

14-18 November 2022

Philippines Nuclear Research Institute
Manila, Philippines

Strategic Approach to Capacity Building

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History and background

History

2001: IAEA Strategic Approach to E&T

- nuclear safety
- radiation, transport and waste safety

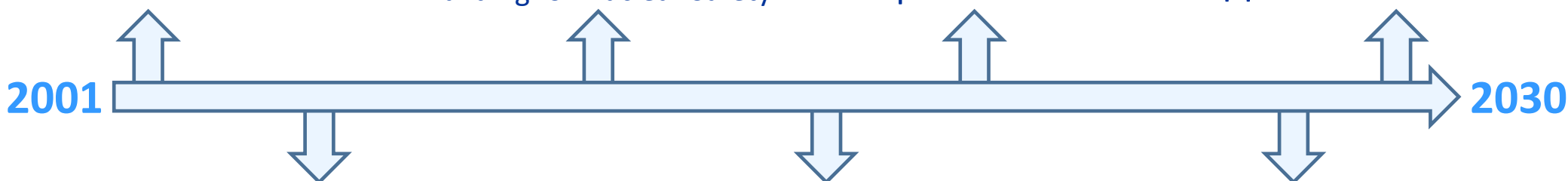
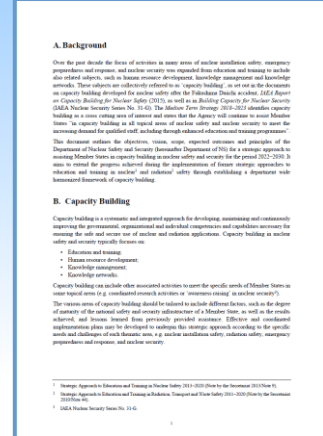
2012: Integrated concept of CB developed



2015: IAEA Report on Capacity Building for Nuclear Safety

2017: Mid-term assessment of implementation

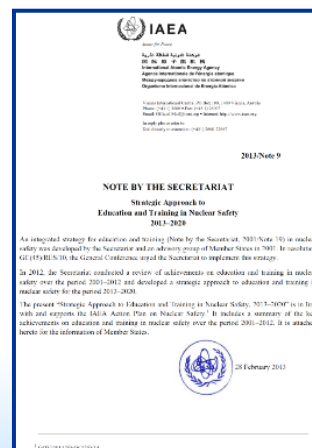
2022: Strategic Approach to CB in NSS



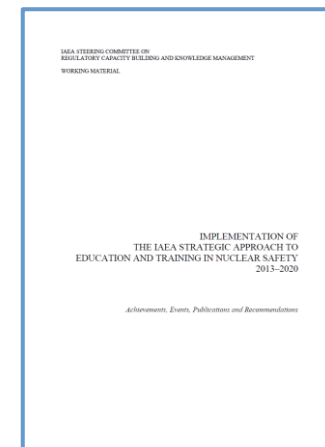
2009: Creation of a Steering Committee to advise the Agency on improving support to MSs in their E&T programmes in NS



2013: Strategic Approach to E&T in NS 2013-2020



2021: Implementation Report of SA 2013-2020



Capacity building

Capacity building is a **systematic and integrated** approach includes

- education and training
- human resource development
- knowledge management and
- knowledge networks

to **develop, maintain and continuously improve**

- national
 - organizational and
 - individual
- competencies and capabilities



necessary for ensuring the

- **safe, secure and**
- **sustainable**

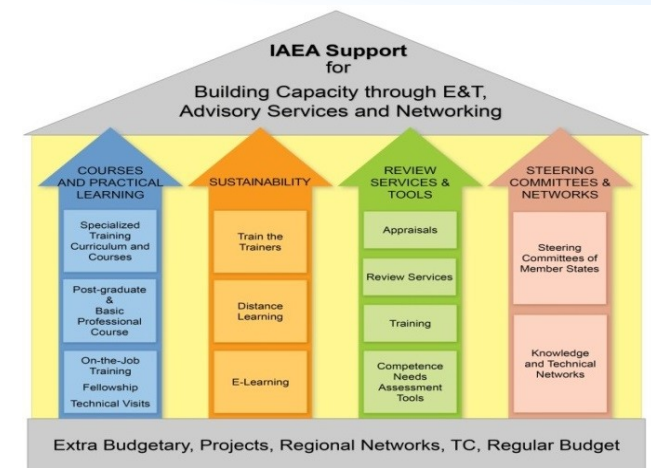
use of nuclear and radiation applications



