THE ENVIRONET – NETWORK ON ENVIRONMENTAL MANAGEMENT AND REMEDIATION

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Abstract

The paper describes ENVIRONET, a new initiative of the IAEA to facilitate information exchange between persons concerned with environmental remediation projects in different counties. The rationale for the development of the ENVIRONET network and the main functions and facilities of the network are described.

1. BACKGROUND

The successful implementation of environmental remediation projects depends on the appropriate combination of factors that include both technical and non-technical issues. In most cases, the major constraint in implementing these projects is the lack of financial resources. Environmental remediation activities tend to be very expensive and because, in the past, companies, both private and State owned, did not provide the necessary financial provisions for environmental remediation, it is not uncommon that resources for remediation are unavailable. For these reasons, the costs of remediation projects have generally to be faced by the State. Often, the national organizations in charge of implementing remediation works rely on the support of international organizations to fund the projects — especially in the case of countries with weak economies.

However, even if financial resources are available there are a number of other issues to be tackled. They include, but are not limited to, the technologies to be used, the availability of appropriate staff and the regulatory infrastructure (including laws, regulations and regulatory organizations). Planning is a topic of crucial importance for the successful implementation of environmental remediation projects but in many cases it is not appropriately considered by those in charge of the implementation of projects. Finally, consideration has to be given to the role to be played by different stakeholders in the decision making process. Consideration has to be given to procedures for taking their views into consideration and for involving them effectively in the process. Solutions have to be found that are both technically and scientifically sound at the same time as being understood and accepted by the different stakeholders.

Some countries have achieved more successful outcomes in the implementation of environmental remediation projects than others. As a result they have experience on how to deal with some of the issues mentioned above. However, solutions for environmental remediation problems are not universally applicable, i.e. a technology that has proven to be effective at one site may not be the most appropriate one to be applied to another. One example of this is the use of dry covers. A cover designed for an arid region may not be appropriate for use in humid conditions. There is a need to understand the scientific rationale behind the functioning of the cover in order to design an appropriate cover for a specific situation. Interaction with stakeholders is another example where universal solutions do not exist. The sociopolitical and cultural characteristics of communities and societies may often differ so that an approach used in one country may not be the best approach to be used in another.

Taking all these elements into account, the IAEA has been working to provide its Member States with relevant support in this area. It has been promoting technologies that can aid in the implementation of environmental remediation projects. These are aimed at improving environmental conditions in areas that have been affected by radioactive contamination in the past. At the same time the IAEA has been encouraging the adoption of good environmental management practices with the objective of avoiding the creation of new legacy sites and/or the need of extensive remediation works after the termination of operations.

The IAEA tries to fulfil this important mission by: (a) publishing technical documents and safety standards, (b) organizing training courses, workshops and seminars and providing for the implementation of scientific visits and experts missions under the activities of its technical cooperation programme, (c) organizing international conferences and (d) providing and supporting peer review missions.

2. NETWORKING

It has been noted that there is room for improvement in the type of assistance that the IAEA provides to its Member States. One reason is that there are different types of potential recipients of IAEA assistance.

Sometimes the guidance given in its technical documents may be too generic or superficial for use by some while for others it may not be achievable. The IAEA publications tend to consolidate the experience of more developed countries on a specific topic and this experience may not be readily applicable in a country with comparatively modest resources (human and/or finance). For various reasons countries often need more than published advice in order to be able to tackle the problems of environmental remediation. It has become evident from interaction with many of the Member States affected by environmental contamination that the IAEA will ideally strive to provide help in more practical and tangible ways.

2.1. IAEA Networks — the ENVIRONET

At the present time, the IAEA is operating four information networks; the first one to be created was the URL (Underground Research Laboratory Network). It was followed by the IDN (International Decommissioning Network) and the DISPONET (Waste Pre-disposal Network).

The ENVIRONET, which was launched in 2009, is an information network dealing with legacy sites (existing contaminated sites) as well as life cycle approaches for minimizing the need for future remediation measures due to the operations of nuclear facilities and NORM (naturally occurring radioactive materials) industries. It is intended to aid Member States in solving the problems created in the past by improving the efficiency of information exchange and the transfer of knowledge and assistance. Topics to be covered by the ENVIRONET include: (a) life cycle planning of both facility operations and environmental remediation; (b) project planning (quality control and assurance); (c) data management; (d) integration and communication; (e) site characterization; (f) modelling (fate and transport, engineering design and economics); (g) risk assessment; (h) remediation technology development and selection; (i) monitoring; (j) stakeholder involvement and communication; (k) regulation and policy development; (l) risk communication; (m) stewardship — institutional control; and (n) funding.

The planned methods of work include a variety of products and services aimed at expediting the exchange of information and experiences. The ultimate goal is to build capacity in Member States and to facilitate the full implementation of remediation projects. These products and services include**:** a web site (document repository of educational materials); a discussion forum; a directory of partners (on-line profiles); a schedule of events; workshops; conferences; training sessions; long-distance training; fellowships/internships; and peer reviews. The products will be: proceedings; dedicated publications; training materials; case studies; annual reports; and newsletters.

The vision underlying the implementation of networks is that the involvement of interested groups through the network on a specific topic will promote an effective flow of information and experience sharing. ENVIRONET will also aim to transfer of knowledge while providing for the education of those in need. In principle, information will flow from more experienced partners to those with less experience. However, in many situations the advantages of integration through a network is mutual, as a lot of positive and valuable information can flow in a reverse way. With the aid of the new tools provided by the development of the Internet, virtual forums can be established, and this will allow an intensive circulation of information amongst the participants of the network. Modern web based resources will also allow new educational tools, such as video materials, to be posted on the web.

Finally, networking will allow the IAEA to capture the needs of a greater number of technical people in the each Member State.

More information and further contact with IAEA networks can be obtained at: www.iaea.org/OurWork/ST/NE/NEFW/wts_NETWORKS_homepage.html. For further contact with the ENVIRONET Scientific Secretary, the email address environet@iaea.org is also available.