

Risk Management

مرافق
تدريب واستشارات



Chapter 1

Risk & Risk Management



مراجع
تدريبات واستشارات

Chapter 2

Risk Management Planning

مرافق
تدريب واستشارات



Chapter 3

Emergency Preparedness and Disaster Response and Recovery



Chapter 4

Business Continuity and Facility Resilience



Chapter 1

Risk & Risk Management



مراجع
تدريبات واستشارات

Contents:

- 1- What is Risk?
- 2- Risk Factors
- 3- What is Risk Management?
- 4- Building Risk Awareness

مرافق
تدريب واستشارات



1- What is Risk?

The effect of uncertainty on objectives



Risk on FM

Safety

Assets

operations



Types of risks

Financial Risk

Legal Risk

Staffing Risk

Project Management Risk



Source of Risk

- 1- Human-Made Risks
- 2- Environmental Risks
- 3- Technological Risks
- 4- External Risks



Risk Identification

Gather Data

Brainstorm

Post-Event Review

Scenario Planning



Risk Identification

Historical Analysis

Risk Modeling

Continuity Planning Review



Risk Identification Resources

- 1- Government Agencies
- 2- First Responders
- 3- Insurers



Risk Identification Resources

4- Facility Records

5-Discussions

6-Audits



2- Risk Factors

1- Tangible and Intangible Risks

2- Causes of Issues

3- Risk Indicators

4- Assets and Resources

مرافق
تدريب واستشارات



2- Risk Factors

5- Biases and Assumptions

6-Time-Related Factors

7- Information Reliability

مرافق
تدريب واستشارات



3- What is Risk Management?

Structured approach involving policies, procedures, and practices to assess, treat, monitor, and report risks.

مرافق
تدريب واستشارات



Application

People

Supply Chains

Products and Services

Financial Assets



Application

Physical Assets

Intellectual Assets

Brand Image



Risk Management Process

Risk Management Process

Risk management is an integrated process as shown in Process for Risk Management.

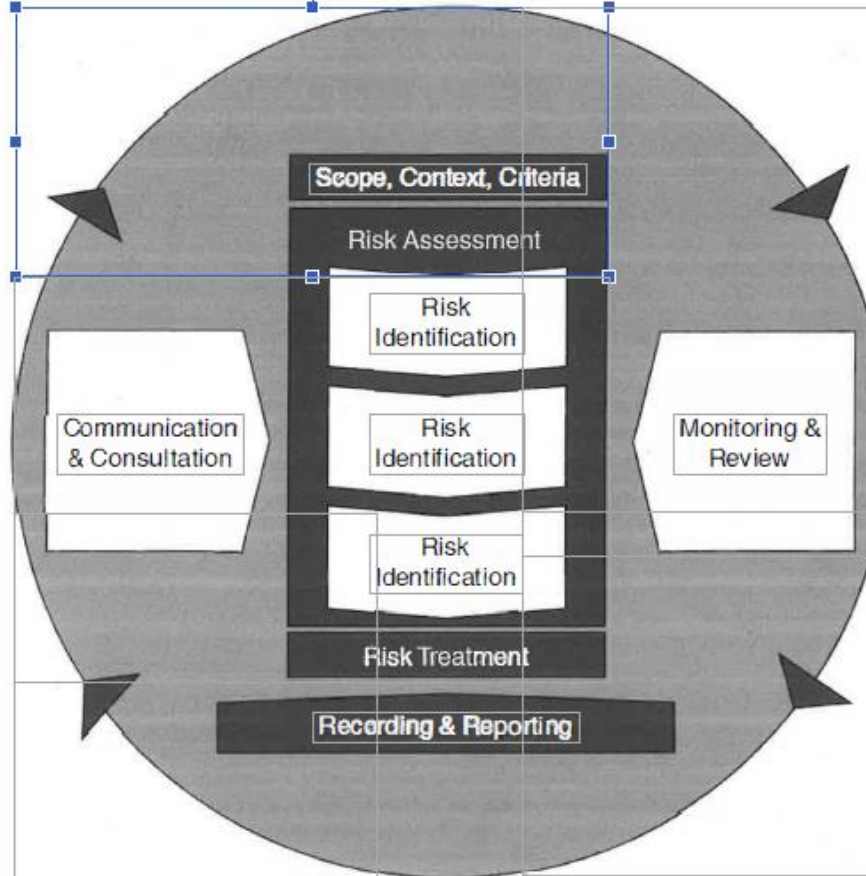
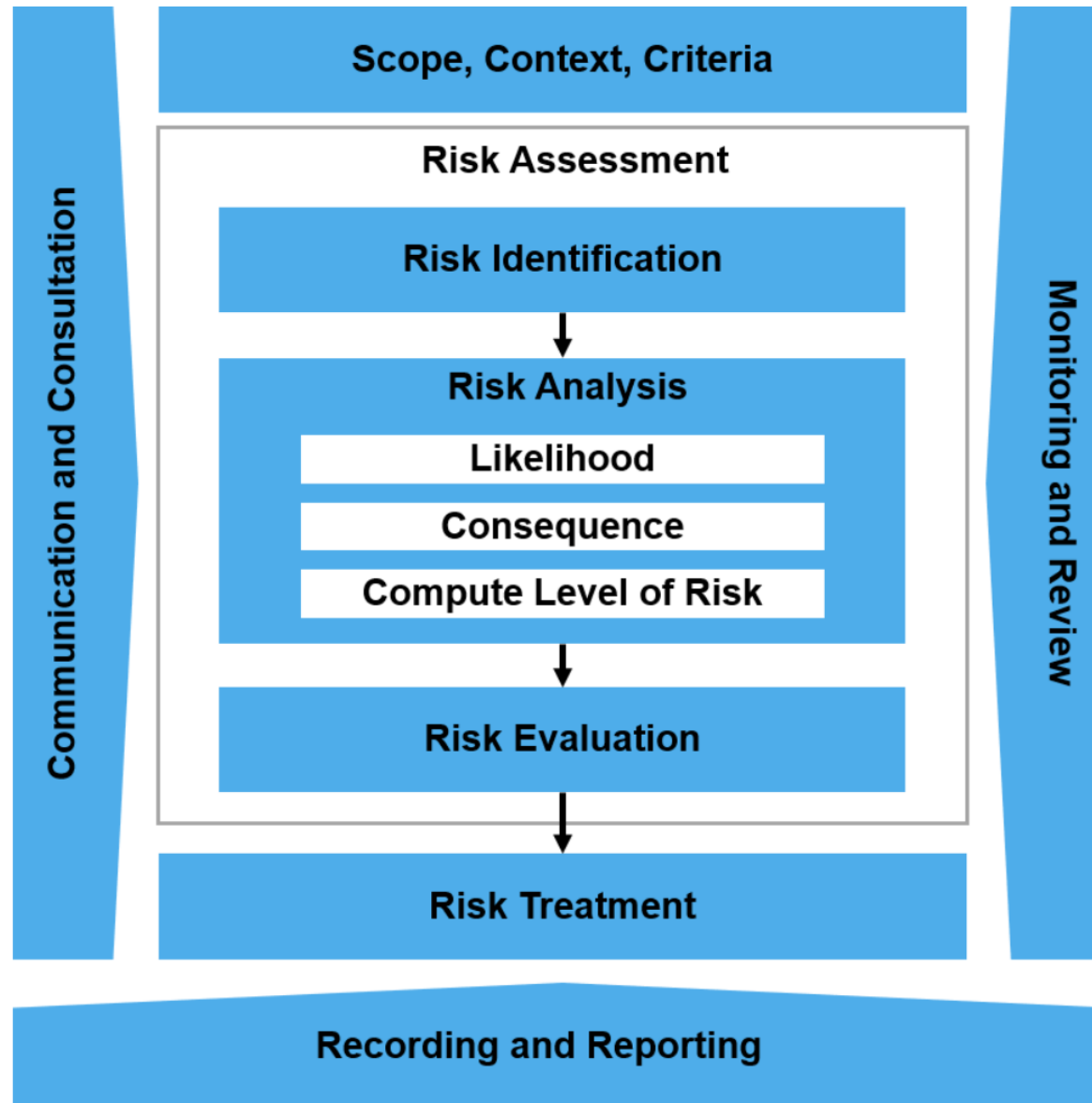


