Consultancy Meeting
on Global Nuclear Safety and Security Network (GNSSN) and International Regulators Network (RegNet) development
Vienna, Austria from 04 to 07 March 2013

CONSULTANCY REPORT

This report is the consolidation of the work performed by four working groups during the Consultancy Meeting on Global Nuclear Safety and Security Network (GNSSN) and International Regulators Network (RegNet) development.

Group 1: General structure of RegNet, including the Regulatory Knowledge Portal
Participants: Mr. Hartmuth Teske, GRS, Germany
               Mr. Lance English, USNRC
               Ms. Isabelle Forest, ASN France

Group 2: IRRS and Embarking Countries
Participant: Mr. Zaheer Ayub Baig, PNRA, Pakistan

Group 3: Content from NSRW, including the CSN (Control of Sources Network)
Participant: Ms. Vasiliki Tafili, GAEC, Greece

Group 4: Education and training
Participant: Mr. John Lyndon Summers, UK

IAEA: Mr. L. Guo, Ms. A. Khatoon, Ms. S. Lungu; Ms. S. Ihlau, Mr. I. Lux, Mr. T. G. Hailu, Ms. M. Morocho, Mr. M. Zimmermann, Mr. M. Youssif, Mr. A. Katukhov, Mr. A. Elghabary

Group 1: General structure of RegNet, including Regulatory Knowledge Portal

Responsible staff members: Meikel, Nikolai, Edgar, Melanie

The participants reviewed the structure and overall architecture of the homepage of GNSSN. The RegNet portal (primarily the open site) was specifically examined and the following proposals were made:

A: Proposal for left menu navigation:

It should be modified significantly in order to be distinguished from the main navigation of the GNSSN. The following areas of sub-sites are proposed:
1. RegNet Structure
2. RegNet Calendar;
3. Embarking Countries;
4. Cooperation among Regulators;
5. Regional Regulatory Networks;
6. Thematic Regulatory Networks;
7. Member States Area;
8. Regulatory Peer Review Service;
9. Regulatory Competence Management;
10. Conventions

For each area of the subsites of RegNet, an interface page/site should be opened. The page or site should be created to provide some explanation of the type of information that will be shown under that headline.

- **RegNet Calendar** to be added (which should show all events on international activities with relevance for Regulators). Each event should include links (when possible) to the event information (event web-site information and IAEA internal information).

- **Cooperation among Regulators**
  - RCF (Regulatory Cooperation Forum)
  - WWER Cooperation Forum (Regulators Forum for countries operating WWER reactors)
  - CANDU Senior Regulators Forum (Regulators Forum for countries operating CANDU reactors)
  - FRAREG (Regulators Forum for countries operating Framatom reactors)
  - MDEP (Multinational Design Evaluation Program)
  - INRA (International Nuclear Regulators Association)

- **Regional Regulatory Networks**
  - ANNuR
  - ANSN
  - FNRBA
  - FORO
  - WENRA
  - ENSREG
  - HERCA (Head of European Radiological Protection Competent Authorities)

- **Thematic Regulatory Networks**
  - Control of Sources network
  - Transport (to be considered if transport network exists)
  - Research Reactor (to be considered if RR network exists)
• Fuel Cycle facilities (to be considered)
• Waste Management (to be considered)
• Any related thematic networks….

• **Member States Area** (National Nuclear Regulatory Portals)
  • Four pilots are developed (Belarus, Germany, Russia, Ukraine)

• **Regulatory Peer Review Services**
  Interface page or site should only mention head of the sub-subsite such as “Nuclear Safety”, “Radiation Protection” etc. in order to avoid displaying a long list
  
  o **Nuclear Safety**
    • IRRS
    • DSARS
    • INSARR
    • SSRS
    • Expert mission to support newcomers
    • Advisory mission for source safety
    • RP Fact finding mission

  o **Radiation Protection**
    • IRRS
    • EduTA
    • SSRS
    • Advisory mission for source safety
    • RP Fact finding mission

  o **Radioactive Waste Management**
    • IRRS
    • NSRW waste management mission

  o **Transport Safety**
    • IRRS
    • TransSAS

  o **Incident and Emergency**
    • EPREV
    • SSRS
    • IRRS

  o **Nuclear Security**
    • IRRS
    • DSARS
    • IPPAS
    • INSServ
    • SSRS

• **Regulatory Competence Management** *Please see advise provide by group 2 and 4.*
- **Embarking Countries Portal** Please see advise provide by group 2 and 4.

