

6. HEALTH AND SAFETY MANAGEMENT SYSTEM

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1. Safety Policy

- From the conceptual design of a Project, the Owner set out the Project Safety Policy which covers the design and construction phases as well as the operation and maintenance phase since the key criteria is a project to be safely operated.
- **Project Safety Policy will set:**
 - a) the main goals such as for zero accidents to people, environment, project and properties
 - b) the main requirements such as ALARP =Aslow As Reasonably Practicable
HSP, HSF, HAZOP / HAZID, QRA, HS Coordination during design and during construction and minimum H&S organization is a term from Risk Assessment Study.
- **In this presentation we deal with H & S Plan and H & S Files which are the main management tools of Health and Safety on site.**
- **Owner / Project Supervisor, are responsible for Safety and Health on Site, despite the nomination of a person responsible for the coordination of Health and Safety by the Contractor.**

2. European Legislation

- **European Directive 89/391/EEC**, 1989 set up the framework for H & S policy and establishes minimum requirements H & S in all European Countries. The Member States retain the right to adopt stricter rules.
- **European Directive 92/57/EEC**, 1992, lays down minimum Safety and Health requirements for temporary or mobile construction sites and establishes Health and Safety Coordinators during Design phase and during Construction of a Project.
- A wide variety of EU Directives setting out minimum Health and Safety requirements for the protection of the workers, exists.

A list of EU Directives sorted by topics:

- **1. Workplaces, equipment, signs, personal protective equipment.**
 - Directive 2009/104/EC – use of work equipment
 - Directive 99/92/EC – risks from explosive atmospheres
 - Directive 92/58/EEC – Safety and/or health signs
 - Directive 89/656/EEC – use of personal protective equipment
 - Directive 89/654/EEC – workplace requirements

- **2. Exposure to chemical agents and chemical safety.**
 - Directive 2009/161/EU – indicative occupational exposure limit values
 - Directive 2009/148/EU – exposure to asbestos at work
 - Directive 2006/37/EC - indicative occupational exposure limit values
 - Directive 2004/37/EC – carcinogens or mutagens at work
 - Directive 2000/39/EC - indicative occupational exposure limit values
 - Directive 98/24/EC – risks related to chemical agents at work
 - Directive 91/322/EEC – indicative limit values

3. Exposure to Physical Hazards.

- Directive 2013/35/EU – electromagnetic fields
- Directive 2006/25/EC – artificial optical radiation
- Directive 2003/10/EC – noise
- Directive 2002/44/EC – vibration
- Directive 96/29/Euratom – ionizing radiation
- Directive 2000/14/EC – noise – equipment for use outdoor

4. Exposure to biological agents.

- Directive 2000/54/EC– biological agents at work

5. Provisions on workload, ergonomical and psychosocial risks.

- Directive 90/270/EEC – display screen equipment
- Directive 90/269/EEC – manual handling of loads
- Directive 2003/88/EC – working time

6. Sector Specific and worker related provisions

- Directive 92/57/EEC – temporary or mobile construction sites
- Directive 92/91/EEC – mineral – extracting industries – drilling
- Directive 94/33/EC – young workers

Each Member State has modified and deepen its Legislation adopting Directives and other European standards.

* At European Agency for Safety and Health at Work website you can find specific information for the matter.

3. HEALTH AND SAFETY PLAN

- Health and Safety Plan prepared during Basic and Detailed Engineering is the base for the Construction Health and Safety Plan.
- Contractor is responsible for Revision according to the actual situation established on site, before any construction activity.
- Supervisor review and approve Contractor's issue.
- The contents of a H & S Plan may have the following sequence:
 1. GENERAL PART
 - 1.1 PROJECT DATA
 - 1.2 TECHNICAL DESCRIPTION OF PROJECT
 - 1.3 SEQUENTIAL WORK BREAKDOWN
 - 1.4 HEALTH & SAFETY POLICY & GOALS
 - 1.5 PROJECT ORGANIZATION STRUCTURE
 - 1.5.1 HEALTH AND SAFETY ROLES & RESPONSIBILITIES

