

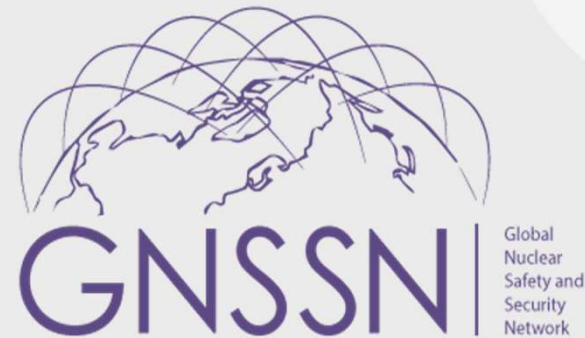
IAEA



FNRBA

The Forum of Nuclear Regulatory Bodies in Africa

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1. Context in Africa

IAEA TC/AFRA projects

Project Number	Project Title	1st Year of Approval	Field	Status
RAF0027	Consumer Safety and Trade Development through Competent Nuclear Testing and Metrology Laboratories (AFRA IV-13)	2007	0Q	Active
RAF0031	Promoting Human Resources Development and Nuclear Knowledge Management (AFRA)	2009	0A	Active
RAF0036	Enhancing Regional Ownership of the AFRA Programme - Phase II	2012	1	Active
RAF0041	Sharing Best Practices in Preventive Maintenance of Nuclear Equipment (AFRA)	2012	1	Active
RAF0038	Promoting Technical Cooperation Among Developing Countries (TCDC) in Africa through Triangular Partnerships (AFRA)	2012	1	Active
RAF0043	Enhancing Human Resources Development and Nuclear Knowledge Management (AFRA)	2014	1	Active
RAF1004	Supporting Radioisotope Technology as a Diagnostic Tool for Plant Process Performance, Optimization and Troubleshooting (AFRA)	2012	18	Active
RAF1005	Strengthening the Capacity for Research Reactor Safety and Applications in Africa (AFRA)	2014	8	Active
RAF2008	Strengthening and Expanding Radiopharmacy Services in Africa (AFRA)	2009	2G	Active
RAF2010	Developing, Expanding and Reinforcing Energy Planning Capabilities including Nuclear Power (AFRA)	2014	4	Active
RAF3006	Improving Waste Management Infrastructure in Africa (AFRA)	2009	3H	Active
RAF4022	Enhancing Research Reactor Utilization and Safety (AFRA)	2009	4B	Active
RAF5057	Strengthening Capacities for the Diagnosis and Control of Transboundary Animal Diseases in Africa (AFRA)	2009	5F	Active
RAF5066	Improving Crops Using Mutation Induction and Biotechnology through a Farmer Participation Approach (AFRA)	2012	20	Active
RAF5068	Improving Livestock Productivity through Strengthened Transboundary Animal Disease Control using Nuclear Technologies to Promote Food Security (AFRA)	2014	22	Active
RAF8048	Building Capacity in Support of Regional and Sub-Regional Water Resources Planning, Development and Management in Africa (AFRA)	2009	8M	Active
RAF9038	Promoting Self Assessment of Regulatory Infrastructures for Safety and Networking of Regulatory Bodies in Africa (AFRA)	2009	9C 9H	Active
RAF9041	Developing Human Resources in Nuclear Security (AFRA)	2009	9W	Active
RAF9048	Strengthening Education and Training Infrastructure, and Building Competence in Radiation Safety (AFRA)	2012	9	Active
RAF9049	Enhancing and Sustaining the National Regulatory Bodies for Safety (AFRA)	2014	9	Active
RAF9054	Strengthening Radioactive Waste Management (AFRA)	2014	19	Active

Regional priorities for Regulatory Bodies in Africa



Radiation Sources	Uses	Countries concerned	Regulatory Challenges
X Ray Generators	Medical, Industrial, Research	All	Poor maintenance and QC
Sealed Radioactive Sources	Medical, Industrial Research	All	Source Registry, Transboundary movement, Transport, Waste
Research Reactors	Education, Isotope and neutron production	9 RRs for 7 countries	Inspection, Safety
NPP	Electricity production	1	Safety, emergency
NPP projects	Electricity production	More than 10 MS	Regulatory Body responsibilities





2. Main features of FNRBA

Creation of FNRBA

Forum of Nuclear Regulatory Bodies in Africa

FNRBA's Charter adopted at the coordination Meeting of AFRA project RAF 9/038 on self-assessment held on 23-27 **March 2009, in Pretoria**, South Africa.

