ASEM (ASEAN–Europe Meeting) Seminar on Nuclear Safety at Yogyakarta, INDONESIA
4–6 November 2014

Integrated Management System and Safety Culture for Regulatory Body

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Presentation Layout

- Integrated Management System (IMS)
- Requirements of IMS
- Main elements of IMS
- Structure of PNRA Management System
- Advantage of IMS
- Safety Culture
- Safety Culture Self-Assessment (SCSA) process
- SCSA – PNRA Progress
- Licensee’s Safety Culture Oversight
- Conclusion

Integrated Management System

- A management system is the framework of processes and procedures used to ensure that an organization fulfills all tasks/projects required to achieve its objectives/functions.
- **A system that integrates all of organization's Policies, Procedures and Processes, People and Resources, Functions and Responsibilities and other activities into one complete framework, enable organization to work as a single unit to meet the objectives of the organization and satisfy stakeholders.**

IAEA Requirement for MS

GSR Part 1:

Requirement 19:

The management System of the RB

The regulatory body shall establish, implement, and assess and improve a management system that is aligned with its safety Goals and contributes to their achievement.

PURPOSES

1. To ensure that the responsibilities assigned to the RB are properly discharged.

2. To maintain and improve the performance of the RB by planning, control and supervision of its safety related activities.

3. To foster and support a safety culture in the RB through the development and reinforcement of leadership, as well as good attitudes and behavior in relation to safety on the part of individuals and teams.

MANAGEMENT SYSTEM

The management system processes shall:

- open and transparent
- specify activities in a coherent, planned, and systematic manner
- promote enhancement in safety
- maintain efficiency & effectiveness
- continuously assessed and improved

Why Integrated Management System?

- A tool for better understanding, managing and controlling the organization, including human and financial resources
- Provides assurance that goals and desired outcomes are clearly established and that the organization is aligned towards these goals
- Provides framework for developing and reinforcing leadership and safety culture

Why Integrated Management System?

- Provides a framework for demonstrating compliance with the expectations of the public, licensees, other stakeholders, and international community

- Provides a framework for systematic self-assessment, independent assessment, regulatory audit and continual improvement

Main Elements of IMS

1. Introduction

   Objective, Scope, Structure of Management System, etc.

2. Leadership for Safety

   * Management Commitment – all levels
   * Organization's Policies, Goals, Objectives, and Strategies
   * Organization Long-term/Short-term plans, etc.

Main Elements of IMS

3. Management for Safety

* Management responsibilities
* General management requirements
  - Organizational structure
  - Level of Authorities, Accountabilities
  - Interfaces with internal-external org.
  - Grading approach, conflicts management
  - MS documentation, Independent review, etc.
* Resources management
* Management of processes and activities
* Measurement, assessment and improvement

Main Elements of IMS

4. Safety Culture

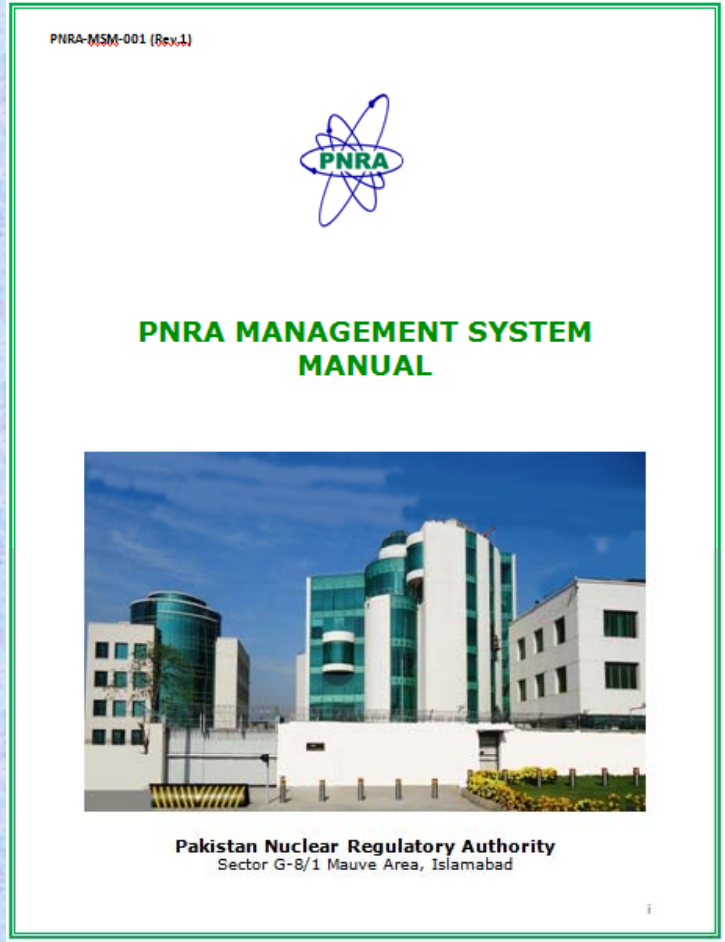
* Safety culture statement & attributes
* Assessment of safety culture and leadership
* Continual improvement in safety culture

