Workshop on Establishing a Safety Infrastructure for a National Nuclear Power Programme

Review of Module 3 and Management Systems for Regulatory Body

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Overview

• SSG-16 actions related to Management System

• Basis for developing MS of regulatory bodies and for oversight of licensees/ contractors

• How to start implementation of a regulatory framework for Management System

• Conclusions
Leadership and Management for Safety; Safety in the Operating Organization and Preparation for Commissioning

• Support for implementation of the actions related to:
  • The role of leadership and management for safety
  • Development of the management system and the importance of safety culture.
  • Structure and safety responsibilities of the operating organization until prior to commissioning

• Related SSG-16 Actions:
  • 72 – 84
  • 146 – 159
  • 185 – 188
Management System – SSG-16

• Efficient and effective management systems constitute a cross-cutting element of the safety infrastructure
• Management system applicable for all organizations involved in the nuclear power programme
• GS-R-3, The Management System for Facilities and Activities, provides the basis for actions related to management system
Actions Related to Management System

Phase I

• The government should ensure activities conducted in Phase 1 are included in the framework of an effective management system

Phase II

• The regulatory body and the operating organization should start developing and implementing effective management systems
Phase II

- The regulatory body and the operating organization should start making appropriate arrangements for measurement, assessment and continuous improvement of their management systems.
Phase III

• All the relevant organizations should continue the implementation of an integrated management system.

• The operating organization and the regulatory body should ensure that the effectiveness of their management system is monitored, measured, and that self-assessments as well as independent assessments are conducted regularly for continuous improvement.
Phase III

• The regulatory body should review and assess the operating organization’s programme on safety management

• The regulatory body and the operating organization should oversee the activities performed by their respective external support organizations and contractors, and should assess the quality of the services provided, in accordance with their management systems
Key Activities/ functions to be supported by Management System

• Regulatory Body, Phase 2:
  • Establishment of regulations and guides
  • Licensing processes
  • Training programmes
Key Activities/ functions to be supported by Management System

- Operating Organization, Phase 2:
  - Understanding of regulatory framework
  - Prospective site selection
  - Familiarization with NPP technologies (support the bidding process)
  - Training programmes
Principle 3: Effective Leadership and Management for Safety

Effective leadership and management for safety must be established and sustained in organizations concerned with, and facilities and activities that give rise to, radiation risks.
Fundamental Safety Principles

- Safety has to be achieved and maintained by means of an effective management system
- The management system also has to ensure:
  - promotion of a safety culture,
  - regular assessment of safety performance
  - application of lessons learned
Governmental, Legal and Regulatory Framework for Safety – GSR Part 1

- Responsibilities and Functions of the Government
- The Global Safety Regime
- Responsibilities and Functions of the Regulatory Body
• The regulatory body shall establish, implement, assess and improve a management system that is aligned with its safety goals and contributes to their achievement.
Requirement 19 – The Management System of the Regulatory Body

• **Open and transparent** regulatory processes
• **Management system assessed and improved**
**Integrated Management System (IMS) Role**

- **Ensure that the responsibilities assigned to the regulatory body are properly discharged**

- **Maintain and improve the performance of the regulatory body by means of planning, control and supervision of its safety related activities**

- **Foster and support a safety culture**
Integrated Management System (IMS) Role

• Regulatory activities should focus on risk-significant activities, thereby both enhancing safety and reducing needless regulatory burden

• IMS will provide the foundation for executing the regulatory functions and achieving regulatory goals and addressing risks
Efficiency and Effectiveness

• Management system supports effective and efficient delivery of regulatory mandate and functions

• Promotion of enhancements in safety

• Public confidence
IMS Framework for Regulatory Body

• Regulatory Mandate/ Mission
• Safety Goals
• Roles, responsibilities, interfaces
• Regulatory functions and processes
• Measurement, assessment and improvement
What should be integrated?

- Organizational models, structure
- Resources
- Processes

IMS includes:
- Individuals
- Equipment
- Culture

In addition to documented policies and processes
Regulatory Goals

• Regulatory Goals are derived from regulatory body’s Mission

• Safety Goals:
  • Objectives established by a regulatory agency to define its regulatory philosophy and approach to the consideration of risk - especially, the concept of acceptable risk
  • Factors that can guide regulatory decisions
Development of Processes

• Processes needed to:
  • Achieve organizational goals
  • Provide means to meet all requirements
  • Deliver products of the organization

• Sequence and interaction of processes shall be determined

• Methods for ensuring effectiveness of implementation and control of processes are determined and implemented
Development of Each Process

• Process requirements
• Hazards, risks, mitigation measures
• Identification of interfacing processes
• Process Inputs
• Process flow
• Process outputs
• Process measurement criteria
Regulatory Body’s Processes

• Management Processes
• Core processes
• Supporting/ Enabling Processes
Regulatory Body’s Management Processes

- Government Process
- Business Planning
- Policy Making
- Process Management
- Performance Management
- Interaction, Communication and Consultation with Interested Parties
Regulatory Body’s Core Processes

- Regulations and Guides
- Authorization
- Review and Assessment
- Inspection
- Enforcement
Regulatory Body’s Support Processes

- Purchasing
- Human Resources
- Training and Competence
- Knowledge Management
- Physical Resources
Regulatory Body’s Support Processes

- Staff Health and Safety
- Finance
- Information Management
- Legal Assistance
• Process Implementation
  • Processes shall be assessed and continually improved
  • Methods necessary to ensure effectiveness of implementation and control of processes shall be determined and implemented
  • Development of processes include establishment of process measurement criteria
Measurement, Assessment and Improvement

- Overall effectiveness of management system
- Management System Review
- Self-assessment
  - Performance of work
  - Improvement of safety culture
• Independent assessment
  • Evaluate effectiveness of processes
  • Determine adequacy of work performance and leadership
  • Evaluate organization’s safety culture
  • Monitor product quality
  • Identify opportunities for improvement
Conclusions

Management system framework provides a solid basis for:

• Delivering assigned mandate in a systematic, reliable manner

• Overseeing the activities performed by licensees, external support organizations, suppliers and contractors
Conclusions

• Management system should provide structure and direction to all relevant organizations that will have responsibilities for safety.

• Establishment of integrated management system should be pursued by all organizations from the early stages of the development of a Nuclear Power Programme.
Thank you!