

Implementation of Safety and Health Management System in a Fire Factory in Kosambi Tangerang

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Abstract - The purpose of this study is to analyze the steps of HSMS as the concept of Occupational Health Safety (OHS) which prioritizes prevention efforts against the occurrence of occupational accidents caused by Occupational Safety and Health Hazards (OSHH) in the workplace. This research is descriptive and analytic, which is completely explaining the steps of HSMS as well as the reasons, objectives, responsibilities, and organization, and identification of OSHH and OHSC. The conclusion of this article is that HSMS is part of the overall management system which includes organizational structure, planning, responsibility, implementation, achievement, assessment, and maintenance of occupational safety and health policy in the framework of risk control related to work activities for the creation of workplace that is safe, efficient and productive. So, the implementation of HSMS is very urgent to be implemented according to the procedures in Indonesian companies.

Keywords - HSMS, OHSC, OSHH, Accident, Company, and Prevention.

1. Introduction

The Indonesian people have been overwhelmed by the deadly tragedy in the form of a fire at a fireworks factory in SMPN I Road, Belimbing Village, Tangerang District, Banten, Thursday

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(26/10/2011) morning with 23 people killed and dozens more injured, is an indicator that implementing the steps of HSMS on an ongoing basis becomes very urgent in an effort to prevent or minimize similar incidents. Based on data from the Social Insurance Administration Organization (BPJS) of Employment, the number of workplace accidents in Indonesia reported every year is very worrying, that is, during the year 2015, there have been 105,182 cases of work accidents with 2,375 dead victims. This condition is more or less the same in 2016, where until the end of November there were 101,367 cases with the death toll of 2,382 people. The above figures do not reflect the real condition, because not all the companies are participating in the BPJS program, as of November 2016 only 359,724 companies are registered with BPJS, even though the companies are already registered in the BPJS program, in fact not all workers are registered and become BPJS participants.

Referring to Domino Theory, Heinrich [1] issued a concept that paid attention to accidents, which states work accidents (e.g. fire) can occur due to a deficiency in the work environment or labor mistakes, domino impact recognizes unsafe conditions and unsafe act. Unsafe conditions are found in the fireworks factory that burns fires at the plant is triggered by short-circuiting electrical, large explosion triggered by a fire that concerns the chemicals inside the plant. And there is no or at least less evacuation path at the time of the fire causing casualties and injured very much, unsafe acts are also found in the burning kosambi firecrackers, the unsafe act is: a) factory management does not implement the steps of HSMS; b) does not accurately identify OSHH; or c) does not meet OHSC to prevent fire.

HSMS is an activity to guarantee and protect workers' safety and health by eliminating, minimizing OSHH to prevent work accidents and occupational diseases in a planned, measurable, structured and integrated manner. HSMS has an integrated liability pattern (totally lost control) which is a policy pattern that aims to avoid losses for companies, property, personnel in the company and environment through the application of HSMS

which integrates human resources, materials, tools, processes, materials, facilities and environment with pattern of application of management principles i.e. planning, implementation, check, and action [2]. From the background of the problem, this article will analyze whether implementing the steps of HSMS can prevent accidents and health problems caused by work in a company.

2. Method

This research is descriptive and analytic, completely explaining how the implementation of HSMS steps, identify and cope with OSHH or meet OHSC in an effort to prevent accidents and health problems due to work, for further analysis by using empirical juridical approach. The empirical juridical approach is intended to find out the operational methodological basis of how steps in the effort to implement HSMS identify and tackle OSHH or meet OHSC in companies in Indonesia.

3. Discussion

A. The Health and Safety Management System (HSMS) Steps

1. Organizing Committee of Occupational Safety and Health (OCCSH) as Organization of HSMS

OCCSH is an organization to implement the steps of HSMS activities in the form of: the establishment of Occupational Health Safety (OHS) policies, OHS planning, OHS monitoring and evaluation, review and improvement of OHS performance, OCCSH tasks provide suggestions and considerations whether requested or not to the employer or management regarding occupational safety and health issues [3]. The function of OCCSH is to collect and process data on OHS at work, to help show and explain to every worker, including various hazard factors in the workplace which may cause safety and health problems, including fire hazard, blasting and handling entrepreneur related to OSHH and OHSC.

