

Emerging Issues and Outcomes of Behavior based Safety (BBS) Implementation

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Abstract

Unsafe or at-risk behaviours of employees are the root cause of almost all accidents and fatalities in organizations. BBS is a process of chaining people in safety behaviours. This article is a case of a large gas company in India on various processes and emerging outcomes of behavior based safety (BBS) implementation. A set of issues and apprehensions faced by the Lead Trainers/Observers as well as emerging outcomes of BBS implementation are reflected. Recommendations are made for consolidating BBS implementation. This study is intended to be useful for companies interested in implementing BBS as a significant step towards managing zero occupational injuries and accidents.

Keywords: Behavior Based Safety, BBS, Organizations, Accidents, Unsafe behaviours.

Introduction

Employees violate safety rules inside the company as children do in school. Employees begin compromising safety rules first by not wearing PPE (personal protective equipment) and gradually go up to violating the SOP (standard or safe operating procedures). These unsafe/ at-risk behaviours on part of employees commence the journey for injuries and fatalities^{3,6}. According to security personnel of a company, “fifty percent of contract workers inside the plant are not wearing PPE; we could not enforce it at the company gate, as head of departments (HODs) would call us to allow them inside the plant without PPE as their work would suffer. On the other hand, the contract workers did not wear PPE as they were not provided with by their contractors and the safety department did not enforce penalty for the same on the contractors. This clearly reflects that they all joined to compromise with unsafe behaviours.”

With the change of ownership from top to bottom level, safety culture in organizations has dramatically changed¹. According to Fred², new BBS programs evolve through continual training. This requires communication skills among all employees, not just those on the work floor. The management team must be as excited to see progress and participate with the behavioral observers on a continued cycle, where praise and reward go a long way towards sustaining the BBS program.

BBS means more people would voice for safe behaviours as being trained observers⁴. According to a deputy general

manager of the company, “safety means the number of heads entered in the company premises should be equal to number of heads out of the company gate (with a smile) everyday.

Research Method

A large gas company in India invited the BBS experts to implement BBS in their gas processing units, petrochemical unit as well as pipelines for almost 4000 employees and 2000 contractors’ workmen. The methodology used for implementing BBS is as follows:

1. Conducted BBS awareness workshops for 20% employees i.e. 800 observers.
 2. Conducted five days BBS Lead Trainers Workshop for 5% i.e. 200 employees.
 3. Conducted five days BBS Roll-out Activities including support and hand-holding with lead trainers’ observation and feedback skills.
 4. Formed and conducted meetings of Multidisciplinary BBS Functional Safety Committees for Safety excellence and implementation (such as Process, Physical, Maintenance, Road).
- ❖ **Process Safety Committee:** Review and updates on Safe Operating Procedures, Work Permit System and Lock-out, Tag-out procedure, Management of Change, Training needs, Incident Investigations, Audits, Interlocks, Design Verses operating Parameters, Loading and unloading etc.
 - ❖ **Physical Safety:** PPE need and compliance, housekeeping, ergonomics, equipments and tools, mobile usage, rules-regulation and standards on safety and its compliance etc.
 - ❖ **Maintenance Practices (mechanical, electrical and instrumentation):** Calibrations, material handling, electrical tools, energisation and de-energisation etc.
 - ❖ **Road Safety:** The road safety subcommittee is responsible for assisting the Site Steering Committee to ensure road safety by developing Road safety guideline, Travel guideline, Rules and regulation for safe driving and implementing other road safety measures etc.

This is an on-going study and data in this article dates between September 2013 and May 2014.

Dealing with issues and apprehensions faced by the BBS Lead Trainers/Observers

Multidisciplinary Lead Trainers/Observers from various units/areas faced various issues and apprehensions while implementing BBS and these are dealt with as below:

- a. How to deal with stubborn employees for correcting their unsafe behaviours? – By persuasion, follow-up, coaching or challenging them.
- b. How to deal with senior employees for correcting their unsafe behaviours? – It is matter of fear versus saving life. One should not make discrimination between junior/ senior employees in saving human life while dealing with at-risk behaviour which could trigger serious consequence such as death.
- c. People could enter fake data in BBS checklist of the safe/unsafe behaviours observed. Restrict filling-up of BBS checklist by trained observers and lead trainers. Random-check on the quality of observation by lead trainers. Compare percentage of behavioural trends with ground reality of corrected behaviours on the shopfloor. Being over-critical/ over-anxious about future implementation should be avoided.

There is no significant trend of fake data reported from other organizations. Hence, better focus on observation process outcomes and discuss regularly. Contract workmen may or may not fill observation checklist. They are basically trained to observe and correct unsafe behaviours around them.

- d. How to reward a best observer? Best observer could be rewarded for maximum number of observations as well as corrections of unsafe behaviours, maximum number of observations days and maximum number of behaviour categories observed.
- e. Whether focus on observation or measurement? First focus on firming up 'the process of observation and correction' by creating BBS awareness among all employees/workmen. Simultaneously and gradually focus on efficacy and accuracy of measurements of BBS data.
- f. Some employees do not involve or connect with BBS activity due to organizational behaviour reasons such as lack of promotion, low job satisfaction, poor interpersonal relations. To resolve this, first sensitize these people to the concept of BBS and then involve them in leadership role for BBS project activities for promoting their self-regard which has been damaged due to negative organizational experiences.

- g. In addition to the above, some HODs/OIC's apprehension for BBS implementation came up in terms of the extent of involvement of people and time due to lack of standard manning.

Emerging Outcomes of BBS Implementation

It is a desire of meeting targets that people exercise power and authority, hurry up and bypass safety and in this process the poor workmen are disabled or killed. Therefore we need to challenge our own behaviour first and question our consciousness that Is it proper to kill people to achieve targets? This was implicitly confessed by the training participants.

BBS implementation in organizations has been positively reflected in audit reports. Safety auditors have appreciated involvement of employees in safety behaviours⁴. An executive director said, "With BBS implementation, everybody would become behaviour safety officer 24x7, 365 days". An engineer in-charge expressed that applying BBS inside plant depends upon my boss. Therefore the role of unit heads is to encourage people through e-mail messages or personal interaction with observers is necessary.

Each awareness workshop was inaugurated by different General Manager each day pumping energy into participants. This is something special. Training and Safety departments coordinated very well. Work permit violations have been reported to a great extent. PPE non-use and its lack of provision is a big issue. An acceptance of BBS concepts is reflected through one-day sessions' participants.

However the resistance was also shown by some participants mentioning organizational constraints such as target pressures, lack of standard manning. The site BBS steering team and functional committees are formed. An issue of lowest quotation came up very significantly as the concerned contractors were least bothered or educated about safety issues or providing basic PPE to their workmen. Another issue of production priority over safety required organizational leadership intervention.

The visible outcomes that emerged as a result of BBS Implementation are the following:

- 1) Developed 359 BBS observers and 56 lead trainers to carry forward the safety culture movement to the remaining staff/contractors. Their enthusiasm and openness are witnessed.
- 2) Five Days Workshops upgraded the Lead Trainers' clarity of BBS concepts and skill of training delivery to their colleagues. As a result, the Lead Trainers conducted three supervised workshops with full confidence, faith and conviction in BBS at each location.

- 3) Lead Trainers felt a sense of satisfaction by correcting serious unsafe behaviours by regular reminders. They prepared the BBS awareness training module with much creativity and field examples.
- 4) Prepared IT enabled BBS Checklist, BBS Observation Card, