

## SADCMET Annual Reports

### 1. THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC)

The SADC was established in 1992 with the aim of being the instrument by means of which member countries could move along the path towards eventual economic integration (a trading block). It came into existence through the transformation of the Southern African Development Coordination Conference (SADCC), the origins of which go back to 1980, into the SADC. Until recently the SADC consisted of the following 12 member countries:

Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

During an SADC summit in 1997, the SADC heads of state agreed to an expansion of the organisation by accepting membership applications from two further nations, namely:

Democratic Republic of Congo (previously Zaire) and Seychelles.

The SADC secretariat, headed by the Executive Secretary, is located in Botswana and is financed by contributions from the member countries. SADC is in the process of implementing the two basic models for regionalism - sectoral cooperation and trade integration - simultaneously. Various sectors have been defined, each being coordinated by a single SADC country, in which the sectoral cooperation is being pursued. One of these sectors is Trade and Industry, which is being coordinated by the SADC Industry and Trade Coordinating Division (SITCD) attached to the Tanzanian Department of Trade and Industry in Dar-es-Salaam.

Each SADC Sector Coordinating Division is advised by a number of Expert Groups, which can, in turn have several active Project Steering Committees.

### 2. NEW REGIONAL ACCREDITATION, METROLOGY AND STANDARDS INFRASTRUCTURE FOR THE SADC

The SADC expert group on Standardization, Quality Assurance and Metrology (SQAM) commissioned a study by a consultant on the state of SADC metrology and approved the recommendation contained in his report ("REPORT ON STUDY FOR A PROGRAMME ON A SADC METROLOGY SYSTEM", G B Makando, 1994) to establish a SADC regional metrology infrastructure. As a consequence, a Project Steering Committee on The Establishment of a SADC Metrology Network was formed, which held its first meeting just prior to the SQAM meeting in Pretoria in 1996. The committee consisted of SITCD representatives and delegates from South African (NML. SANAS) and Zimbabwean (SIRDC) metrology and accreditation organizations. It considered and finalized a detailed project proposal for a SADC planning workshop, at which the SADC strategy, an action plan and a time-table for the establishment of the SADC metrology infrastructure would be developed. This proposal by the project steering committee was approved by the SQAM.

At the invitation of the South African National Metrology Laboratory (NML) a regional planning session of the member countries of the Southern African Development Community (SADC) was held in Pretoria from October 7 - 11, 1996. It decided to create three regional bodies to represent, respectively, the national organisations responsible for the top-level measuring standards (SADCMET), the accreditation bodies (SARAC) and the legal metrology organisations groupings in other trading blocks.

This decision was endorsed at a meeting of the SADC Expert Group on Standardisation, Quality Assurance and Metrology (SQAM) in Port Louis, Mauritius from 17 - 21 April 1997. At the same meeting it was also decided to form a fourth regional body, the SADC Standardisation Cooperation (SADCSTAN), which will deal with regional matters in the area of standards and standardisation.

All four regional organisations consist of a governing body, in which all SADC member countries are represented by one member each. The SADC Industry and Trade Coordinating Division (SITCD) in Dar-es-Salaam is also represented by a member and acts as the interface to the official SADC structures, for example the SADC Sectoral Committee of Ministers. The chair of each governing body rotates amongst member countries on a regular basis. Members of each of the governing bodies have observer status at meetings of the governing bodies of the other three regional organisations.

The executive portion of the regional bodies is a secretariat headed by a regional coordinator. The secretariat, which carries out the day to day running of the organisation concerned, is staffed and financed by one of the national member organisations, which volunteers to carry out this task at any particular time. It is responsible for progress with the approved working programme, for which it also has access to the support of Technical Committees, which draw their members from the pool of technical experts in the region. The regional coordinator is also a member of the governing body.

From 1998, the activities of the four regional bodies are reported annually at a meeting of a Coordinating Committee chaired by the SITCD secretariat. All SADC member countries are represented at the Coordinating Committee by a delegation reflecting their national organisations involved in standardisation, accreditation and metrology. The Coordinating Committee also deals with regional issues in the area of conformity assessment and the existing SADC Expert Group on Standardisation, Quality Assurance and Metrology (SQAM) is disbanded.

