Technical Cooperation Program
Supporting Nuclear Knowledge Management in Latin America and the Caribbean

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IAEA Statute and TC Programme

- **The objective of the IAEA**: “to accelerate and enlarge the contribution of atomic energy to **peace, health and prosperity** throughout the world”

- **The TC Programme**: the major vehicle for IAEA to deliver development services to its Member States.

Through the TC programme, the IAEA helps Member States to build capacities in safe and peaceful use of nuclear technology for sustainable socioeconomic development.
IAEA Contribution to Sustainable Development

Water & Environment

Food & Agriculture

Energy

Radiation Technology

Health & Nutrition

Safety

Knowledge Management
What services does the TC Programme provide?

TC Programme aims to support sustainable socioeconomic development in Member States.

- Capacity building
- Networking
- Knowledge sharing
- Partnership building

Technical Cooperation (TC) Projects

- Training fellowships & scientific visits
- Expert assistance
- Conferences, symposia & seminars
- Equipment & materials
- Training courses & workshops
Alignment with Member States’ priorities

• Country Programme Framework (CPF)
  – Identify national priorities
  – Link TC programme with national development plans

• Regional Strategic Profile (2016-2021)
  – Agenda ARCAL 2030 (2022 -2029)
Latin America & The Caribbean

• 31 Member States with national projects
• Programme guided by
  – CPFs
  – Regional Strategic Strategic Profile for Latin America and the Caribbean 2016-2021
  – ARCAL Agreement
• Triangular cooperation
• Sub-regional approach for new Member States
Latin America and the Caribbean: Distribution of budget by FoA

- **Health and Nutrition**: 25%
- **Food and Agriculture**: 24%
- **Water and the Environment**: 12%
- **Energy**: 1%
- **Safety and Security**: 22%
- **Industrial Applications/Radiation Technology**: 6%
- **Nuclear knowledge development and management**: 10%

Pie chart showing the distribution of budget by FoA.
Technical Cooperation Program
contribution to Nuclear Knowledge Management in LAC
So what is Nuclear Knowledge Management?

Capturing and sharing the knowledge, information and learning we have gained over many years across the nuclear energy sector from:

– Our experiences in running the industries and supporting organisations

– The education, training, people development activities deployed and in use to support nuclear energy

– Working individually or together as teams in collaboration

Before NKM was ‘invented’ there were in place processes, arrangements and activities to develop and share our knowledge and experiences that we use everyday, but it was not really systematic and comprehensive!
Dedicated regional NKM projects since 2014

- promoting and developing nuclear education, training and human resource capability,
- Supporting and developing education and human resource networks and institutions in member states,
- Develop supporting NKM guidance and advice.

Why NKM?

- Significant loss of expertise from the nuclear sector
- Ongoing life extension programme across the region’s nuclear fleet
- Nuclear workforce now moving into 2\textsuperscript{nd} and 3\textsuperscript{rd} generation for some nuclear facilities

Cycle 2020-2021

- RLA0065: supporting Educational Nuclear Institutions
- RLA9089: supporting Nuclear Power Plants
- RLA0069: supporting National Nuclear Institutions
Scope of NKM Support to Member States

• National/Regional Level
  – Looking at the wider educational requirements on a national and/or regional level
  – Supporting young generations in key aspects of the nuclear sector: leadership, strategic planning
  – Attracting talented youth to nuclear careers

• Organizational Level
  – Specialist topics including Knowledge Management support missions across a range of functions; TSOs, NPP operators, regulators...
  – Enhancing TSOs sustainability through the development of business plans
  – Enhancing leadership and managerial skills
RLA0065: Furthering Knowledge Management Implementation and Strengthening Nuclear Education

2020-2022
RLA0065: Furthering KM Implementation in Nuclear Organizations and Strengthening Nuclear Education

Core KM Deliverables:

- **Knowledge Management Assist Visits**
  - **Target Audience?** – MS organizations interested in nuclear capacity building

- **Nuclear Knowledge Management School**
  - **Target Audience?** – NKM/HRD/TQ experts involved in developing and implementing NKM activities

- **Educational Network - LANENT**
  - **Target Audience?** – Regional and National Educational Institutions
KMAV- Knowledge Management Assist Visits

Designed to assist Member State nuclear organizations to have pragmatic knowledge management methodologies that can contribute to both safety and business objectives.