1.6 GENERAL HEALTH AND SAFETY RULES ON SITE

1.7 ADDITIONAL INFORMATION REQUIRED BY P.D. 305/96

1.7.1 PEDESTRIAN AND VEHICULAR TRAFFIC

1.7.2 VISITORS

1.7.3 WELFARE FACILITIES

1.7.4 FIRST AID ARRANGEMENTS

1.7.5 SITE HOUSEKEEPING

1.7.6 SITE POWER SUPPLY

1.8 HAZARDS AND CONTROL MEASURES

1.8.1 GENERIC RISK ASSESSMENT

1.9 SAFETY ADMINISTRATION AND MANAGEMENT

1.9.1 SAFETY RECORDS

1.9.2 SAFETY TRAINING

1.9.3 MEDICAL MONITORING

1.9.4 HYGIENE

1.9.5 FIRST AID

1.9.6 FIRE SAFETY

1.9.7 SAFETY SIGNS

1.9.8 PERSONAL PROTECTIVE EQUIPMENT

1.9.9. MATERIAL STORAGE

1.9.10 SMOKING POLICY

1.9.11 POLICY OF MOBILE PHONE USE

1.10 RESPONSIBILITIES OF SUPPLIERS & SUBCONTRACTORS

1.10.1 SUPPLIERS' RESPONSIBILITIES

1.10.2 SUBCONTRACTORS' RESPONSIBILITIES

2. PROJECT SPECIFIC PART

2.1 SAFETY MEASURES DUE TO SITE SPECIFIC CONDITIONS

2.2 ADDITIONAL INFORMATION REQUIRED BY P.D. 305/96

2.2.1 ACCESS TO SITE

2.2.2 SITE MASTER PLAN

2.3 HAZARDS AND CONTROL MEASURES DURING PROJECT WORK PHASES

2.3.1 SAFETY INSTRUCTIONS FOR

2.4 CONSTRUCTION METHOD STATEMENTS & WORK SPECIFIC RISK ASSESSMENTS

2.4.1 LIST OF MINIMUM REQUIRED CONSTRUCTION METHOD STATEMENT

2.4.2 LIST OF MINIMUM REQUIRED WORK SPECIFIC RISK ASSESSMENTS

2.5 EMERGENCY RESPONSE PLAN

3. APPENDICES

4. HEALTH AND SAFETY FILE

- With the completion and handing over of the Project H & S File will contain all necessary information to provide the operators concerning safety operation and maintenance of the project.

- The H & S File will consist of two main parts.
 1. The detailed project file as requested by law (Greek Law PD 305/96)
 2. A manual that will contain the most critical H & S information and guidelines for operation and maintenance throughout decommissioning of the project.

The contents of a H & S File may have the following sequence:

1. GENERAL PART

- 1.1 PROJECT DATA
- 1.2 TECHNICAL DESCRIPTION OF PROJECT
- 1.3 KEY STRUCTURAL PRINCIPLES
- 1.4 HAZARDS ASSOCIATED WITH THE MATERIAL USED
- 1.5 BASIC DESIGN PARAMETER
- 1.6 LIST OF DRAWINGS
- 1.7 LIST OF SERVICES
- 1.8 DESIGN INHERENT HAZARDS AND CONTROL MEASURES
 - 1.8.1 GENERIC RISK ASSESSMENT
- 1.9 SAFETY INFORMATION FOR FUTURE ALTERATIONS

2. SAFETY INSTRUCTION FOR MAINTENANCE WORKS

- 2.1 PREVENTIVE MAINTENANCE SCHEDULE
- 2.2 SAFETY MAINTENANCE INSTRUCTIONS
 - 2.2.1 MAINTENANCE INSTRUCTIONS FOR
- 2.3 EMERGENCY RESPONSE PLAN SPECIFIC INSTRUCTION

3. APPENDICES

5. AUDIT

- Supervisor is responsible for monitoring the review of all Safety Management elements and the Construction Safety on Site .

Systematic Inspections certifying compliance of procedures by the Contractor.

- By the beginning of the construction, the H&S Audit method shall be established and mutually agreed by all parties (Owner, Supervisor, Contractor)