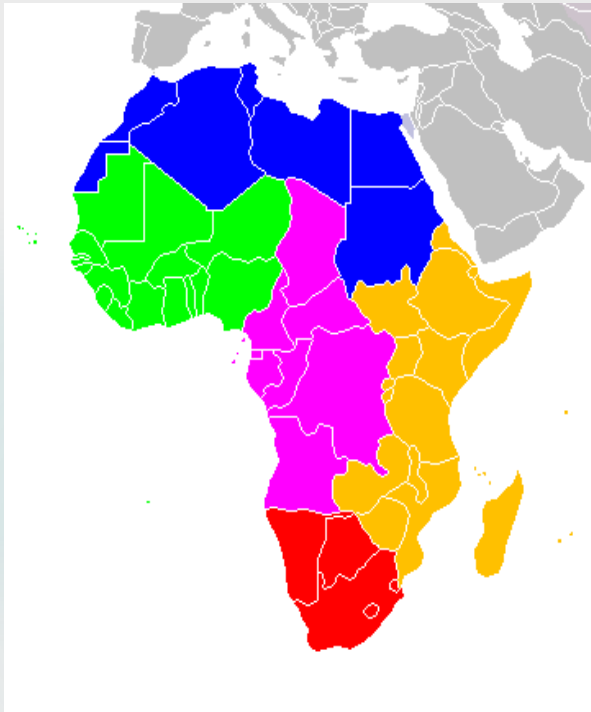
The objectives of FNRBA are to:

- Provide a platform for fostering regional cooperation;
- Provide for the exchange of expertise, information and experience;
- Provide opportunity for mutual support and coordination of regional initiatives, and
- Leverage the development and optimization of resources.

The **Forum** is open to all Nuclear Regulatory Bodies in Africa on a **voluntary basis**.



Main features of FNRBA



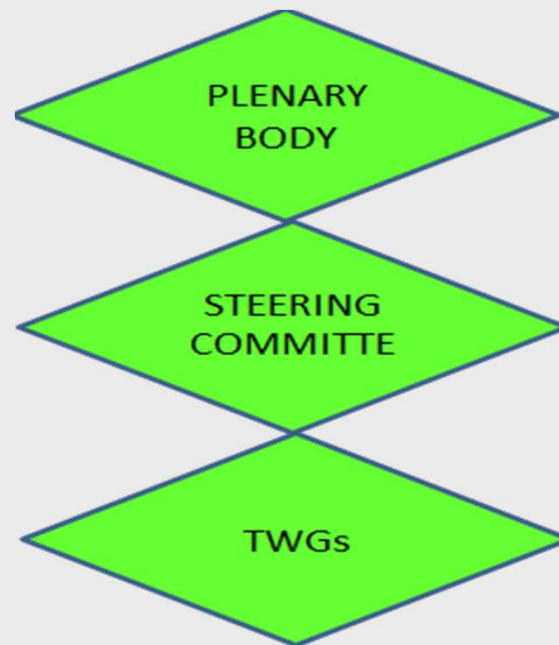
Forum of Nuclear Regulatory Bodies in Africa

- 33 IAEA member countries

Angola, Botswana, Burkina Faso, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of Congo, Egypt, Ethiopia, Gabon, Ghana, **Kenya**, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Namibia, Niger, Nigeria, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Tunisia; Uganda, United Republic of Tanzania, Zambia and Zimbabwe

- 9 countries considering Nuclear Power Programmes
- 10 Thematic Working Groups
- <http://gnssn.iaea.org/main/fnrba>

