Role of National Educational Institutions in Human Resource Development

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Introduction

• Future of energy in Croatia - for ecologically and economically optimal production of electric energy - necessary to build nuclear power plant (NPP)
• NPP - reliable plants with concurrent, stabile and predictable costs of electrical energy
  - electrical energy production without side effects on environment (greenhouse gasses, global warming...)
  - contribution to variety of other used energy sources, decreasing sensitivity of market disorders and increasing safe supply in the same time.
• Introducing of high technology will develop technological level and competitiveness of national companies – Croatia – “society of knowledge”
• Only human resource development can support implementation of nuclear power programmes
KM and Human Resource Development (HRD)

Data - meaningless symbols or facts, or events out of context

Information - understanding of the relations between data; relates to description, definition, or perspective; answers the questions: what, who, when and where

Knowledge - the meaningfully structured accumulation of information; comprises strategy, practice, method, or approach (how);

Explicit - can be formally encoded, articulated and stored in some media, more easily transferred or shared

Tacit - developed from direct experience and action; knowledge-in-practice; depends on situation; difficult to articulate; shared through interactive conversation; hardly transferred to another person

HRD - framework for helping employed people to develop their knowledge, abilities, personal and organizational skills; includes training of employees, development of their careers, management and development of their performances, organization development, training, and scholarships, grants and other forms of financial support

The main focus of HRD - on organizational activities aimed at improving the performance of individuals and groups in organizational structure

HRD could be carried:

- formally - trainings in classrooms, a college course or planned actions carried with idea of organizational change

- informally - relationship as mentoring or coaching by some experienced manager
National Activities and Efforts in HRD

• The main goal in nuclear knowledge management is how to establish communication channels between experts and managers in nuclear and all related non-nuclear fields.
• Croatia - difficulties in R&D processes - small budgets → nuclear knowledge management and human resource development must be managed through collaboration of several institutions
• 1998 - Ministry of Economics of the Republic of Croatia - Technical Support Centre - 3 expert groups:
  1. Environmental monitoring;
  2. Analysis of emergency and estimation of consequences;
  3. Preparation of technical bases
• Croatian experts engaged in professional activities in NPP Krsko, Slovenia
• Needs for employees in nuclear field of science, engineering and technology demand not only continuous basic education and training on universities but also special courses and training with experts
• Universities - not only teaching and educational institutions
  - but also creators of new knowledge and innovation through research and organizers of knowledge and information exchange.
• 2005 Croatian universities were reorganised according to Bologna Declaration and fully involved in European study system
National Activities and Efforts in HRD

- University in Zagreb - Faculty of Electrical Engineering and Computing (FER) - human resource development in nuclear field
- Nuclear experts – highly ranked professors from FER - scientific projects supported by Ministry of Science, Education and Sport of the Republic of Croatia:
- “Fuel Management of Standard and Advanced Nuclear Reactors” and “Nuclear Power Plants for Sustainable Energy Generation”
- Study of Electrical Engineering and Computing - performed on 3 levels: Bachelor Programme, Master Programme and Postgraduate study.
- Regular and elected courses from nuclear science and technology such as: Nuclear Engineering, Nuclear Safety, Nuclear Fuel Cycle and Reactor Materials, Fundamentals of Nuclear Physics, Radiation Effects and Radiation Protection in Bachelor and Master Programmes, and in programme of Postgraduate study: Nuclear Power Plant Operational Safety, Nuclear Power Plants Concepts and Nuclear Reactor Theory
- INIS, IAEA (Vienna, Austria) - part of Croatian scientific society - INIS Database available online 24 hours per day free of charge.
- Introduce the improvements by organized knowledge transfer
- HRD- good study programmes offered to young people in the field of nuclear science and technology
  - adequate support from industry and state institutions, which recognised importance of this matter