



Environmental Legal Obligations at Chemical Manufacturing Industry

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ABSTRACT

Industrial operations can have a harmful impact on the environment. All chemical production operations consume raw materials and consumables from every component of the environment. It is obvious that the damages caused by chemical industry activities are not solely attributable to industrial processes but also to natural resource exhaustion. To implement an Environmental Management System and obtain ISO 14001 certification, a firm must first identify and comply with all applicable compliance obligations. The aim of this work is to ensure compliance with all legal obligations applicable, and it begins by identifying obligations and specifying the requirements and actions required for each. Then determine whether or not certain compliance duties apply to them. Then Preparation of documents, i.e., legal register, waste management matrix, and monitoring plan are executed. This is accomplished by determining environmental elements in order to confirm which compliance duties are applicable. Other than this, referring to previous data, consents, notices, latest amendments, standards, norms, permits, and continual monitoring helps in compliance with these legal requirements effectively. At the initial stage, a gap analysis report is prepared in which scope to improve is suggested to fulfil these gaps by the end of the external audit. All the legal requirements are noted in the legal register. After completion of all the documents and internal and external audits, a final discussion is held. This study certifies that compliance of all legal obligations applicable to the given case company was successfully completed and it was certified for the same. Complying with the legal requirements not only increases the company's performance but also helps in the prevention of pollution and environmental degradation.

Keywords: ISO, Chemical Industry, Organization, Compliance, Legal requirement, Audit, Obligations.

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INTRODUCTION

Industrialization has the ability to aid in the achievement of a number of social goals, including job creation, poverty eradication, gender equality, labour standards, and improved access to education and healthcare. At the same time, industrial operations can have negative environmental consequences, such as climate change, natural resource depletion, air and water pollution, and species extinction. (1) These put the world's environment, as well as economic and social well-being. As a result, environmental obligations must be met. Obligations are Something you are required to do as a result of a law or set of laws (2).

A legal agreement between private and public entities that establishes a responsibility to protect the environment from the organization's actions, products, or services, as well as threats that could affect the environment, is known as an Environmental obligation.

Chemical industry is a collection of processes, operations, and businesses that make chemicals and their derivatives. The chemical industry is widely known as one of the most powerful sources of pollution in the environment (3). Because all chemical production operations consume raw materials and consumables from every component of the environment, it is obvious that the damages caused by chemical industry activities are not solely attributable to industrial processes, but also owing to natural resource exhaustion.

Meeting the requirements of Laws, Regulations Designed to protect the Environment Controlling Environmental Pollution and the associated risk to Human Health (4). Organizations want to Achieve in their efforts to ensure that they are Aware of & take Steps to comply with Relevant Laws, Policies, and Regulations for the certification of EMS(ISO14001).

According to ISO 14001

- To implement an Environmental Management System and obtain ISO 14001 certification, a firm must first identify and comply with all applicable compliance obligations.
- Organizations begin by identifying compliance obligations and specifying the requirements and actions required for each.
- Then, enterprises must determine whether or not certain compliance duties apply to them. Following the determination of compliance duties, the organization must decide how it will engage with the environment.
- This is accomplished by determining environmental elements in order to confirm which compliance duties are applicable.

The pollution resulting from industrial activities, which results in gas emissions, wastewater polluting natural ponds and underground water, solid and slurry waste polluting the soil and underground water if not treated, is the primary impact of the chemical industry on the environment and lifestyle (5). As a result, it was evident that worldwide solutions were needed to limit industry's negative impact on environment and, to the extent possible, restore natural conditions (6).

MATERIAL AND METHODS

Initial review -

It is important that the Top Management and the personnel of the company are completely involved in compliance of all Legal Requirements and giving their best to work up on. Initial review is conducted for assessing the information that is relevant.

Analysis made during the review is as under:

- Identification of the Legislative and Regulatory Requirements.
- Existing Management Practice.
- Existing environmental protection;
- Identification of existing procedures, documents;
- Identification of the products made.

At the end, the existing Gap identified and a gap audit report is submitted to the company. This is done to help the company to fulfil the gaps.

Identification of Legal requirements -

Identification of all the Legal requirements of the company is the first & foremost thing to do in Compliance.

Documentation-

Based on the inputs received during the company visit, forms, consents, & standards set, following documents are prepared.

Gap analysis report -

The existing Gap identified and a gap audit report is submitted to the company. This is done to help the company to fulfil the gaps.

Waste management matrix -

Identifying the types of waste generated from the company, it is recorded and is verified with the consent quantity issued by the regulatory authorities. Disposal methods, PPE handling, Manifest, TREM Card requirement, all these factors are taken into consideration while preparing Waste management matrix. (Table 1).

Legal register -

After identifying all the legal requirements, it is further classified into obligations required under each act or rule and the documents required like records, log books, forms. Thus, taking all the obligations into consideration this document is prepared. This document helps organization in identifying obligations and for proper compliance of these obligations.

Environment Monitoring Report (EMP)

This document helps in efficient monitoring of the plant according to the emission & waste water standards/ Norms set by the regulatory authority are followed and maintained by the organization or not.

Review of Documents -

After completion of these documents, it is reviewed by all the respective departments for the efficiency and corrections to be rectified.

Result & Discussion

A Waste Matrix Plan is a document that keeps track of the waste generated by a company. It includes the waste's name, consent quantity, unit of measurement, waste category number, disposal method, source of generation or department, personal protective equipment (PPE) requirement, and manifest requirement for handling. It also specifies the legal obligations that apply to a specific waste category, such as ETP waste, under the Hazardous Waste Rules, 2016, and so on.

Table1 :Waste Matrix Report -

| Waste Name | Consent Quantity (MT/Y) | Legal Obligation | Disposal Method | PPE Required, Manifest Required, Labeling, TREM Card |
|----------------------|-------------------------|------------------|-----------------------|--|
| ETP Waste | 4800 | HWR 2016 | Secured Landfill Site | Yes Yes Yes Yes |
| Distillation Residue | 4200 | HWR 2016 | CHWIF | Yes Yes Yes Yes |

Here,

HWR= Hazardous Waste Rule

TREM Card= Transfer Emergency Card

CHWIF=Common Hazardous Waste Incineration Facility.

Table 2 :Environment Monitoring Report -

| No | Environment Performance Indicator | No. of Samples | No. of Parameters | Consent Limit |
|----|-----------------------------------|----------------|--|----------------------|
| 1 | Ambient Air Quality | 3 | PM 2.5, PM 10, NO _x , SO _x | as per consent under |
| 2 | Water Consumption | 1 | Quantity | 1432 |
| 3 | Effluent Generation Quantity | 1 | Quantity | 265 |
| 4 | Stack Emission | 13 | PM, SO ₂ , NO _x ,VOC | as per consent under |

Environment Monitoring Report -

Environment Monitoring Report helps in efficient monitoring of the plant according to the emission & waste water standards/ Norms set by the regulatory authority are followed and maintained by the organization or not. It includes Environment performance indicator, No. of samples, No. of parameters, Consent limit. With the help of this document, we can Comply with the legal requirements effectively. (Table 2).

Conclusion

Significance was on compliance of environmental policy, legal requirements of the organization. Compliance of all Legal Obligations applicable to the given case company was successfully completed.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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