



# *Introduction to Integrated Safety Management (ISM)*

## **Introductory Course**

**ISM**



## *What is ISM?*

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**Integrated Safety Management  
(ISM) means**

**Thinking Safety**

**in all phases of work planning  
and execution.**



## ***What is an ISMS?***

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- **An Integrated Safety Management System (ISMS) is a framework for:**
  - **establishing a comprehensive program to ensure that work is done safely**
  - **ensuring that safety becomes an integral part of management systems**
- **Based on DOE-Order 450.4, and Secretarial Directives**
- **A contract requirement**





# *What is the ANL **ISM** Objective?*

To systematically integrate safety considerations into management and work practices at all levels, thereby protecting the public, the worker, and the environment, while accomplishing the programmatic mission

- Stated simply,

**DO WORK SAFELY**



**ISM**



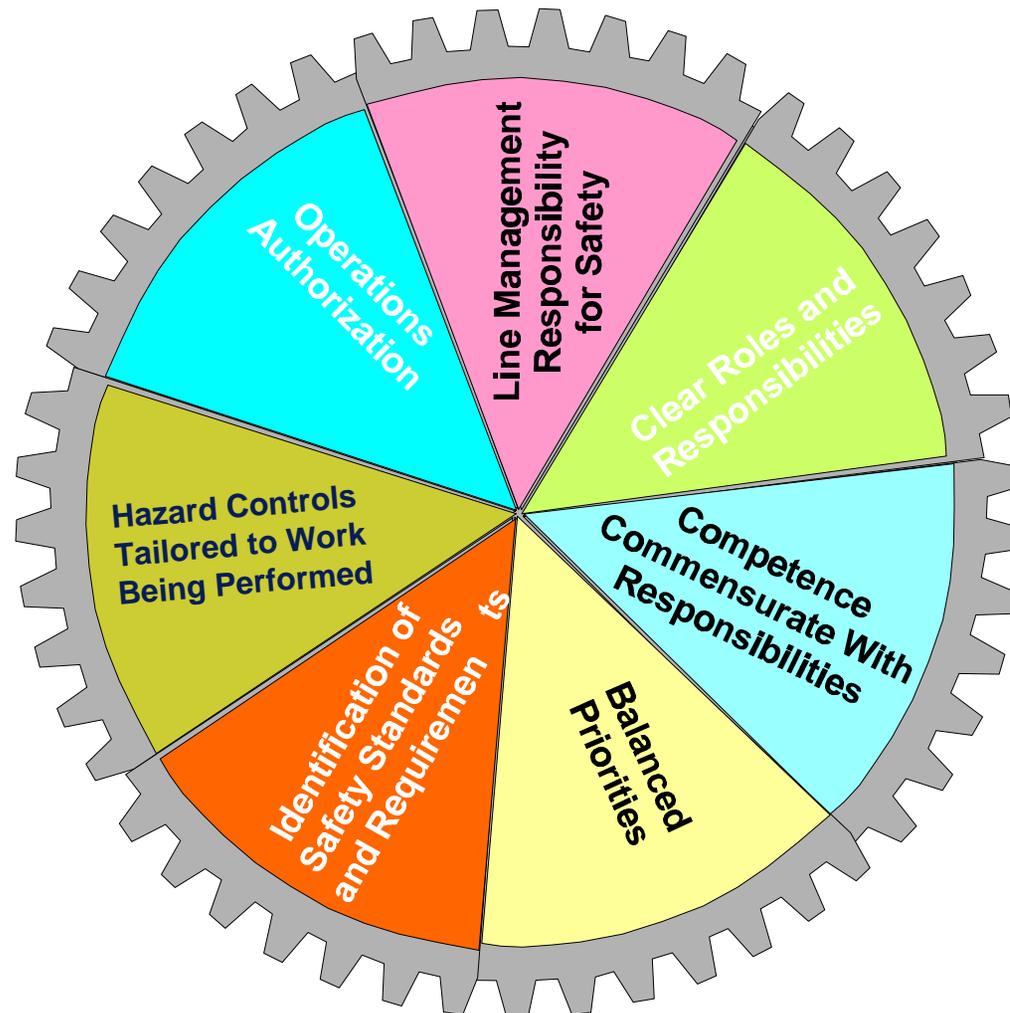
## **What Does *ISM* Cover?**

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- **At ANL, ISM expressly includes:**
  - environmental protection and remediation
  - occupational health
  - worker safety
  - public safety
- **The principles are sound management principles which apply to all activities at the Laboratory**



