

HEALTH AND SAFETY MANAGEMENT SYSTEM: A COMPARATIVE STUDY OF ONGC AND IOC

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ABSTRACT

Constitution of India provides the various provisions regarding occupational safety and health. Apart from this there are also a plethora of statutory acts, rules and regulations. India has also signed various international treaties and covenants while being a member of the WTO and ILO. In India, The factories act, 1948 (central act 63 of 1948) came into force on 1st April, 1949 to ensure the healthier and safer work atmosphere for the workers, and for improving the general welfare of workers. The act sets out the broad outline of the measures for achieving the object of protecting the workers from industrial and occupational hazards and for their welfare. Power is given to state governments to frame rules regarding the details of the measures for various types of factories so that the local conditions prevailing in the state are appropriately reflected in the enforcement. National Safety council was set up by Ministry of Labour, Govt. of India in 1966, as a non-profit making, non- political voluntary organisation to generate, develop and sustain a voluntary movement at the national level to promote awareness of safety, health and environment so as to supplement and strengthen government efforts in this fields. They have local chapters in all states and offer consultancy services to industries in all areas of safety management. In this paper A comparative Study of ONGC and IOC regarding Health and Safety Management System has been made.

KEYWORDS: WTO, ILO, OHSMS, Health and Safety Management System, Safety and Health, Welfare.

Introduction

What is Health and Safety Management?

Standards Australia defines an OH&S management system as, "That part of the overall management system which includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the OHS policy, and so managing the OHS risks associated with the business of the organization. Occupational health and safety management system (OHSMS) have been defined by Gallagher as "...a combination of the planning and review, the management organizational arrangements, the consultative arrangement, and the specific program elements that work together in an integrated way to improve health and safety performance." The institute for work and health defines HSMS as "the integrated set of organizational elements involved in a continuous cycle of planning, implementation, evaluation and continual improvement directed towards the abatement of occupational hazards in the workplace." Gallagher's classification of health and safety management is more comprehensive approach. Under this approach the types which are identified all meet the basic requirements of an OHSMS. The whole system is classified by difficult OHS control strategies and second by different management structure and styles. OHS control strategies are categorized as either "Safe Person" or "Safe Place" management structures and styles are either traditional or innovative.

System Types

- **Safe person control strategy:** Prevention strategy focused on the control of employee behavior
- **Safe place control strategy:** Prevention strategy focused on the control of hazards at source through attention at the design stage and application of hazards identification, assessment and control principle.

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- **Traditional Management:** Under this system type:
 - The key persons in health and safety are the supervisor and /or any OHS specialist.
 - A low level of integration of health and safety into broader management systems and practice.
 - Employees may be involved, but their involvement is not viewed as critical for the operation of the OHSMS, or alternatively a traditional health and safety committee is in place.
- **Innovative Management**
 - Senior and line managers have the key role in health and safety.
 - A high level of integration of health and safety into broader management systems and practices.
 - Employee involvement is viewed as critical to system operation and there are mechanism is place to give effect to a high level of involvement.

Health and Safety Management in Indian Perspective

Safety management attained significance in India only after the Bhopal gas tragedy in 1984. Gupta (2002) points out the major causes of these accidents as, indifferent attitude of the management towards safety and lack of enforcement of existing regulations by regulatory bodies. Learning lessons from Bhopal disaster, most of the industrial organizations in India have made considerable investments in safety related infrastructure, equipment and training, enforcement rules and regulations have also been made more stringent with the number of amendments in the acts and rules.

Many organizations from chemical/process, manufacturing, engineering and construction industries have gone for management system certifications such as ISO 9001, OHSAS 18001 and ISRS certifications. With globalization and opening up of our economy, Indian organisation from various sectors has started to take initiative to get the above certification to compete the global competition. OHSAS 18001 and ISRS are occupational health and safety management based where as ISO 9001 is based on quality management. Since "Safety" is a dimension of "Quality" when any attempt for quality management is made, it also ensures safe work environment for its employees (Carder and Ragan, 2003).

