

UNECE-IAEA Consultancy Meeting 28-29 April, 2014, Geneva and other updates

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IAEA

International Atomic Energy Agency

IAEA activities

Assessment of uranium resources, production and demand

IAEA/NEA Red Book

Uranium 2060

Database of Uranium Deposits (<http://infcis.iaea.org>)

Standardization of resource classification

Supporting good practices in the uranium production cycle

Uranium Production Site Assessment Team

Optimization of mining technologies

Development of low grade ores

Unconventional resources – Phosphates

Thorium resources (By-product of REE)

Support training activities

Technical Cooperation 18 national projects and 1 regional project (Africa)

Inter-regional project – 2012-14

Mission

To collect and share knowledge of uranium resources and support the development of a sustainable uranium production cycle in Member States.

Reporting of nuclear fuel resources

- **Rationale**
 - Improve the quality of reporting
 - Long-term resources availability studies
 - Common vocabulary for managing the uranium mining life-cycle
- **What has been achieved?**
 - Bridging Document between IAEA-OECD/NEA scheme to UNFC 2009 completed by Task Force.
 - International Workshop on “United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources – 2009 (UNFC–2009) applications in uranium and thorium resources” 7-12 July, Santiago, Chile
 - Introduced UNFC-2009 in many other meetings, workshops and training courses
 - Case studies for Argentina, Australia, Brazil, India, Malawi
- **Looking ahead ...**
 - Guidebook on application of Bridging Document for Nuclear Fuel Resources
 - Regional Africa Workshop on "Application of United Nations Framework Classification – 2009 (UNFC-2009) for Uranium Projects“ 10-14 November, 2014, Johannesburg
 - Other workshops, meetings, training courses



Participants at International Workshop, 7-12 Santiago, Chile (Photo courtesy of Monica Belling, ProActivo/Mining Press)



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Looking back - Meetings 2013-14

- Interregional training course on “Performance optimization in uranium and REE production from phosphate rocks”. **Tunis, Tunisia**, 11-15 February 2013
- Interregional Training Course on “Uranium Exploration Strategy, Mining and Processing Techniques”, **Jamshedpur, India**, 8-12 April, 2013
- **Workshop on “United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources – 2009 (UNFC–2009) Applications in Uranium and Thorium Resources: Focus on Comprehensive Extraction”**. **Santiago, Chile** 9-12 July 2013.
- Workshop on “Social Licensing and Stakeholder Communications in Uranium Exploration and Mining Industry”, **Istanbul, Turkey**, 10 - 14 February 2014
- Regional training course on management of uranium mining tailings, **Lusaka, Zambia**, 13-17 May, 2013
- Regional training course on Future of Uranium Mining, **Kinshasa, D R Congo**, 26-30 August, 2013
- Regional workshop on uranium mining and socio-economic development, **Lilongwe, Malawi**, 25-29 November, 2013
- Regional workshop on "Future of uranium mining in Africa“, **Marrakech, Morocco**, 24-28 February, 2014



Total engagement - UNFC Workshop, Chile

Lectures



Break-out Groups



Consultancy Meeting, 28-29 April, 2014

Objectives

- Discuss practical aspects of application of Bridging Document between NEA/IAEA Uranium Classification and UNFC-2009 including case studies
- Scope and structure of **Guidebook for Application of UNFC – 2009 for Uranium and Thorium Projects**
- Examine generic aspects of social return; sustainable development framework and the environment that should be considered when classifying resources.