2. Sources of Occupational Safety and Health Hazards (OSHH) According to the Type of Working Activities

The location of OSHH, may lie on land, in soil, on the water surface, in water or in the air, within the territory of the Republic of Indonesia (Article 2 paragraph (1) of Law of the Republic of Indonesia No. 01 of 1970 on Work Safety, hereinafter referred to as Law 01/1970), and according to Article 2 paragraph (1) Law 01/1970 OSHH workplace according to the type of work activities among others:

- a. Made, tried, worn or used by machines, aircraft, appliances, tools, equipment or installations that are dangerous or may cause accidents, fire or explosion;
- b. Made, processed, used, traded, transported or stored explosive, flammable, biting, toxic, infectious, high temperature;
- c. Work on the construction, repair, maintenance, cleaning or demolition of houses, buildings, including irrigation buildings, underground ducts or tunnels and so on or where preparatory work is undertaken;
- d. And others [4].

3. Terms of Occupational Safety and Health (OHSC)

Referring to OSHH as outlined in the legislation, especially Article 3 paragraph (1) of Law 01/1970, it has been stipulated the safety and health requirements (OHSC) is prevention of accident or occupational diseases caused by OSHH, the type of prevention effort in question, among others: a) prevent and reduce accidents; b) prevent, reduce and extinguish fires; c) prevent and reduce the dangers of blasting; d) provide an opportunity or escape route during fire or other dangerous events; e) provide assistance in accidents; f) provide self-protection equipment to workers and others [5].

4. Objectives and Responsible Management System Health and Safety (HSMS)

The objectives and targets of HSMS are to control the risks associated with work activities for the creation of a safe, efficient and productive workplace. While the purpose of OHS is the effort to eliminate, to minimize OSHH to prevent work accident and work-related diseases in a planned, measurable, structured and integrated.

According to Widayana and Wiratma [6], the objectives and targets of HSMS, which is to create a safety and health system in the workplace by involving elements of management, labor, conditions and an integrated work environment in order to prevent and reduce accidents and diseases due to work, and the creation of a safe, efficient and productive workplace. According to Suma'mur [7], the purpose of OHS is: protecting labor for the right of salvation in performing work for the welfare of life and increasing the production and productivity of society, ensuring the safety of everyone else on premises, the source of production kept and used safely and efficiently.

According to Khakim [8], the main objective of OHS is to protect workers' safety and health in order to realize optimal work productivity, by preventing

accidents and occupational diseases, hazard control in the workplace, health promotion, treatment and rehabilitation, protecting workers from risk accidents, improving the workers' health, ensuring the safety and health of workers and people at work, ensuring that production sources are maintained and used safely and efficiently.

HSMS Organ is obliged to eliminate, reduce OSHH and make OHSC with the aim of preventing, minimizing, overcoming accidents, is a company, entrepreneur or company leader, and for implementation of OHS involve all worker or laborer. While the supervisor on the implementation of OHS is an official or officer appointed by the Minister of Labor, that is:

- a. OHS supervisor as a technical officer with special expertise from Ministry of Manpower; and
- b. Occupational Safety Expert as a specialized skilled engineer from outside the Department of Labor [9].

B. Implementation Steps of HSMS

According to Article 4 paragraph (1) Regulation of the Minister of Manpower No. 5 of 1996 on HSMS, the steps must be implemented by the company (corporation) in the implementation of HSMS, namely: (i) Establish policies, plan compliance policies, implementation objectives and targets, measure, monitor and evaluate performance, take action and prevent OHS and ensure commitment to HSMS implementation; (ii) Regularly review and improve the implementation of HSMS on an ongoing basis with the aim of improving OHS performance.

1. Determination of OHS Policy

Establishment of OHS policy conducted by employer must at least: Conduct an initial review of OHS conditions including (i) Identification of OSHH potential, risk assessment and control of OSHH; (ii) Comparison of the implementation of HSMS with other companies or sectors similar to OSHH; (iii) Review of causes and effects related to OSHH; (iv) Disputes and interruptions and the results of prior assessment relating to OSHH; (v) Assessing the efficiency and effectiveness of available resources in an effort to eliminate, minimize OSHH.

Occupational Safety and Health (OHS) Policy as outlined above must be a part of the Vision, Mission and Corporate Objectives supported by company's commitment and determination to apply vision, mission and purpose of OHS and followed up by making framework and work program covering company activities as a whole either general or is

operational in order to implement the OHS policy [10].

