FANR Knowledge Management Journey

Education & Training Department

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Outline

• FANR Nuclear Knowledge Management Program.
• Organizational context
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• Objectives of the KM programme
• Drivers and rationale of the KM programme/initiative
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Introduction

In 2011 FANR officially started the establishment and development of Nuclear knowledge Management (NKM) program. During the past almost six years, the program went through different challenges, obstacles and successes.

**Challenges examples:**

- Challenges like preparing for identifying critical knowledge required in the operation phase period
- Identifying and capturing all the establishment phase and construction critical knowledge.

**Solutions examples:**

- Management awareness about the challenges and working as one team with internal and external stakeholders to solve them in priority biases.
- Coming up with innovative initiatives and practices considered as new solutions in the field of KM practices like Knowledge Resource Matrix.
Organizational context

- Knowledge Management program is managed through knowledge Management section under Education and Training Department (ETD).
- As of today the stakeholders of KM Program are other sections in ETD, Human Resource Department (HR), IMS program, operation departments, KUSTAR and IAEA.

The relationship between KM and E&T:
- KM program is acting as one of the inputs for the ETD through the results of identifying the critical knowledge which to be transferred through training.
- ETD is acting as one of the inputs for KM to identify the subject matter experts and their roles in business processes to mitigate the risk of losing critical knowledge.

The relationship between KM and HR:
- KM and HR just started this year to draw the cooperation points in terms of linking Knowledge transfer and knowledge sharing activities among the employees with performance appraisal.
- Also considering contributing to the responsibilities of knowledge Management via including some obligations in the job descriptions like mandatory hours of sharing knowledge per year.
Organizational context

The relationship between KM and IMS:

- The relation started in 2011 and it is progressing where now both programs employees are working together to integrate KM process and procedures with other processes and procedures under the management of IMS. This relation will assure maximizing the knowledge flow between the targeted employees, capturing the processes knowledge of operation departments and assure business sustainability.

The relationship between KM and external stakeholders:

- KUSTAR and IAEA as external stakeholders are important knowledge partners in disseminating awareness and transferring knowledge about Knowledge Management implementation activities through Nuclear Knowledge Management school, virtual networks and other activities particularly agreed with IAEA.
Organization’s KM challenges

At the start up stage Knowledge Management program went through different challenges like:

- Lack of manpower.
- The non-clarity of Knowledge Management concept for FANR employees.
- Unavailability of Knowledge sharing culture, which lead to internal resistance.
- Knowledge Management activities were not integrated with many projects and programs in FANR, which made the implementation difficult.
- Lack of knowledge Management Strategy.
- There was no knowledge Management Policy.
- The maturity of implementing Nuclear Knowledge Management worldwide was still developing in many countries and unavailability of published practical implementation documents.
Objectives of the Knowledge Management programme

Knowledge Management is implemented within FANR to meet the following objectives which are reflected in FANR policy:

- The sustainable growth, dissemination and sharing of the FANR’s existing knowledge, continuous learning, and cultural exchange, which support the discharge of the FANR responsibilities under the Nuclear Law (6/2009) and in particular which ensures that the FANR knowledge assets and skills are managed in an efficient and sustainable manner.

- The eradication of the repetition of error, mitigation of the risks of reliance on a rotational workforce and achieving the goal set by the Government for Emiratization of nuclear competence by ensuring the right knowledge to be available to the right people at the right time for the safe, secure and efficient regulation of UAE’s nuclear activities.
Drivers and rationale of the KM programme/initiative (1/4)
Drivers and rationale of the KM programme/initiative (2/4)

FANR KNOWLEDGE MANAGEMENT FRAMEWORK

1. Analysis of FANR needs for knowledge management with reference to the policy and strategy - KM Audit
2. Development of KM Action Plan
3. Approval of Action Plan and KM KPIs
4. Implementation of KM Action Plan, utilizing Processes, Procedures and Instructions
5. Review of KM Performance and Objectives. Self assessment / external audit
Drivers and rationale of the KM programme/initiative (3/4)

Strategy Drivers for implementation

(National Level) Contributing to UAE Nuclear program sustainability.

(Organizational Level) Effectiveness/ Efficiency.

(Individual Level) Potential to grow as individual which will lead the organization to grow as module to be followed.

(Products Level) • Improve products (Regulations & publications) and services (Licensing).
Drivers and rationale of the KM programme/initiative (4/4)

• FANR Knowledge Management Process

  • Has been reviewed three times for improvement.
  • Four procedures explaining the implementation steps had been approved and three under development.
  • More utilization of IAEA publications which reflects FANR observing international good practices.
  • It helps in FANR departments engagements in KM implementations.
Meeting the US Nuclear Regulatory Commission (NRC) to discuss and to exchange best practices and experience in capacity building, and knowledge Management.