Structure of PNRA MSM

- Chapter 1: Introduction
  - Objective & Scope
  - Applicability
  - Implementing Responsibility

Chapter 2: Organizational Management

- Organizational Structure
- Functions & Responsibilities


PNRA-MSM-001 (Rev.1)

PNRA MANAGEMENT SYSTEM MANUAL

Pakistan Nuclear Regulatory Authority
Sector G-8/1 Mauve Area, Islamabad

Structure of PNRA MSM

- Chapter 3: Management System
  - Management for Safety
  - Leadership for Safety
  - Responsibility for Safety
  - **Vision, Mission and Core Values**
  - Organizational Goals & **Policies**
  - Strategies and Plans
  - Graded approach
  - Safety Culture
  - Interfaces, MS documentation

PNRA Vision

To become a world class regulatory body with highly trained, competent and dedicated personnel working in unison with a zeal to foster a positive safety culture in their licensees and to regulate nuclear safety to protect the public, the workers and the environment from the harmful effects of radiation in a manner that wins the confidence of all the stakeholders viz. the public, the Government and the licensees.

PNRA Mission

To ensure the safe operation of nuclear facilities and protect the radiation workers, general public and the environment from the harmful effects of radiation by formulating and implementing effective regulations and building a relationship of trust with the licensees and maintaining transparency in actions and decisions taken by the regulatory body.

PNRA Core Values

Integrity

Truthfulness and honesty in the accomplishment of mission is a pre-requisite. Individuals demonstrate utmost integrity at all times.

Transparency

The regulatory decisions are made under PNRA Ordinance and Regulations. Individuals demonstrate transparency and openness in performing their official responsibilities.

PNRA Core Values

Independence in Decision Making

PNRA is independent in its decision making. Individuals and management take decisions according to the requirements without any interference and influence from external sources.

Competence and Professionalism

Efforts are continuously made for enhancement of competency and professionalism of individuals through education and training. Individuals demonstrate competence and professionalism in outcomes of assigned tasks.

PNRA Core Values

Mutual Respect

Mutual Respect can be demonstrated by honoring the efforts made by others and paying due respect to each other. Individuals take care of each other, Licensees and general public in communications and interfaces.

Caring and Compassionate Attitude

Individuals feel and exhibit compassion for each other, licensees and all stakeholders.

Organizational Policies

- Safety Policy
- National Regulations and Regulatory Guides
- Review and Assessment
- Authorization
- Inspection & Enforcement
- Management System
- Proprietary Information
- Education and Training
- Human Resource Development, etc.

Structure of PNRA MSM

- Chapter 3: Management System
  - Management for Safety
  - Leadership for Safety
  - Responsibility for Safety
  - Vision, Mission and Core Values
  - Organizational Goals & Policies
  - Strategies and Plans
  - Graded approach
  - Safety Culture
  - Interfaces, MS documentation

Structure of PNRA MSM

- Chapter 4: Resources Management
  - Human Resources
  - Finance Resources
  - Technical Resources
  - Knowledge Management
  - Information Management
  - General Administration

Structure of PNRA MSM

- Chapter 5: Management of Processes & Activities
  - Management **Processes**
  - Core Processes
  - Support /Generic Processes
  - Documentation Control
  - Control of Outsources Activities
  - Control of Records
  - Control of organizational changes
  - Conflict Management, etc.

