

INIS and Technology Knowledge Preservation

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BNFL Knowledge Preservation

It has been recognised, within BNFL's Nuclear Sciences and Technology Services group, that it is vitally important to preserve knowledge on key technologies as the organisation moves into uncharted waters heralded by the re-organisation of the UK nuclear industry in April 2005. Within BNFL itself, data, information or know-how have combined to form knowledge for future use. This knowledge has been accumulated in various forms over 6 decades. The challenge is to preserve key knowledge in a form that will be of most benefit to future generations.

A programme of work has been undertaken over the last 3.5 years. By focusing on key technologies, and the technologists associated with this work, it has proved possible to align individual tacit knowledge with the explicit knowledge contained within documents and internal information systems into a "knowledge package". This is, effectively, a re-packaged knowledge base.

NB. This work has been described in more detail within a paper submitted to the conference entitled "Preservation and re-use of nuclear knowledge within the UK nuclear industry".

Knowledge gap

There is, however, an element missing from within these "knowledge packages". It is the identification of key documents on nuclear science and technology from the public domain. The INIS database holds a vast collection of such documents, indexed and abstracted within a user friendly information system. However there has as yet, to my knowledge, been no attempt to design and implement a programme of work on an international scale similar to that developed within BNFL.

It is my understanding that, within the auspices of the IAEA and Member States, are present experts in all fields of nuclear science and technology. The harnessing of such wisdom within a programme that sought to identify key knowledge would be of benefit to BNFL – a major industrial user – as well as, I would suggest, other industrial, academic and government users of INIS world-wide. It might also encourage these organisations to share more of their own in-house knowledge sources, through participation in the programme. I would expect such a programme to be facilitated by the INIS Section.

IAEA Knowledge Preservation

The initial focus for any IAEA programme of work of this nature would be the selection of a few core technologies, with the potential for growth into other technology areas. Once agreement had been reached, and experts identified, a strategy could be developed which would lead to an output that would be of the widest possible benefit.

The features of such a synthesis of knowledge on any given technology could include :

- Documents within the open literature
 - Key reports, conference papers, journal articles, books
 - Written, and peer reviewed, by the experts
 - INIS bibliographic details, enriched by specialist knowledge on the significance and context of this work
- Web-sites
 - Information about the key individuals in the field
 - Further authoritative knowledge of a “work in progress” nature
 - eg Technical Working Groups; collaborative research programmes
 - Information about specialist organisations in the field
- Knowledge creation
 - Seminars, attended by experts, captured on video
 - New commentaries on earlier work
 - Production of state-of-the art reviews

The resulting technology “knowledge package” would be structured to reflect the knowledge aspects that the programme was designed to capture. Each “knowledge package” would be presented to the end user as a specialised knowledge base, complementary to the INIS database.