# Seven Principles of **ISM**





# **Principle 1**

## ***Line Management Responsibility for Safety:***

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- **Flows from the Laboratory Director, to ALDs/COO, to DDs, to section heads/group leaders/supervisors, to those doing the work**
- **Support organizations (e.g., ESH) and committees assist, advise and facilitate**



## **Principle 2**

### ***Clear Roles and Responsibilities:***

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- **Supervisors are responsible for seeing that :**
  - work scopes are defined and understood
  - hazards are recognized, analyzed and mitigated
  - work controls are respected
  - lessons learned are fed back
- **Workers are responsible for working safely and for complying with established requirements**
- **Both supervisors and workers have the responsibility and authority to stop work in situations of immediate danger**





## **Principle 3**

# ***Competence Commensurate with Responsibilities:***

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- **This is assured by:**
  - quality position descriptions
  - rigorous hiring practices
  - a well developed training management system
  - mentoring and supervisory monitoring;  
and
  - oversight



## **Principle 4**

### ***Balanced Priorities:***

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- **Protecting the public, the workers, and the environment are always a priority**
- **Deficiencies which cannot be immediately corrected are prioritized; appropriate compensatory measures or cautions are put in place, or the work is stopped**



## **Principle 5**

### ***Identification of Safety Standards and Requirements:***

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**Safety requirements are identified which, if properly implemented, provide assurance that the public, the workers, and the environment are protected.**



## **Principle 6**

### ***Hazard Controls Tailored to Work being Performed:***

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**Administrative and engineering controls to prevent accidents and mitigate hazard consequences are tailored to the work being performed.**