Governance of FNRBA



Steering Committee representatives

Responsibility	Name	Country
Chairman	Mr. Augustin SIMO	Cameroon
Deputy Chairman	Mr. Bismark MZUBANZI TYOBEKA	South Africa
Secretary	Prof. Ezz El-Din MOHAMED REDA	Egypt
Deputy Secretary	Dr. Ndeye Arame BOYE FAYE	Senegal

Sub-Region	Sub-Regional Coordinator	Country
North Africa	Pr Azza Hammou	Tunisia
Southern Africa	Ms. Vongai MAVURAYI	Zimbabwe
East Africa	Mr. Akisophel KISOLO	Ouganda
West Africa	Mr. Nagantie Kone	Mali
Central Africa	Mr. Emmanuel ATIBU KAZINGUVU	Democratic Republic of Congo

Thematic working groups

TWG	Activity	TWG Coordinator	Country
TWG-1	Upgrading Legislative and Regulatory Infrastructure		Ethiopia
TWG-2	Upgrading of Radiation Safety in Radiotherapy	Prof. Azza Hammou	Tunisia
TWG-3	Regulatory Framework for Licensing of NPP	Mr. Peter Bester	South Africa
TWG-4	Upgrading of Radiation Safety in Uranium Mining and Milling	Mr. Axle Tibinyane	Namibia
TWG-5	Upgrading of Nuclear Safety in Research Reactor	Prof. G. Emi Reynolds	Ghana
TWG-6	Education and Training, and Knowledge Management	Dr. Yau Idris	Nigeria
TWG-7	Upgrading of Radioactive sources and Waste Safety Management Infrastructure	Mr. Lazaro H. Meza	Tanzania
TWG-8	Upgrading of Transport Safety		South Africa
TWG-9	Emergency Planning and Response	Mr. Allan Muller	South Africa
TWG10	Nuclear Security	Mohammed Reda Ezz El Din	Egypt

TAC-1	Publication
TAC-2	Standards

3. Main achievements



Implementation and partners

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FNRBA is implemented within the IAEA under an Extra Budgetary Programme (EBP) with financial support from European Commission, Korea and U.S.A. as well as IAEA regular budget.

IAEA TC: RAF9038 support to the creation of the Forum in 2009; and promotion of establishment of RB in MS; on-going project RAF9049 to sustaining RB in Africa.

IAEA – GNSSN: FNRBA new website released in 2016

IAEA: Practical Arrangements signed in Vienna, Austria, 17.09.2013

to support the enhancement and strengthening of the radiation protection, nuclear safety and security, and regulatory infrastructure in MS which are members of FNRBA.



KINS: MoU signed in 2010; implemented since 2012 on the basis of 2 training events organized each year.

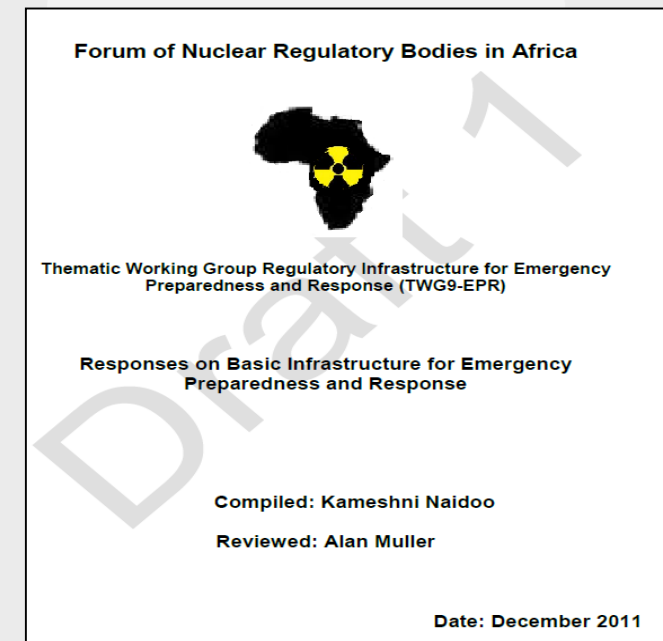
US-NRC: Several training activities related to NPP, emergency preparedness, nuclear safety, inspection, ..etc.