Management Processes

- Organizational management
- Development of plans
- Preparation and revision of management systems manual
- Communications with stakeholders
- Communications within PNRA
- Monitoring, assessment and Improvement

Core Processes

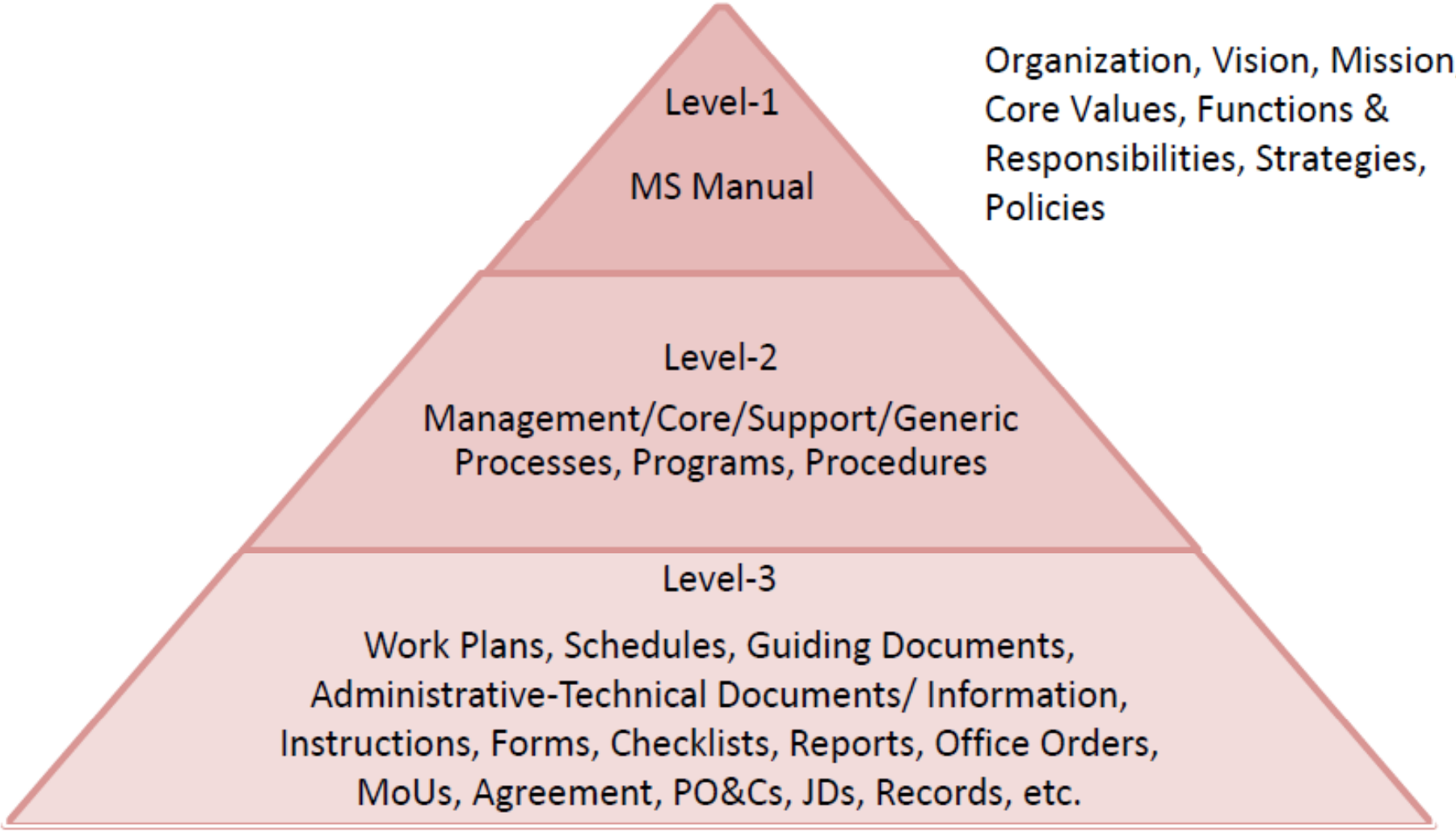
- Licensing / Authorization of Nuclear Installations
- Licensing / Registration of Radiation Facilities
- Review and Assessment of Licensees' Submissions
- Inspection & Enforcement Process
- Development of Regulations and Guides
- Emergency Response

