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INIS Bibliography

A Selection of Records from the International Nuclear Information System

International Conference on Nuclear Knowledge Management and Human Resource Development

Resources

1 Mentoring and Coaching for Knowledge Management in Nuclear Organizations

https://inis.iaea.org/search/53054627

International Atomic Energy Agency (2022). Mentoring and Coaching for Knowledge Management in Nuclear Organizations (IAEA-TECDOC--1999). International Atomic Energy Agency (IAEA)

Abstract:
The IAEA continues to work with Member States to identify good practices that support nuclear organizations in introducing new approaches to improve safety and business performance. To support this endeavour, the IAEA has been identifying good practices in the area of knowledge management, particularly practical approaches that can help organizations effectively retain critical knowledge and experience. Two beneficial practices that support knowledge transfer between personnel in nuclear organizations are mentoring and coaching. Mentoring plays a significant role in the transfer of knowledge and skills from experienced professionals to newcomers or the less experienced. Coaching plays a crucial role in instilling the correct behaviours and values that are essential to promote the safety and performance of personnel working in nuclear organizations. Changes resulting from the mentoring and coaching of individuals or groups of employees can have a positive effect on the organization through improved styles of leadership, management and communication and by helping to improve specific technical abilities. Mentoring and coaching enable organizational learning by passing on the important attributes of the skills, routines, norms and values associated with various business processes and functions. The most significant aspects of mentoring and coaching are the transfer of ideas and thought processes that foster essential skills, self-confidence and maturity and the teaching of the technical abilities required to perform specific tasks. This publication aims to provide practical guidance on mentoring and coaching approaches based on the experiences of Member States. It provides guidance for nuclear organizations to initiate suitable mentoring and coaching programmes that support strategic organizational knowledge management activities and programmes. This publication highlights the importance of mentoring and coaching for knowledge transfer and how they facilitate the transfer of relevant knowledge and skills across the generations within the workforce. It also includes successful case studies from Member State organizations that have used mentoring and coaching as effective tools for knowledge transfer and performance improvement.

2 The IRD Knowledge Management Maturity Assessment

https://inis.iaea.org/search/55002433

Rodrigues, D.M., Perrotta, P.R., Acar, M.E., Silva, A.A., Cavalcante, G., Jesus, P.F. de, Wasserman, M.A., & Razuck, F.B. (2023). The IRD knowledge management maturity assessment. Metrology 2023: CBMRI: Brazilian congress on ionizing radiation metrology, Brazil

Abstract:
The Institute of Radiation Protection and Dosimetry (IRD) is one of the institutes of the National Nuclear Energy Commission (CNEN), being considered a national and international reference in research, development and teaching activities in the area of radiation protection, dosimetry, medical physics and metrology of ionizing radiation. Despite this importance, over the years, it is possible to observe a decrease in the number of employees due to the increase in retirements and a decrease in the hiring. In this sense, this paper focuses on evaluating the impact on the IRD's intellectual capital generated by the growing number of retirements. This study is justified by the insufficient documentation and transfer of technologies, experiences and acquired knowledge, due to the absence, in the past, of a KM culture. To assess the level of KM maturity in the IRD, a self-assessment methodology developed by the International Atomic Energy Agency (IAEA) was applied to help identify strengths and areas for development in the organization's overall KM strategy. This self-assessment has eight categories and the analysis of the results is based on the difference found between the current score and the desired score. Thus, the categories with the highest scores are those where the greatest KM efforts should be prioritized. This work revealed two relevant aspects to be treated as strategic institutional objectives: Human Resources Processes for KM and Knowledge Capture. As expected, KM tools show their potential to detect and quantify issues to be addressed and prioritized by institutional decision makers.

