CARRIED OUT

Detailed instructions for setting-up and conditioning the artefacts
Either clearly specify method or ask laboratory to use normal method
Refer to an attached Result Sheet

3. DOCUMENTS TO BE SUBMITTED

Within one week of the completion of the measurements, participating laboratories are required to send the attached *Result Sheet* and their calibration report to their accreditation body. No other documents are required. Laboratories should make a copy of the *Result Sheet* for their own records. *In some cases a calibration report may not be required.*

Where possible, uncertainties should be calculated using the method in the ISO *Guide to the Expression of Uncertainty in Measurement.*

A final report will be issued at the end of the program with each laboratory only identified by a **confidential** code number.

4. GENERAL INFORMATION

For general queries, please contact your accreditation body. Additional information may be obtained from *organiser's contact details*

Appendix E

RECEIPT FORM

APLAC INTERLABORATORY COMPARISON APM00_

In order to monitor the progress of the interlaboratory comparison, we kindly ask each accreditation body, on receipt of the artefacts, to fill in this RECEIPT FORM and fax it to:

organiser's contact details (name, fax, phone)

Thank you in advance for your cooperation.

The APM00_ artefacts were received on: _____ *(date)*

After inspection, are the contents damaged? _____
(yes/no)

If yes, is this serious? _____
(yes/no)

Are the contents still suitable for use? _____
(yes/no)

Was there a "*Declaration to Customs Officials and Shipping Agents*" enclosed in the plastic envelope attached to the outside of the case?

_____
(yes/no)

Remarks: _____

_____

_____

_____

_____

Participating Accreditation Body: _____

Contact Person: Fax: _____

Appendix F

DISPATCH FORM

APLAC INTERLABORATORY COMPARISON APM00_

In order to monitor the progress of the interlaboratory comparison, we kindly ask each accreditation body, on dispatch of the artefacts, to fill in this DISPATCH FORM and fax it to:-

organiser's contact details (name,fax, phone)

and **also** fax it to the next participating accreditation body :-

Name: _____*proficiency contact*_____
Accreditation body: _____
Fax: _____

Please ensure that the "*Declaration to Customs Officials and Shipping Agents*" is attached to the outside of the case. Thank you in advance for your cooperation.

The APM00_ artefacts were dispatched on: _____ *(date)*

The artefacts have been inspected after return from our laboratories and were found to be in good condition. _____ *(yes/no)*
Please give details of any problems:-

_____

_____

_____

Shipping agent: _____ Phone:_____ Fax:_____

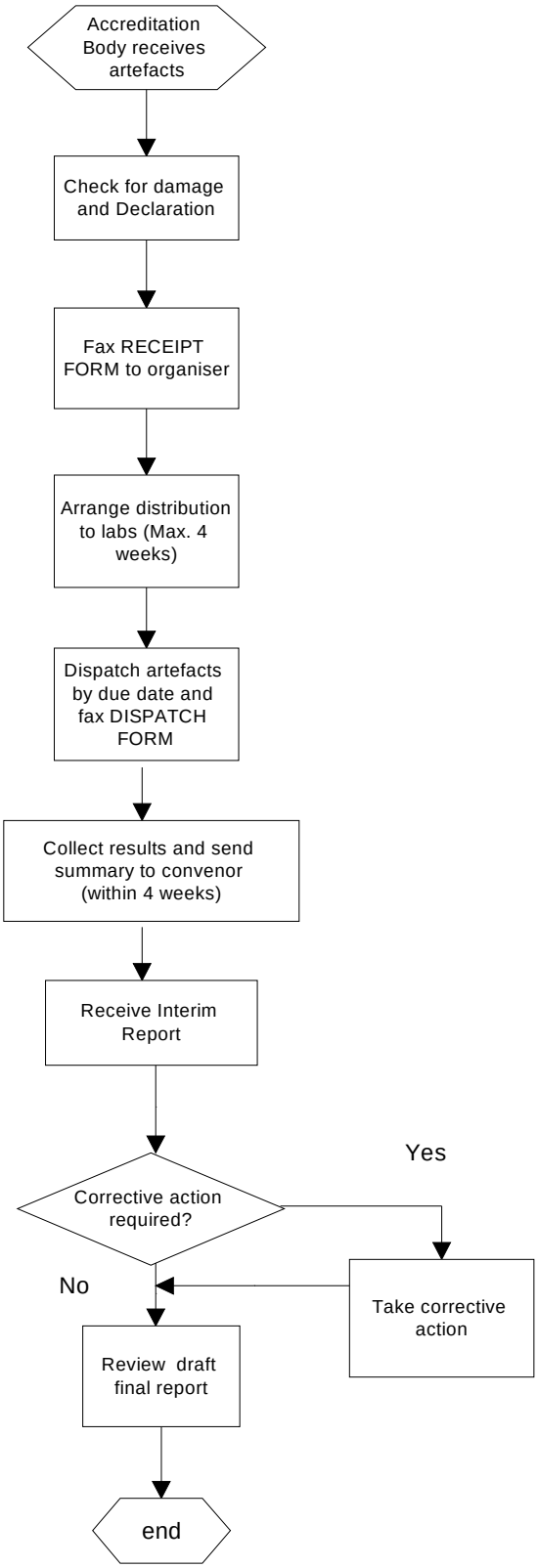
Airwaybill no. (or consignment note no.): _____