## **Principle 7**

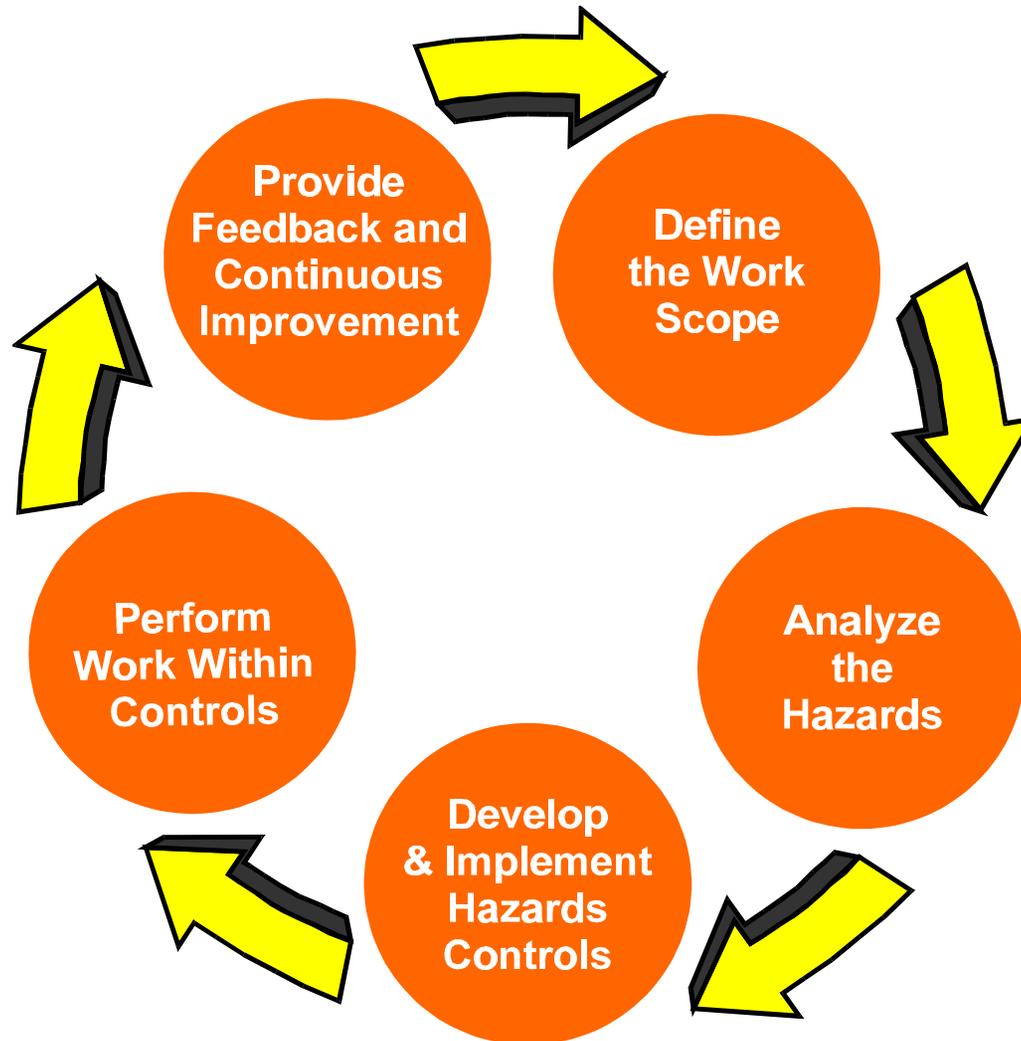
### ***Operational Authorization:***

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- **The conditions and requirements to be satisfied for operation shall be clearly established and agreed upon.**
- **The individual authorizing any given operation should be identifiable.**



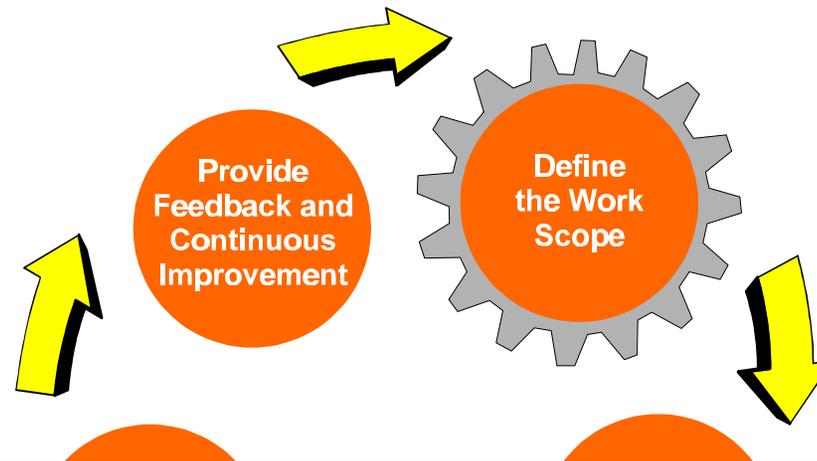
# *Five Functions of ISM*





# Function 1

## *Define the Scope of Work*



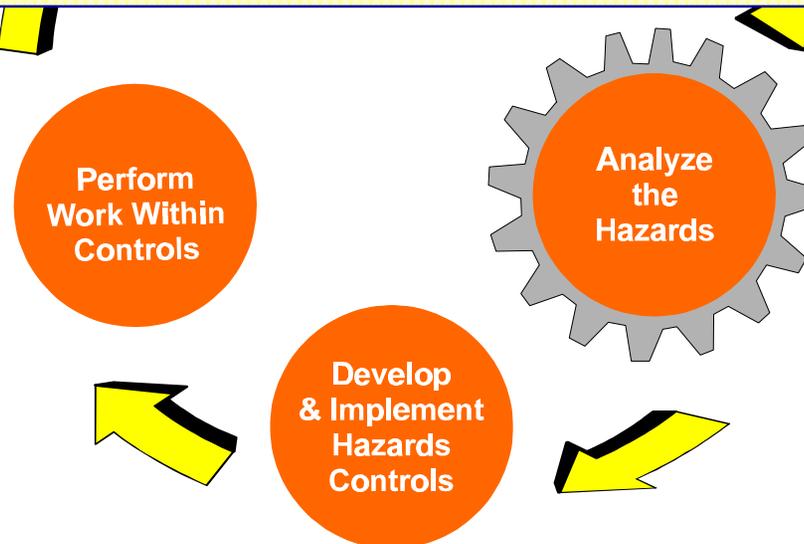
**Missions are translated into work activities, expectations are set, tasks are identified and prioritized. Resources are allocated through an established process.**



## Function 2

### *Analyze the Hazards*

Hazards associated with the work are identified, analyzed, and documented as appropriate. Formal hazards analyses are reviewed by competent authorities.