3 EURAD Domain Insight (7.2.2) - Information, Data and Knowledge Management

https://inis.iaea.org/search/55006330

European Joint Programme on Radioactive Waste Management, Brussels (Belgium) (2023). EURAD Domain Insight (722) - Information, Data and Knowledge Management (INIS-XE--23M0029). European Commission (EC)

Abstract:
Radioactive waste management (RWM) activities are knowledge-intensive and often challenging undertakings. The information, data and knowledge that is essential for the safety of a radioactive waste repository should be managed in line with national regulations and international good practices. Managing these organisational resources requires the proper and timely adoption of relevant strategies, policies, processes and practices. The information, data and knowledge management (IDKM) domain assists in applying these instruments in the field of RWM activities.

4 A Nuclear Knowledge Management Course for University Master's Level Programmes

https://inis.iaea.org/search/54084468

International Atomic Energy Agency (2023). A Nuclear Knowledge Management Course for University Master's Level Programmes (IAEA-TCS--82). International Atomic Energy Agency (IAEA)

Abstract:
The objective of the publication is to support Member States, particularly universities, to establish a master's level course in nuclear knowledge management. The learning objective of the course is to understand how to establish a knowledge management culture and practice as a part of national capacity building policies and strategies, as well as an integral part of nuclear and radiological organizations' infrastructure. The publication provides a suggested curriculum for the development of an NKM course for university master's level programmes, with introductory descriptions of eight modules to support the implementation of the course. The curriculum focuses on fundamental aspects of knowledge management, covering the following main topics: — Knowledge concepts with an introduction to nuclear knowledge; — Knowledge management history and development; — Knowledge management for nuclear science and technology; — Managing tacit and critical knowledge; — Managing explicit knowledge and information; — Organizational challenges and approaches for NKM; — Implementing knowledge management in different nuclear organizations; — NKM maturity assessment.

5 Human Resource Development in Tajikistan

https://inis.iaea.org/search/45076556

Mirsaidov, U. (2014). Human Resources Development in Tajikistan. International Conference on Human Resource Development for Nuclear Power Programmes: Building and Sustaining Capacity Presentations, (p. v). International Atomic Energy Agency (IAEA)

Abstract:
The availability of nuclear knowledge is the result of the past and present conditions of organizations of knowledge in the field of atomic and nuclear physics in Tajikistan. It is shown, that despite today's weak material resources, with the support of IAEA and other intergovernmental contracts and the international funds, and also presence of rich intellectual fund of the republic, it is possible to reserve Nuclear Knowledge in Tajikistan.

6 International Nuclear Human Resources Development

https://inis.iaea.org/search/49104127

Kim, H. K, Ko, H. S., Kim, W. K., Kim, H. J., Nam, Y. M., Rho, S. P., Song, E. J., Song, H. P., Yoo, H. W., & Shin, B. C. (2015). International Nuclear Human Resources Development (KAERI/RR--4025/2015). Republic of Korea

Abstract:
Since the late of 2000, the need for the world nuclear market has expanded and competition among the institutes of the nuclear education has accelerated. These require us to response the changes of environment more actively and to change the paradigm of education from the supply side to the demand side. That kind of endeavor makes the nuclear education improve its competitiveness and quality. The purpose of this project is to establish the nuclear HRD strategies for incorporating new HRD paradigm. Based on this, it plans to construct the education system to enforce the KAERI's technical strengths and to improve the quality of education and training(E and T). According to the institute's own duty, the result of education should be connected directly to the management performance to realize the key national policy, 'Creative Economy'. In addition, It should be all the more emphasized on the development of HRD tools and nuclear education base on the KAERI's technology strengths to obtain the strategic aim which is mass cultivation of our technology-friendly overseas manpower. As a result, we should secure the virtuous circle of manpower training and guidance technology development and also serve the country by promoting R and D result diffusion and raising brand awareness of institute by educating in technical strengths.