Figure 1 Process for Risk Management.

Risk Management Process



[Source: ISO 31000:2018 Risk management process]

Risk Management Process

1- Threat Identification Process

2-RM Planning Process

3-Business Process Analysis

4-Business Impact Analysis

مرافق
تدريب واستشارات



Risk Management Process

5- Emergency Response

6-Incident Command System

7-BC Planning Process

8-Disaster Response Process



Governance and Policy

Pre-assessment

Risk appraisal

Characterization and
evaluation

Risk management



4- Building Risk Awareness

- 1- Informative Briefings
- 2- "What-If" Scenarios
- 3- Engaging Existing Groups

مرافق
تدريب واستشارات



Risk acceptance culture

- 1- Varied Risk Perspectives
- 2- Risk is a Continuum
- 3- Evaluating
(Proactive or Reactive Culture)



Chapter 2

Risk Management Planning

مرافق
تدريب واستشارات



Contents:

- 1- Life Cycle of Risk
- 2- Planning Phase
- 3- Analyze Risk



Contents:

4- Evaluate and Treat Risk

5- KPIs & KRIs

6- Asset and Human Analysis



1- Life Cycle of Risk

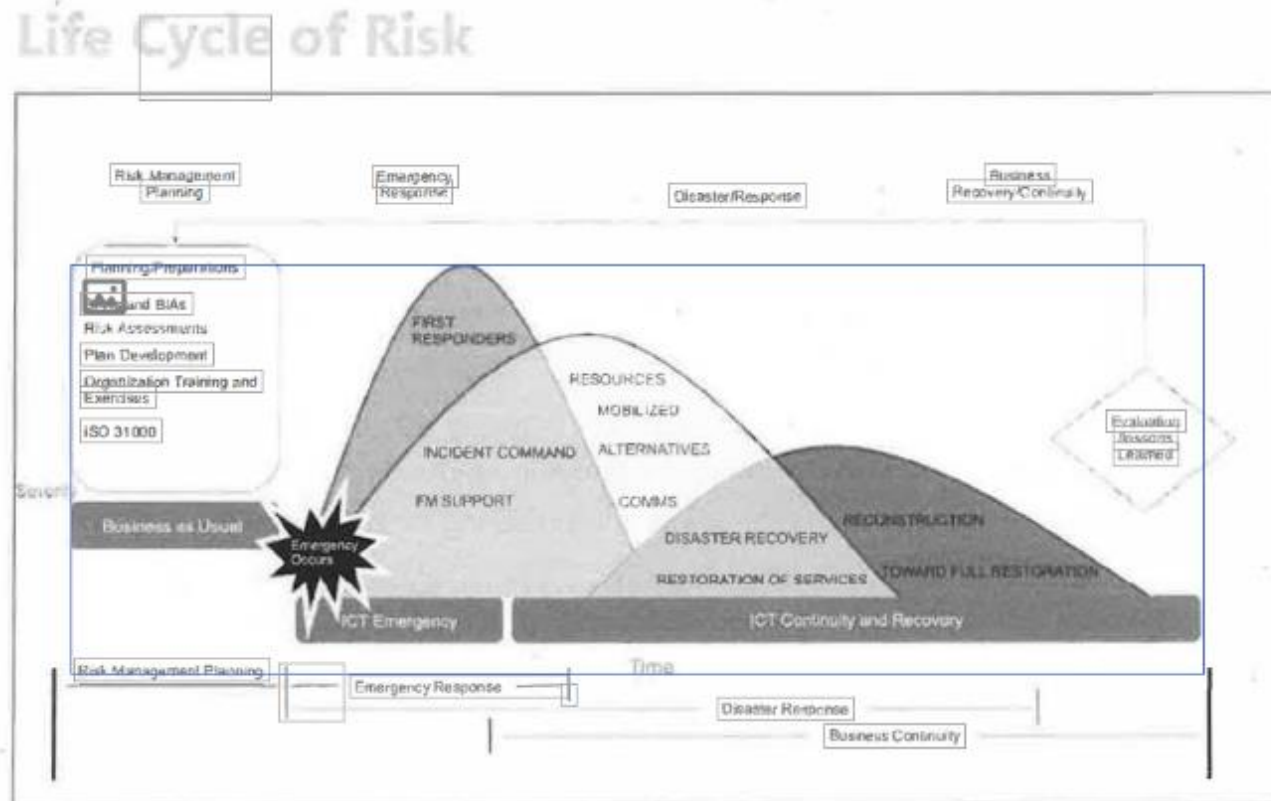
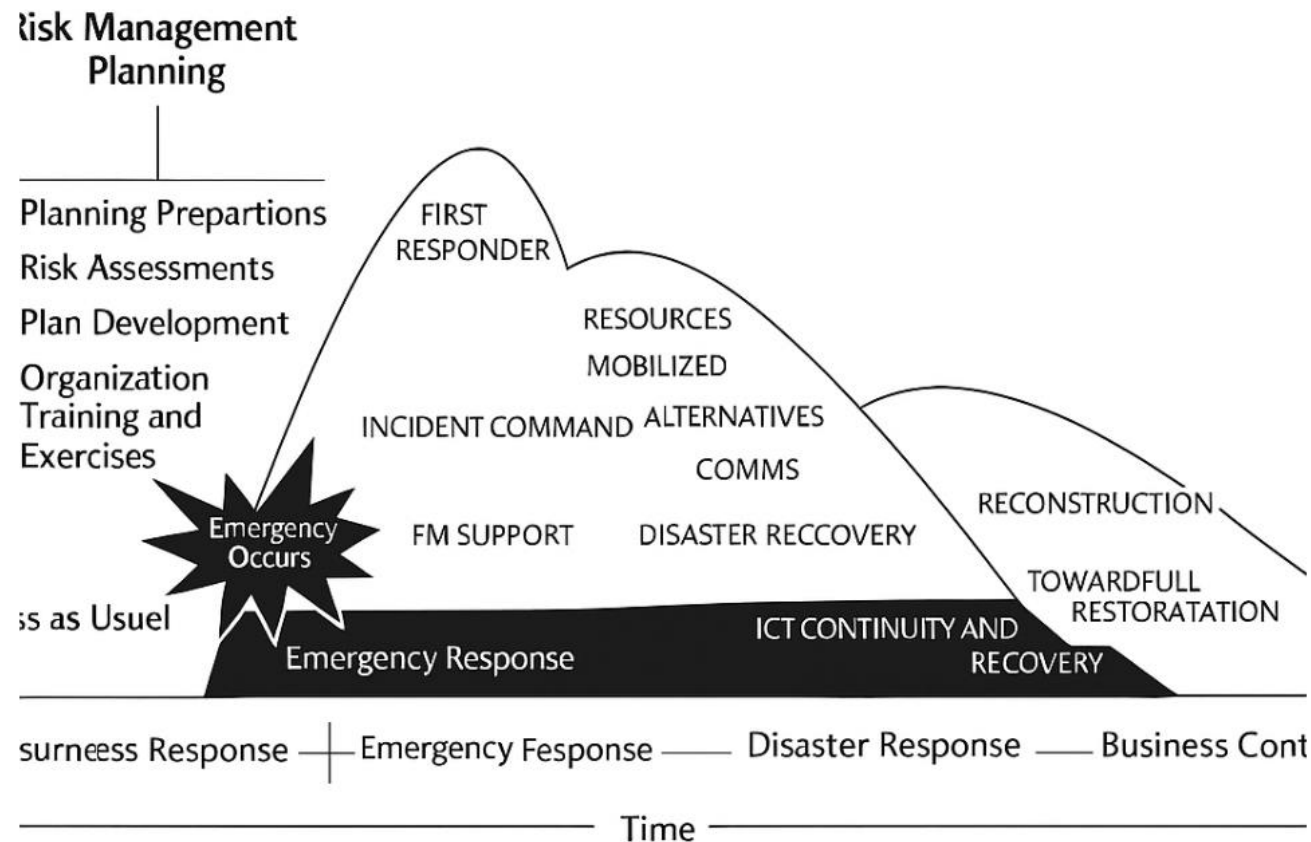


Figure 2 Life Cycle of Risk

1- Life Cycle of Risk

Life Cycle of Risk



1- Life Cycle of Risk

- 1- Risk Management Planning
- 2- Emergency Response
- 3- Disaster Response/Recovery
- 4-Business Recovery/Continuity



2- Planning Phase

- 1- Risk Identification
- 2- Goal Setting
- 3- Preparation
- 4- Interconnected Risk Management



3- Analyze Risk

- 1- identifying potential risks
- 2- evaluating likelihood
- 3- assessing impact
- 4-determining strategies



3- Analyze Risk

Risk	Likelihood (1-5)	Severity (1-5)	Risk Score	Priority
Environmental hazard occurs during renovation or remodeling.	3	3	9	2