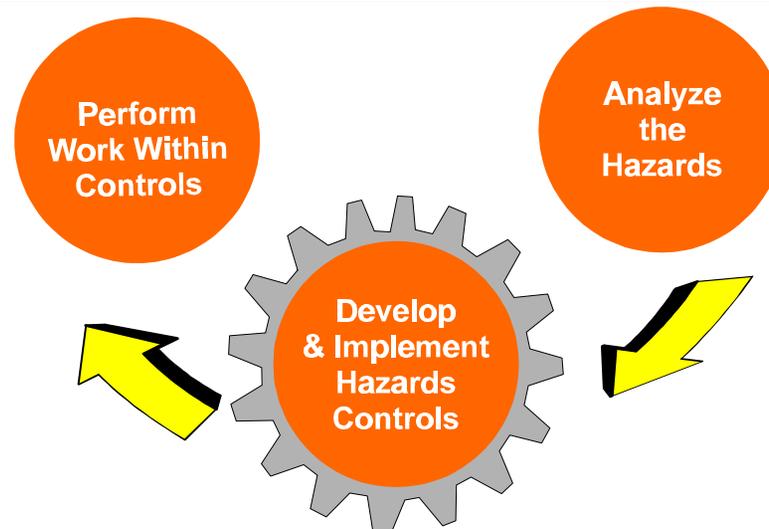




## Function 3

# *Develop and Implement Hazard Controls*

**A safety envelope is established with appropriate controls and mitigations identified to prevent accidents or mitigate hazards. Controls are implemented.**

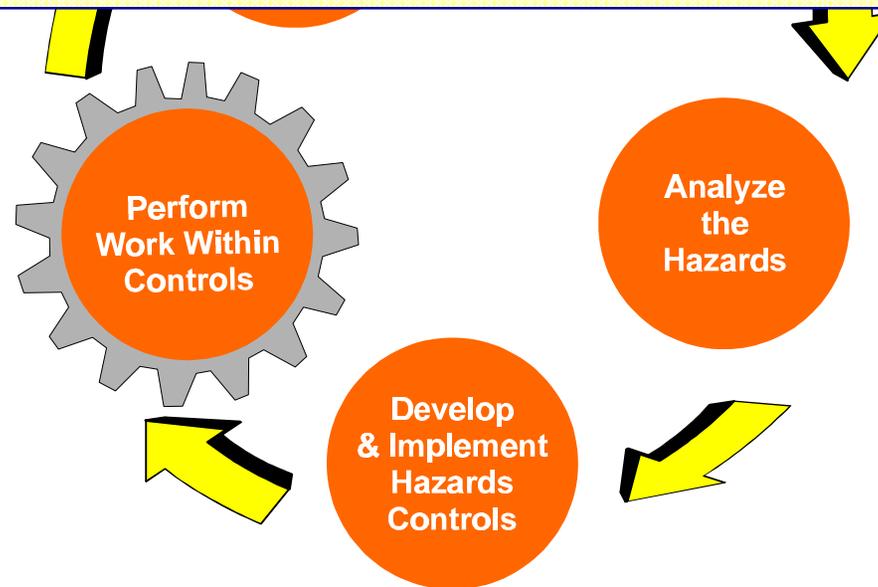




## Function 4

### *Perform Work Within Controls*

**Readiness is confirmed and work is performed within the approved safety envelope.**

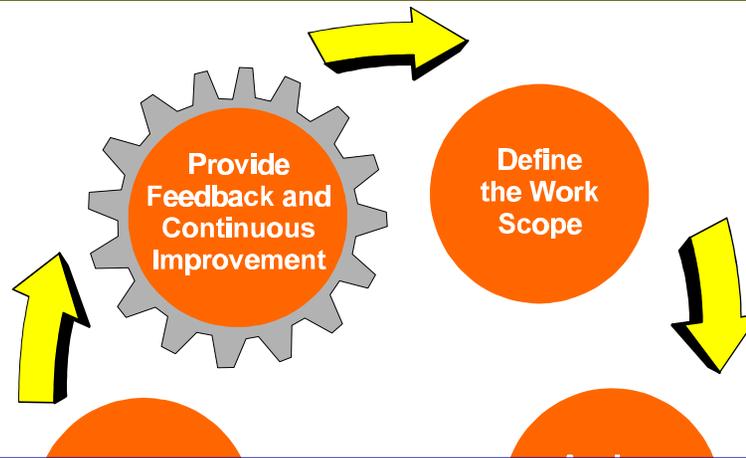


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## Function 5

# *Provide Feedback and Continuous Improvement*



**“Feedback information is gathered; opportunities for improving the definition, planning and execution of work are identified; and lessons learned are appropriately utilized.**”



