

Meeting the Documentation challenge in Nuclear Industry

The Nuclear Industry is experiencing enormous opportunities in the UK with new nuclear power stations being planned and continued decommissioning of older plants. Since the 1960's, regulatory compliance, computerization, and supply chain management have undergone radical changes. These changes have given rise to many challenges that need to be overcome to bring about harmony between actual infrastructure and the laws mandated by regulatory authorities.

One of the biggest challenges the nuclear industry faces today is to improve documentation. The nuclear industry, like many others, still relies on paper as the medium of recording critical information about nuclear plants and projects undertaken. The information about a plant may include the configuration details, operation, standard operating procedures for response to emergencies, and maintenance records. Whilst dealing with this complex information, the nuclear industry is striving to achieve the standards of documentation to deal with any health, safety, and environmental issues. The only way this can be achieved is by making available the right information, to the right people, at the right time, which will enable them to make the right decision.

Documentation Challenges in the Nuclear Industry

- Duplication of documents
- Improving visibility of information
- Ensuring the security of critical information
- Reducing the overhead costs of printing, reproducing and distributing paper documents
- Document traceability years after the completion of a project
- Increased chaos due to a mix of home grown solutions
- Lack of integration between various departmental solutions within the same organization
- Poor efficiency and accuracy of procedures
- Stricter regulatory requirements and slow approval process

Using an electronic system to deal with documentation needs is the route only few companies have taken. However, the trend is changing and with growing regulatory requirements, increasing numbers of companies are beginning to use technological solutions to manage their documents more efficiently. When choosing an electronic document management system, one must ensure that it not only manages documents of all types but that it also makes it easier for the user to understand the relationship between various documents. With users from numerous departments and teams, the system must offer a user-friendly interface that easily presents information based on their roles and requirements.

The lack of knowledge about the use of a document control system, might fail the purpose of deploying one. Before you choose a system for your organization, you must determine the areas/ departments that might benefit from the use of this technology.

In the nuclear industry, document management may be required in the following areas:

- Training - INPO has defined a set of integrated training processes that need to be followed for operation and support of existing and new nuclear facilities. In this method the proposed training needs are analyzed; a training programme is then developed, implemented, and evaluated to ensure professional development.
- Regulatory Compliance - Effective compliance is the core of all activities in a highly regulated industry such as nuclear. The life cycle of a nuclear facility demands strict governance so that compliance and licensing commitments are met. Lack of compliance can heavily burden the company with penalty costs, regulatory oversight,

and customers' concerns. In the process of managing compliance, the companies might have to ensure the information regarding human, material, and data resources is stored as well as managed efficiently. Increased visibility of critical information can increase safety, reduce risks, and guarantee compliance throughout the organization. Moreover, a tighter control of processes & complete audit cycle can reduce the risk of findings/negative inspection outcomes during a regulatory audit.

- Project Management - Managing a nuclear project requires a great deal of security, control, and effective document management. The project may use various designs, images, project management software, and process mapping tools that would need to be incorporated in one single system to facilitate ease of use by key personnel. Managing documents throughout the project life cycle can also be termed as information management. This information may vary with the age & type of project. For relatively newer projects there would be newer information produced everyday and for older projects, there is a need to archive and retrieve documents periodically.
- Performance Improvement - The requirement and implementation of performance improvement initiatives across the nuclear industry has resulted in better safety and productivity. Performance improvement model as per INPO incorporates - performance monitoring, implementing solutions, and analyzing, identifying, and planning solutions. These objectives can be met through benchmarking, self assessment, observations, action planning, effectiveness review, reporting, management review, and task assignment. With the changing technology and adoption of electronic workflow and document management methods, the challenge in many organizations is that each of these systems work in silos and don't integrate with each other.
- Knowledge Management - Throughout the nuclear project/facility lifecycle, information is created by knowledge workers, lessons are learned, and best practices are created. For the survival and growth of the nuclear industry it is critical to store and pass on this information in various stages of project lifecycle. With the vast knowledge and human experience there needs to be a method to easily organize and capture the information.

Is an electronic document management system the solution to these challenges?

With the use of an Electronic Document Management System, you can overcome the pressures of maintaining volumes of records and managing information. There are many different schools of thought when it comes to deploying an electronic system for document control, with each one having its own reasons.

Even though a paper based system is antiquated and cumbersome to manage, it has a certain value in some organizations where either the number of documents to be handled is small or the team doesn't wish to move to an electronic method of documentation (which is unlikely in a growing and forward-thinking organization). The electronic document control system does provide long term savings on cost and time. These savings can be achieved by:

- Faster and better flow of information
- Quick approval processes
- Greater visibility of information throughout the team
- Automatic revision control so that the team sees and reviews only the LIVE version
- Controlled documents access to only key personnel
- Competitive advantage with efficient processes
- Faster return on investment

With the electronic documentation system, you can be assured that none of the processes would go unnoticed and/or unsigned as everyone will have the ability to review and propose changes to critical documents.

Conclusion

With the growth of the nuclear sector will also grow the need to manage information efficiently. Since most of the information is stored in documents and stacked in shelves, the

stakeholders will always face the issues such as slow response time or cumbersome document retrieval process; these issues might affect the success of time critical projects. It is evident that the electronic document control system offers far more benefits than the old style paper based system. However, before making a decision it is critical to identify and set documentation goals for the organization and assess all the alternatives available so that you find the perfect match for your needs.

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