

**NUCLEAR KNOWLEDGE PORTAL TO SUPPORT LICENSING AND  
CONTROL NUCLEAR ACTIVITIES IN THE BRAZILIAN NUCLEAR ENERGY  
COMMISSION**

**M. E. GOMES**

International Relations Office -  
Brazilian Nuclear Energy Commission (CNEN)  
Rio de Janeiro, Brazil  
*Email: fabiane@cnen.gov.br*

**M. F. BRAGA**

Nuclear Information Center  
Brazilian Nuclear Energy Commission (CNEN)  
Rio de Janeiro, Brazil  
*Email: betgomes@cnen.gov.br*

The Knowledge economy moves the axis of the wealth and the development of the traditional industrial sectors -- abundant in labour, raw material and capital -- to areas whose products, processes and services are rich in technology and Knowledge. Even on research areas as nuclear energy where the goods are based on high technology, the capacity to transform information on Knowledge, and Knowledge on decisions and actions are extremely important. Therefore, the value of the products from these areas depends on the percentage of the innovation, technology and the intelligence attributed incorporated by them.

The OECD [1] report observes that back in 2002, more than 60% of the GDP (Gross Domestic Product) of the developed nations should be credited to the Knowledge usage. The report highlights the fact that the increasing reduction of the costs and the easy access to information show clearly a growing of the Knowledge participation in generating wealth for the organizations, regions and countries. This means that the management today shall use the organization's existent Knowledge to generate better results.

The organizations, private or publics, must be productive, and the main point to determine the technological innovation and the increasing of productivity is knowledge management. Therefore, we cannot feel contented simply by generating new Knowledge, or making the research for the research itself, or, yet, by simply collecting information and saving them. Without innovation capacity, such as to create new products, new process or new services, organizations will not survive in the knowledge society. Many authors have proposed models of Knowledge management, such as Sveiby [2], Stewart [3] and Edvinsson [4], the pioneers of Knowledge Management. For these authors, the value of the enterprises full of in Knowledge is no longer related to its *tangible goods*, such as buildings and machinery, but is being now quoted by its *intangible goods*.

The models emphasizing the importance of keeping the intellectual capital in the organizations that is to work with the knowledge from the collaborators. In Brazil still have many authors that discusses this concept and we adopt for this paper the definition from Cavalcanti [5] where is the concept "*intellectual capital*" refers either to the capacity, ability or experience, as well as to the formal education that the collaborators members have and add

to the Organization. The "*intellectual capital*" is an intangible asset, which belongs to the individual himself, thus it might be utilized by the organizations in order to generate value. The development and preservation of this intellectual capital is made through the implementation of forums of discussion, workshops or knowledge portals where the organization's collaborators share their experiences. Nevertheless, to assimilate and to develop the "*intellectual capital*" does not add value to the organization: It is necessary to keep it. And one way to do so is to create desirable and encouraging work environments, to promote a sharing management and to offer programs of profits sharing.

The objective of this paper is to describe how Brazilian Nuclear Energy Commission – CNEN has been developing a nuclear knowledge portal, focused in the Radiation and Safety Nuclear area.

The Brazilian Nuclear Energy Commission (CNEN) is a federal autarchy created in October 10 of 1956, as a superior agency of planning, guiding, supervision and inspection in nuclear area being also the body entitled to establish standards and regulations on radiological protection, to issue licenses (permissions) and to survey and control the nuclear activities in Brazil. CNEN also develops researches related to the use of nuclear techniques in benefit of the society.

The Radiation and Safety Nuclear directorate of CNEN acts, mainly, in the licensing of nuclear and radioactive installations. The people who work at this area recognize the importance of management and sharing the accumulated nuclear knowledge as part of their tasks in order to maintain the 'nuclear safety case' and to transfer this knowledge for the youngest collaborators. Therefore the Reactors Coordination (CODRE) was chosen for start the Nuclear Knowledge Portal which main goal is to support the directorate on its Nuclear Activities Licensing and Control.

From interviews made with select people in CODRE (Reactors Coordination), the necessary knowledge were identified and mapped in order to allow the creation of CODRE knowledge tree that will be available at the Portal. This portal will be a repository of documents and information needed to support the main tasks developed in this area, such as engineering analysis, operational data, maintenance records, regulatory reviews and evaluation of safety analysis reports thus improving work and, reducing time of searching and making easier the collaborative work.

CNEN understands that the decision of develop this tool is crucial to make possible a nuclear knowledge sharing and dissemination to preserve the nuclear scientific and technical competence for the safe operation of existing facilities and applications.

- [1] OECD economic outlook, OECD, Paris, 2002;
- [2] SVEIBY, K., The new organizational wealth: managing & measuring knowledge – based assets, USA, Berrett – Koehler Pub, ISBN: 1576750140, 1997;
- [3] STEWART, T., Intellectual Capital: the new wealth of organization, USA, Doubleday, ISBN: 0385482280,1997;
- [4] EDVINSSON, L. Intellectual Capital: realizing your company’s true value by finding its hidden brainpower, USA, Harperbusiness; ISBN: 0887308414,1997;
- [5] CAVALCANTI, M., GOMES, E. Enterprise Intelligence: A New Concept of Management for the New Economy”. Managing Information Technology in a Global Economy. IRMA – International Resource Management Association. Toronto – Canada. Maio 2001 p. 477 – 459