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Knowledge Management for Nuclear Safety

by

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- Considerable efforts are being made by the Agency to assist Member States in the establishment and/or upgrading of the national infrastructure for nuclear safety.
- However, recently the IAEA's recent Nuclear Safety Reviews (e.g. 2015, 2016, 2017, have shown that most of IAEA Member States benefiting from IAEA's technical assistance still need further support to have a national regulatory infrastructure consistent with the Agency's Safety Standards.
- This has been attributed, in most cases, to the lack of qualified human resources at the user's level as well as the level of regulatory body.

The 2018 GC (62)/RES/6 encourages Member States to develop national strategies for capacity building in nuclear safety including through:

1. Education & Training (E&T);
2. Human Resources development (HRD);
3. Knowledge Management (KM); and
4. Knowledge Networks (KN).



Many Member States have not yet developed (or are in the process of developing) a national plan for capacity building for nuclear safety, including the above four interdependent elements.

These interdependent elements are addressed in many IAEA Safety requirements in particular by the Safety Requirements publication No. GSR Part 2 which requires that:

- Senior management shall determine the competences and resources necessary to carry out the activities of the organization safely and shall provide them.
- The management system shall be documented. The documentation of the management system shall be controlled, usable, readable, clearly identified and readily available at the point of use
- The knowledge and the information of the organization shall be managed as a resource.

IAEA is in the process of strengthening its assistance to Member States in the development of their national strategy for capacity building for nuclear safety including KM. In this regard, the following activities are being developed and implemented:

I. Development of publication on *"Methodology for Self-Assessment of Capacity Building for Nuclear and Radiation safety"*.

II. Specific actions relating to the four elements:

E&T: Development of Curriculum for Master's Degree in Nuclear Safety and security;

2.HRD:

"Methodology for the Systematic Assessment of the Regulatory Competence Needs (SARCoN) for Nuclear safety: TECDOC-1757; and "Methodology for the Systematic Assessment of the Regulatory Competence Needs (SARCoN) for Radiation Safety: IAEA-TECDOC -1860;

3.KNs: IAEA's Global Nuclear Safety and Security Network (GNSSN) and;

4. Knowledge Management for nuclear safety:

Nuclear Safety Knowledge is considered as a subset of knowledge owned by an organization, or other entity, that is relevant to or required for nuclear safety. Nuclear safety knowledge management entails using knowledge management approaches, tools and techniques for the purpose of nuclear safety With the objective to assist Member States in developing their knowledge management for nuclear safety, as part of their capacity building programmes, the Agency has initiated the following actions:

1. Development of specific Publications:

- IAEA Safety Report "Managing Nuclear safety Knowledge" provides practical guidance to support Member States in implementing IAEA safety standards in managing nuclear safety knowledge (in the process of publication);
- IAEA Safety Report" Knowledge Management for Safety Regulators" to provide practical guidance to Member States on how to plan, establish and maintain an effective safety knowledge management programme for regulators of facilities and activities (in the process of development);

2. Model Workshops on Nuclear Safety Knowledge Management organized in European countries (e.g. Bulgaria, Germany). Others are planned in Vienna and Moscow. In addition, e-Learning Modules are being developed;

As recommended recently by the GNSSN Steering committee on its 14 session, the Knowledge management, as a pillar of the Capacity Building, will be further expanded to include provision of expert missions to advise countries how to develop and sustain a knowledge management programme for nuclear safety.