Support Processes

Support Processes

- Human Resources Development
- Education and Training
- Knowledge Management
- Documentation Control
- Control of Record
- Control of Outsourced Activities

Structure of Documents

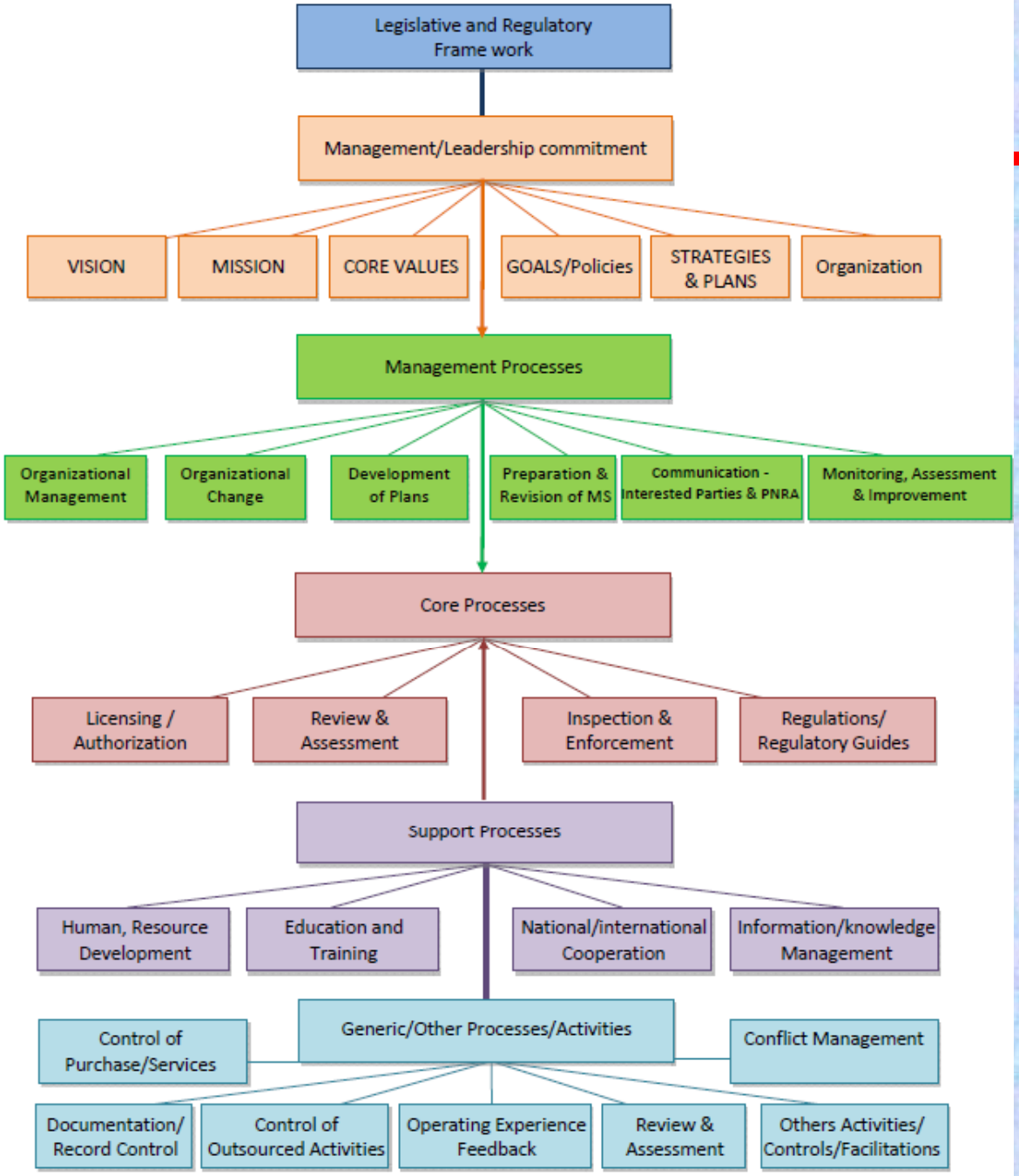


Organization, Vision, Mission, Core Values, Functions & Responsibilities, Strategies, Policies

Structure of PNRA MSM

- Chapter 5: Management of Processes & Activities
  - Management Processes
  - Core Processes
  - Support /Generic Processes
  - Documentation Control
  - Control of Outsources Activities
  - Control of Records
  - Control of organizational changes
  - Conflict Management, etc.