Main topics

1. Strategies for capacity building

2. Capacity Building Mechanisms



3. Regional and international cooperation and networking





Strategies for capacity building

IAEA Strategic Approach to Capacity Building in Nuclear Safety and Security 2022-2030

IAEA Strategic Approach to CB in NSS

- Objective
 - support the implementation of capacity building activities of the Department of NS so that
 - MSs strengthen and sustain appropriate levels of nuclear safety and security, based on national needs and priorities
 - MSs apply IAEA safety standards and nuclear security guidance to ensure the safe and secure use of nuclear and radiation applications
 - aimed at fostering common principles of
 - ownership
 - partnership
 - sustainability with
 - mechanisms for

assistance to Member States
in capacity building provided
by the Department of NS

IAEA Strategic Approach to CB in NSS

- Vision
 - Member States strengthen and sustain the safe and secure use of nuclear and radiation applications consistent with
 - IAEA Safety Standards and Nuclear Security Guidance
 - Agency's support in capacity building

IAEA Strategic Approach to CB in NSS

- Scope

- The strategic approach cover the topical areas

- nuclear safety
 - radiation safety
 - nuclear security
 - EPR

} across the lifecycle stages of all facilities and activities

IAEA Strategic Approach to CB in NSS

- Expected outcomes
 - strengthened nuclear safety and security
 - increased application of the Agency's safety standards and nuclear security guidance
 - adequate and sustained competence and experience in the fields of nuclear safety and security
 - systematic and coordinated departmental support in capacity building based on the needs of MSs

IAEA Strategic Approach to CB in NSS

- Implementation Mechanisms
 - MSs supported in capacity building upon request through
 - regular budget and extrabudgetary contributions
 - technical cooperation programmes
 - Examples of support include
 - publications on and tools for capacity building
 - capacity building activities
 - WS, TC, schools, seminars
 - eLearning resources, blended learning approaches, virtual events
 - support to educational activities → master and post graduate courses
 - capacity building services → peer review and advisory mission
 - Internal coordination to ensure provision of support in a holistic manner and funds are used responsibly

IAEA Strategic Approach to CB in NSS

- Monitoring
 - Effectiveness and efficiency of CB activities are monitored
 - in close consultation with Member States through
 - the Steering Committee on Regulatory Capacity Building and Knowledge Management
 - the Steering Committee on Education and Training in Radiation, Transport and Waste Safety

IAEA Strategic Approach to CB in NSS

- Duration
 - The strategic approach cover the period
 - 2022–2030
 - A mid-term assessment is foreseen
 - 2025–2026
 - to allow for adjustments based on experience from implementation of the approach

Strategies for capacity building

National Strategies on Capacity Building for Safety

National strategies on capacity building

A new publication on national strategies for capacity building to support MSs in their efforts

- describes the concept of capacity building for safety
- describes benefits of national strategies on CB for safety
 - the integration with national nuclear energy policy
 - the roles and responsibilities of all relevant stakeholders
- provides guidance on national strategies for CB
 - elements of national strategies (content)
 - how to develop, implement and monitor (process)

National strategies on capacity building

- Objectives
 - guidance on how such national strategies can and should be linked to individual organizations' strategies
 - present experience gained in Member States to date in national strategies on capacity building for safety

National strategies on capacity building

- Scope
 - Capacity building with IAEA “umbrella approach”
 - E&T, HRD, KM and KN
 - For all Member States with
 - nuclear power programmes
 - embarking on a nuclear power programme
 - having interest for nuclear safety
 - All organizations of the national nuclear safety framework
 - having or building capacity for safety
 - All nuclear facilities and activities