Every Indian organisation is supported to supposed to prepare a "Safety Manual" based on "The Factories Act, 1948" and state "Factory rules" to take care of health and safety of its employees, covering the various manufacturing activities employed in the company. To what extent these are practiced in reality depends on the commitment of the top management of the organisation. Committed managements subsequently adopts various safety management practices to safe guard their employees by encouraging them to work related hazards whereas others try to manage safety of employees by encouraging them to work safely. A scientific investigation into this only can reveal what is happening inside the organisation so that improvement methods can be suggested. The constitution of India also provided various provisions regarding safety. These are:

- **Article 21:** The ambit of Article 21 of the constitution provides for protection of life and personal liberty. The courts in India have been liberal in its interpretations and have encompassed various issues in their judgments which highlight that OSH is necessary for protection of life. In one case the Supreme Court has ruled that public health and ecology have priority over loss of revenue, therefore organizations cannot ignore and refuse to implement OSH measure on the plea that it is non-profitable. The apex court has also ruled that checks and safeguards should be adopted to guard against the ill effects of radiation of x-rays, necessity of pollution free air and water for full enjoyment of life.
- **Article 24:** This article restricts the employment of children below the age of fourteen years in any factory or mine or in any other hazardous employment.
- **Articles 39(e) & (f):** These articles requires the states to direct its policies towards ensuring that the health and strength of workers are not abused and provide for opportunities and facilities for children to develop in a healthy manner and protect them against exploitation.
- **Articles 47:** This article requires the states to formulate policies that aim towards improving public health and raise the standard of living. With such wide and unlimited scope for interpretations, these articles can be effectively employed to ensure that OSH management system put in place by organizations can actually improve the OSH standards and not provide mere lip service to the cause. Apart from the constitution, there are various legislations which stipulate the OSH standards to be followed in various industries are as under:
 - The plantations labour act, 1951 sections 8 to 18.
 - The mines act, 1952 sections 19-21.
 - The apprentices act, 1961 section 14.

- The atomic energy act , 1962 section 17.
- The Beedi and cigar workers (conditions of employment) act, 1966 section 8 to 17.
- The building and other construction workers(regulation of employment and conditions of service) act 1996 section 28 to 38.
- The child labour(prohibition and regulation) act, 1986 section 13.
- The contract labour (regulation and abolition) act, 1970 section 16 to 19.
- The interstate migrant workmen (regulation of employment and conditions.

Introduction of Oil and Natural Gas Corporation

After independence, the Government of India realized the importance of oil and gas industries for the rapid industrial development of country. For this purpose while framing the industrial policy 1948, the development of petroleum industry was considered to be of utmost necessity. Assam Oil Company was producing oil at Digboi and the Oil India Limited (a 50% joint venture between Government of India and Burmah Oil Company) was engaged in developing two newly discovered large fields Naharkatiya and Moran in Assam. In West Bengal, the Indo-Stanvac Petroleum project (a joint venture between Government of India and Standard Vacuum Oil Company of USA) was engaged in exploration work.

Private companies were mainly carried out exploration of hydrocarbons till 1955. In 1955, Government of India decided to develop the oil and natural gas resources in the various regions of the country as part of the Public Sector development. With this objective, an Oil and Natural Gas Directorate was set up towards the end of 1955, as a subordinate office under the Ministry of Natural Resources and Scientific Research. The department was constituted with a nucleus of geoscientists from the Geological survey of India. A delegation under the leadership of Mr. K.D. Malviya and after that the minister of natural resources visited several countries in Europe to study the status of oil industries and to facilitate the training of Indian professionals for exploring potential oil and gas reserves. For this purpose various foreign expert from USA, West Germany and Romania visited India and helped the government with their expertise. The visiting experts drew up a plan for geophysical and geological surveys and drilling operations to be carried out in the second five year plan (1956-57 to 1960-61). The government of India adopted the industrial policy resolution in 1956, which placed mineral oil industry among the schedule „A“ industries, the future development of which was to be the sole and exclusive responsibility of the state. After the formation of the Oil and Natural Gas Directorate, it became apparent that it would not be possible for the Directorate with its limited financial and administrative powers as subordinate office of the Government, to function efficiently. So in August, 1956, the Directorate was raised to the status of a commission with enhanced powers, although it continued to be under the government. In October 1959, the Commission was converted into a statutory body by an act of the Indian Parliament, which enhanced powers of the commission further. The main functions of the Oil and Natural Gas Commission subject to the provisions of the Act, were to plan, promote, organize and implement programmes for development of Petroleum Resources. It also produce and sale of petroleum and petroleum products produced by it. It performs such other functions as the Central Government may, from time to time, assign to it. The act further outlined the activities and steps to be taken by ONGC in fulfilling its mandate. After that in 1994 it converted into public limited company. In 1997, ONGC got a place a Navratna public sector unit.