Overall Management System of PNRA

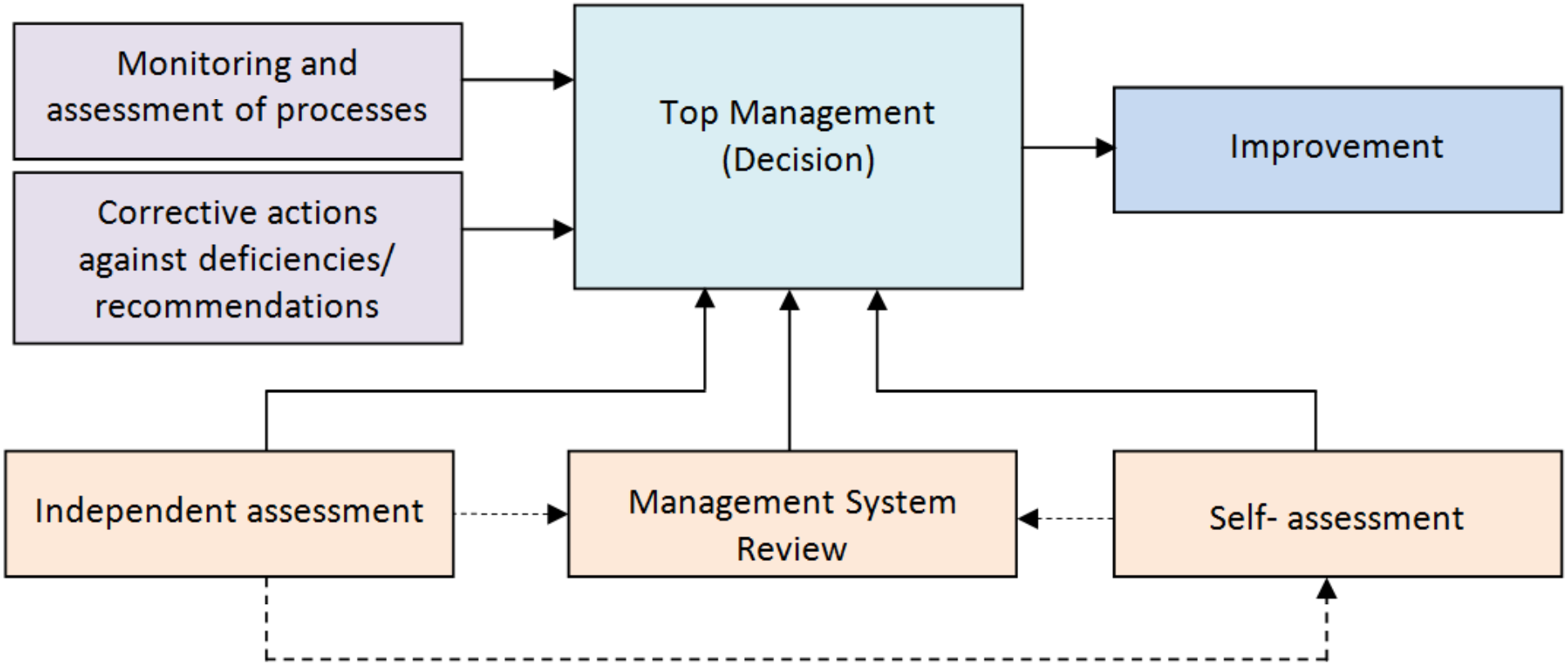


Structure of PNRA MSM

Chapter 6: Monitoring Assessment and Improvement

- Monitoring of activities
- Assessment of Activities
  - Self-Assessment
  - Independent Assessment - Regulatory Audit
  - Performance Assessment
- Improvement in Management System
  - Management System Review
  - Implementation Feedback

Monitoring, Assessment and Improvement



Steps for Implementation of MS

- Identification of documents related to MS
- Development of documents such as procedures, guidelines, checklists, forms, work plans, schedules etc.
- Conduct of Audit of the Processes and Activities
- Annual Performance Assessment using performance indicators
- Record problems and good suggestions
- Feedback to improve Management System Manual

PNRA Performance 2013

(Indicator 1) Ensures that acceptable level of safety is being maintained by licensees	(Indicator 2) Ensures that regulations and guides are in position and understood by licensees	(Indicator 3) Strives for continuous improvement of its performance
(Indicator 4) Takes appropriate actions to prevent degradation of safety and to promote safety improvements	(Indicator 5) Takes appropriate steps for human resource development and has competent and certified regulatory staff	(Indicator 6) Ensures that legal actions are taken in case of violations of regulatory requirements
(Indicator 7) Performs its functions in a timely and cost-effective manner	(Indicator 8) Ensures that a well established quality management system exists	(Indicator 9) Ensures that adequate resources are available for performing its functions and Technical Support Centre is available for specialist assistance when required
(Indicator 10) Performs its functions in a manner that ensures confidence of the operating organizations	(Indicator 11) Performs its functions in a manner that ensures confidence of the general public	(Indicator 12) Performs its functions in a manner that ensures confidence of the Government

Green	Satisfactory
White	Minimally acceptable
Yellow	Needs improvement
Red	Unsatisfactory
Pink	Not acceptable

Advantages of IMS

- Single policy statement structure cover all aspects related to safety