Your accreditation body: _____

Contact person: _____ Fax: _____

Appendix G

FLOWCHART FOR PARTICIPATING ACCREDITATION BODIES



Appendix H

name of organising body

APLAC INTERLABORATORY COMPARISON APM00_
INTERIM REPORT

Laboratory name :

Laboratory code :

GAUGE BLOCKS
REPORT NO. _____ dated __/__/__
SPECIFICATION: ISO 3650 - 1978 (E)

	NOMINAL	DEVIATION FROM NOMINAL (µm)				LAB-REF	E_n
	(mm)	REF	U_{REF}	LAB	U_{LAB}	(µm)	RATIO
GAUGE LENGTH	1	0.17	0.05	0.09	0.06	-0.08	-1.02
	10	0.11	0.05	0.02	0.06	-0.09	-1.15
	50	-0.01	0.07	-0.13	0.09	-0.12	-1.05
	100	0.19	0.09	0.06	0.16	-0.13	-0.71
FLATNESS	1	0.12	0.03	0.06	0.07	-0.06	-0.79
	10	0.12	0.03	0.05	0.05	-0.07	-1.20
	50	0.12	0.03	0.08	0.05	-0.04	-0.69
	100	0.12	0.03	0.05	0.05	-0.07	-1.20
VARIATION IN LENGTH	1	0.03	0.03	0.06	0.03	0.03	0.71
	10	0.02	0.03	0.05	0.03	0.03	0.71
	50	0.02	0.03	0.06	0.03	0.04	0.94
	100	0.02	0.03	0.08	0.03	0.06	1.41

Notes: All results and uncertainties are in µm.

Uncertainty of measurement is at a 95% confidence level (U_{95})

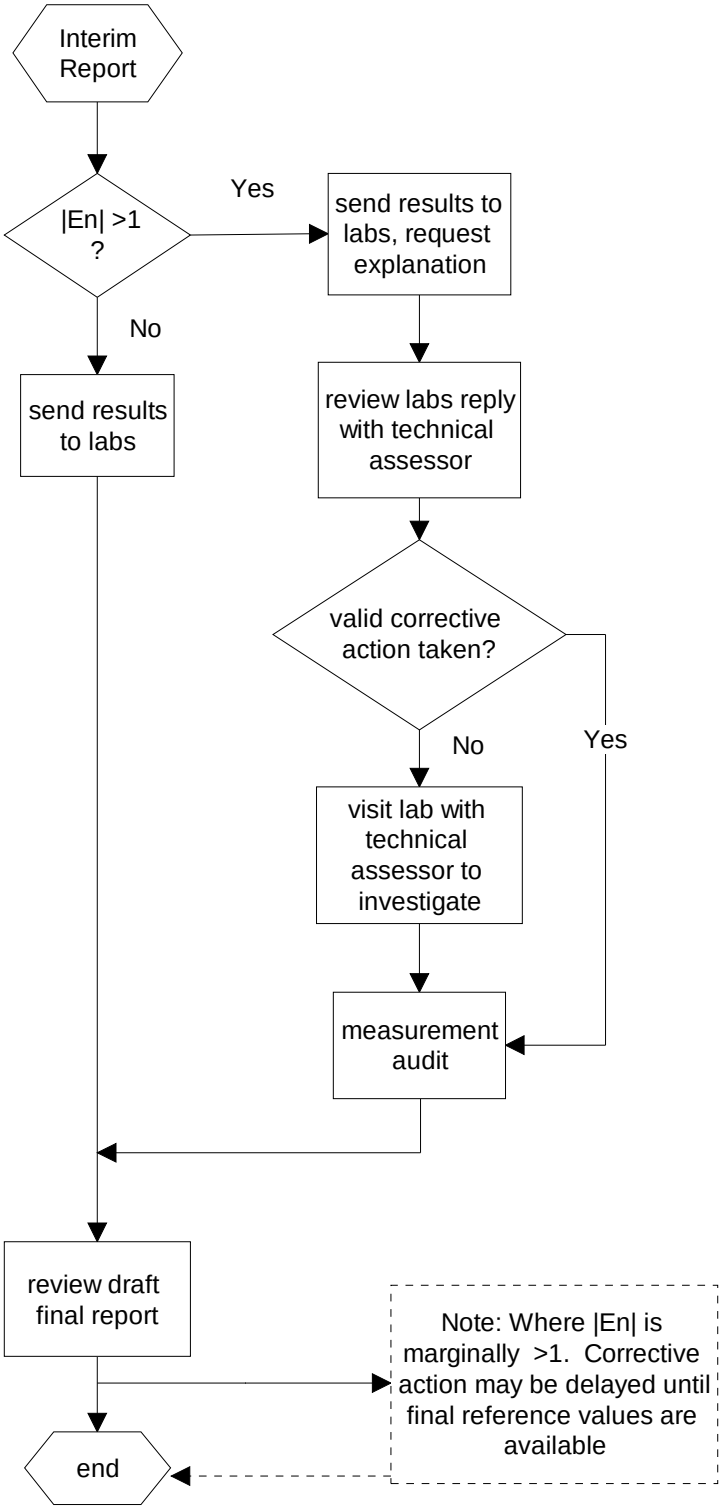
$$E_n = \frac{LAB - REF}{\sqrt{U_{LAB}^2 + U_{REF}^2}}$$