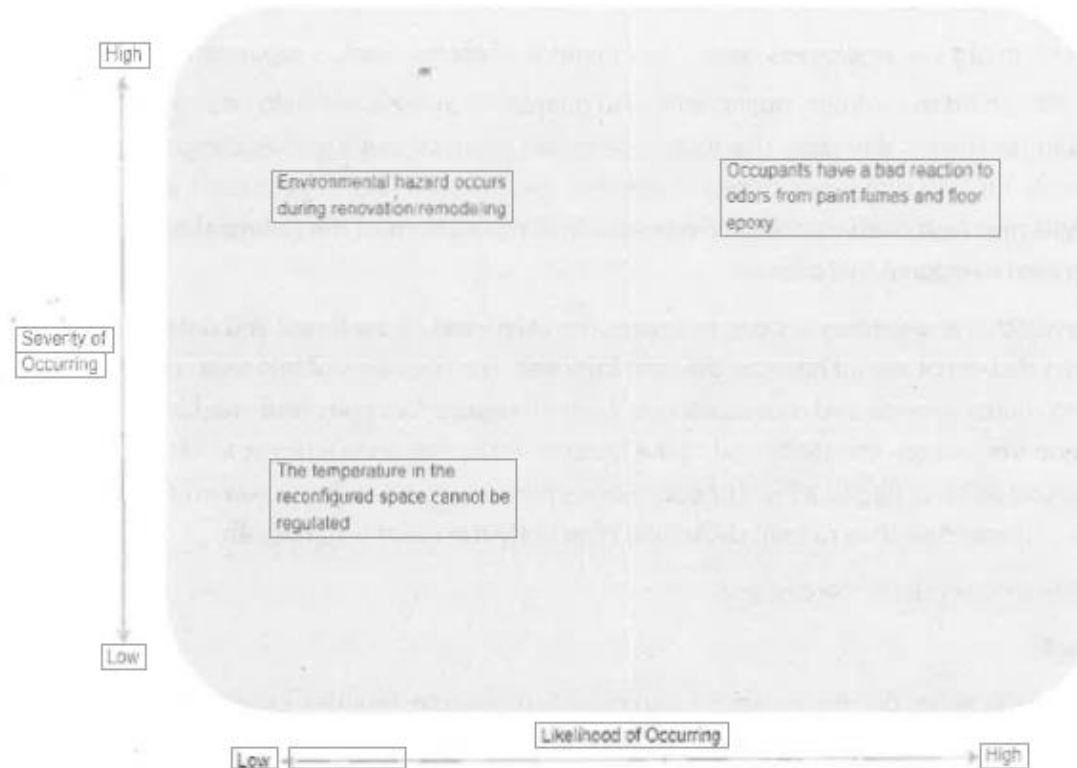
Occupants have a bad reaction to odors from paint fumes and floor epoxy.	3	4	12	1
The temperature in the reconfigured space cannot be regulated.	3	1	3	3

Table 1 Example of Risk Analysis Matrix.

3- Analyze Risk

Example 2:

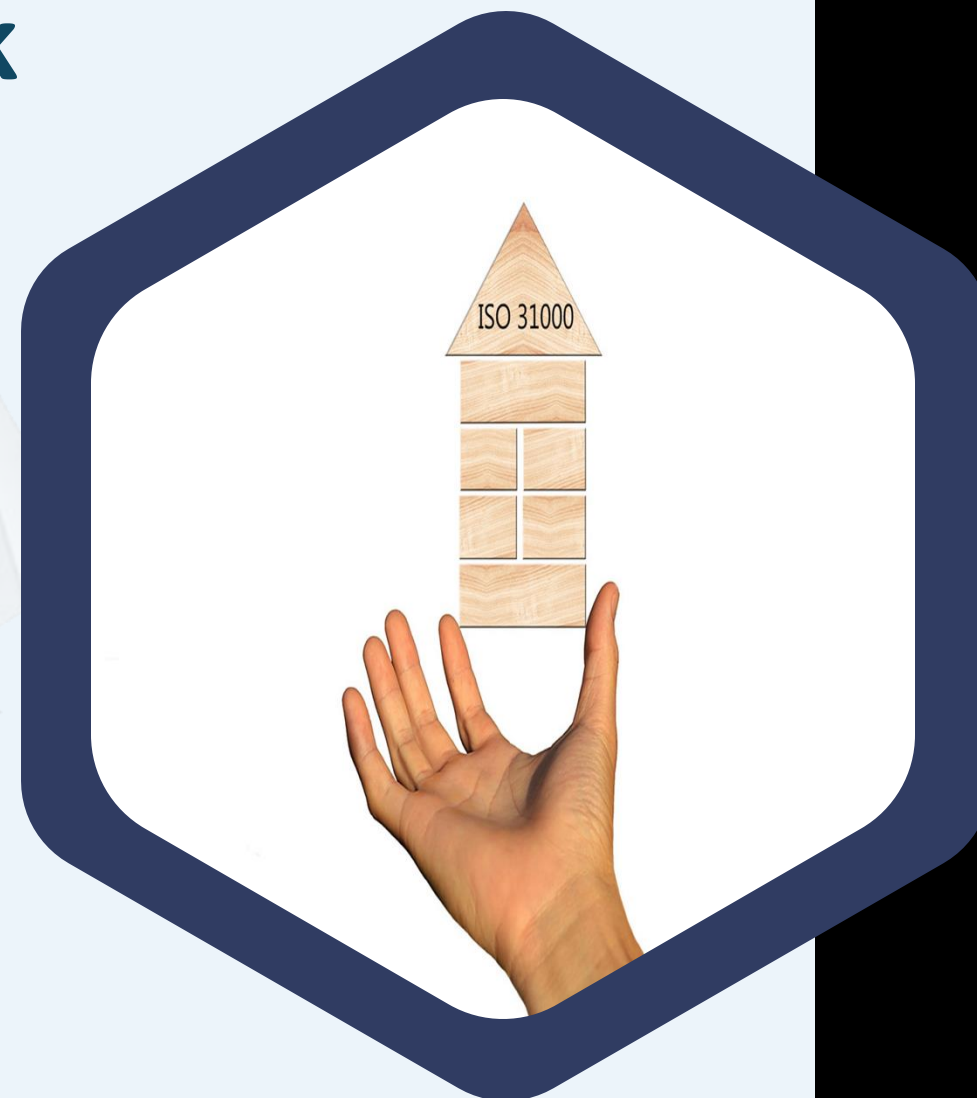
You might decide to use a four-quadrant grid to assess risk as shown in Figure 3: Example of Risk Analysis Grid using the same example as shown in Table 1.