Introduction of Indian Oil Corporation

Indian Oil began operations in 1959 as Indian Oil Company Ltd. The Indian Oil Corporation was formed in 1964, with the merger of Indian Refineries Ltd. Recently Indian Oil Corp (IOC) has raised \$500 million by selling 10-year dollar-denominated bonds, its fourth such issue overseas in the last three and a half years. Indian Oil Corporation Ltd. is India's largest company by sales with a turnover of Rs.4,57,553 crores a jump of 10.3 per cent over the previous year, and net profit surged to 7,019 crores, a leap of 40.2 per cent compared to 2012-13. It is the highest ranked Indian company in the latest Fortune „Global 500“ listings, ranked at the 125th position. Indian Oil's vision is driven by a group of dynamic leaders who have made it a name to reckon with. The main products of Indian Oil are petrol, diesel, LPG, auto LPG, aviation turbine fuel, lubricants and petrochemicals: naphtha, bitumen, kerosene etc. Indian Oil operates the largest and the widest network of fuel stations in the country, numbering about 20,575 (16,350 regular ROs & 4,225 Kisan Seva Kendra). It has also started Auto LPG Dispensing Stations (ALDS). It supplies indane cooking gas to over 66.8 million households through a network of 5,934 indane distributors.

Research Methodology

This methodology is designed for the exploration of ideas from which research has been originated. This section reveals the theoretical underpinning of whole research process. The research

method in this chapter is designed to explore level of health and safety management practices in India's public service. It is aimed at:

- To assess whether the IOC has more effective employee health and safety initiatives than the ONGC.
- To assess whether the ONGC has more occupational health and safety hazards than the IOC.
- To understand whether employees in both the companies have positive attitudes toward employee health and safety practices than their management.

• **Sampling**

In this research mostly two types of sampling have been used namely; Stratified Sampling and Deliberate/Purposive sampling. Technically it can be said that both type of sampling i.e. probability sampling and non-probability sampling have been used in this research. Total 27 oil and gas refinery companies selected as universe of the study. These companies are further classified in two strata as (1) Public Companies and (2) Private Companies. Private companies are left as the study was based on the public companies. After that only two companies purposively selected for the research. On subsequent stage, for satisfaction of research questions, total 92 workers and managers have been selected from each sampled company. These 92 respondents are used for the data collection.

• **Data Source**

There are mainly two type of data source on the basis of collection sources thereof; primary and secondary. Our research is exploratory research which explored the various elements and components of health and safety management in the context of sampled countries. In this research, primary data is mainly used for the data source. However secondary data has also been used to present the financial losses due to health hazards and accidents in Indian economy.

• **Data Collection Instruments**

Structured questionnaires have been used in the study for the data collection. A new technique of questionnaire named as "Google Forms" used by researcher for data collection. It is an online mailed form of questionnaire which is often used in survey research.

• **Scales of Measurements**

Mainly there are four types of measurement of scales. The nominal scale of measurement only satisfies the identity property of measurement. Values assigned to variables represent a descriptive category, but have no inherent numerical value with respect to magnitude. The ordinal scale has the property of both identity and magnitude. Each value on the ordinal scale has a unique meaning, and it has an ordered relationship to every other value on the scale. The interval scale of measurement has the properties of identity, magnitude, and equal intervals. The ratio scale of measurement satisfies all four of the properties of measurement: identity, magnitude, equal intervals, and a minimum value of zero. Ratio as well as nominal scale have used in this study. Most of the responses are recorded in five levels Likert scales. Only nominal questions like "Are you aware from health and safety management?" have been recorded in nominal scales, rest of the questions have been recorded in ratio scale.