TAMU: LOI signed in Vienna, Austria, 18.09.2013

Main products

Over the past 6 years, FNRBA with the support of IAEA and its partners has achieved relevant products and services to its members:

- Technical workshops and trainings
- Publications: report on survey on Emergency Preparedness Plan and outreach report on EPR (English and French version),...
- Peer reviews (EPR), model regulation,...



Technical workshops / Training

KINS Workshop on Emergency Preparedness and Environmental Radiation Monitoring : KINS, Korea, 17-28 September 2012 (20 participants)
IAEA Workshop on " Safety and Regulation on Radioactive Sources ", and " Safety and Regulation on Nuclear Power Plants ", 05-16 November 2012, in Cape-Town, South Africa (24 participants)
IAEA Regional training Workshop for TWG coordinators on the use of FNRBA website organized in Vienna from 25 - 26 February 2013.
IAEA/TC Completion of Design of Regional project concept on radiation protection under IAEA TC cycle 2014-2015:Enhancing and Sustaining the Nuclear Regulatory Bodies in Africa (RAF9049) in March 2013
IAEA/GNSSN-KINS Regional workshop on knowledge safety network, Nairobi, Kenya, 14-18 Oct 2013
KINS Regional workshop on basic professional training in nuclear safety ; reactor safety and technology; Daedjon, Korae, 21 Oct – 1 Nov 2013
USNRC Inspection in RT , practical exercise, Tunisia, 11-15 Nov. 2013
KINS Regional workshop on self-assessment for regulatory authorities ; introduction to the SSG-16 methodology and the IRIS Software; Amman, Jordan, 14-18 Nov 2013
" KINS – IAEA GNSSN Regional workshop on capacity building, Douala, Cameroon, 02-06 December 2013;
" KINS workshop on " Safety Assessment for Common Practices Involving the Use of Radioactive Sources (Mombasa, Kenya, 8-18 December 2014)
African Union Commission - 1st, 2nd and 3rd Conference of States Parties to Pelindaba Treaty, Addis Ababa, Ethiopia, respectively on 4 November 2010, 12-13 November 2012 and 29-30 May 2014. Opening remarks including FNRBA's Chairperson. African Union Consultation with Regional Specialized Agencies on Capacity Building for Member States in the Areas of Chemical, Biological, Radiological and Nuclear (CBRN) Safety and Security on 20 November 2014 (AU Headquarters, Addis Ababa, Ethiopia); (FNRBA represented by Mr Reward Severa from Zimbabwe)
IAEA - 2nd GNSSN Steering Committee (SC) Meeting IAEA Headquarters (M6), Vienna, Austria (03–05 April 2013) - Presentation entitled «FNRBA Networking Development»
IAEA International conference on Effective Nuclear regulatory System Ottawa, Canada, 08-12 April 2013) -In Topical Session 4 on Emerging Programmes, the FNRBA Chairman was invited to give a presentation on "Early integration of nuclear safety and security and safeguards".
IAEA - KINS International Conference on the Safety and Security of Radioactive Sources: Maintaining Continuous Global Control of Sources throughout their Life Cycle (27 to 31 October 2013, Abu Dhabi, United Arab Emirates). 20 participants
IAEA International Conference on Occupational Radiation Protection: Enhancing the Protection of Workers, Gaps, Challenges and Developments (Vienne, Austria, 2014);

Technical workshops / Training



Activity in 2015	Venue	Dates
NUCLEAR SAFETY & RADIATION PROTECTION		
Joint IAEA-KINS Basic Professional Training Course on Nuclear Safety for Regulators (KINS, IAEA)	Tunis, Tunisia	4-15 May
Workshop on radioactive sources management for French speaking countries (IAEA & IRSN)	Paris, France	29 June - 03 July
Workshop on Establishment and Development of Nuclear Regulatory Body (supported by KINS)	Accra, Ghana	31 July – 10 August
ANNuR-FNRBA Workshop on Milestones and Infrastructure for new Research Reactors (IAEA)	Cairo, Egypt	10-14 May
Workshop on Probabilistic Safety Assessments (TWG3)	Cape Town, South Africa	May
RTC Train the trainers for First Responders(TWG9)	Sudan	May
NUCLEAR SECURITY		
Regional Workshop on Using FNRBA Website by Member States to Share Experiences on INSSP and NUSIMS	Cairo, Egypt	13-16 April
FNRBA Regional Workshop on INSSP FNRBA	Arusha, Tanzania	24-27 March