4- Evaluate and Treat Risk

Steps AS (ISO 31000):

- 1-Formulate and evaluate actions
- 2-Assess costs, impacts, and consequences
- 3-Select the most appropriate



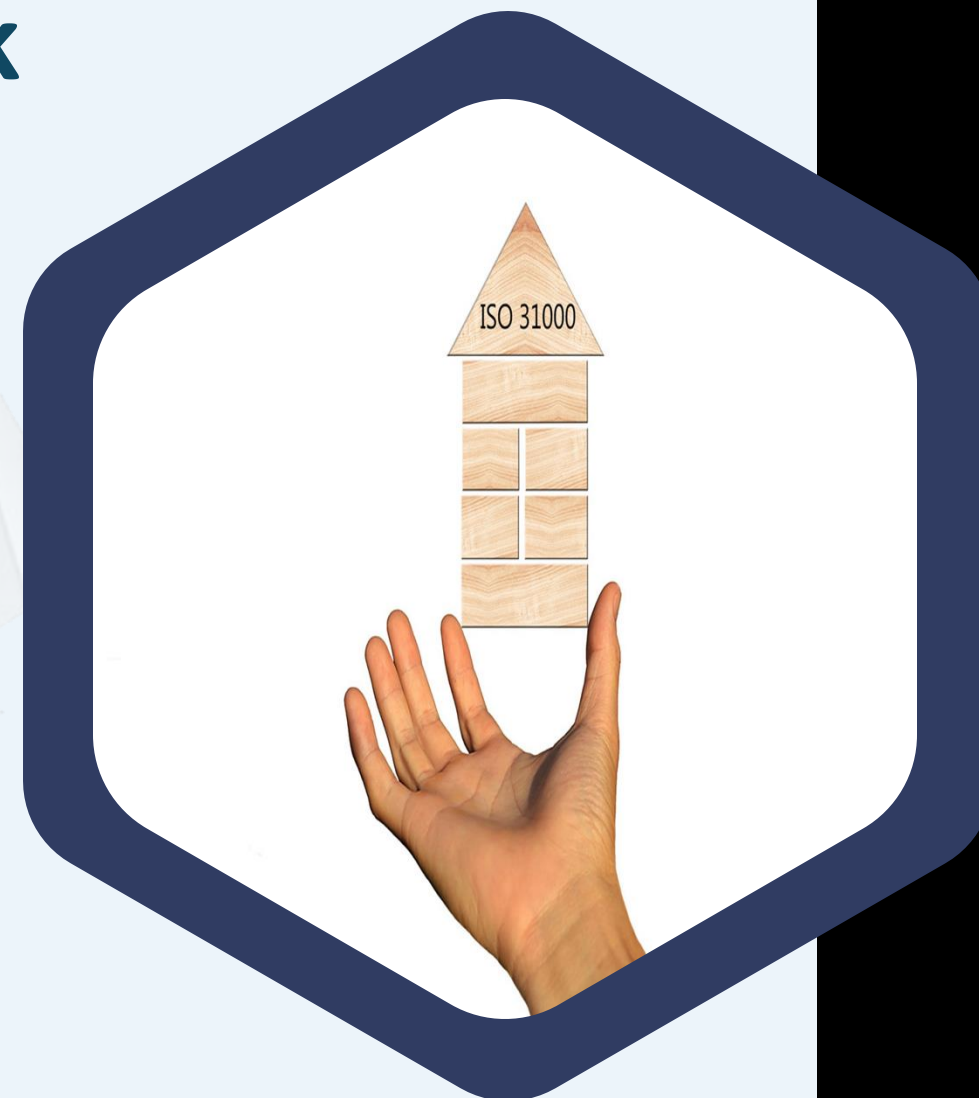
4- Evaluate and Treat Risk

Steps AS (ISO 31000):

4-Plan and implement

5-Monitor and assess the effectiveness

6-Determine if the residual risk is acceptable



4- Evaluate and Treat Risk

Goals of Risk Treatment

- 1-Tolerate (Accept the risk)
- 2-Avoid (Eliminate the risk)
- 3-Prevent (Reduce likelihood



4- Evaluate and Treat Risk

Goals of Risk Treatment

4-Mitigate (Reduce the severity)

5-Transfer/Share



4- Evaluate and Treat Risk

Risk	Likelihood (1-5)	Severity (1-5)	Risk Score	Priority	Risk Strategy	Assigned to:
Environmental hazard occurs during renovation or remodeling.	3	3	9	2	Prevent	FM
Occupants have a bad reaction to odors from paint fumes and floor epoxy.	3	4	12	1	Mitigate	FM
The temperature in the reconfigured space cannot be regulated.	3	1	3	3	Tolerate	NA

Table 2 Risk Analysis Matrix

5- KPIs and KRIs

Key Performance Indicators (KPIs)