### **3. COMPONENTS OF THE NEW ACCREDITATION, METROLOGY AND STANDARDS INFRASTRUCTURE FOR THE SADC**

SADCMET is the SADC Cooperation in Measurement Traceability. Its objectives include the achievement of international traceability in the SADC region, consultancy on the establishment of National Metrology Institutes (NMIs), support of the objectives of the SADC, the eventual conclusion of Mutual Recognition Agreements between SADC member states and between SADCMET and similar organisations in other trading blocks, the organisation of intercomparisons and involvement in regional metrology training programmes.

Zimbabwe was elected to nominate the first chairperson of the governing body and has since appointed Dr Mukayi T Musarurwa to this position. South Africa accepted the nomination to run the SADCMET secretariat and appointed Dr Franz Hengstberger as the regional coordinator.

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(since 1998 called SADCA, see minutes of 1998 meeting)

SARAC is an acronym for Southern African Regional Accreditation Cooperation. The objective of this body is to facilitate the creation of a pool of internationally acceptable accredited laboratories and certification bodies (for personnel, quality and environmental management systems) in the SADC region .

Mr A C Hurdoyal (Mauritius Standards Bureau) was elected to chair the governing body and South Africa agreed to provide the secretariat with Mr Mike Peet as the regional coordinator. Since then, Mauritius has formed the Mauritius Accreditation Service (MAURITAS), and its director, Mr B A Budoo was appointed as SARAC chairperson in place of Mr Hurdoyal.

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**(now called SADC MEL, see minutes of 1998 meeting)**

**SALMEC stands for SADC Legal Metrology Cooperation. Its aims are the harmonisation of the trade metrology legislation in the SADC countries, the harmonisation of verification and calibration techniques (including certification), regional standardisation of packaging sizes, OIML\* membership and compliance with OIML recommendations by all SADC countries, regional uniformity of pattern approvals, organisation of a uniform training programme, the exchange of metrology related information among member states, intercomparisons and the identification of equipment to be covered by legal metrology regulations.**

**South Africa was asked to nominate the chairperson for the governing body and Zimbabwe accepted responsibility for the secretariat. South Africa later nominated Mr Brian Beard as chairperson and Zimbabwe appointed Mr Francis Karani as the regional coordinator.**

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**\* OIML is the International Organisation for Legal Metrology.**

**SADCSTAN is an acronym for SADC Standardisation Cooperation. The objective of this body is to facilitate the harmonisation of standards (both regulatory and non-regulatory) in the SADC region .**

**Mr S A Mwambazi (Zambia) was elected to chair the governing body and South Africa agreed to provide the secretariat with a person to be appointed by the South African Bureau of Standards (SABS) as the regional coordinator.**

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## **4. PRODUCTION OF THE PROCEEDINGS OF THE 1996 SADC METROLOGY PLANNING SESSION**

The individual documents presented and produced during the metrology planning session were compiled into proceedings, copied and bound. Delegates to the April 1997 SADC MET meeting in Mauritius received copies of this document. Subsequently the proceedings were widely distributed internationally, particularly to National Metrology Institutes, Accreditation Bodies, Legal Metrology Organisations, regional umbrella bodies and international metrology organisations.

#### **5. DRAFTING OF THE SADC MET MEMORANDUM OF UNDERSTANDING (MOU) AND OF THE SADC MET RULES OF PROCEDURE**

As instructed at the October 1996 planning session, one of the first priorities for the secretariat was the drafting of the SADC MET Memorandum of Understanding and of the SADC MET Rules of Procedure.

The documents were drawn up in the same way as the equivalent documents by EUROMET, APMP and NORAMET and incorporate the specific SADC MET objectives and tasks agreed to at the October 1996 planning session. The documents were discussed at the SADC MET meeting in April 1997 in Mauritius and were then updated and circulated for final comment. They will be presented to the designated signatories for signature at the 1998 SADC MET meeting in Angola.

#### **6. SADC MET HOMEPAGE ON THE INTERNET**

A SADC MET World Wide Web (WWW) site has been created on the WWW server of the National Metrology Laboratory (NML) of South Africa. Its address is

<http://nml.csir.co.za/~sadc/>

The site contains a summary of the decisions at the 1997 SADC metrology planning conference and information about the established SADC metrology umbrella organisations. It also gives the contact details of all SADC National Metrology Institutes, Accreditation Bodies and Trade Metrology organisations, both per country and as a complete list. It has a link to the SADC homepage and is read frequently by Internet users all over the world.