Consultancy Meeting, 28-29 April

Participants

- Paul Bankes, Canada – CRIRSCO Representative
- James (Jim) Ross, UK – Petroleum sector
- Bradley S. Van Gosen, USA
- Roberto C. Villas-Bôas, Brazil
- P. S. Parihar, India
- A.K. Sarangi, India
- Julian Hilton, UK
- Luis Eduardo López, Argentina
- Cassius Chiwambo, Malawi
- Charlotte Griffiths, UNECE
- Hari Tulsidas, IAEA

Guide book - Objectives

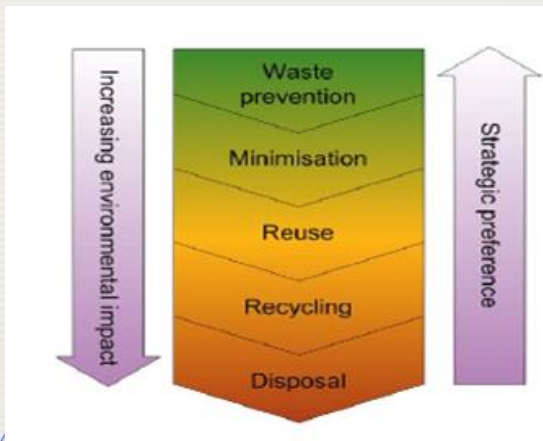
- To assist Member States in the application of this bridging scheme to UNFC 2009.
- Provide case studies and examples, which will illustrate the application of UNFC-2009 bridging document in a consistent manner in various situations.
- Look into aspects of sustainability and the environment that should be considered when classifying the projects.

Guidebook – Scope and Structure

- INTRODUCTION
- OVERVIEW OF NUCLEAR FUEL RESOURCES AND PRODUCTION
- UNITED NATIONS FRAMEWORK CLASSIFICATION 2009
 - UNFC-2009 Principles
 - Generic specifications
 - CRIRSCO commodity specific specifications
- NEA/IAEA CLASSIFICATION
 - NEA/IAEA Classification Scheme
 - Nuclear Fuels Bridging Document
 - Mapping to CRIRSCO Template
 - Mapping to other systems
- APPLICATION OF UNFC-2009 FOR NUCLEAR FUEL RESOURCES
- COMPREHENSIVE EXTRACTION PROJECTS
 - Unconventional resource and extraction options
 - Energy basin / Energetic Industries and NORM residue management
 - Sustainable Development Indicators
- CASE STUDIES

Social – Environmental Issues

- Hinging on social return
- Comprehensive extraction as the preferred methodology
- Energy basic concepts (e.g co-existence of uranium and hydrocarbons)
- Optimization of energy, water, land use
- Naturally Occurring Radioactive Materials (NORM) Residue Management - Critical Materials Recovery
- **Policy objectives of the waste hierarchy**



Looking forward – Meetings 2014

1. Regional training course on "**Regional training course on "Uranium exploration and production in Africa"**", 29 September – 3 October, 2014, **Gaborone, Botswana**
2. Regional workshop on "**Regional Africa Workshop on "Application of United Nations Framework Classification – 2009 (UNFC-2009) for Uranium Projects"**" 17-21 November, 10-14 November, 2014, Johannesburg, South Africa
3. Regional training course on "**Uranium resources and production"**", TBD November, **Marrakech, Morocco** (targeted for Francophone countries)
4. **Leadership Academy** in Uranium Production Cycle (LA UPC) – First Global Leadership Training Course in Uranium Project Management, TBD, 2014

URAM 2014

International Symposium on
Uranium Resources for Nuclear Fuel
Cycle, June 23 - 27, Vienna

Targeting a participation of ~500
uranium professionals from around
the world

Sessions on:

- Uranium geology and resources
- Uranium deposit modeling
- Advances in Exploration
- Uranium resources classification**
- Uranium markets
- Uranium mining
- Ore processing
- Unconventional resources
- Health, safety and environment
- Social licensing and communications


The poster background is a close-up photograph of a yellow, cracked, and textured surface, possibly representing uranium ore or a mineral deposit. The cracks are irregular and run across the surface, creating a complex, organic pattern.

International Symposium on
**Uranium Raw Material
for the Nuclear Fuel Cycle:**
Exploration, Mining, Production,
Supply and Demand, Economics
and Environmental Issues




23-27 June 2014
Vienna, Austria

**URAM
2014**

Organized by the

 **IAEA**
International Atomic Energy Agency

In cooperation with the

 OECD Nuclear Energy Agency (NEA)  World Nuclear Association (WNA)  United Nations Economic Commission for Europe (UNECE)

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Thank You

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