2. OHS Planning

OHS planning should be guided by OHS policy, which in its composition should consider: OSHH review, OSHH risk potential identification, assessment and risk control, Legislation on OSHH and OHSC, Resources to control OSHH risk and/or OHSC compliance. The OHS employer plan drafting procedure should involve OHS experts in accordance with OSHH in that company, OCCSH, Employee representatives, other Parties related to the company. OHS planning should contain OHS objectives and targets correlated with OSHH and OHSC, prioritized scales correlated with OSHH and OHSC, Hazard control measures correlated with OSHH and OHSC, OSHH and OHSC determination, OHS planning implementation period, OHS achievement indicators, OHS accountability system.

3. Implementation of OHS Planning

Implementation of OHS planning is done by an entrepreneur based on OHS plan supported by human resources in OHS field, infrastructure, and facilities. Human resources in the field of OHS must have: work competence as evidenced by workplace competence certificates containing OSHH, OHS authority is evidenced by a work permit or letter of appointment from an authorized agency to work in a workplace containing OSHH. OHS Facilities and Infrastructure at least consist of organization or unit responsible for OHS, adequate financial budget, working procedures, information and reporting and documentation, and work instructions [11].

Entrepreneurs in implementing the OHS plan must perform activities in compliance with OHS requirements which include: OSHH control measures, planning (design and engineering) to eliminate or minimize OSHH, Procedures and work instructions related to eliminating or minimizing OSHH, Delivery of some work to other parties who has expertise in eliminating or minimizing OSHH, Purchasing or procurement of goods and services in an effort to eliminate or minimize OSHH, Efforts to deal with emergencies in the event of workplace accidents due to OSHH, Plan and recovery of emergencies after work accident.

Entrepreneurs in meeting OHS requirements as outlined above should: Demonstrate human resources with OHS working competence and authority in understanding OHH and meeting OHSC; Involve all workers or laborers in an effort to prevent, combat accidents; Making OHS guidelines must be obeyed by all workers or workers or persons other than workers in the company and other related parties;

Establish procedures and information and reporting; and Documenting all OHS activities [12].

Activity killing requirements of OHS activities as described above must be integrated with all corporate management activities that are not less important information procedures on OSHH have been communicated to all parties inside and outside the company and information and reporting procedures communicated should include: a) Occurrence of workplace accidents; b) Conditions or attitudes of employers and workers not in accordance with OHS regulations or standards, OHS performance, OSHH and OHSC Identifies; c) Required to be performed by the company and all workers under the terms of the law on OHS or HSMS [13].

Companies should document: a) OHS regulations and standards in the field of OHS; b) OHS performance indicators; c) Work permit in place; d) Result of OHS risk identification, assessment, and control; e) OHS training activities; f) Inspection, calibration, and maintenance of all potentially OSHH-containing equipment; g) Recording of OSHH data logging; h) Results of workplace accidents and follow-up assessments; i) Identification of products including compositions containing OSHH; j) Information on suppliers and contractors potentially containing OSHH; k) OSHH audit and review and OHSC compliance [14].

4. *OHS Performance Monitoring and Evaluation*

Monitoring and evaluation of OHS performance, through HSMS internal audit, test, measurement and internal audits conducted by competent resources. In the event that the company does not have competent resources to conduct inspection, testing, measurement, and internal audit the company OHS may use the services of parties etc., OHS performance monitoring and evaluation results are used for corrective action. OHS performance monitoring and evaluation is conducted under OHS legislation [15].

5. *Review and Improvement of OHS Performance*

The purpose of OHS review and performance improvement is to ensure compliance and effectiveness of OHS implementation by reviewing OHS policy, OHS planning, OHS implementation, OHS monitoring, and OHS evaluation and monitoring results used to improve OHS performance.

Improvement of OHS performance are implemented in the following cases: a) Changes in OHS laws and regulations; b) There are demands from related parties or markets for improvement of OHS performance; c) Changes in the Company's products and activities potentially contain OSHH; d)

The occurrence of changes in corporate governance structures that affect the performance of OHS; e) Presence of scientific and technological developments including epidemiology potentially containing OSHH; f) Results of workplace accidents and employee reporting of OSHH [16].