#### **7. ATTENDANCE OF THE NORAMET AND NACC MEETINGS IN PASADENA (USA)**

At the invitation of NORAMET and NACC the SADC MET Regional Coordinator attended the meeting of these two North American sister organisations in Pasadena during January 1997. They are the umbrella organisations for the North American National Metrology Institutes and the North American Accreditation Bodies respectively and their membership includes the USA, Canada and Mexico.

An overhead presentation was given on the outcome of the 1996 SADC Metrology Planning Conference and the resulting SADC metrology umbrella organisations SADC MET, SARAC and SALMEC. Copies of the presentation were left for the record of NORAMET and NACC.

Apart from SADC MET there was also an observer from EUROMET and EAL, the European metrology umbrella organisations (Dr Rob Kaarls).

Discussions at the meetings revolved around many of the same issues which SADC MET has to address and a wealth of information and applicable documentation was collected, which will be put to good use when drafting SADC MET documents on these issues.

#### **8. VISIT TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) IN GAITHERSBURG, USA**

During a visit to the NIST in January 1997, the SADC MET Regional Coordinator had discussions with Dr Steve Carpenter, who is in charge of NIST international relations. He expressed a clear desire to support SADC MET in the pursuit of its regional objectives and also supplied interesting background information on the structure of the metrology network and its subregions developing in the Americas (North and South). A complete list of North and South American metrology organisations was obtained for use by SADC MET.

NIST support to SADC MET was demonstrated during the NML Metrology Week (Pretoria, 25 - 29 August 1997), when Dr Carpenter headed a delegation of six eminent NIST metrologists, who made an invaluable contribution to the proceedings.

#### 9. VISIT TO THE NEDERLANDSE MEETINSTITUUT (NMI) IN DELFT, NETHERLANDS

Dr Rob Kaarls, who is the chairperson of EAL, the European umbrella organisation of laboratory accreditation bodies, explained the organisation of European metrology to the SADC MET Regional Coordinator during his visit to the NMI in February 1997. He also supplied him with copies of numerous documents, which will be of great value when drafting corresponding SADC MET documents.

#### 10. PRELIMINARY INVESTIGATION INTO SADC TRAINING REQUIREMENTS IN METROLOGY

Discussions were held by the Regional Coordinators of SADC MET, SARAC and the chairperson of SALMEC, representatives of tertiary educational institutions, industry representatives and government representatives on the training requirements for SADC metrologists. A joint proposal is being prepared to launch a regional initiative in this area, involving joint participation by SADC countries in developing metrology courses and curricula, the training of lecturers, the setting of standards, the moderation of exams and the establishment of centres of excellence in metrology at appropriate educational institutions throughout the SADC region. At this point in time these proposals are at a very preliminary stage, but significant progress is expected with this initiative during the next few months. Educational institutions and interested parties from all SADC countries will be closely involved in the process.

#### 11. SADC MET MASS METROLOGY COURSE

During August the National Metrology Laboratory of South Africa celebrated its 50th anniversary with a week of conferences, symposia, exhibitions, courses and workshops on metrology. One of the activities was a mass metrology course which ran from 25th to 29th August and was presented by Dr Michael Gläser and Mr Marbin Furlis of the PTB, Germany. This course, which had been arranged by SADC MET and was sponsored by the PTB, was specially targeted at the metrologists in mass laboratories in the various SADC countries.

The flights and accommodation were arranged by Ireen Field (NML) and the NML (SA) was a hive of activity preparing venues, lunches, teas, busses, air transportation, bags, documentation and balances for the practical sessions. A sincere thanks to both the Mettler Toledo and Sartorius agents in South Africa for the loan of balances and posters for the occasion.

The course was supported by representatives from Namibia, Botswana, Zambia, Swaziland, Lesotho, Mozambique, Zimbabwe, Tanzania and South Africa. In spite of some language difficulties, the delegates seemed to follow the course contents and lots of encouragement was provided between delegates with respect to the course mathematics.

The documentation provided by the PTB was very clear with lots of examples which helped to break any language barriers.

The course was very intense and covered many aspects and should have been stretched over 2 weeks so that each delegate could get a more in depth understanding rather than a superficial glimpse of the aspects of mass measurement. However, the notes are there to fall back on and there is little doubt that the more often we get together in the SADC region the more we can help one another and reinforce good metrology practice.