Capacity Building Mechanisms

- **Needs assessment**
- **Filling the gap and sustainability**
- **Monitoring**

Safety Reviews Services

Identifying needs, improvement areas at national/organisational level

- ETReS – Education and Training Review Service
 - missions completed earlier years
 - Indonesia, Malaysia, Philippines, Thailand and Pakistan
 - Pre-ETReS in Kenya
 - Peer Review and Advisory Services Committee (PRASC) initiative on comparing IAEA review service missions
 - **ETReS is not in use anymore**
 - some other missions where CB or its pillars are considered
 - EduTA – radiation safety
 - IRRS – regulatory infrastructure for safety
 - IPPAS – physical protection
 - EPREV – EPR

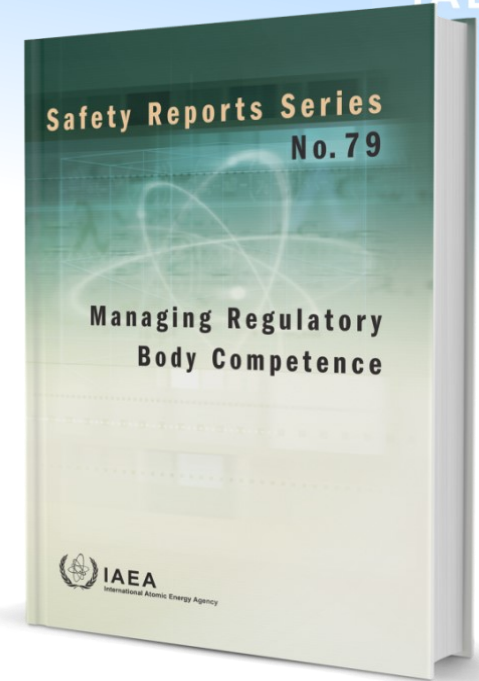
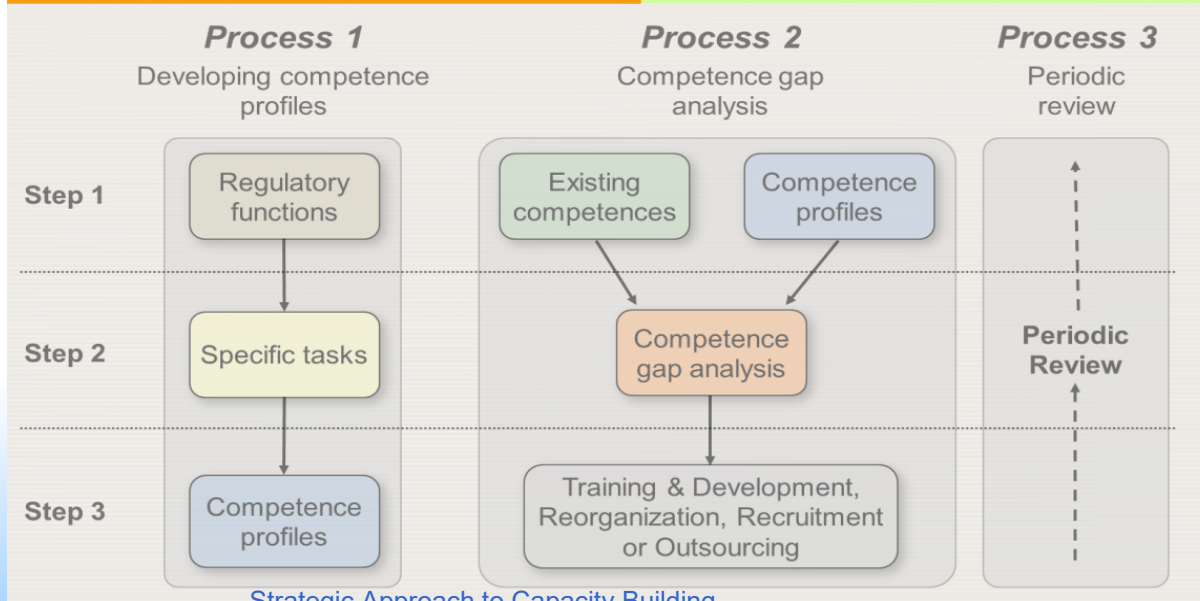
Expert Mission to evaluate regulatory CB