## ***Five Functions of ISMS***

**Some suggestions to judge whether you are integrating safety and environmental protection into your work. Be sure you get a good answer before you proceed.**

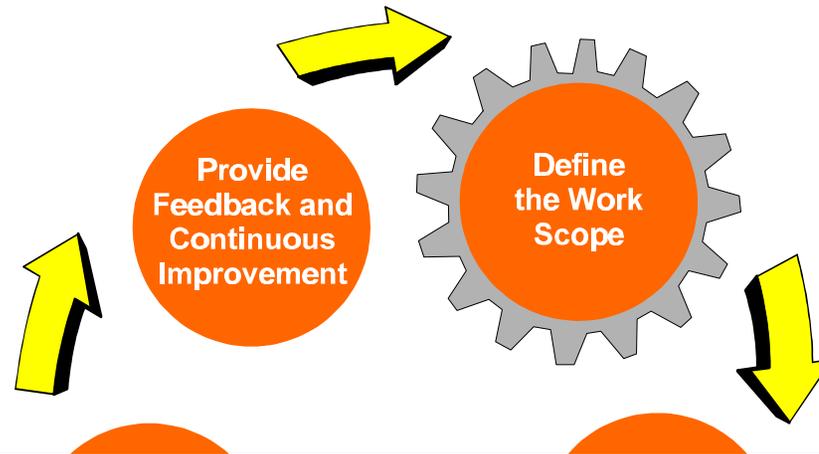


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# Function 1

## *Define the Scope of Work*



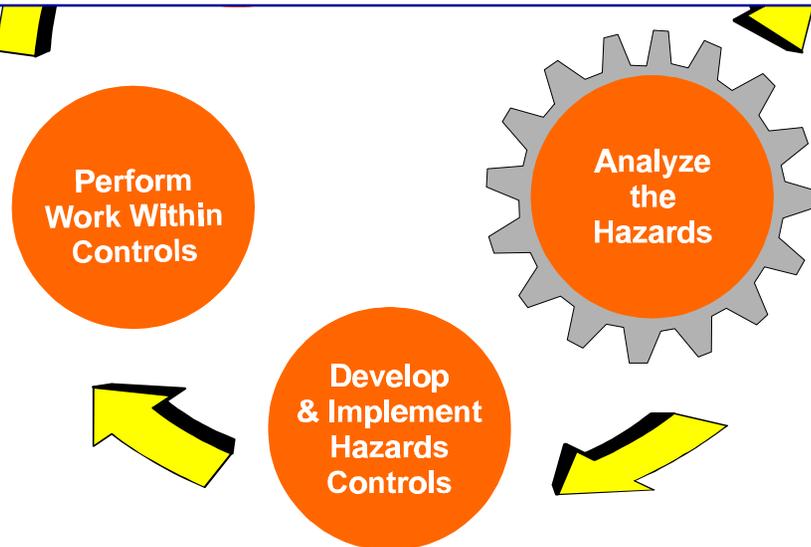
- **Is the work scope clearly defined? Authorized?**
- **Do I know how to do this job?**
- **Do I have the proper equipment? Support?**
- **Have there been problems with this task?**



## Function 2

### *Analyze the Hazards*

- What are the hazards of this job?
- What can go wrong?
- Has the job been reviewed by a qualified person ?

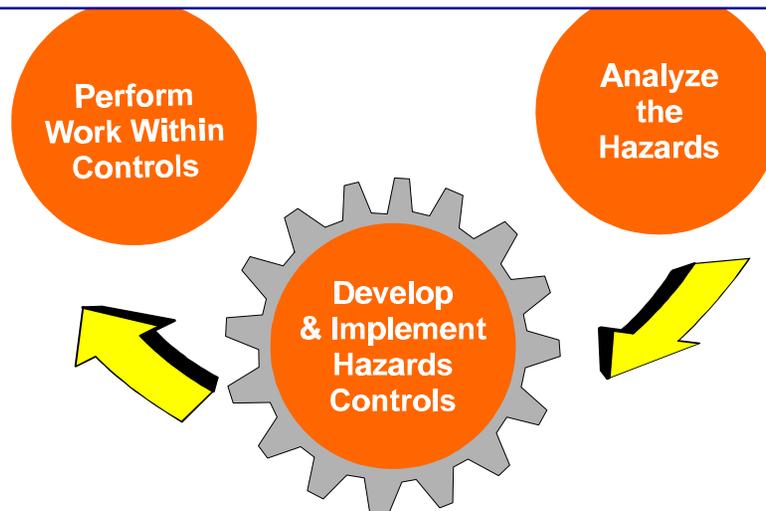




## Function 3

# *Develop and Implement Hazard Controls*

- Are all the necessary controls in place (e.g.; LO/TO; PPE; special equipment, support personnel)?
- Do I know what the controls are, and how to use them?
- What do I do if something unexpectedly goes wrong?