B: Centre of the homepage

- Announcement webpart:
  - Headline "Upcoming events": The headline is not clear and we propose that the headline should read: “Selected Upcoming Events”. At a minimum, the upcoming meetings related to RegNet development need to be announced here (CS, TM, SC, Workshop).
  - Headline “Past events”: Limit to no more than 3 events. Events must be important for RegNet development. For example: TM which defines the TOR of RegNet development and structure.

C: Right menu navigation of the homepage

- All Links to RegNet collaboration space could be deleted due to inconsistency with web structure on the left menu navigation.
- Use the right menu navigation for links to the Regulatory Knowledge Center and respective sub-areas. The proposed sub-areas are provided below:

  **Regulatory Knowledge Center**
  - **Documents**
    - *Nuclear Safety*
      - Safety standard
      - Tecdoc related to safety
    - *Nuclear Security*
      - Security Guidance
    - INSAG Reports
    - Safety Reports, Series, etc.
  - **Meetings**
    - International Conferences
    - Coordination Meetings,
    - Consultancy Meetings,
    - Technical Meetings,
    - Training Courses, Video/Telephone Conferences,
    - Workshops

• Also include a direct link to the Mission Calendar of the IAEA Nuclear Safety Dashboard.
• The respective member state activities should be presented on the member state National Nuclear Regulatory Portal (NNRP) Member State Area with NNRPs.

Nikolai Jacobi
• Co-ordination of the CNS page
• Design and upload of Safety Standards, INSAG etc. page on the RegNet home
• Review of the Peer Review table for GNSSN
• RegNet structure graph, upload, linking
• New IRIS page

Melanie Kasper
• Development of new RegNet logo
• Restructuring of outline and design of RegNet homepage

Edgar Reales
• Design and upload of Safety Standards, INSAG etc. page on the RegNet home
Group 2: IRRS, RCF and Embarking Countries

IRRS (Simina Lungu)

- It is understood that the “IRRS related publications and documents” page/library will contain several open documents in the near future; otherwise, it would be advisable to change the display type of the respective library;
- It would be recommended to have an interactive “Q&A” form on the “IRRS FAQ” page;
- It would be recommended to include in the “Contact” page an “on-line mission request” form. This should be adequately referred to, detailed and linked between the “How to request…” page and the “Contact” page;
- On the “IRRS homepage” include a condensed version of the IRRS process chart, after an introductory paragraph; current introductory paragraph needs to be reviewed.
- Replace “Events” page title with “IRRS Schedule”. Correct library name (currently “IRRS Missions calendar”).
- On the IRRS Homepage: delete “News on IRRS” web-part from the center of the page and move it to the right side, above the “Resources” and “Related documents”. The items of interest will appear in the links summary, hyperlinked to the calendar on the “IRRS Schedule” page.
- Reorder left-side headlines: Core pages - Homepage, What is IRRS, IRRS Structure and process, How to request an IRRS, EC-IAEA, IRRS Related publications and documents, then subsequent support pages – IRRS History, IRRS Worldwide, IRRS Schedule, FAQs, Contact.
- Revisit “IRRS Basis”.
- Proposal to hide the “List of IRRS references” page from the left-side menu, in order for the page to be reflected only in the right-side link summaries (“Related Documents”);
- Link to SARIS found under CSN

Embarking countries (Scarlett Ihlau)

- Work-out and add description on the soft competencies based on the three-phases approach solely focusing on the RB
- Add link with description on INIR
- Replace title “Collaboration area” with “Collaboration Area for the development of material”. Add hovering link with brief description to each of this collaboration areas.
- Incorporate the ideas/approach proposed in Lyn Summers’ document “Notes on the development of competence of the Regulatory Body in an Embarking Country”.
• Safety Report on Competence Management includes a chapter on embarking countries to give advice on the way in which regulatory bodies can build up competence appropriate to its needs during the process of capacity building. (include link once available)
• Link to SARIS under CSN

RCF (Scarlett Ihlau)

• Move RCF Members list to Contacts; re-arrange order to RCF Members List, followed by Senior Representatives and Steering Committee Members
• Group became aware that the contact list is not up-to-date and needs to be revised.
• Add list of Steering Committee Members
• Add RCF ToR and RCF Programme Plan as top headers
• Under “Links”, add new link to the Safety Modules page under the Embarking platform
• Under “Links”, add a new link to the SARIS page under CSN

http://gnssn.iaea.org/CSN/SA/default.aspx
Group 3: Control of Sources Network (CSN)