- Relatively new service → started in 2021
 - based on a new draft TECDOC “Methodology for Self-Assessment of Capacity Building for safety”
- Covers
 - capacity building (and all pillars) for safety and security
 - government, RB, authorized parties, TSO + service providers
 - with focus on regulatory capacity building
- Follows IRRS methodology
 - self-assessment, SWOT analysis, Action Plan
 - review mission → R, S, GP
 - Expert Mission Report

Identifying Competence Needs

Systematic Assessment of Competence Needs (SARCoN)

4. Personal and interpersonal effectiveness <ul style="list-style-type: none">4.1 Analytical thinking and problem solving4.2 Personal effectiveness and self-management4.3 Communication4.4 Team work4.5 Managerial competences and leadership4.6 Safety Culture	1. Legal, regulatory and organizational basis <ul style="list-style-type: none">1.1 Legal basis1.2 Regulatory policies and approaches1.3 Regulatory and regulatory guides1.4 Management system
3. Regulatory body's practices <ul style="list-style-type: none">3.1 Review and assessment3.2 Authorization3.3 Inspection3.4 Enforcement3.5 Development of regulations and guides	2. Technical disciplines <ul style="list-style-type: none">2.1 Basic science and technology2.2 Applied science and technology2.3 Specialized science and technology

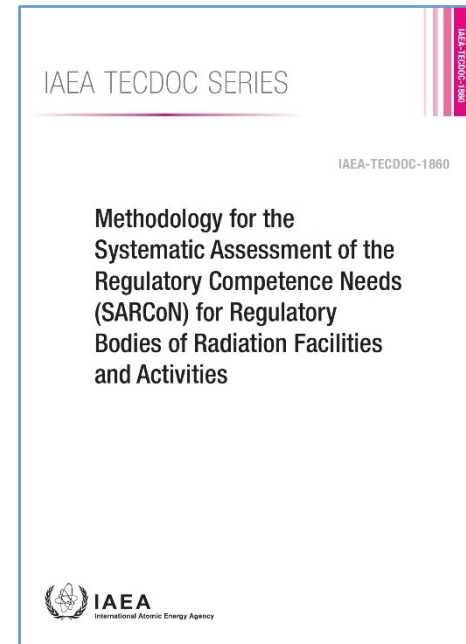
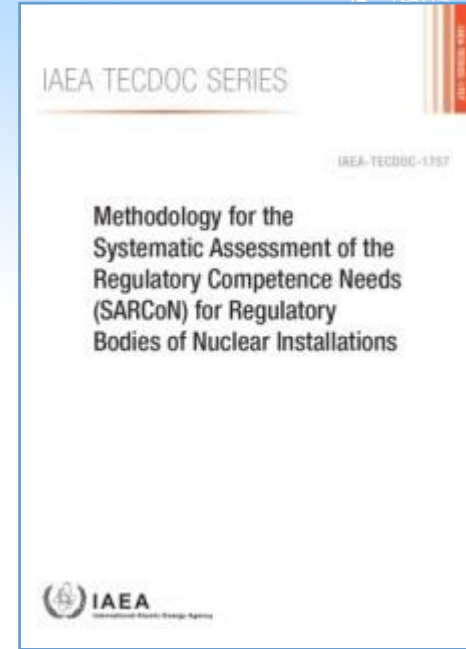