Strategic Action Plan 2016-2021

Plenary Meeting September 2015 in Vienna



Priority 1: Create awareness of, and coordinate activities, amongst political and policy makers and other regional forums and organizations.

Priority 2: Establish an efficient and effective network of human resources supported by an IT platform to ensure sustainable regional strategies for capacity building with IAEA methodologies.


Priority 3: Ensure understanding, develop, promote and implement high standards of radiation protection, nuclear safety and security Member State.

Priority 4: Implement capacity building activities at the national and regional level in radiation protection, nuclear safety and security regulatory infrastructure and framework and promoting sustainable regional cooperation in developing needed human resources.

Priority 5: Harmonize of national plans for emergency preparedness and response, transport safety and security in line with international requirements to facilitate exchange of information and sharing of experiences.

FNRBA NEW WEBSITE Feb 2016

IAEA NUCLEUS Browse Page Publish

 **IAEA** | **GNSSN** Global Nuclear Safety and Security Network

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Recent Videos

Words of the President



Publications

 [IAEA Safety Standards](#)

 [Fukushima Daiichi Accident - Report by Director General and Technical Volumes](#)


Relevant Links

 [AFRA](#)

The African Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA) agreement provides a framework for African Member States to



Welcome to Forum of Nuclear Regulatory Bodies in Africa



"Instrumental in strengthening the regulatory infrastructure and framework for radiation protection and nuclear safety and security in Africa"

The Forum of Nuclear Regulatory Bodies in Africa (FNRBA) was established on 26 March 2009. The establishment of FNRBA is considered as a key milestone catalyzing the enhancement, strengthening and harmonization of radiation and nuclear safety and security regulatory infrastructure in member states and serve as effective platform for the exchange of regulatory experiences and practices among the nuclear regulatory bodies in Africa.

The purpose of FNRBA is to be instrumental to the enhancement, strengthening and harmonization of the radiation protection, nuclear safety and security regulatory infrastructure and framework among its members.

News

 [FNRBA Strategic Action Plan](#)

September 2015 in Vienna: FNRBA plenary members approves a proposal for the Strategic Action Plan of FNRBA. This will reach the approval of Member States.

Highlights

- 33 African countries.
- 10 technical working groups.
- 8 workshops in 2015.

[FNRBA overview](#)

Upcoming Events

Workshop on Small Modular Reactor Safety and Licensing
IAEA, Vienna

 [Prospectus](#)

Event Date: 07 Jun 2016 - 10 Jun 2016

First Regional Coordination Meeting - Building Competent Authority Effectiveness on Regulating the Transport of Radioactive Material
Nairobi, Kenya

 [Prospectus](#)

Event Date: 22 Feb 2016 - 26 Feb 2016



4. Action & activities

Synergy, maturity and activity



- ▶ Propose relevant publication to the Community
- ▶ Process of publication approval
- ▶ Foster the support of African policy makers to Nuclear and Safety (AU level)
- ▶ Official nomination by MS of Plenary members
- ▶ Foster the support of African policy makers to Nuclear and Safety
- ▶ Foster the cooperation with WENRA, ANNUR, ANSN, FORO (Joint workshop, publication,...) to share share practices with countries having the same level of implementation
- ▶ Foster the sub-regional exchange
- ▶ Develop peer review services (model regulation, EPR, transport...)
- ▶ Enhance the knowledge and the science based-expertise with relevant networks (TSO forum through research and TSO specific expert missions)
- ▶ Promote knowledge regional centre

Thank you for your attention....

