Industrial Hygiene

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Overview of Activities Related to Industrial Hygiene and Safety

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Height pass facility

ABSTRACT

Industrial Hygiene Safety Section is responsible for Industrial Hygiene surveillance of wide spectrum of operations carried out at BARC as well as matters related to industrial safety. This includes providing Beryllium safety at PMD, Vashi, assessment of hazards associated with various plant activities, HAZOP studies, accident analysis, medical analysis, conducting accident prevention programme, training etc.

KEYWORDS: *Industrial hygiene, Height pass facility, Safety awareness*

Introduction

Industrial hygiene monitoring refers to the practice of measuring the extent of worker exposure and employing engineering, work practice controls, and other methods to control potential health hazards. It helps to determine whether ongoing worker exposure to a hazardous substance is within the occupational safety standards set by OSHA (Occupational Safety & Health Standards) / BIS (Bureau of Indian Standards) / Atomic Energy Factory Rules (AEFR) 1996 or recommended guideline values prescribed by American Conference of Governmental Industrial Hygienists (ACGIH). Periodic surveillance ensures that the potential hazards present in the workplace are within limits and checks effectiveness of existing hazard control methods. It also determines the need for additional safety measures, such as the use of engineering hazard controls (e.g. ventilation) or personal protective equipment (PPE). Furthermore, it can provide employers with protection against compensation claims and may be required by insurance agencies hired to guarantee an employer against losses due to occupational injury or illness. The measurement is conducted through combination of qualitative and quantitative procedures, depending on the purpose of the monitoring and the substance being monitored.

Steps involved in Industrial Hygiene Surveillance are:

- Preliminary Investigation
- Initial Survey
- Sampling Plan
- Industrial Hygiene Monitoring Data Analysis
- Corrective Action and checking effectiveness

A well-planned workplace industrial hygiene surveillance training program ensures protection against health hazards, avoids loss in productivity due to illness or injury, reduces worker compensation for medical leave due to work-related injuries and illnesses, ensures preparedness against liability lawsuits, gives employee satisfaction and prevents future incidents.

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Monitored chemical and physical are:

- Exposure to high noise levels
- Exposure to ionizing and non-ionizing radiation
- Extremes of temperature
- Exposure to vibration
- Exposure to Chemicals
- Breathing Air Quality
- Appropriate illumination
- Appropriate ventilation & Air Changes

Development of height pass facility for qualification to work at height

Fall from height is one of the leading causes of injuries and death at workplace. It is the key requirements to enhance overall safety culture and educate the employees as well as contract workers involved in work at height in BARC. Industrial Hygiene and Safety Section, HS&EG took initiative to develop 'height pass test facility' to issue height pass certificate to the workers. The procedure certifies the suitability of a person to work at height thus reducing the possibility of fall accident while working at height. This is a mandatory requirement and the objectives of this facility is to protect employees from the hazards related to work at heights. This results in (i) managing work at height jobs being done under Permit-To-Work, (ii) controlling the incidents related to Work at Height, (iii) compliance to Regulatory requirements to make work place safety. The regulations recommend that a fall protection system be provided during working at height. As a part of qualification test, departmental person shall undergo medical test as per listed test in the prescribed format (height pass) by the Certifying Surgeon / Doctor at TOHC, Trombay. Contractor's personnel shall obtain the certificate in the format (height pass) from Certifying Surgeon /MBBS Doctor. Person medically fit to work at heights shall be given peptalk by Industrial Hygiene and Safety Section on various aspects of working at height. After undergoing medical examination, the worker has to go through Height Pass test which include three tests to understand the physical status of the workers.

Structure for conducting physical test of Height pass

- Walking freely over a horizontal 6" narrow bar at 1 ft height.
- Walking freely over a horizontal bar at 9/12 ft height wearing a safety belt.
- Climbing a 12 ft high rope.

Fig.1: Physical test of Height pass.

Height Pass certificate will be issued once all the tests are successfully performed by applicant. The Height pass certificate is valid for 6 (six) months. In case the individual wants to continue the work at height beyond this period he has to obtain a fresh height pass certificate.

Safety Awareness Programmes Conducted in BARC

Safety is given the top priority and attaining zero incident status is a collective endeavor. Towards this, conducting safety awareness campaign plays an important role. A dedicated Accident Prevention Programme (APP) is introduced in BARC in the year 1962, and is still continued. The objective of APP is to prevent accidents through proactive measures. Industrial Hygiene and Safety Section is imparting the efforts in the promotion of industrial safety in the different activities. Safety awareness is one of the most important elements in promoting safety culture. Safety culture is a practice to observe safety in every activity and is an integral part of all the activities in BARC since inception. The various safety awareness programmes aim at a single objective that is enhancement in safety culture through various techniques. The main role of training and awareness programmes at BARC is to spread awareness about work place hazards and take counter measures at all levels of employees. It is essential to motivate the personnel to adopt safe and right method of work. The safety awareness campaign is aimed at renewing the commitment of employees to perform their activities safely without meeting with accidents throughout the year.

Keeping this in view, the Industrial Hygiene and Safety Section organizes annually a two-week course on ***Accident Prevention and Promotion of Occupational Health and Safety*** every year for the benefit of all employees. This course has been designed to be a comprehensive programme providing an insight into various health, safety and environmental aspects. The programme includes a visit to the Safety Centre of Central Labour Institute, Sion and BARC facilities at Trombay. The programme is conducted with the faculty support of scientists from different Divisions of BARC, AERB, NPCIL, DGFASLI etc.

It is the enlightened human factor that plays a crucial role in planning, execution and maintaining a high safety standard in an organization. This course serves as a positive step to provide this enlightenment. As a part of safety awareness campaign Industrial Hygiene and safety Section organizes ***National Safety Day*** Programme within the Centre where individual abilities and skills in terms of participation in drawing safety posters, conveying meaningful messages through safety slogans and pinpointing workplace hazards are visualised. As part of safety promotional activities, Industrial Hygiene and Safety Section of HS&EG, BARC has introduced an Industrial Safety Award Scheme in the form of Director's Safety Shield for BARC units within Trombay as well as outstation units.

Applications received from facilities are scrutinized and assessed. Based on the scrutiny of the applications and records available with IHSS, an evaluation is carried out considering the different parameters in respect of Safety performance statistics and Safety Management Indicators followed by documents verification and assessment as suggested by the Committee.

Glimpses of various events held in BARC to mark safety culture among scientific community.