SARCoN

Systematic Assessment of Regulatory Competence Needs

- Plans for reversion of SARCoN IT tool
 - To be fully in line with SARCoN methodology
 - SRS-79, TECDOC-1757 and TECDOC-1860
 - To consider widened scope
 - nuclear safety
 - radiation safety
 - nuclear security
 - EPR
- To make it applicable for interested parties
 - RB, TSO, OO, governmental organizations
- Modern IT platform

modular structure



Capacity Building Mechanisms

- Needs assessment
- **Filling the gap and sustainability**
- Monitoring

Filling the gaps and sustainability

Specialised courses, self study, e-learning in all areas of safety & security

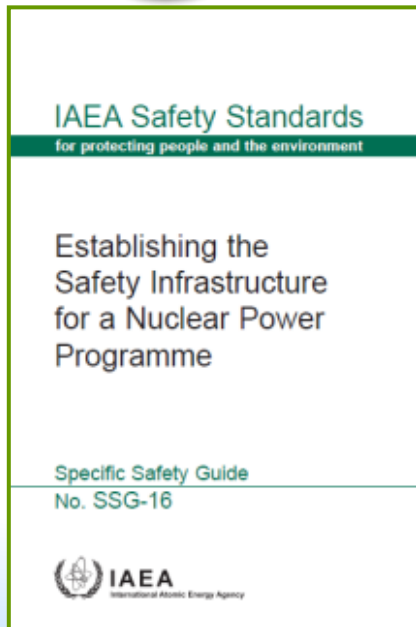
- The International School of Nuclear and Radiological Leadership for Safety
- Cooperation with EC in establishing a common training catalogue
- The Global Education and Training Resource (GETR)
- Basic Professional Training Course
- Regulatory Control Course

Specialised courses and standardized workshops



WS Modules based on SSG-16

Topics covered



- #1 Developing National Infrastructure including Governmental, Legal and Regulatory Infrastructure for Safe Implementation of Nuclear Power Programme
- #2 Regulatory Framework
- #3 Safety Regulations
- #4 Licensing Process
- #5 Regulatory Review and Assessment
- #6 Regulatory Inspection and Enforcement
- #7 Interactions with the Public and Other Interested Parties in Regulatory Activities
- #8 Leadership and Management System for the RB
- #9 Human Resource Management of the RB

Capacity Building Mechanisms

- Needs assessment
- Filling the gap and sustainability
- **Monitoring**

Purpose of PROMIS

- To monitor progress in implementing the Strategic Approach to Capacity Building in Nuclear Safety
 - on the proposal of the Steering Committee in 2017
 - development was started in 2018
- A tool to tailor Agency's assistance in capacity building in the area of nuclear installation safety

PROMIS Member States

- Member States
 - with nuclear facilities and activities
 - embarking for a nuclear power programme
 - with focus on capacity building in nuclear safety
- National Contact Points and their Alternates
 - Note Verbal for designation was sent out

PROMIS Member States (cont.)



Algeria	Ghana	Philippines
Argentina	Hungary	Poland
Armenia	India	Romania
Bangladesh	Indonesia	Russian Federation
Belarus	Iran, Islamic Republic of	Saudi Arabia
Belgium	Japan	Slovakia
Brazil	Jordan	Slovenia
Bulgaria	Korea	South Africa
Canada	Lithuania	Spain
China	Malaysia	Thailand
Czech Republic	Mexico	Türkiye
Egypt	Morocco	UAE
Finland	Nigeria	Ukraine
France	Norway	USA
Germany	Pakistan	Viet Nam

PROMIS Member States (cont.)



