

**WELCOME TO THE  
LECTURE ON CONTROL OF  
PLANT ACTIVITIES**

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## **OSART EXPECTATIONS AND RESULTS IN THE CONTROL OF PLANT ACTIVITIES**

### **OBJECTIVES OF PRESENTATION**

- GENERAL PRINCIPLES
- CORPORATE ORGANIZATION
- PLANT ORGANIZATION
- EFFECTIVE SUPERVISION
- QUALITY ASSURANCE
- REGULATORY REQUIREMENTS
- INDUSTRIAL SAFETY
- SITE ACCESS CONTROL
- OSART EXPERIENCE

## **GENERAL**

1. THERE IS NO ONE DEFINITIVE ORGANIZATIONAL STRUCTURE
2. THERE ARE ELEMENTS OF ORGANIZATIONAL STRUCTURE WHICH ARE COMMON TO MANY ORGANIZATIONS
3. THEY MAY BE ASSEMBLED IN A VARIETY OF WAYS

## **ELEMENTS OF ORGANIZATIONAL STRUCTURE**

- ORGANIZATION AND ADMINISTRATION
- OPERATION
- MAINTENANCE
- ENGINEERING SUPPORT
- RADIATION PROTECTION
- CHEMISTRY
- TRAINING AND QUALIFICATION
- OPERATING EXPERIENCE
- EMERGENCY PREPAREDNESS
- OUTAGE MANAGEMENT

## COMMON FUNCTIONS OF EACH ELEMENT

- EFFECTIVE IMPLEMENTATION
- EFFECTIVE CONTROL
- KNOWLEDGE
- TRAINING
- QUALIFICATION
- PERFORMANCE

## **ORGANIZATION AND ADMINISTRATION FUNCTIONS**

- IMPLEMENT POLICIES AND DIRECTIVES
- ENSURE HIGH STANDARDS
- MONITOR STATION ACTIVITIES
- LEADERSHIP BY EXAMPLE
- MANAGE HUMAN RESOURCES
- ENSURE PERSONNEL SAFETY
- ENSURE NUCLEAR SAFETY
- ENSURE QUALITY
- CONTROL PLANT CONFIGURATION

# CORPORATE FUNCTIONS

- POLICY MAKING
- EXECUTIVE DECISION MAKING
- SUPPORTING
- REVIEWING

## **ASSIGNMENT OF RESPONSIBILITIES MUST BE CLARIFIED**

- TRAINING
- RADIATION PROTECTION
- CHEMISTRY
- EMERGENCY SUPPORT
- OPERATIONAL SUPPORT
- TECHNICAL SUPPORT
- QUALITY ASSURANCE



## **PLANT ORGANIZATION AND MANAGEMENT**

- SAFETY POLICY
- LINES OF AUTHORITY
- CLEAR REPORTING RELATIONSHIPS
- GOALS AND OBJECTIVES
- EFFECTIVE SELECTION AND PROMOTION
- CONFORMITY AND CONSISTENCY
- PROCEDURAL POLICY
- TRACKING COMMITMENTS
- EFFECTIVE SUPERVISION

# REGULATORY INTERFACE

- GOOD LIAISON
- MUTUAL RESPECT
- RESPONSIBILITIES UNDERSTOOD
- RESPONSIBILITIES ASSIGNED
- INTERFACE CONTROLLED
- OTHER GOVERNMENT BODIES

## **SITE ACCESS CONTROL**

- PREVENTION OR CONTROL OF :
  - INTRUSION
  - THEFT OF NUCLEAR MATERIALS
  - INTERNAL OR EXTERNAL SABOTAGE
  - HEALTHY RELATIONSHIP WITH OTHER PLANT STAFF

# **SAFETY FUNDAMENTALS**

## **OBJECTIVES**

1. GENERAL NUCLEAR SAFETY - ESTABLISH AND MAINTAIN DEFENCES AGAINST RADIOLOGICAL HAZARDS
2. RADIATION PROTECTION - ALARA PRINCIPLES AND MITIGATION AGAINST RADIOLOGICAL CONSEQUENCES OF ACCIDENTS
3. TECHNICAL SAFETY - ACCIDENT PREVENTION AND MITIGATION AND ASSURANCE OF LOW RADIATION FOR ALL ACCIDENTS.

# PRINCIPLES

1. GOVERNMENT LEGISLATIVE AND STATUTORY FRAMEWORK
2. OPERATING ORGANIZATION HAS PRIME RESPONSIBILITY
3. INDEPENDENT REGULATORY BODY
4. EST. POLICIES, CLEAR RESPONSIBILITIES AND COMMUNICATIONS
5. QUALITY ASSURANCE PROGRAMMES

## **PRINCIPLES (cont.)**

6. TRAINED AND AUTHORIZED STAFF
7. HUMAN PERFORMANCE CONSIDERATIONS
8. EMERGENCY PLAN IMPLEMENTED
9. SITE SELECTION ADEQUATE TO ENSURE SAFETY
10. PLANT DESIGN ADEQUATE TO PREVENT ACCIDENT
11. DESIGN INCLUDES DEFENCE IN-DEPTH PRINCIPLES

## **PRINCIPLES (cont.)**

12. TECHNOLOGIES PROVEN OR QUALIFIED
13. MAN-MACHINE INTERFACE // HUMAN FACTORS CONSIDERED
14. ALARA DESIGNED FOR SITE PERSONNEL AND ENVIRONMENT
15. SAFETY ASSESSMENT AND INDEPENDENT VERIFICATION OF DESIGN
16. REGULATORY APPROVAL BEFORE START-UP

## **PRINCIPLES (cont.)**

17. OPERATIONAL LIMITS AND CONDITIONS ESTABLISHED
18. STAFFING ADEQUATE
19. ENGINEERING AND TECHNICAL SUPPORT AVAILABLE
20. PROCEDURES ESTABLISHED
21. INCIDENT REPORTING AND FEEDBACK SYSTEM



## **PRINCIPLES (cont.)**

22. WASTE GENERATION KEPT AT MINIMUM
23. ALARA DESIGNED FOR DECOMMISSIONING
24. ROUTINE ANALYSIS FOR SAFE INSTALLATION AND OPERATION
25. SYSTEMATIC SAFETY RE-ASSESSMENTS