Values of $|E_n| > 1$ require investigation.

Reference Laboratory :

Appendix I

CORRECTIVE ACTION FLOWCHART



Appendix J

CRITERIA FOR APLAC FUNDING

The following selection criteria have been developed by the APLAC Proficiency Testing Committee for funding support for program proposals for both testing and calibration interlaboratory comparisons. Such interlaboratory comparisons will initially focus on, but not be limited to types and ranges of tests and calibrations which are recognised as being related to APEC trade priorities.

APLAC funding shall be considered for any program that meets all of the following criteria:

- any APLAC member may act as a program coordinator;
- program proposals that have been reviewed and approved by the APLAC PT Committee;
- proposals must be accompanied by itemised estimated expenses;
- other regions and non-affiliated ILAC members shall be invited to nominate participating laboratories (testing programs only).

NOTE: Preference will be given to programs that support APEC trade priorities but this is not mandatory.

APLAC funding shall also be considered for:

- programs that may not support directly APEC trade related activity but that cover testing/measurement fields supporting domestic markets and APLAC MRA PT requirements.

APLAC funding shall be used by APLAC program coordinator(s) to cover:

- purchasing artefacts/samples to be used in the program;
- costs of homogeneity testing for testing samples;
- costs of primary calibration of measurement artefacts;
- sample/artefact packaging costs;
- transport costs of artefacts to accreditation bodies/samples to participating laboratories;
- costs of report preparation and distribution.

NOTE: Individual accreditation bodies shall be responsible for the costs of distribution of artefacts within their own economy and to the next participating economy.

The outcome of APLAC funding support will be to:

- provide objective data from PT to support the APLAC MRA;
- assist and encourage APLAC/APEC member economies to develop and implement proficiency testing programs within their own region;
- enhance the credibility of laboratories accredited by APLAC MRA signatories, leading to facilitation of APEC trade objectives;
- transparency of program outcome by including the economy code against each laboratory in each PT program report.

APLAC members seeking funding support shall submit a request to the APLAC Secretariat (+ copy to the APLAC PT Chairman) with supporting details for consideration at the next scheduled APLAC Board of Management meeting.

Appendix K

APLAC Funding Support Application

Proficiency Testing

1. Name of Accreditation Body_____

2. Type of Program (Calibration or Testing)_____
_____

3. Has the program proposal been reviewed and approved by the APLAC PT Committee? (Yes/No)_____
Date of Approval_____

4. Name of program_____
_____

5. Sample/artefact details_____
_____
_____
_____
_____
_____
_____

6. Testing/Calibration parameters to be measured_____
_____
_____
_____
_____
_____
_____
_____
_____

7. Detail how this proposal will support APEC trade related activity and/or domestic markets_____
_____
_____
_____
_____

8. Is this program a repeat of a previously completed APLAC program or does it cover a new area of testing/calibration?_____
_____
If a repeat of a previous program give reasons for the repetition. _____
_____
_____
_____
_____

9. Which regions and/or non-affiliated accreditation bodies have been invited to participate?_____
_____
_____

10. Please attach:
- itemised estimated program expenses;
- any other supporting documentation.

Contact name _____
Signature _____
Date_____