Algeria	Ghana	Philippines
Argentina	Hungary	Poland
Armenia	India	Romania
Bangladesh	Indonesia	Russian Federation
Belarus	Iran, Islamic Republic of	Saudi Arabia
Belgium	Japan	Slovakia
Brazil	Jordan	Slovenia
Bulgaria	Korea	South Africa
Canada	Lithuania	Spain
China	Malaysia	Thailand
Czech Republic	Mexico	Türkiye
Egypt	Morocco	UAE
Finland	Nigeria	Ukraine
France	Norway	USA
Germany	Pakistan	Viet Nam

PROMIS Guidelines

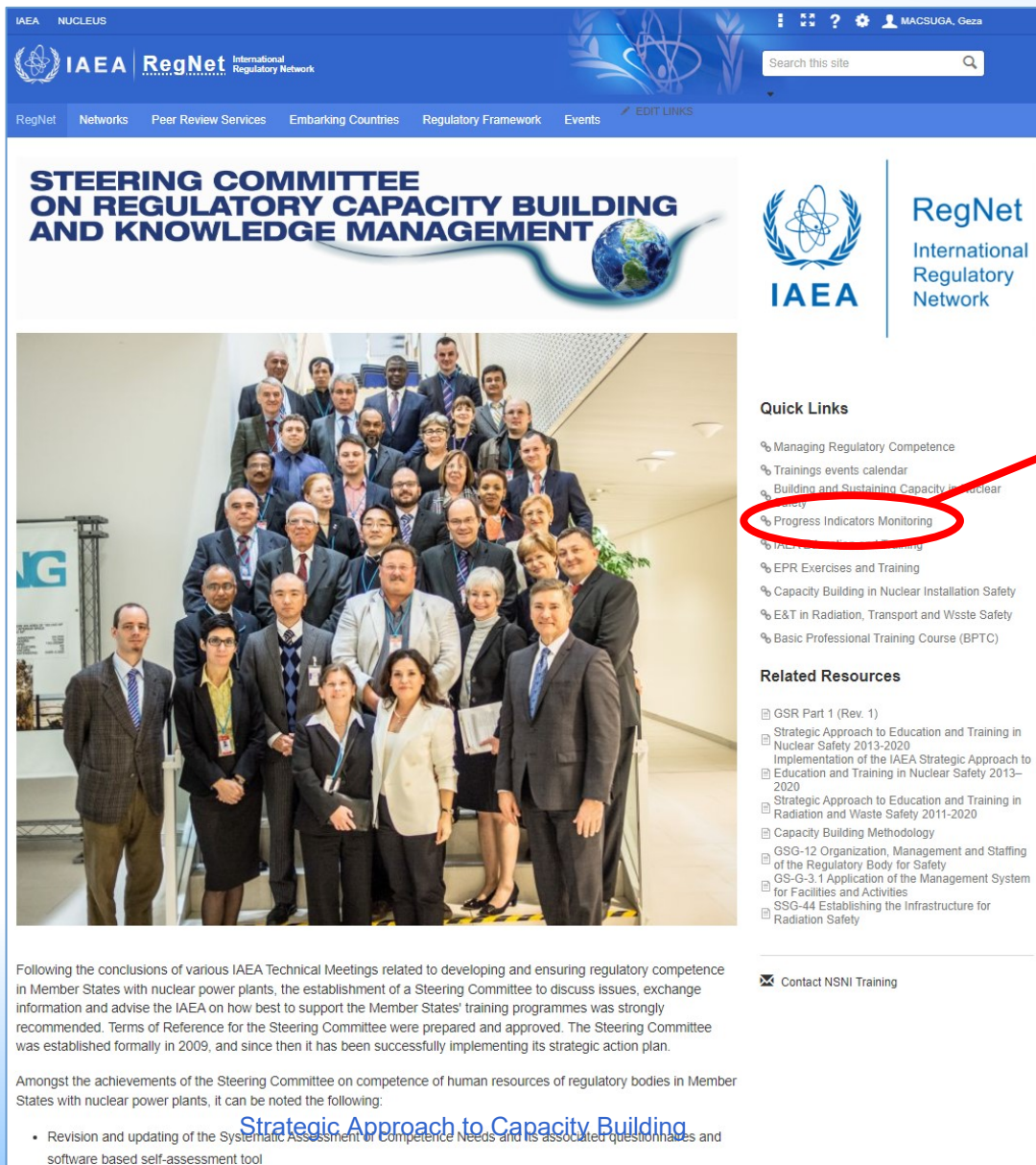
Progress Monitoring System for Nuclear Safety Capacity Building (PROMIS) Guidelines