lagging indicators

leading indicators

مرافق
تدريب واستشارات



5- KPIs and KRIs

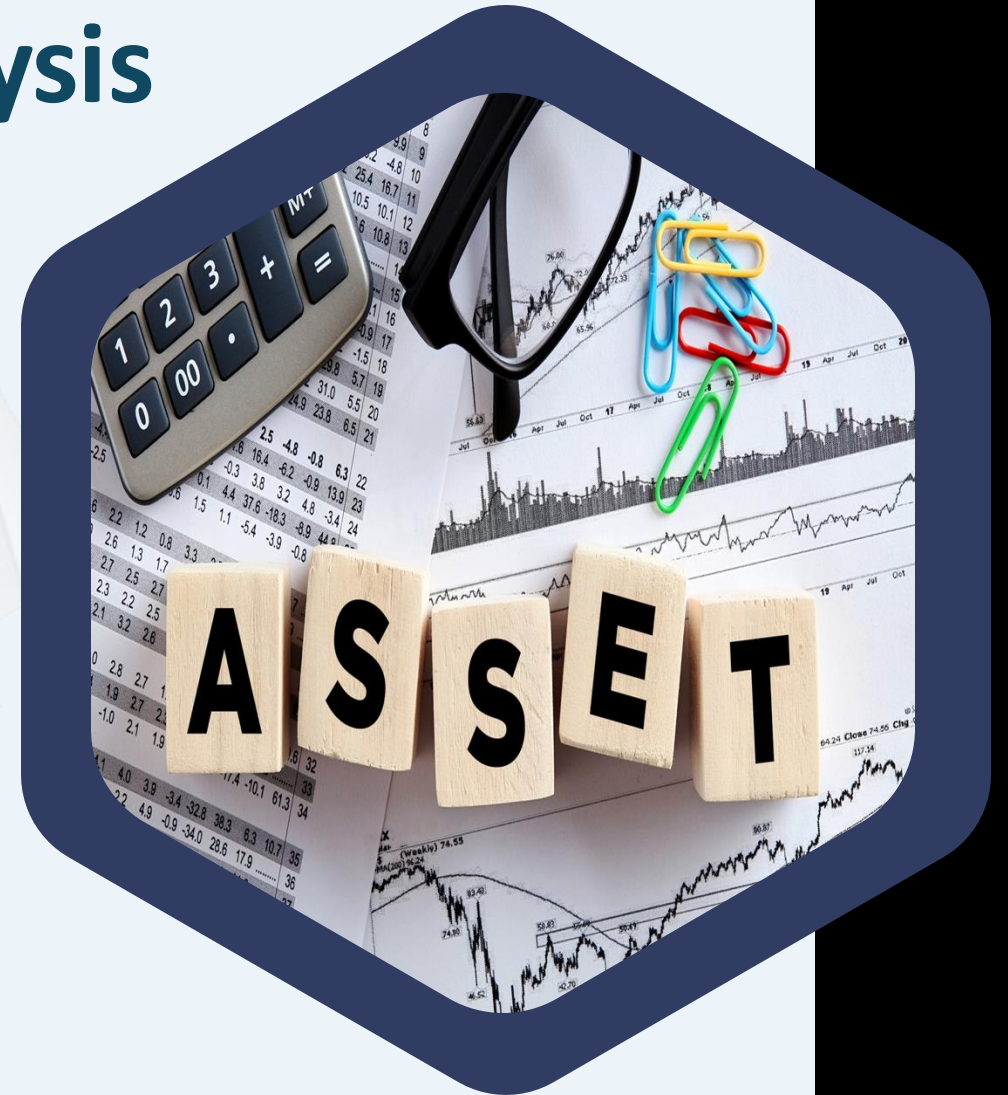
Key Risk Indicators (KRIs)



6- Asset and Human Analysis

Physical assets

Human assets



6- Asset and Human Analysis

Steps:

- 1-Inventory Creation
- 2- Condition Ratings (A-B-C)
- 3-Verification and Budgeting



6- Asset and Human Analysis

Equipment	Make &Model	Age	Size	Location	What is most important to be aware of	Rating* if C, add your plan
Boiler 1				Bldg 1	Leaks	C. Do a
Boiler 2				Bldg 4	Hard to find replacement parts	major overhaul by ____(date) C. Replace by ____(date)
Chiller 1				Bldg 3	Vibration	C. Shorten the preventive maintenance cycle to once a month

Table 7 Sample Inventory and Rating

6- Asset and Human Analysis

People	Work site Shift	Skill set or special expertise	Risk management strategy
Joe			Cross-train
Jose			Certify
Joey			Ask to be a mentor

Table 8 Sample Talent Management Plan

Chapter 3

Emergency Preparedness and Disaster Response and Recovery



Contents:

- 1-Emergency Preparedness
- 2-Emergency Response Plans
- 3-Disaster Response and Recovery



**Global Standards for emergency
management and business
continuity**

ISO 22300

مرافق
تدريب واستشارات



1-Emergency Preparedness

Concepts and terms:

Emergency Operations Center

Incident Command Post

Incident Management Team



1-Emergency Preparedness

Concepts and terms:

Lockdown

Shelter in Place

Span of Control



1-Emergency Preparedness

Concepts and terms:

Unity of Command

Staging Areas

Memorandum of Understanding (MOU):

تدريبات واستشارات



1-Emergency Preparedness

Functions of ICS:

1-Command

2-Operations

3-Planning

4-Logistics

5-Finance/Administration

6-Intelligence (optional):



1-Emergency Preparedness

Incident Commander



1-Emergency Preparedness

Command and Coordination

Unified response

Direct resources

Ensure authority transfer



1-Emergency Preparedness

Levels of Decision-Making Authority

1-Crisis Management Team (Senior Management)

2-Emergency Management Team

3-Emergency Coordinators (Leaders or Floor Wardens)

1-Emergency Preparedness

Emergency Response training

1-Emergency Plans

2-Fire Safety

3-First Aid



مرافق
تدريب واستشارات

1-Emergency Preparedness

Emergency Response training

4-Hazardous Materials

5-Communication

6-Compliance



مرافق
تدريب واستشارات

2-Emergency Response Plans

مرافق
تدريب واستشارات



Components Plan:

- 1-Statutes or Authority
- 2-Desired Outcomes
- 3-Scope
- 4-Situation and Assumptions



Components Plan:

5-Emergency Level Designations

6-Command Structure

7-Emergency Communication

8-Drills and Training



Components Plan:

9-Plan Maintenance

10-Version Control

11-Appendices

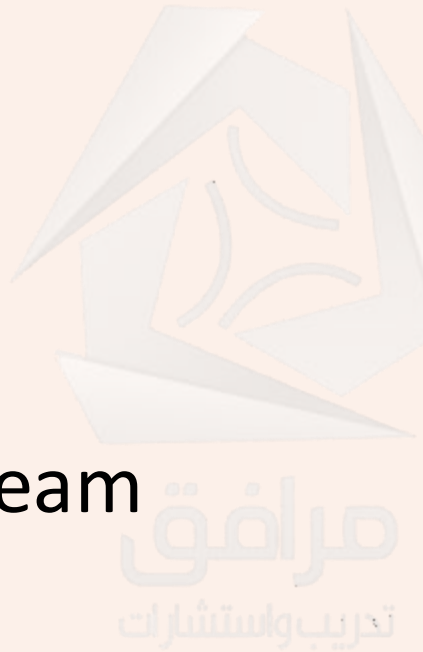
12-Emergency Supplies



مرافق
تدريب واستشارات

Planning in Leased Facilities

Coordination with
Property Management
Emergency Response Team



Role of FM

- 1-Developing ERP
- 2-Testing and Drills
- 3-Support Risk Management



3-Disaster Response and Recovery



مرافق
تدريب واستشارات

Steps for Recovery:

- 1-Contact and Coordinate
- 2-Evaluate Loss
- 3-Plan for Cleanup and Demolition



Steps for Recovery:

4-Rebuild for the Future

5-Business Continuity Integration



Chapter 4

Business Continuity and Facility Resilience



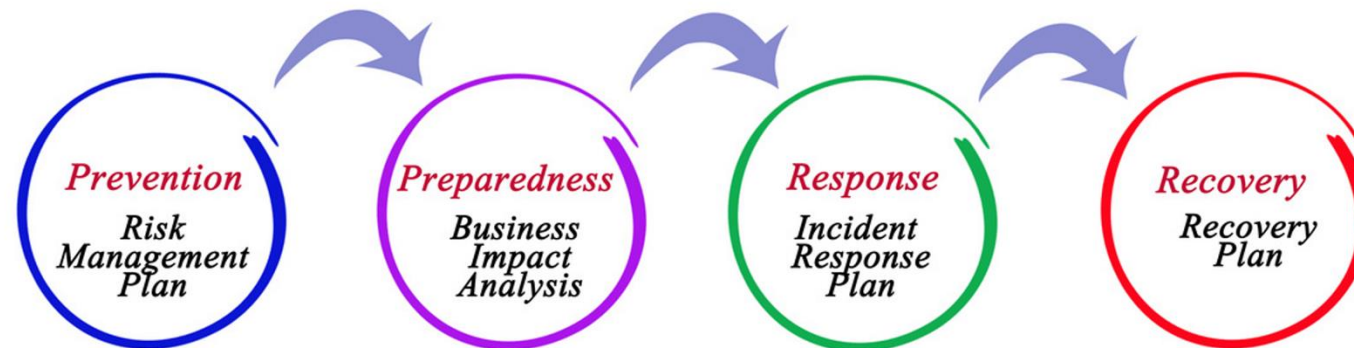
Contents:

- 1-Business Continuity
- 2-BC Concepts and Terms
- 3-BC Plan
- 4-Professional Practices
- 5-Facility Resilience



1-Business Continuity

Business Continuity Planning Process



Business Continuity Standards

ISO 22301

مرافق
تدريب واستشارات



Priorities in Crisis (Robert Hall's)