LEVEL 1 (KM Awareness and Orientation)
Assist organizations to develop a strategic KM programme

LEVEL 2 (KM Implementation)
Help organizations to improve their existing KM programmes through an IAEA developed assessment process

LEVEL 3 (KM Expert Assistance)
Provide consultancy services to address specific KM issues faced by nuclear organizations.
KMAV Areas of Self-Assessment

Area 1: Policy & Strategy
Area 2: HR Processes
Area 3: Training & Competence Development
Area 4: Capture/Transfer of Knowledge
Area 5: Methods, Procedures & Documentation Processes
Area 6: Technical Solutions
Area 7: Collaboration
Area 8: Organizational Culture
Educational Network - LANENT

• A network of institutions interested in nuclear education, training and outreach in the LAC region.

• Created to help preserve, promote and disseminate nuclear knowledge and foster the transfer of that knowledge in Latin America.

• Membership to LANENT is open to universities, national educational networks, research centres, governmental entities, and other institutions.
LANENT - NUCLEANDO Initiative

Objective: attract talented youth in nuclear careers by:

- fostering the innovative use of information technology and advanced virtual tools
- promoting exchange and dissemination of information and teaching materials
- engaging in outreach
• National Training Course NUCLEANDO:
  – Costa Rica, August 2019 (pilot)
  – Uruguay, February 2020
  – Chile, August 2020 (virtual)
  – Colombia, November 2020 (virtual)
  – Mexico, December 2020 (virtual)

• Knowledge Management Assists Visits:
  – CCHEN, Chile in November 2020 (virtual)
  – CCHEN, Chile in August 2021 (presentational follow up)
RLA9089: Supporting NPP Ageing Management, Preparation for Safe Long-Term Operation and Safety Culture Practices

Core NKM Deliverables:

- **Knowledge Management Assist Visits**
  - *Target Audience?* – MS organizations interested in nuclear capacity building

- **Nuclear Energy Management Foundation School**
  - *Target Audience?* – Future Leaders and Managers in the nuclear energy sector
Nuclear Energy Management School

IAEA and Nuclear Technology
- IAEA and its Services
- Overview of Nuclear Applications
- Introduction to Nuclear Power
- The Concept of Risk

Key Issues and Challenges
- Climate Change and Nuclear Energy
- Integrated Approach to HRD & NKM
- Management and Leadership in a Nuclear Organization
- Stakeholder Involvement and Public Communication

IAEA’s 3-S Requirements
- Nuclear Law
- Nuclear Safety
- Nuclear Security
- Nuclear Safeguards
- National Nuclear Legislation

Nuclear Technology Life Cycles
- Advanced Nuclear Power Technologies
- New Nuclear Builds
- Basic Principles of Nuclear Power Plant Operation
- Radioactive Waste Management
- Nuclear Fuel Cycle

Core topics
Time allocation - Mandatory Core lectures (45%) and optional Elective lectures (55%)
Regional NEM Foundation School
- Brazil, 31 May-11 June 2021

Knowledge Management Assists Visits:
- Laguna Verde, Mexico, 12-15 April 2021
- Electronuclear, Brazil in Q4 2021 (follow up)
RLA0069:
Promoting Strategic Management and Innovation at National Nuclear Institutions through Cooperation and Partnership Building (Phase II)

2020-2021
The context: Previous RLA0062

• Achieved increased awareness among decision-makers and managers of NNIs about the need to:
  • Align its research and development programs with national development goals
  • Conduct a self-assessment to identify and address persistent weaknesses and take advantage of new growth and development opportunities.

• IAEA assisted NNIs in the region by developing and disseminating guides and providing assistance to strengthen the sustainability of NNIs
RLA0069: objective

• Phase II will be based on the **mapping of services** (identified as case studies) of NNIs in the region and will facilitate cooperation between institutions for socioeconomic development and will increase the visibility and **sustainability** of services by improving the contribution generated by these services.
**Expected Outputs**

In progress

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<td>• <strong>Dynamic digital map</strong> of the situation of NNIs in the Region, recognizing the strengths of the products and services they offer</td>
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<td>• Develop <strong>Evaluation Models / Guides and Feasibility Studies</strong> according to the expected products and services through the case studies</td>
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<td>• <strong>Qualified and competent HR</strong> at different management levels</td>
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<td>• <strong>Efficient communications</strong> at different levels and in different areas</td>
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**Expected Outputs**

- Based on the **Evaluation Guides and Feasibility Studies** developed, generate complementary documents for the **Milestones and Sustainability of existing business models**

**Proposed**

- Develop capacities for training in **economic feasibility studies** (COMFAR, EMPOWER)
RLA0069: Key Events & Activities

• Trainings:
  – Strategic Planning/Management: Nov 2020 – Feb 2021
  – Strategic Communication for NNIs: Oct – Dec 2020

• Dissemination of the Self-Assessment Guide: Nov 2020

• Capacity Mapping: Jan 2021

• Business Models: April 2021 (first report)

• Business Plans: August 2021
Thank you