

Preparation of a HSE Manual for Pre commissioning And Commissioning Of Process Plants

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ABSTRACT

As indicated by health and safety executive, "Managing health and safety is minimal not the same as dealing with another part of your business. You have to do a risk assessment to get some answers concerning the risks in your work environment, put sensible measures set up to control them and verify they stay controlled." To control these risks, each industry must set up a complete HSE manual. Safety of workers is of most extreme vitality to an industry for smooth working of the organization. A suitable safety manual will make a healthy environment for both the supervisors and workers.

INTRODUCTION

The foundation of any quality workplace safety and health program is the documentation of its policies and procedures. A Good HSE manual, composed particularly to address an organization's operations, serves as the aide for the majority of employees. Preparing a HSE manual which is taken as a baseline for managing safety at site to mitigate/ reduce accidents and injuries and to improve employee's safety performance is considered as the top priority work in a process industry.

At LTHE, Development of a detailed Health, Safety and Environment (HSE) manual to be followed at all commissioning sites, including mishap reporting and investigations must be done promptly. The HSE Manual which should be prepared must provide the guidelines for the occupier of the commissioning site.

- Identifies key features of HSE management process rules which an occupier must understand and comply with.
- Explains about the Group's HSE goals, objectives and culture.
- Provides an overview of how the organization expects the occupier to work safely using the processes which form the elements of our Management System.
- Lists issues concerning safety with which the occupier need to become familiar when he/she join a worksite.
- Identifies the industry's collective responsibilities and the role of the HSE departments with regards to HSE management.
- Empowers the occupier to address unsafe conditions in the work place or to stop unsafe behavior by work colleagues.
- Promotes the reporting of all near miss incidents, damage, illnesses and injuries so that the company can learn from any mistakes and make improvements.
- Provides lists of topics to help assess the risks associated with work tasks and to assist the employer when involved in toolbox talks or similar.
- Leads the employer in maintaining the safety by listing the key safety actions which should be taken during an emergency.

While the objective of the company is to conduct its operations and process safely, protect the health of all employees, it is the duty of all employees to exercise personal responsibility and to co-operate in preventing harm to themselves, others and environment. Preparing a Health, Safety and Environment Manual and its implementation will achieve this objective without any difficulty.

METHODOLOGY USED TO PREPARE THE MANUAL

SEQUENCE OF STEPS

The sequence of steps used to prepare the HSE Manual is described below in steps.

1. Hazard Identification

Identifying all known hazards in the commissioning site that need documentation. This will establish the scope of the HSE manual. In the case of this manual, all the hazards from the Commissioning Site were identified and included in the manual.

2. Adopting Industry Standards

Gathering the appropriate industry standards. Organizations such as the OISD, OSHA, NFPA, and ANSI produce standards for areas such as Process Safety Management, Fire Risk Control etc. These standards provide a starting place for company HSE manuals in these areas.

3. Adopting Government Acts/Regulations

Following any government regulations for HSE manual content. HSE manuals may oblige Government Acts and Regulations such as Factories Act (1948), EPA (1986) for specific practices and methods and may likewise stipulate what, at least, the manual must cover.

4. Employee Involvement

Involving management and employees in preparing the manual. The manual will be more accepted within the company if management and employees are involved in its adoption. Upper administration ought to educate employees of the requirement for the manual, and employees themselves can help for the preparation of manual.

5. Issue Prioritization

Prioritizing the issues the manual should cover. The most basic safety issues ought to serve as the manual's main focus. Preliminary issues ought to be incorporated, exhibited preceding the primary issues, while related issues that are not essentials ought to be secured after the primary issues.

6. Risk Analysis

Analyzing operations to identify all risks. Reviewing the safety precautions of all documents provided with any process to determine what risks are present, both for operating personnel and for lookers-on at the site.

7. Safety Instructions

Developing a detailed, written plan for avoiding accidents. Making sure to cite manufacturer guidelines when using them to develop safety instructions for a process, equipment or machinery.

8. Forms and Checklists

Collecting all the necessary forms for reporting accidents and safety violations, as well as Training forms Permit forms, Checklists. These will also be included in the manual.

9. Rules and Procedures

Creating a Safe Work Rules and Practices section. This includes Standard Job Procedures for Operating Personnel and also the Contractors working in the site.

10. Sections of the Manual

Breaking down the sections of the manual that will be discussed. This will generally be the last portion of the manual to actually be completed. Creating it initially will help to determine the different sections of the manual.

ASPECTS COVERED IN THE HSE MANUAL

The HSE Manual for Pre-commissioning and Commissioning is done by referring and adopting the international standards such as OISD, OSHA, ANSI, NFPA and Regulations/ Acts such as Factories Act (1948), EPA (1986) and also the company guidelines for Health, Safety and Environment. A brief description of safety aspects and the standards and acts which they are adopted are discussed below.

1. HSE GOVERNANCE

HSE Governance within the company is done by understanding the HSE Policy and commitments of the organization in terms of HSE. Reviewing the HSE Policy of LTHE and the Organogram of HSE Department is also included in the Manual.

The Basic Rules and Codes for Operating Personnel and Contractors in the commissioning sites are adopted from the respective documents available in the company.

The Roles and Responsibilities of Personnel working in the Pre-commissioning and Commissioning Site is observed from the site and included in the manual. The Roles and Responsibilities of the Safety Personnel is adopted from Factories Act (1948), Chapter II, Sections 7A, 7B, 8 & 9.

2. OCCUPATIONAL HEALTH MANAGEMENT

Occupational Health Management in the commissioning site is included in the HSE Manual. It is done by adopting the standards which are available with the company such as LTHE's OHSE Manual.

The Provisions included in this section are Workplace Noise, Vibration, Lighting, Heat Stress, Dust, Asbestos, Chemicals, Hydrogen Sulphide, Paints and Coatings, Ergonomics, Manual Handling, Stress, Health Education and Training, First Aid Management, Hygienic Medical Surveillance Monitoring.

3. SAFETY MEASURES

Safety Aspects considered during Pre-commissioning and Commissioning are included in the manual by adopting the Standards along with the Learning from the commissioning site visits.

ENVIRONMENT ASPECTS

The following Environment Aspects are discussed during the preparation of the Manual. The Points described are mostly referred from the following Acts/Rules.

- The Water prevention and Control of pollution Act, 1974
- The Air Prevention and Control of Pollution Act, 1981

- The Environmental Protection Act, 1986
- Hazardous Waste Management and Handling Rules, 1989
- The Noise Pollution (Regulation and Control) Rules, 2000

RESULT

Prepared a Health, Safety and Environment Manual for Pre-commissioning and Commissioning Project Sites according to HSE requirements needed for petrochemical industry in compliance with local and international standards applied in petrochemical sector.

CONCLUSION

Safety of employees is the prime concern in an industry. The main goal is to prevent the Accidents happening in the industry due to negligence of safety aspects. These HSE Manuals are a key tool in the ongoing battle against Accidents and Injuries. Considering all the health risks to employees, hazards, unsafe acts and conditions, environment management measures the HSE Manual for Pre-commissioning and Commissioning Sites is prepared. The Appropriate Standards from the Agencies and the Acts, Rules and Regulations applicable to the activities in the industry are suitably referred in the course of preparing the manual. The HSE manual is used to ensure that all aspects of HSE are incorporated in design resulting in a safe, dependable, operable and viable plant throughout the Pre-commissioning and Commissioning Phase of the Project.

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