Collaboration with IAEA Events; such as sending staff to attend NKM school.
Conducted IAEA pre-mission on NKM in 2012 and Assist Visit in 2014.
Contributing to ICTP-IAEA NKM School to share FANR experience and to evaluate the course materials with other experts.
Participated in IAEA Capacity Building workshop which was held in Abu Dhabi.
FANR NKM employee was part of Consultancy Meeting on Implementing KM in Integrated Management System IMS.

Bench marking and sharing experience with National Stakeholders such as MOI and other International Regulators

Related business management systems that support NKM program implementation are IMS, EDMS and Basic KM portal.

Excellence recognition:
• NKM program achieved First Excellence Award in FANR in May 2015. The award was part of The 20th Middle East smart Government and smart Services Excellence Awards by the Middle East Excellence Awards Institute for the Category of “Corporate Knowledge Management Initiatives Excellence Award”. This award had been provided during the “21st GCC smart Government and smart Services Conference”.

KM initiatives and achievements in the past years (1/3)
Enhancements projects: NKM program review, Library management system, automation and integration of mission reports, Launch Media site capturing system.

NKM from the first year of the program supported Safety Culture change through handbook, which assured to have safety culture element.

List of Initiatives: Storytelling, Expert debriefing, Did you know, conducting KLRA based on IAEA publication No.1248 (RISK MANAGEMENT OF KNOWLEDGE LOSS), installing generic simulator, Book of the moth, creating thesis section in the library, Launch KM website...etc.

Developed Knowledge Management process/procedures: We do have one KM process and five procedures. MP.4 K-identification procedure considering the practices in IAEA publication No. IAEA-TECDOC-1586 (Knowledge Management Assessment), MP.4 K-capturing and Transfer procedure, MP.4 Knowledge Loss Risk Assessment (KLRA), MP.4 K-retention procedure, MP.4 Library Borrowing procedure.
Major challenges:

**Difficulties encountered and Remedies solutions.**

- Knowledge Management was new program for FANR employees and couldn’t achieve much in the first two years. By April 2013 the NKM specialist had conducted business analysis to identify the issues, root causes/effect and possible solutions. Also, IAEA NKM Pre-mission in 2012 and Evaluation mission on 2014 helped in identifying more issues and recommend solutions.

- Reducing the impact of knowledge mobility phenomena, through implementing storytelling, knowledge resource matrix, expert debriefing and following the steps of KM Process

**Impacts of the KM activity:**

- The internal stakeholders who are FANR employees had showed satisfaction for the measured activities. However still we are lacking to have a continues measurement for all KM program activities that we have in FANR.
Lessons learned / knowledge derived (1/2)

• For those new comers countries who are thinking to establish their own NKM or for then new established ones the following is advisable:

  • Knowledge Management program should start with at least two to three experienced and skilled employees for faster and robots execution. The experiences referred to are related to engineering, knowledge management, strategy management, quality management collectively. If not at least one experienced staff. If not the organisation need to put a development plan to develop one of the employees to acquire those skills and competencies.

  • Seconded the organization staff in IAEA and other experienced international regulator.

  • Integrating KM methods in the business processes will assure the effectiveness of KM program initiatives and activities. Consider to do pilot project with small number of processes before going in full scale.

  • Assure that the organisation management team know the exact impact of not having knowledge management in place throughout the Nuclear program phases. Implementing this lesson will lead for great support and benefits for the organisation. Not implementing this point will lead to resistance and many obstacles that will slow the progress of implementing the NKM program.
Lessons learned / knowledge derived

• Having Department Representative for Knowledge Management (DRKM) will help KM execution team, however Nuclear Knowledge Management training, yearly goals and plans, regular meetings and recognitions need to be in place to assure the effectiveness of the DRKM group. This is feasible if there is an experience knowledge management employee who can manage this group to maximize utilizing group members to identify the challenges as well as the recommended solutions.

• Knowledge Management team need to identify the intersection points of collaboration (it might lead to identify roles and responsibility) with E&T, HR, Strategy department, IMS, document control and IT to assure the maximum benefits from Knowledge Management program.

• Management of new organisation need to understand that having the right setup of knowledge Management team and direct follow up will assure the fast development of the program, which is required in all phases from design and construction to operation phase.

• Using and updating Knowledge Matrix is mitigating the risk of losing process or procedures functional knowledge. Also, it can be used as reference for decision making related to the discussed process even if the process initiator left the organisation.
Thank you