Hypotheses

Keeping into consideration the objectives and research question of the study, the following null and alternate hypotheses were framed and tested:

H₀₁: The Indian Oil Corporation has not more effective employee health and safety initiatives than the ONGC.

H₁: The Indian Oil Corporation has more effective employee health and safety initiatives than the ONGC.

Data Collection

Data collection was made by survey method by the help of google survey tool. A well-structured questionnaire containing 9 questions for the measurement of health and safety initiatives was served upon to sample of 92 employees of both the sampled companies and their responses were recorded in following coding table:

Research Question	Oil and Natural Gas Corporation					Indian Oil Corporation				
	R1	R2	R3	R4	R5	R1	R2	R3	R4	R5
Q1	56	10	5	18	5	66	3	1	20	2
Q2	49	14	3	22	4	49	8	6	28	1
Q3	50	14	2	21	5	54	10	2	21	5
Q4	52	14	0	24	2	52	12	0	26	2

Q5	42	16	1	18	15	50	7	1	22	12
Q6	50	13	4	19	6	50	11	2	25	4
Q7	45	16	1	20	10	45	11	1	30	5
Q8	54	14	4	16	4	54	6	4	24	4
Q9	59	10	3	18	2	59	2	3	26	2

R1= Agree, R2= Disagree, R3= No Opinion, R4= Strongly Agree, R5= Strongly Disagree

T Test Table

Particular	IOC	ONGC
Mean	2.957447	2.779545
Variance	0.006988	0.014694
Observations	9	9
Hypothesized Mean Difference	0	
Degree of Freedom	14	
t Statistics	3.624503	

Q1= Safety and health of their employees is the priority of management, Q2= The personal Protective Equipment like safety shoes, helmets, goggles, gloves, etc. which are helpful in safe working are always available, Q3= The health and safety training programs are organised by the organization after accessing the needs of the employees, Q4= There is the practice of safety audits and inspection at regular intervals, Q5=The experts do safety audits and inspections, Q6= The Safety Committee of the organization plays an important role in the organization, Q7= Administration seems interested in health and safety before an incident / accident happens, Q8= Follow-up measures after incidents and accidents have taken place, Q9= Employees are satisfied with the inspection and follow-up measures uses by the management.

P(T<=t)P(T<=t)	0.00138
t Critical one-tail	1.76131
P(T<=t)two-tail	0.002761
t Critical two-tail	2.144787

Result and Findings

Mean of simple mean of their values is calculated which is 2.957447 for Indian oil Corporation and 2.779545 for Oil and Natural Gas Corporation. Prima facie, it is revealed that IOC has more effective health and safety initiative value than ONGC. T test was regulated and critical value of t is 2.144787 whereas calculated value of t is 3.624503. It is resulted that calculated value is more that critical value so null hypothesis is rejected and it is concluded that there is significant different is exist between the effective health and safety initiatives between IOC and ONGC. Eventually, it is resulted that Indian Oil Corporation has more effective health and safety initiatives than Oil and Natural Gas Corporation.

References

- Agarwal N.P., Tailor R.K.: Human resource management; RBSA publishers, Jaipur, 2009.
- Ahmed Shoeb: Human resource management and technical changes; kapaz publications, 2004.
- Badi Ravindanath: Human resource management; Himalaya publishing house, Mumbai, 2011.
- Charles D. Reese: Occupational health & safety mgt.: A practical approach; CRC Press, 2010.
- Dr. Pranjal K Phukan(March 9, 2016), "Safety Movement in Industry is Boon or Curse" Linked.In.
- Hasan Syed mohammad: Human resource mgt. in corporate sector; Alfa publishing corporation, 2011
- Howard Silverstone & Michael Sheetz : Health and Safety mgt., Hobokon; New jersey, 2007.
- Jha A.K.: Globalizations and Human resource development in 21st century; Anmol publications pvt. ltd., New Delhi, 2006.
- Joseph T.wells: Principal of health & safety management, Himalaya publishing house, New delhi, 2009.
- Karmis Michael: Mine Health & Safety Management, Shaffer parkway Littleton, Colorado, USA, 01.
- Khetrpal B.: Manpower training and development; Alfa publications, New Delhi, 2004.
- www.icheme.org
- www.pshsa.ca
- www.Secure-qnb.co.uk