After a short review of the existing features, the available content and the technical capabilities of Share Point software, the group agreed on the following proposals / comments:

1. **Menu position and appearance**
   - The CSN is seen as a thematic network of interest for all regulatory bodies. As such, its placement under the RegNet umbrella Thematic Networks menu is the most suitable one.
   - Acronyms under the RegNet left menu navigation should be replaced by the full titles (with acronyms in brackets)

2. **Content and Structure**
   - Links have to be grouped on the left menu navigation and the right menu navigation of the CSN home page. Links such as for the Code of Conduct and control of sources IAEA page should be on the left menu navigation; others such as RASIMS, Directory of regulatory bodies, import/export national contact points, etc should be on the right menu navigation of the page.
   - Announcements could be organized as IAEA announcements and Member States’ announcements. MSs announcement could be on topics such as national training workshops, public outreach activities, etc. Information received from member states for announcements should be verified through their national websites.
   - Pictures uploaded on the site should have titles and descriptions to the extent possible. Pictures should have better resolution analysis.
   - National contact points for import and export of radioactive sources should be included.
   - List/map of countries that have expressed their support to the Code of Conduct should be included.
   - FAQ as necessary should be included in the main site or sub-sites.
   - A link to the IAEA Radiological events news should be included.
   - Document library needs description of folders.
   - Date of modification for document library folders might be removed since it does not update when a document is added.
   - A contact point for technical assistance in the training packages should be available.
   - MS documents library needs an additional folder for public outreach materials.
   - MSs document library folders should be rearranged in accordance to importance such as Laws, Authorization, Inspection, Enforcement, Miscellaneous, etc.
3. **Promotion**
   - Official notification of the MSs and notify all potential individual users of CSN through a notification mail. Mail list could be developed from different training events, meetings, etc.
   - A mailing list of registered users should be developed and notifications of any improvements should be regularly communicated
   - Prepare a PowerPoint presentation on CSN; disseminate this file to the CSN users mailing list and other network contact points
   - Create an initial core team of users, engage them personally with such as asking their input in blogs, discussion boards, info updates, etc.
   - Include a presentation for CSN on the forthcoming International Sources Conference in October 2013
   - Develop a leaflet (print and electronic format) on CSN and distribute it to MS through different channels
Group 4: Regulatory Competence Management

- Replace header “Education and Training” with new header “Regulatory Competence Management”
- Add interface page with an introduction taken from the Foreword of the Safety report “Managing Regulatory Competence” with an additional description on said report and links to the mentioned areas regarding competence development.
- Add further description on Nuclear Radiation Training and Nuclear Safety Training to underline the differences.

Working Group 4

Participants: Mr John Lyndon Summers, UK; Mr Moritz Zimmermann, NSNI-RAS;

Topic: Regulatory Competence Management

The Group considered the part of the RegNet homepage currently labelled Education & Training. Consideration of the overall architecture in Group 1 had decided on a simple set of links to main web pages for each part. The group therefore considered the content of this webpage (below). Discussion, first, centred on the title, and the broader and more valid title of “Regulatory Competence Management” was adopted.

Interface Page: “Regulatory Competence Management

- GSR Part 1:
  Safety Requirements on Governmental, Legal and Regulatory Framework for Safety address the issues of competences of the regulatory body by requiring that: “A process shall be established to develop and maintain the necessary competence and skills of staff of the regulatory body.
- Brief description of the ITO concept, showing that the Competence of a Regulatory Body can be considered in in terms of three interrelated attributes: Human, Organizational and Technical Factors.
  - link to IEM
  - Diagram
- One sentence on lessons learned for regulatory bodies in the Light of the Accident at the Fukushima Daiichi NPP.
- Strategic Approach to
  An integrated approach for education and training considering the overall requirements of regulatory competence management was developed by the secretariat and is in line with and supports the IAEA action plan for Nuclear Safety. The report identifies the following key components:
  - Link to the govatom page and make file available as pdf
Expand each one into one or two sentences

- **National Strategies**
  - Link to NNRP (National Nuclear Regulatory Portal)

- **Capacity Building**

- **Effective use of Networks and International Cooperation**
  - Link? (maybe RegNet, GSAN, GNSSN)

- **Management Systems**
  - Adequate management systems are essential for an effective regulator.
  - Regulatory bodies are required to have a management system for the management of their activities (links to GSR Part1, GS-R-3, GS-G-3.1). Competence management needs to be integrated into the management system. The transparency and auditability, inherent in such a system, facilitates self-assessment and supports the confidence of interested parties in the regulatory body's processes and competences.