- Addresses clear responsibilities and accountabilities for each individual, team, and management
- Ensures that the activities' are aligned with goals/ objectives of the organization

Advantages of IMS

- Integrates and harmonizes processes and their interfaces in a coherent and systematic manner
- Reduces duplication
- Control issues, such as organization, responsibility, authority, competency and human resources

Advantages of IMS

- Same requirements for all stakeholders (similar facilities) rather than specific requirements for specific stakeholder.
- Effective management of interfaces
- Enhances awareness of conducting regulatory business within organization
- Provides an integrated view of the requirements to the Facilities (licensees)

Advantages of IMS

- Proactive Monitoring - audits, inspections, surveys, etc.
- Reactive Monitoring - customers feedback, accidents, and incidents, etc.
- Management review process covers all aspects of the operation of the organization.
- Helps to identify areas of improvement

Advantages of IMS

- Enables systematic change and continual improvement
- Provides control of documents and better resource management
- Enables consistency in activities and processes
- Harmonise and optimise practices
- Improve internal and external links

Advantages of IMS

- Exposes conflicting objectives
- Rationalises conflicting responsibilities and relationships
- Create a formalisation of informal systems
- Identify and facilitate staff training and development
- Enhance performance, efficiency and effectiveness of the regulatory bodies

SAFETY CULTURE

- Safety Culture is the way safety is perceived, valued and prioritized in an organization.
- SC reflects the real commitment to safety at all levels in the organization.
- “How an organization behaves when no one is watching".
- The written and unwritten rules and norms, concepts, and jargon.”

Stages of Safety Culture

Stage I

- Organization sees safety as an external requirement.
- Little awareness of behavioral and attitudinal aspects of safety performance, and no willingness to consider such issues.
- Safety is seen very much as a technical issue.
- Compliance with rules and regulations is considered adequate.