Safeguard People

Stabilize Essential Processes

Support Recovery

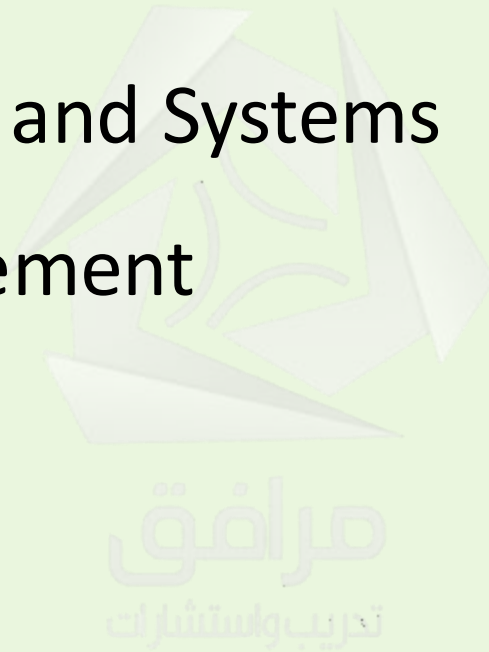


FM Role in Business Continuity

Identify Critical Functions and Systems

Work with Senior Management

Engage Stakeholder

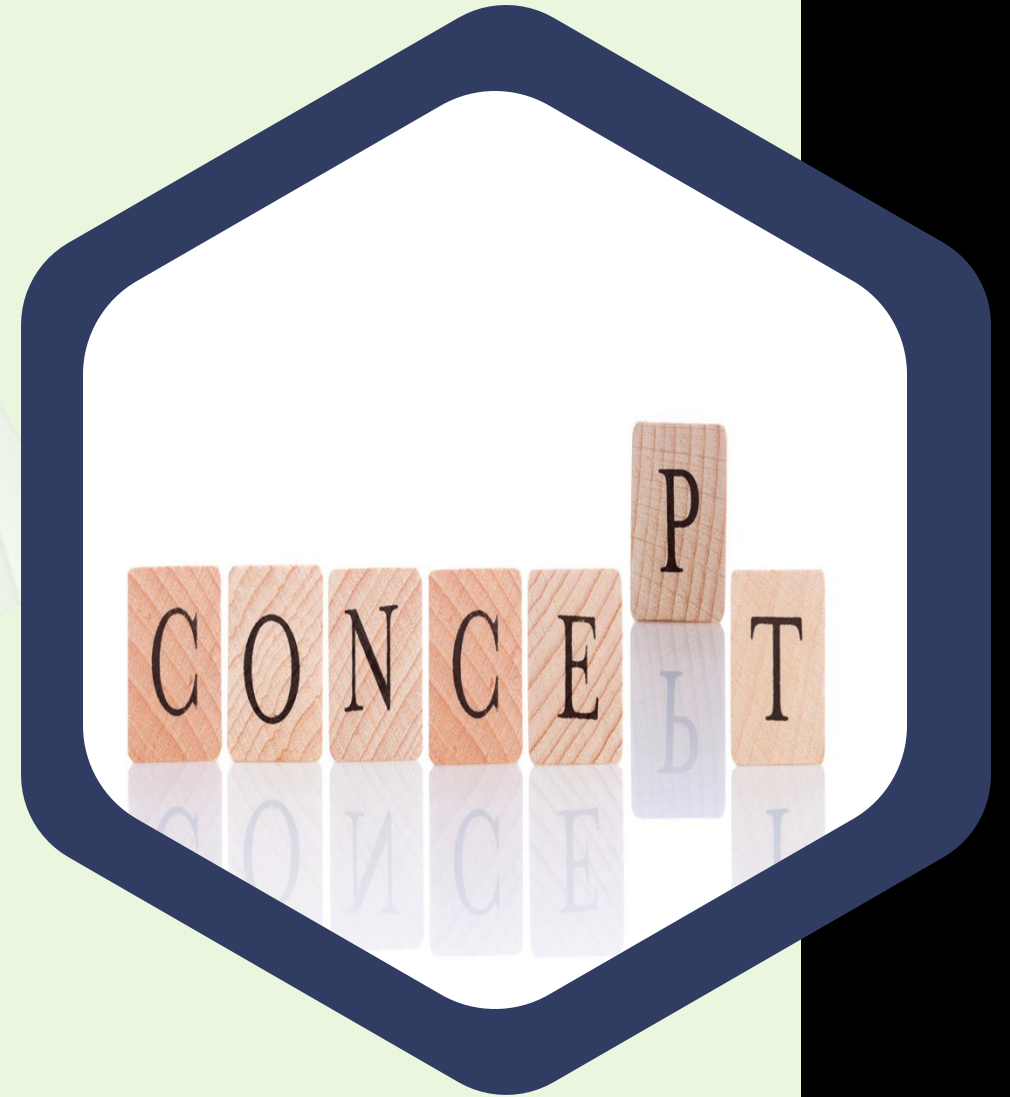


Business Continuity Program

- 1-Mission Alignment
- 2-Management Commitment
- 3-Risk Tolerance
- 4-Departments Collaboration
- 5-Decision-Making Structures



2-BC Concepts and Terms



Minimal Level of Performance Analysis

Identify essential functions

Define recovery time

Arrange temporary Solution



Continuity Requirements Analysis

Determine tangible & intangible needs

Prioritize essential requirements

Contingency Strategies

Workforce Strategies

Equipment and Services

Outsourcing



Alternate Workspaces



Cold site

- Little or no equipment
- No network connectivity
- Not ready for automatic failover
- No data synchronization
- High risk of data loss
- Cheap



Warm site

- Partially redundant equipment
- Network connectivity is enabled
- Failover occurs within hours or days
- Daily or weekly data synchronization
- Minimum data loss
- Cost-effective



Hot site

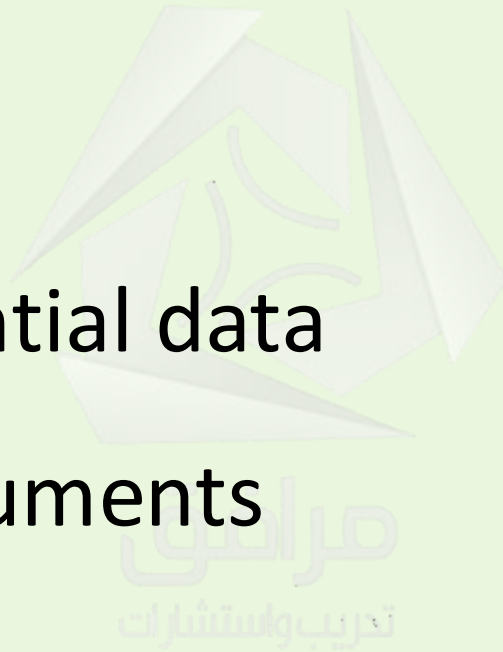
- Fully redundant equipment
- Network connectivity is enabled
- Failover occurs within hours or days
- Near real-time data synchronization
- Zero data loss
- Expensive

Data and Document Continuity

Coordinate with IT

Regularly review essential data

Preserve essential documents



Reconstitution

Plan back to normal