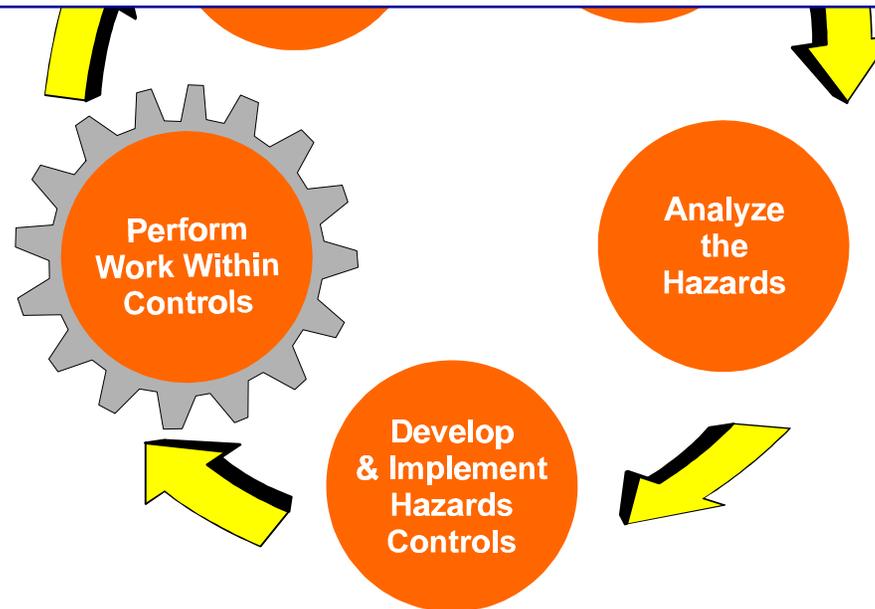




## Function 4

### *Perform Work Within Controls*

- Has the system responded as expected?
- How do I know?
- When will I call for assistance or stop work?

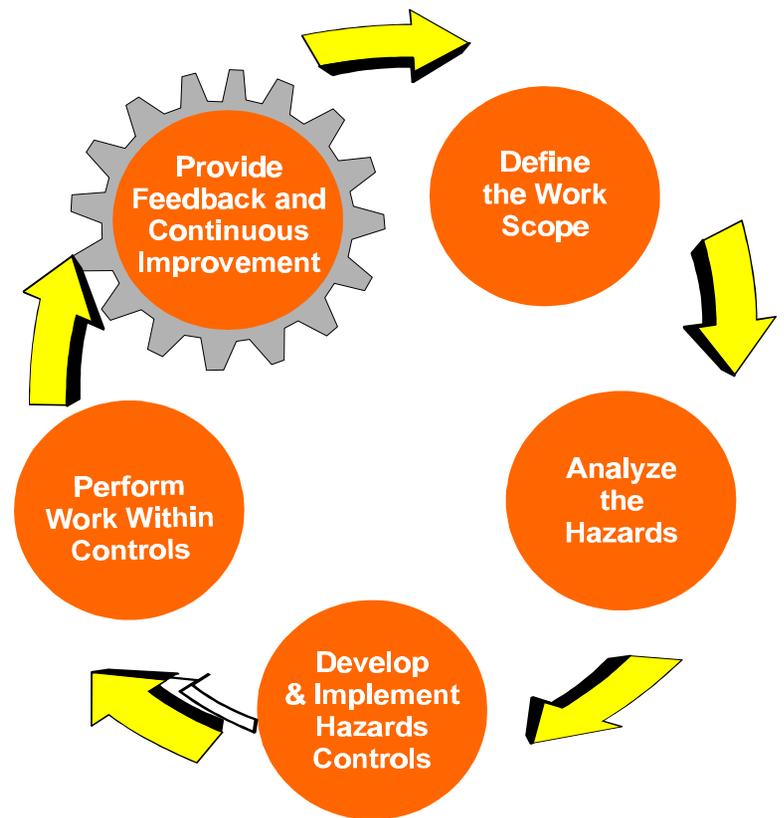




# Function 5

## *Provide Feedback and Continuous Improvement*

- Was the planning adequate, constructive?
- Were there surprises?
- Are there better ways to do this job?
- Was I properly trained and equipped to do this job?
- Did I see something while doing this task?
- Did I see anything else that needs attention?