- **Knowledge Management**
  - An important element of effective human resource management is the management of knowledge. The knowledge that individuals need as part of the competence requirements for assigned tasks and the additional knowledge they acquire in carrying out those tasks needs to be preserved and shared widely. Knowledge management deals with capturing, structuring and transmitting this knowledge. Knowledge is the key resource of most organizations. Therefore managing knowledge effectively requires the understanding of and attention to the concept of organization knowledge rather than just traditional notion of individual knowledge.

- **Management of Competence (new webpage)**

**Subsite: Management of Competences**

- The ability of a regulatory body to fulfil its responsibilities depends largely on the competence of its staff. Building employees' skills and knowledge is an investment in each employee and in the future of the organization.

- Competence is the combination of Knowledge, Skills and Attitudes (KSAs) needed by a person to perform a particular job. All three domains are important and interrelate.

- Regulatory bodies are required to have a management system for the management of their activities. Competence management needs to be integrated into the management system. The transparency and auditability, inherent in such a system, facilitates self-assessment and supports the confidence of interested parties in the regulatory body’s processes and competences.
  - A Safety report is about to be published, which give guidance on managing the competence of staff in a regulatory body.  
  - A conceptual model has been developed to aid discussion and analysis of competence needs. Each individual in a regulatory body and each group of individuals needs to have a combination of these competences.
(to an appropriate level or extent) in order to exercise the functions or tasks.

- Four quadrant model

<table>
<thead>
<tr>
<th>4. Personal and behavioural competences</th>
<th>1. Competences related to the legal, regulatory and organizational basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Analytical thinking and problem solving</td>
<td>1.1 Legal basis</td>
</tr>
<tr>
<td>4.2 Personal effectiveness and self-management</td>
<td>1.2 Regulatory policies and approaches</td>
</tr>
<tr>
<td>4.3 Communication</td>
<td>1.3 Regulations and regulatory guides</td>
</tr>
<tr>
<td>4.4 Team work</td>
<td>1.4 Management system</td>
</tr>
<tr>
<td>4.5 Managerial and leadership competences</td>
<td></td>
</tr>
<tr>
<td>4.6 Safety Culture</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Technical disciplines competences</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Basic science and technology</td>
</tr>
<tr>
<td>2.2 Applied science and technology</td>
</tr>
<tr>
<td>2.3 Specialized science and technology</td>
</tr>
</tbody>
</table>

- A tool has been developed by IAEA (and used extensively by member states’ regulatory bodies) to facilitate the analysis of competence needs, available competences and competence gaps. - SARCoN Tool (link – new page)
- The safety report also gives advice on methods of acquiring or matching competence to the needs of an organization identifying five categories of acquiring competence:
  - Establishing training and development programmes (link to subpage)
    - Knowledge framework for Education and Training in Nuclear Safety
    - Education and Training in the IAEA to support Capacity Building and Competence Management
      - E&T in NSRW (link to NSRW training site or page within RegNet)
      - E&T in NSNI (link to NSNI training site or page within RegNet) [http://www-ns.iaea.org/training/ni/materials.asp?s=100&l=75]
  - Participation in knowledge networks
    - Knowledge networks are established to promote the pooling, analysis and sharing of nuclear technical, safety and security knowledge and experiences at national, regional and international levels.
    - Two steering committees → link NSRW and NSNI
  - Reorganization and replacement
The analysis of competences needed may show some competence gaps at an individual or sub divisional level but no significant gap at the level of whole organization. Revising the division of responsibilities and tasks within the organization or placing members of the staff in new positions may provide a method to address competence gaps.

- Recruitment
  - The recruitment strategy within a regulatory body will depend on a number of factors. These factors are likely to change with time and hence the regulatory body will need to review the strategy periodically to establish whether it is still appropriate and viable. If new or relatively new graduates or people from disciplines unrelated to nuclear facilities and activities are recruited, more extensive training programmes will be required to establish appropriate competences in scientific and technological areas.
  - It is inevitable that all new staff will need training even if they have the technical competences needed by the organization. This is because it is necessary to instil in such recruits the culture of the regulatory body and establish in them some of the competences described in the competence model they may lack.