Vienna, December 2022

IAEA Service Series XX

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The SharePoint site – PROMIS platform




IAEA NUCLEUS

IAEA RegNet International Regulatory Network

Search this site

RegNet Networks Peer Review Services Embarking Countries Regulatory Framework Events EDIT LINKS

STEERING COMMITTEE ON REGULATORY CAPACITY BUILDING AND KNOWLEDGE MANAGEMENT



RegNet International Regulatory Network

Quick Links

- Managing Regulatory Competence
- Trainings events calendar
- Building and Sustaining Capacity in Nuclear Safety
- Progress Indicators Monitoring**
- IAEA Technical Training
- EPR Exercises and Training
- Capacity Building in Nuclear Installation Safety
- E&T in Radiation, Transport and Waste Safety
- Basic Professional Training Course (BPTC)

Related Resources

- GSR Part 1 (Rev. 1)
- Strategic Approach to Education and Training in Nuclear Safety 2013-2020
- Implementation of the IAEA Strategic Approach to Education and Training in Nuclear Safety 2013-2020
- Strategic Approach to Education and Training in Radiation and Waste Safety 2011-2020
- Capacity Building Methodology
- GSG-12 Organization, Management and Staffing of the Regulatory Body for Safety
- GSG-3.1 Application of the Management System for Facilities and Activities
- GSG-44 Establishing the Infrastructure for Radiation Safety

Contact NSNI Training

Following the conclusions of various IAEA Technical Meetings related to developing and ensuring regulatory competence in Member States with nuclear power plants, the establishment of a Steering Committee to discuss issues, exchange information and advise the IAEA on how best to support the Member States' training programmes was strongly recommended. Terms of Reference for the Steering Committee were prepared and approved. The Steering Committee was established formally in 2009, and since then it has been successfully implementing its strategic action plan.

Amongst the achievements of the Steering Committee on competence of human resources of regulatory bodies in Member States with nuclear power plants, it can be noted the following:

Strategic Approach to Capacity Building

- Revision and updating of the Systematic Assessment of Competence Needs and its associated questionnaires and software based self-assessment tool

Progress Indicators Monitoring



<https://gnssn.iaea.org/regnet/rcm/sc/PI%20Monitoring/Pages/default.aspx>

There are still some “bugs” to resolve, but we are working on it

Annual update of PROMIS for 2021

Updates were provided by

- Initiated
 - 22 July 2022
 - Regular correspondence on difficulties
 - accessing the PROMIS platform
 - NUCLEUS registration is a prerequisite
 - additional access rights are to be granted
 - managing the Excel sheets
 - problems with the PROMIS Guidelines
- Bangladesh
 - Belgium
 - Brazil
 - Bulgaria
 - Czech Republic
 - Finland
 - Germany
 - Indonesia
 - Malaysia
 - Morocco
 - Nigeria
 - Poland
 - Romania
 - Slovenia
 - USA

Annual evaluation process

- Subject year ends
 - 31 December
- Response by MSs on the progress in subject year
 - January – March
- Assessment of responses
 - May
- Evaluation and conclusions
 - June – July
- Final evaluation and conclusions by SC meeting
 - December

Conclusions from PROMIS

Regional and global levels

- Based on geographical regions
 - Asia and Pacific
 - Africa
 - Europe
 - Central and Latin America and the Caribbean
 - North America
- Global
- Based on the status of nuclear power programme
 - MSs with nuclear facilities and activities
 - MSs embarking for nuclear power programme
 - MSs with focus on CB in nuclear safety



Regional and international cooperation and networking

Global and regional networking

- Global Nuclear Safety and Security Network (GNSSN)
- Geographical regions
 - Arab Network for Nuclear Regulators (ANNuR)
 - Asian Nuclear Safety Network (ANSN)
 - European and Central Asia Safety Network (EuCAS)
- Reactor type
 - WWER Forum
 - CANDU Senior Regulators
- Status of embarkment
 - Regulatory Cooperation Forum