Define acceptable



3-Business Continuity Plan



مرافق
تدريب واستشارات



Key Components of a BCP

1-Plan Activation Triggers

2-Function Prioritization

3-Requirements for Resuming Functions

4-Contingency Operation Plans

Key Components of a BCP

5-Processes to Normal Operations

6-Data and Documentation Continuity

7-Training and Preparedness

8-Evaluation and Audits

Drive-Away Kits

Hard copies of the BCP
emergency contact lists
Temporary work supplies
Emergency response supplies



4-Professional Practices for BC

مرافق
تدريب واستشارات



After catastrophic event

40%

Never reopening

90%

Failing one year if disruptions last five or more days

مرافق

Best Practices for BC

- 1-Identify and Document Critical Systems
- 2-Develop Consistent Responses
- 3-Review and Update Continuity Plans
- 4-Test and Communicate the Plan

5-Facility Resilience



مرافق
تدريب واستشارات



Achieved by risk management program that includes:

Emergency preparedness

Disaster response and recovery plans

comprehensive BC Program

مرافق
تدريب واستشارات

Key Pillars :

Identify essential functions

Implement steps meet recovery time



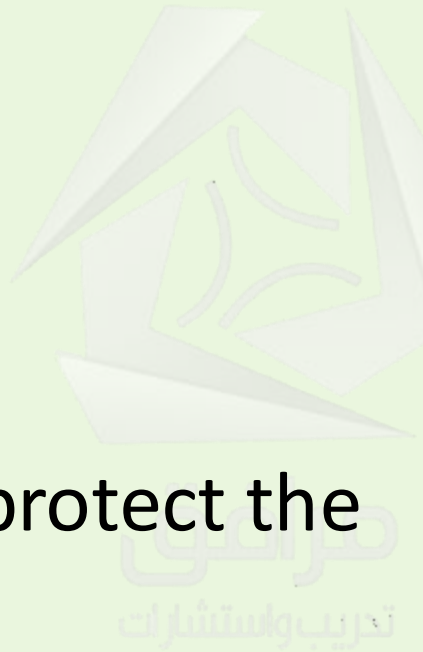
Preparedness as a Foundation

proactive investment in

EP & BC

programs insurance to protect the

organization's Assets



Impact of EP and BC Plans

Protect organizational

Ensure compliance

Foster proactive communication and
teamwork



Benefits of Facility Resilience

Operational Continuity
Stakeholder Confidence
Cost Reduction
Cultural Shift