6. *Health and Safety Development*

The construction of OHS is obliged to be done by a "caretaker" and that is a person who has duty to directly lead something towards workplace or its stand-alone part (Article 1 paragraph (2) Act 01 the Year 1970), and types of OHS coaching that must be executed by the board in relation with preventive efforts against accidents and occupational diseases according to Article 9 paragraph (1) to paragraph (4) of Law 01 the Year 1970, the Board is obliged to show and explain to each new worker: (i). The conditions and hazards and which may arise in the workplace; (ii). All safeguards and protective equipment required in the workplace; (iii). Self-protection tools for the workforce concerned; (iv). Ways and attitudes are safe in carrying out its work; (v). Hiring the relevant workforce after he/she believes that the workforce has understood the above conditions; (vi). Shall provide guidance for all workers under its leadership, in the prevention of accidents and fire prevention and improvement of OHS, also in the provision of first aid in occupational accidents; (vii). Shall comply with and comply with all the terms and conditions applicable to the business and workplace it carries on.

7. *HSMS Assessment, Audit and Supervision*

The purpose of HSMS assessment and audit is to ensure that a corporation or company has implemented HSMS measures as stipulated in Articles 2 to Article 18 of Government Regulation of the Republic of Indonesia, Number 50, Year 2012, concerning Implementation of Occupational Safety and Health Management System (PP 50, year 2012, Application of HSMS) appraisal and implementation of HSMS shall be conducted by an independent audit institution appointed by the Minister of Manpower on the application of the company, for companies with very high OSHH shall assess the application of HSMS in accordance with OHS legislation and assessment through HSMS audit.

C. *HSMS Audit*

Assessments through HSMS audit include: (i). Development and ensuring the implementation of the company's commitment to implement HSMS; (ii). Purchase and control of products potentially containing OSHH; (iii). Security works based on

HSMS; (iv). Skills development and ability to eliminate, minimize OSHH and meet OHSC in the effort to prevent, overcome accidents and other work.

HSMS audits are conducted by certification bodies designated by the Ministry of Manpower of the Republic of Indonesia to conduct HSMS audits or HSMS audit reports, audits are conducted by auditors of Certification Bodies issuing certificates passing HSMS certification audits, they will note any discrepancies or shortcomings related to HSMS in one company, this report will be provided by the auditor directly. The company will directly take corrective action, meaning that the report of HSMS audit findings should be disclosed immediately by the auditee of the company and the result of closing submit to the Minister of Manpower and Transmigration of the Republic of Indonesia to obtain a certificate of graduation and certification passed.

Article 7 and 8, Regulation of the Minister of Manpower No. 05 of 1996 on HSMS, regulate the HSMS audit mechanism as follows: (i). shall be implemented at least once every 3 (three) years; (ii) prepare an annual audit plan and submit it to the designated Minister or Officer, the workplace administrator to be audited and the local Regional Office of the Department of Manpower; (iii). Coordinate with the local Office of the Ministry of Manpower; (iv). Unit Bodies shall submit complete audit reports to the Director with copies addressed to the audited workplaces; (v). Referring to the OHS Management System Audit report, the Director conducts an evaluation and assessment; (vi). Based on the result of evaluation and evaluation in paragraph (3) the Director shall do the following: Provide certificate and award flag in accordance with the level of achievement; or instruct the Supervisor to take action if, based on the audit results, there is a violation of the law.

D. Supervision of HSMS Steps

The supervision of HSMS is carried out by the central, provincial, city or district labor inspector in accordance with its authority, the scope supervised by the HSMS supervisor is the HSMS activity steps in the form of OHS policy decisions, OHS planning, OHS monitoring and evaluation, OHS performance improvement, Health and Safety Development Committee as an HSMS organization at the company level.

E. Obligations of Entrepreneurs, Leaders, Workplace Officers in Implementation of HSMS Steps

According to Abdul Khakim (2003) [17], the duty of the company's workplace leader in relation to the HSMS measures is to identify OSHH in the workplace such as: (i). Made, tried, worn or used by machines, aircraft, appliances, tools, equipment or installations that are dangerous or may cause accidents, fire or explosion; (ii). Made, processed, used, traded, transported or stored explosive, flammable, biting, toxic, infectious, high temperature; (iii). Work on the construction, repair, maintenance, cleaning or demolition of homes, buildings or other buildings, including irrigation buildings, underground tunnels or tunnels and so on or where preparations and other work-related OSHH workplaces.