IAEA Steering Committee on Regulatory Capacity Building and Knowledge Management

Objectives

- exchange information and knowledge
- advise IAEA's activities in support the MS' capacity building and knowledge management programmes

Members: Regulators of MSs operating and expanding a NP Programme and those actively pursuing their first NP Programme

Observers: Training Institutions, EC, OECD/NEA

Terms of References and Work Programme

Annual Plenary meeting

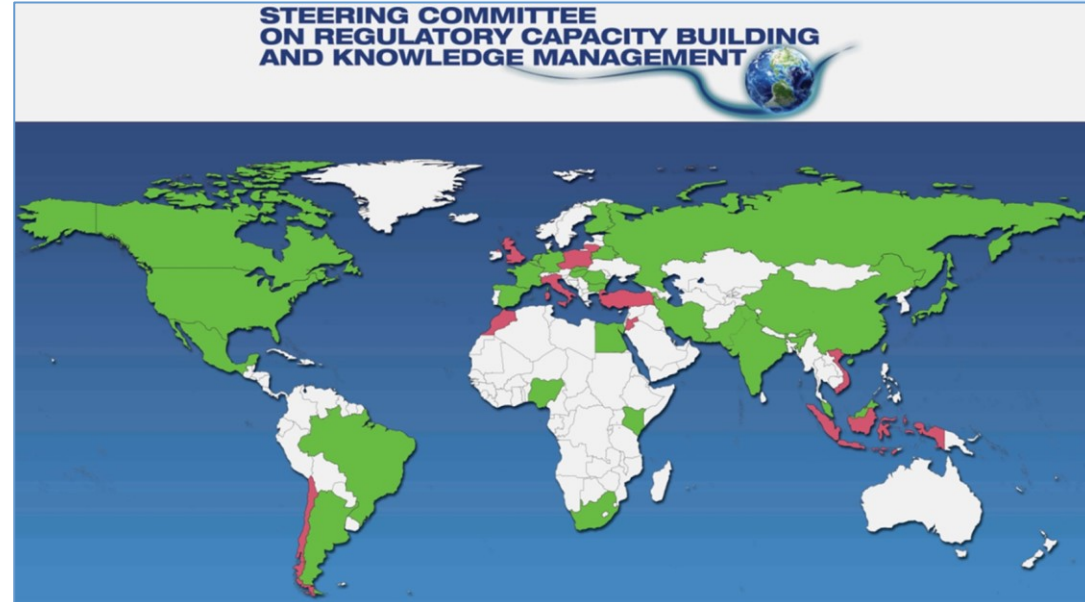
Bureau – Limited number of SC members; meets 1-2 per year to assess and contribute to the WP



IAEA Steering Committee on Regulatory Capacity Building and Knowledge Management



Participating MSs in the meetings of Steering Committee



Algeria	Argentina	Armenia	Bangladesh	Belarus	Belgium	Brazil	Bulgaria	Canada
China	Czech Republic	Egypt	Finland	France	Germany	Ghana	Hungary	India
Indonesia	Iran, Islamic Republic of	Japan	Jordan	Korea	Lithuania	Malaysia	Mexico	Morocco
Nigeria	Norway	Pakistan	Philippines	Poland	Romania	Russian Federation	Saudi Arabia	Slovakia
Slovenia	South Africa	Spain	Thailand	Türkiye	UAE	Ukraine	USA	Viet Nam

Conclusions

Conclusions

- Strategic Approach provides concept and principles for promoting systematic process and integrated approach
- IAEA efforts on implementing the Strategic Approach
 - in all main components
- IAEA supports Member States in building and sustaining capacity in nuclear safety

ANSN ETTG Regional Meeting on
Management of Training Systems for Nuclear and Radiological Safety

14-18 November 2022

Philippines Nuclear Research Institute
Manila, Philippines

Thank you!