Stages of Safety Culture

Stage II

- Growing awareness of behavioral issues but safety management methods are based on technical and procedural solutions.
- Safety performance is dealt with, in terms of targets or goals.
- Organization has a management which perceives safety performance as important even in the absence of regulatory pressure. (Nuclear Facilities)

Stages of Safety Culture

Stage III

- Organization has adopted the idea of continuous improvement.
- Strong emphasis on communications, training, management style, and improving efficiency and effectiveness.
- Some behaviors enable improvements to take place and there are some behaviors which act as a barrier to further improvement.

Stages of Safety Culture

Stage III

- Staff understands the impact of behavioral issues on safety.
- The level of awareness of behavioral and attitudinal issues is increasing, and measures are being taken to improve them.
- Organization progresses step by step and never stops.

Safety Culture Attributes

- Leadership Commitment
- Transparency in Decision Making
- Personal Responsibility
- Questioning attitude
- Learning Attitude and Recognitions of initiatives
- Effective Communications
- Respectful and Blame Free Environment
- Mutual Respect and trust other:

SC Self-Assessment Process

Step-1
Team Formation - Identification o f Individuals and Team Leader

Step-2
Team Training on SC assessment methodologies

Step-3
Preparation of SCSA plan in Consultation with the Management

SC Self-Assessment Process

Step-4
Safety Culture Awareness within the organization

Step-5
Collection of data against five Safety Culture Self-Assessment methods

Step-6
Descriptive analysis of data

Safety Culture Assessment Methods

- Observations
- Review of Documents
- Interviews
- Focus Group
- Survey

SC Self-Assessment Process

Step-7
Normative analysis and determination of strengths & weakness

Step-8
Results of Safety Culture Self-Assessment to the management

Step-9
SCSA report finalization and Preparation of action plan for implementation

SCSA Progress

1. Prepared Procedure for Conducting Safety Culture Self Assessment.

2. Awareness campaign: Safety Culture Concept, its importance and assessment methodology at PNRA:
   - Preparation of Brief and Posters
   - Awareness presentations to all Departments

3. Preparation of questionnaire for Interviews, Focus Group and Survey.

SCSA Progress

4. Interviews of about 50 personnel of all levels
5. Conducted 8 Focus Groups
6. Observations (During Meetings, Reviews, Working on Desks, Traveling, Dining, Group Discussions, General, etc.)
7. Reviewed about 40 documents including procedures, reports, plans, etc.
8. Conducted survey of about 300 personnel (70 questions)

SCSA – Important Points

- Management should not consider it: Audit of the organization
- Individual should not consider it: assessment of an employees
- SCSA is not conducted to identify or target individuals or groups which do not satisfy the existing practices.

Strengths of PNRA SCSA

Management Commitment:

Demonstrates commitment by actions

SCSA Team Motivation:

Young and motivated personnel with high enthusiasm to cope the challenge

Team Composition:

Representation of all technical departments

Encouraging Response From Employees:

identified interviewees contact themselves to be interviewed & appreciation for SCSA team during interviews

Licensee's Safety Culture Oversight

What we do?

- Review of Licensees Record
- Monitoring Operational Practices – walk down
- Interviews of Operating Personnel
- Interviews of Management of all level
- Survey - Questionnaire

Areas of Oversight

- Safety Policy & Practices
- Responsibilities & Delegation of Responsibilities
- Management Systems and Processes
- Organizational Culture
- Training, Selection of Staff, Work Load
- Review of Safety Performance
- Relations with management & regulator
- Attitudes, Relations, Communications etc.

Conclusion

- IAEA GS-R-3 (Draft GSR Part 2) provides framework for establishing, implementing, assessing and continually improving a coherent, comprehensive, safety-focused integrated management system.
- IMS should be established in RB to foster high and consistent levels of organizational performance that instills stakeholder confidence.
- Implementation of IMS leads to significant improvement in organizational efficiency, effectiveness, and safety performance.
- IMS provides common goals, unified & structured approach and reduced bureaucracy.

THANK YOU

QUESTIONS / ANSWERS