Carry out OHSC-related prevention and mitigation measures, namely: (i). Preventing and reducing accidents; (ii). Prevent, reduce and extinguish fires and blasting hazards; (iii). Provide an opportunity or escape route during a fire or other dangerous events; (iv). Providing help on accidents; (v). Providing free self-protection tools to workers of the type, quality, and quantity of OSHH; (vii). Providing help in the event of an accident; (viii). Providing free self-protection tools to workers and other OHS requirements of type, quality, and quantity in accordance with OSHH and OHSC; (ix). Ensure that workers use such personal protective equipment at the time of work identified where OSHH is located; (x). To provide an explanation and to indicate OSHH according to the type of work potentially causing OSHH as outlined in item 1 (one) above, and to explain, to train OHSC-related prevention and mitigation efforts; (xi). Report to the Office of the Ministry of Labor any workplace accidents or occupational diseases caused by OSHH or due to the absence of OHSC by workers or employers [18]. Comply with all OHS requirements whether they have been regulated in legislation or that have been determined by supervisory staff.

According to Article 14 of Law, Number 1, year 1970 the obligations of workplace management in relation to HSMS measures are: (i). Written in writing in its workplace, all mandated safety requirements, a law and all its implementing regulations applicable to the workplace concerned, in places that are easily seen and legible and according to the instructions of the regulator or safety expert work; (ii). Installing in the workplace he leads, all mandated safety drawings and all other coaching materials, in places that are easily seen and read according to the instructions of the regulatory officer or safety expert; (iii). Provide free of charge, all

personal protective equipment required by the workforce under its helm and provide for any other person entering the workplace, accompanied by required instructions according to the instructions of the regulatory or safety officer.

F. Workers' Rights and Duties in Implementing HSMS Steps

The objectives and targets of HSMS are to create an OHS system in the workplace by involving elements of management, labor and an integrated work environment in order to prevent and reduce accidents and occupational diseases and the creation of safe, efficient and productive workplaces (Article 2 Ministerial Regulation Manpower No. 5/1996).

In order to achieve the above objectives and targets of HSMS, one of them is by involving workers or workers/laborers, according to Article 12 of Law No. 1 of 1970, the rights and obligations of workers in an effort to create a place safe, efficient and productive work, are: (i). Provide correct information when requested by the supervisor or occupational safety officer; (ii). Use the required personal protective equipment; (iii). Comply with all mandated safety and health requirements; (iv). Requesting the Board to implement all required safety and health requirements; (v). To declare an objection to the work in which the terms of occupational safety and health, as well as the means of self-protection that it is required to be questioned, shall be accepted in certain cases specified otherwise by the supervisory officer within the limits which are still accountable [19].

4. Conclusion

HSMS is part of the overall management system which includes organizational structure, planning, responsibility, implementation, achievement, review, and maintenance of occupational safety and health policies in the context of risk control related to work activities for the creation of safe, efficient and safe workplaces productive.

The goals and objectives of HSMS are to create an OHS system in the workplace involving integrated management, workforce and workplace elements in order to prevent and reduce occupational accidents and diseases and the creation of safe, efficient and productive workplaces by guaranteeing and protecting safety and health of workers or laborers by eliminating, minimizing OSHH to determine occupational safety and health requirements (OHSC) is an effort to prevent accidental or occupational diseases due

to OSHH in a planned, measurable, structured and integrated manner.

The HSMS Organs which are obliged to eliminate, reduce OSHH and make OHSC for the achievement of HSMS goals and targets, are a. Companies incorporated as legal entities, non-corporate, private, state-owned, provincial, municipal or district government-owned; b. Entrepreneurs who run their own companies or with the help of workers; c. Entrepreneurs who run their companies by authorizing others, and by the authorized owner of the company are given the positions of Director, Head of Factory or Manager and others; and d. Power of Attorney who is given the position of Director, Head of Factory or Manager to run a company owned by an employer or belonging to another legal subject and OCCSH.

If the HSMS organs throughout the company consistently perform the following actions: (i) eliminating, reducing OSHH; (ii) meet OHSC and (iii) implement HSMS measures, i.e.: Determination of OHS Policies, OHS Planning, OHS Performance Monitoring and Evaluation, OHS Review and Performance Improvement, OHS Development, Assessment, Audit, HSMS Supervision, the occurrence of a deadly tragedy such as a fire at kosambi fireworks factory as described above and can reduce the number of work accidents in Indonesia.

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