IAEA
International Atomic Energy Agency
Atoms for Peace

DIVISION OF RADIATION, TRANSPORT AND WASTE SAFETY

EduTA

EDUCATION AND TRAINING APPRAISAL MISSION

IN

SOUTH AFRICA

19 - 23 July 2010

COMPOSITION OF THE IAEA APPRAISAL TEAM

1. Andrea Luciani, Team Coordinator, IAEA
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PERSONS MET DURING THE APPRAISAL MISSION

NAME	FUNCTION
Prof Joao Rodrigues	University of the Witwatersrand, School of Physics, Head of School
James Larkin	University of the Witwatersrand, School of Physics - Radiation and Health Physics Unit
Prof.John Carter	University of the Witwatersrand, School of Physics
Ivo Petr	Lecturer at University of the Witwatersrand, School of Physics
Piet Fourie	NECSA , Nuclear Skills Development, manager
Dieter Tillwick	NECSA, Safari Research Reactor, manager
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Isabel Steyn	NECSA, Safety, Health, Environmental Quality department (SHEQ), manager
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M.Z. Knox Msebenzi	National Nuclear Regulator (NNR), Chief Technical Officer
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Thiagan Pather	National Nuclear Regulator (NNR), Nuclear Technology ad Waste Programme, manager
Emma F. S. Snyman	Department of Health, Radiation Control, Deputy Director of Sub-directorate Radionuclides
Marius Ramashidzha	National Metrology Institute of South Africa (NMISA)
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BACKGROUND

The inter-governmental African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) is one of the regional agreements under the IAEA. AFRA entered into effect in 1990. Since then, the AFRA Member States have been carrying out cooperative projects in various fields of nuclear science and technology for socio-economic development. As an intergovernmental agreement AFRA is fostering sustainable regional self-reliance and mutual assistance in Africa. This aim can be consolidated through the recognition of regional institutions in high priority fields (AFRA Regional Designated Centers (RDCs)).

In the AFRA Strategic Action Plan, Procedures and Operational Guidelines, endorsed by the 19th meeting of AFRA representatives in September 2008, the arrangements for recognition of RDC are

outlined. For that purpose any Member State that believes that one or more of its institutions are capable of fulfilling the overall and specific objectives of RDCs, is invited to submit their applications according to the relevant fields of specialization. The application form together with the Specific Questionnaire for the field of specialization enables a pre-screening of the evaluation of the ability of the RDC to deliver its anticipated specialized services. Approved applications will be then audited through an IAEA EduTA mission (funded by AFRA). However, again according to AFRA Guideline for the Recognition of Regional Designated Centers it is the Technical Working Group Meeting (TWGM) which will nominate the RDC to the AFRA representatives of Member States based on the results of the whole evaluation process.

The NECSA (Nuclear Energy Corporation of South Africa (Pretoria) and the School of Physics - Radiation and Health Physics Unit of the University of the Witwatersrand (Johannesburg) have applied together to host a RDC in South Africa. The documents, according to the procedure for appointing RDCs (Fig. 1 in "Application for Regional Designated Centers (RDC) for Training in Radiation Protection in AFRA Member States - Questionnaire"), were provided to the IAEA Secretariat that, after a preliminary review, approved the application and initiated the organization of an EduTA mission.

The principal Agency publications used as a basis for the appraisal were:

- The Education and Training Appraisal in Radiation Protection and the Safety of Radiation Sources (EduTA) (Working Material July 2008);
- The International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources (SS No. 115);
- The Safety Guide, Building Competence in Radiation Protection and the Safe Use of Radioactive Sources (RS-G-1.4);
- Safety Report, Training in Radiation Protection and the Safe Use of Radioactive Sources (SRS-20);
- Standard Syllabus Postgraduate Educational Course in Radiation Protection and then Safety of Radiation Sources (Training Course Series 18);
- Draft Syllabus for the Training of Radiation Protection Officers.

Other reference material used as a basis for the appraisal was:

- Application for Regional Designated Centers (RDC) for Training in Radiation Protection in AFRA Member States - Questionnaire;
- AFRA Guidelines for the Recognition of AFRA Regional Designated Centres.

TERMS OF REFERENCE OF THE APPRAISAL

The terms of reference for this appraisal were:

- To carry out an education and training appraisal mission to review the status of the provision for education and training in radiation protection, including:
  - legislative and regulatory framework with particular reference to education and training;
  - guidance material relevant to education and training;
  - the national training programme in radiation safety or similar document;
  - approved /accredited training course providers /centers and/accredited training courses, if approval/accreditation procedures/systems exist;
  - annual reports from accredited training course providers/centers; recognition/approval/accreditation procedures for education and training providers;

- courses held in the past calendar year and the numbers of participants attending;
- list of education and training events planned;
- the facilities used for educational and training programmes;
- available human resource and national lecturers.

- To outline an Action Plan, together with the counterparts, to address deficiencies if any identified during the assessment.

CONDUCT OF THE APPRAISAL

A kick off meeting was held at the hotel where the EduTA team stayed. James Larkin (University of Witwatersrand) and Piet Fourie (NECSA) provided a preliminary information and clarifications about the questionnaire submitted to the Secretariat in preparation for the audit mission.

The following day at the entrance briefing at University of Witwatersrand the audit team presented the EduTA terms of reference. The meeting was attended by the staff of the University (Prof Joao Rodrigues, Head of the School of Physics; Prof.John Carter; Ivo Petr, lecturer; James Larkin) and Pier Fourie (manager of NECSA in the section of Nuclear Skills Development). The objectives and the procedure for the conduct of the mission were presented and the AFRA procedure for the recognition of RDCs was explained.

During the five day mission, the EduTA team continued discussions with the host and met the personnel from the University of Witwatersrand, NECSA, National Metrology Institute of South Africa (NMISA), and the national regulatory authorities (Department of Health and National Nuclear Regulator).

The pre-appraisal information provided to the team was discussed in detail and additional information was requested where necessary. During the mission, numerous documents were provided to the team.

The audit team visited the laboratories, class rooms and student residence at the University of Witwatersrand. The list of facilities visited in NECSA includes the Nuclear Skills Centre, SAFARI - research nuclear reactor, Nuclear Technology Products Radioisotopes production facility together with the Hot Cell Complex for the preparation and quality control of the produced medical radioisotope. At the National Secondary Standard Dosimetry Laboratory of NMISA the audit team visited the low level radioactivity facility (calibration and metrology for contamination monitors), the Gamma and neutron metrology facilities.

An exit meeting was held at University of Witwatersrand - School of Physics with the management of the University and NECSA to present the appraisal team's preliminary conclusions. The recommendations and the action plan were agreed with the local counterpart.

A full technical report with the findings, recommendatins and a work plan was provided to the mission's counterpart and the national authorities.