Many thanks to the sponsors (PTB, Germany), to the NML (South Africa) for providing the venue and organising the event as well as to the lecturers for preparing the course material.

#### 12. SADC MET MASS INTERCOMPARISON

SADCMET was invited by the PTB (Germany), to participate in a geographically widespread intercomparison of mass pieces. The National Metrology Laboratory (South Africa) is acting as the reference laboratory for the southern hemisphere countries participating in the exercise, with the PTB handling the northern hemisphere.

After a long wait and some anxious moments worrying about the possible loss of the two weight sets sent from PTB in Germany the weights arrived in South Africa during October 1997.

The planned circulation pattern for the NML coordinated leg of the intercomparison is as follows:

Date sent Set One	Date sent Set Two
3/11/97 South Africa	5/11/97 South Africa
Swaziland	Namibia
South Africa	South Africa
Zimbabwe	Botswana
South Africa	South Africa
Mauritius	Zambia
South Africa	South Africa
Tanzania	Malawi
South Africa	South Africa
PTB	PTB

Each laboratory will have approximately 2 weeks to do the measurements and return the weights to South Africa. The written measurement procedures and other requirements specified by the PTB will be enclosed in the parcel. The documentation regarding customs for each country will be attached and participants are requested to return the parcels and the measurement results to the NML (South Africa) after each leg.

The requirements of the PTB are quite clear and for participants who participated in the SADCMET / PTB mass metrology course the information in the notes should be useful with regard to the methods to be used.

A full evaluation of the results will be supplied to the participants after the completion of the intercomparison.

### **13. RECOGNITION OF THE EQUIVALENCE OF THE NATIONAL STANDARDS OF THE UNITED STATES AND THE REPUBLIC OF SOUTH AFRICA FOR THE SI UNIT OF LUMINOUS INTENSITY**

An agreement recognising the equivalence of the candela as realised by the National Institute of Standards and Technology (NIST), USA and the National Metrology Laboratory (NML) of the CSIR, South Africa was signed between the two institutions on the occasion of opening of the NML's 50th anniversary Metrology Week on 26 August 1997. The text of the agreement is as follows:

As adherents to the Convention of the Meter, the United States of America and the Republic of South Africa realize their units of measurement in accordance with the definitions of the International System of Units (SI) adopted by the General Conference of Weights and Measures.

The custodians of the national measurement standards of the two countries, the U.S. National Institute of Standards and Technology (NIST) and the CSIR, collaborate in research to verify and improve measurement standards, both bilaterally and through the International Bureau of Weights and Measures.

On the basis of this collaboration, the Director of NIST and the Director of CSIR recognize that the national standards for the practical realization of the SI unit of luminous intensity in the United States and in the Republic of South Africa are equivalent to 7.4 parts in 10<sup>3</sup>, within a combined standard uncertainty of 3.3 art in 10<sup>3</sup>.

This recognition of equivalence will remain in effect for an unlimited period, but may be withdrawn by either party at any time. While acknowledging the equivalence of national standards for the SI unit of luminous intensity, neither NIST nor CSIR accepts any responsibility for the correctness of any particular measurement referred to the national standard for the unit of luminous intensity maintained by the other organization.

#### 14. NML METROLOGY WEEK A BIG SUCCESS

South Africa's National Metrology Laboratory (NML) in Pretoria celebrated its 50th anniversary during 1997. The NML's anniversary year was celebrated with various activities, culminating in the Metrology Week from 25 to 29 August. The Week included an international conference, workshops and exhibitions held at the CSIR Conference Centre.

Monday 25 August was an Open Day on which delegates and other visitors, including school children, had the opportunity to tour the NML's laboratories, meet its scientists and gain insight into the role of the NML in South African industry.

The delegates were welcomed on Tuesday, 26 August by the President of the CSIR, Dr Geoff Garrett. In his Opening Address, Dr Zav Rastomje, Director General of the South African Department of Trade and Industry, congratulated the NML on its proud history of 50 years of service to South Africa. He stressed the importance for trade of international traceability of standards and expressed the hope that the recent extension of the metrology network to include all the countries of the Southern African Development Community would soon bear fruit in bringing increased prosperity for all to this part of the African continent.