7 Human Resource Development for Uranium Production Cycle

https://inis.iaea.org/search/48045084

Ganguly, C. (2014). Human Resource Development for Uranium Production Cycle. International Symposium on Uranium Raw Material for the Nuclear Fuel Cycle: Exploration, Mining, Production, Supply and Demand, Economics and Environmental Issues Presentations, (p. v). International Atomic Energy Agency (IAEA)

Abstract:
Concluding Remarks & Suggestions: • HRD will be one of the major challenges in the expanding nuclear power program in countries like China and India. • China and India get uranium raw material from domestic mines and international market. In addition, China has overseas uranium property. India is also exploring the possibility of overseas Joint Venture and uranium properties. For uranium production cycle there is a need for trained geologist, mining engineers, chemical and mechanical engineers. • There is a need for introducing specialization course on “uranium production cycle” at post graduate levels in government and private universities. Overseas Utilities and private firms in India engaged in nuclear power and fuel cycle activities may like to sponsor MTech students with assurance of employment after the successful completion of the course. • The IAEA may consider to extend Technical Assistance to universities in HRD in nuclear power and fuel cycle in general and uranium production cycle in particular - IAEA workshops, with participation of international experts, on uranium geology, mining, milling and safety and best practices in uranium production cycle will be of great help. • The IAEA – UPSAT could play an important role in HRD in uranium production cycle.

8 Nuclear Knowledge Management

https://inis.iaea.org/search/48036351

Hanamitsu, K. (Aug 2015). Nuclear Knowledge Management (IAEA-CN--221). International Atomic Energy Agency (IAEA)

Abstract:
Knowledge is a strategic asset in every business. It should be actively managed by creating, acquiring, sharing, transferring and retaining among workers. Leaders and managers have to understand the significance of knowledge management (KM), recognise the risks of knowledge loss and gaps, and its impact on their working environment. Nuclear industry appears to be behind other industries in KM. This is firstly attributed to the nature of business which deals with sensitive data on nuclear materials and prioritises safety and security over information sharing. Second, it faces strong competition over the operational life-cycle, which discourages to exchange know-how and experiences. Third, nuclear industry is highly technology-oriented with homogeneous form, which misleads people to believe that KM has been already in place. Those factors could be barriers to establish nuclear KM culture on the basis of corporate core value and safety culture. Practical example of KM in business includes codification of particular skills into knowledge repository such as manual, handbook and database, and implicit knowledge transfer from experts to successors through apprenticeship and mentoring programmes. The examples suggest that KM applications closely link to information technology (IT) and human resource development (HRD) strategies, which results in effective integration of all available resources: people, process, and technology. Globalization and diversity is another dimension where KM can contribute to the solution. Global companies have to achieve a common goal beyond cultural, racial and gender differences. KM helps reduce the gaps, identify the core competence, and increase flexibility in workplace. Working women have been developing their professional career while adapting to situational changes in their lives. It might be easier for them to understand the importance of KM and develop KM practices in the organizations. KM will help nuclear industry to respond to the changing environment from homogeneous culture to diversity.

9 Knowledge Management and Transfer

https://inis.iaea.org/search/40048178

Sennanye, D.M., Thugwane, S.J., & Rasweswe, M.A. (2008). Knowledge Management and Transfer. IYNC 2008: International Youth Nuclear Congress 2008, Switzerland

Abstract:
Knowledge management has become an important concept in the nuclear industry globally. This has been driven by the fact that new reactors are commissioned and some are decommissioned. Since most old experts are near retirement then there is a need to capture the nuclear knowledge and expertise and transfer it to the new generation. Knowledge transfer is one of the important building blocks of knowledge management. Processes and strategies need to be developed in order to transfer this knowledge. South African Young Nuclear Professionals Society (SAYNPS) has established a document to address strategies that can be used to close the knowledge gap between the young less experienced and experts in the field. This action will help the young generation to participate in knowledge management. The major challenges will be the willingness of the experts to share and making sure that all knowledge is captured, stored and kept up to date. The paper presents the SAYNPS point of view with regard to knowledge transfer.