- Use of external support (TSO-Group??, intelligent customer, TecDocs)
  - It may though be practicable for the regulatory body to use external support in some cases.
  - When using external support, it is important that the regulatory body have competences to enable it to be an “intelligent customer” to control the work done for it. It needs to have sufficient breadth and depth of knowledge and experience.

- EMBARKING COUNTRIES (→ link)
  - TRAINING WORKSHOP MATERIAL
  - States have declared an interest in ‘embarking’ on or considerably expanding nuclear power programmes. This puts additional pressure on the existing pool of regulatory staff. There is therefore a need to establish programmes to develop the competence of their regulatory bodies. The safety report→ link has an appendix to give advice on this issue.

Subsite: Establishing training and development programmes
- Knowledge framework for Education and Training in Nuclear Safety
• Education and Training in the IAEA to support Capacity Building.

E&T in NSNI (http://www-ns.iaea.org/training/ni/materials.asp?s=100&l=75)

Subsite: SARCoN Tool
**Systematic Assessment of Regulatory Competence Needs for Regulatory Bodies of Nuclear Facilities**

A Regulatory Body’s competence is dependent, amongst other things, on the competence of its staff. A necessary, but not sufficient, condition for a Regulatory Body to be competent is that its staff has the competences they need to perform the functions of the Regulatory Body.

Under the auspices of the [Steering Committee (SC) on Competence of Human Resources for Regulatory Bodies](link) SARCoN has been developed to give guidance for the systematic analysis of required competences of the regulatory body based on the regulatory functions and is equally applicable to the needs of countries “embarking” on nuclear power programmes. Different Regulatory Bodies have different regulatory, cultural and national approaches. SARCoN is the result of years of experience and work of many experts and has been validated by the IAEA Steering Committee of Competence of Regulatory Bodies for nuclear facilities. Consequently SARCoN must be tailored and adapted to the particular situation of the regulator. The competences and overall information of these guidelines and tool are in no way prescriptive neither intend to be a complete and perfect set of competence profiles.

SARCoN provides information on specific and practical means to support the implementation of the IAEA safety standards in the area of ensuring regulatory competence by systematically analyzing the competences “gap, and a systematic approach and step-wise procedure for identifying potential training needs of regulatory bodies through gap analysis. They also provide examples of a questionnaire for self-assessment.

**DOWNLOAD Tool (Link)**
**DOWNLOAD GUIDELINES (Link)**

The following step by step approach is used to identify the gap between the existing and the required competences and define the associated training needs, with a focus to nuclear facilities.

![Flow chart of a Training Needs Assessment](image)

**Experience on SARCoN**

Countries that received an IAEA Seminar on SARCoN or that reported having used the SARCoN model include:
• Argentina  • Bangladesh  • Belarus
• Belgium  • Chile  • China
• Egypt  • Finland  • Germany
• Indonesia  • Iran  • Japan
• Jordan  • Korea  • Malaysia
• Mexico  • Morocco  • Pakistan
• Philippines  • Romania  • Spain
• UK  • Vietnam  • Yemen
GENERAL COMMENTS

Group 1

When information is displayed by using the navigator, or through links, we discovered that more often than not, the information is displayed in the same window. Recommend to determine if it would be better to display the new information in a separate window.

Group 2

• Font and display options;
• Disable left to right scrolling
• Importance of maintaining and sustaining the information periodically
• Suggestion: Make Self-Assessment an additional area within RegNet (left side navigation header)

Group 3

• MSs should be officially notified about the existence of the GNSSN platform. An email list of individual potential users of the platform should be developed and information sent to individual regulators; a mailing list of registered users should also be developed and get a regular notification of updates and new developments in the platform.
• The platform should be made visible on the IAEA website: write a story, create a banner and have it somewhere permanently in the IAEA homepage. (One can not search and find the GNSSN/RegNet in IAEA website)
• A mechanism, such as through RegNet contact points, for getting constant feedback and comments on RegNet should be developed.
• To the extent possible, a common structure approach among RegNet sections should be maintained.
• Consistency of information in all the sites within RegNet should be observed.
• Authorization steps should be simplified for ease of access management with growing number of users.
• Identified necessary IAEA documents (safety standards, working documents, etc) should be uploaded in several UN languages to the extent possible