Johann Ahlers, Director of Aerotek, then explained the significance of the cooperation agreement reached between the CSIR and the USA's National Institute for Standards and Technology (NIST).

Fig. 1: Dr Ahlers and Dr Stephen Carpenter of the NIST sign a historic Statement of Equivalence for the candela between the NML and the NIST.

This was followed by a fascinating lecture by Prof Phyllis Zungu of the University of Durban-Westville on "African Metrology - with special reference to time and counting". Dr Zungu told the audience that, traditionally, "to Africans, time is a composition of events. People cannot and do not reckon it in a vacuum." The time of day is estimated according to what the domestic animals would normally be doing at that time. For example, "Ziyophuza" is about 14:00, the time that the cattle would stir after the midday rest and make their way down to a river to drink. "In western or technological society, time is a commodity which must be utilised, sold and bought, but in traditional African life, time has to be created or produced. Man is not a slave of time; instead, he 'makes' as much time as he wants." The lunar months of the year are named for the climatic conditions usually associated with them. Measurements of length are based on parts of the human body: e.g. a yard is the length from the right shoulder to the tip of the middle finger of the outstretched right arm.

Fig. 2: The Pretoria Serenaders delivered an outstanding choir performance during the opening session of the Metrology Week.

The Conference, Seminars and Workshops held during the week covered numerous aspects of metrology. Plenary Lectures were delivered by Dr Rob Kaarls of The Netherlands, Dr Stephen Carpenter of the USA, Dr Angela Samuel of Australia and Dr Peter Rohr of Switzerland. Local speakers represented South African organisations, universities, city councils, government departments, and private South African companies. Other speakers came from all over the world, including Egypt, Italy, Canada, Sweden, the UK, Finland, Russia, Mexico and Zimbabwe.

The social events included a Cheese and Wine Reception, an African Braai (barbeque) at the CSIR Recreation Site, and a formal banquet.

Altogether, the Metrology Week and its events were a huge success, with delegates gaining new insights into the breadth of the field covered by metrology and what can be, and is being done in this area both locally and internationally.

## **15. SADC MET CHAIRPERSON AND REGIONAL COORDINATOR ATTEND SARAC COMMITTEE WORKSHOP IN HARARE**

The purpose of the meeting was to discuss the content of a SARAC project proposal on the identification and evaluation of SADC options in establishing a regional accreditation infrastructure. The SADC MET officials was invited to the meeting because of the close ties between the working programmes of SADC MET and SARAC.

Apart from the SADC MET representatives, the meeting was attended by the following persons:

**Mr A C Hurdoyal, Chairman: SARAC, Mauritius Standards Bureau**

**Mr M A Peet, Regional Coordinator: SARAC, NLA, South Africa**

**Mrs M J Chilcott, NLA secretariat, South Africa**

**Dr A Goromonzi, Fumasy-International, South Africa**

**Mrs T L Silva, IANORQ, Angola**

**Mrs M B Marobela, Botswana Bureau of Standards**

**Mrs E Steyn, DTI, South Africa**

**Mr R A Kaakunga, Ministry of Trade and Industry, Namibia**

**Dr F Hengstberger, Regional Coordinator: SADC MET, NML, South Africa**

**Mr D J Mwakyembe, Tanzania Bureau of Standards**

**Mr M P Mutasa, Standards Association of Zimbabwe**

**Mr E Kruger, DTI, South Africa**

**Mr B Budoo, National Laboratory Accreditation Council, Mauritius**

**Mr S Mashingaidze, ETTCC, Zimbabwe**

**Mr A Jonsson, SIDA, Sweden**

**Mr B Henderson, Resource, UK**

A generic discussion was held on accreditation and the role of government. Mr Jonsson then gave a presentation on the role of metrology, standards and accreditation. The practical implementation of accreditation was discussed and a number of action points were identified.

When discussing the tabled project proposal, further action points emerged.

Mr Kruger (DTI, South Africa) presented information on the impact of the SADC Trade Protocol and WTO on regional and international trade. This was followed by a presentation of Mr Peet on the operation of the NLA and its interactions with global organisations. Mr Peet also explained the three SARAC scenarios identified and discussed in Mauritius.

Mr Jonsson, representing SIDA (Sweden), then offered a fourth scenario by showing how Iceland operated its accreditation system in cooperation with SWEDAC.. He also addressed the role of conformity assessment procedures in EU legislation.