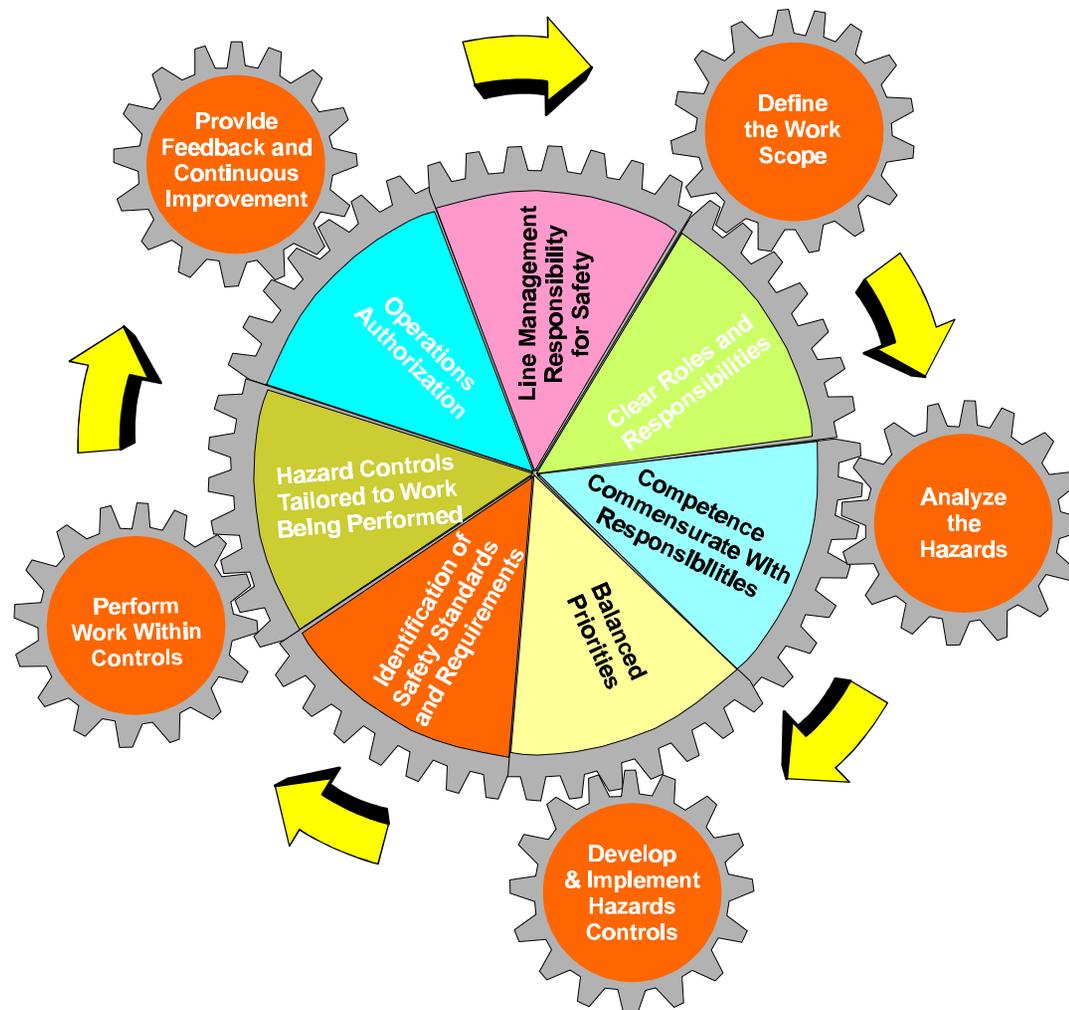


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# Principles and Functions

## *Working Together*





***ISM***

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**Managers, planners,  
supervisors and workers  
must all feel that:**

**“Safety is MY  
Responsibility”**