Dr Goromonzi discussed the proposed "road map" of the SARAC project proposal.

There was consensus that SADC needs:

- harmonised technical regulations



- a regional accreditation body to accredit other bodies in member states
- a transparent accreditation system recognised by the governments

It was agreed that the next stage of the project would be an empirical study of certification and accreditation systems currently prevailing in the SADC region and a document review. The project proposal will be amended in accordance with the discussions. The chairman and the regional coordinator were tasked with identifying sources of donor funding for the further phases of the project.

#### **16. SITCD TASK TEAM TO PREPARE A DRAFT SADC MOU ON STANDARDISATION, QUALITY ASSURANCE, ACCREDITATION AND METROLOGY**

The SADC Industry and Trade Coordinating Division (SITCD) in Dar es Salaam is calling together a task team of experts to prepare a first draft of a regional MOU covering the areas of Standardisation, Quality Assurance, Accreditation and Metrology. The task team led by Mr Austin Khulumula (Malawi Bureau of Standards) will meet for two weeks during November / December 1997, consulting in the process with the current institutions involved in these areas, the business community and government departments. Countries to be visited by the task team include Zimbabwe, Zambia, Mozambique and South Africa. The Regional Coordinator of SADC MET is a member of the task team.

Although a final version of the SADC MET MOU has already been prepared for possible signing by member organisations in March 1998, the SITCD move to draft a single MOU for all aspects covered by SADC MET, SARAC, SALMEC and SADC STAN is probably aimed at fast-tracking the process in all four areas simultaneously. This urgency is understandable in terms of the tight eight-year time-table within which the SADC free trade area has to be implemented once the SADC Trade Protocol is ratified.

#### **17. SADC MET REPRESENTATIVE TO ATTEND 13TH APMP COMMITTEE MEETING AND APMP SYMPOSIUM ON INTERNATIONAL TRACEABILITY OF MEASUREMENT**

With both the SADC MET Chairperson and Regional Coordinator unable to accept the invitation by the Regional Coordinator of the Asia-Pacific Metrology Programme (APMP), Dr Barry Inglis, to attend the above meetings, Dr Bruce Foulis (Manager of the NML, South Africa) agreed to represent SADC MET at these forums. Dr Foulis was to have attended the meetings in any case to represent the NML, which is an Associate Member of the APMP.

As part of its agenda, the APMP Committee Meeting (Sydney, 1 -2 December, 1997) will hear reports from regional metrology organisations around the world, including a summary of the activities of SADC MET presented by Dr Foulis. At the Symposium on International Traceability of Measurement (Sydney, 3 December, 1997) there will be a meeting for regional representatives on the International Agreement on Measurement Equivalence being drafted by the BIPM, at which Dr Foulis will comment on aspects of direct concern to SADC MET.

The programme of events is as follows:

**Monday, December 1, 1997:**

Day One of APMP Committee Meeting.

Day One of APMP Workshop. Proposed to be held in the areas of time and frequency, dimensional and electrical metrology. First day: Time and Frequency.

**Tuesday, December 2, 1997:**

Day Two of APMP Committee Meeting.

Day Two of APMP Workshop: Electrical Metrology.

**Wednesday, December 3, 1997:**

**APMP Symposium on International Traceability of Measurement.**

**Thursday, December 4, 1997:**

**Laboratory tours (National Measurement Laboratory, Lindfield, and a number of NATA-accredited metrology laboratories).**

**Friday, December 5, 1997:**

**Day Three of APMP Workshop: Dimensional Metrology**

**The APMP meetings are preceded by an International Conference on Measurement Science, Technology and Practice (Melbourne, 26 - 28 November, 1997) organised by the Metrology Society of Australia.**

#### **18. 1998 EXPERT GROUP MEETING ON SQAM**

**The SITCD has announced that the 1998 Meetings on Standardisation, Quality Assurance and Metrology (SQAM) will take place in Luanda, Angola from 17 - 24 March, 1998. The proposed programme for the meetings is as follows:**

**March 17: Official Opening and SALMEC meeting**

**March 18: SADCSTAN meeting**

**March 19: SADC MET meeting**

**March 20: SARAC meeting**

**March 23: 13th SQAMEG Meeting**

**March 24: 13th SQAMEG Meeting**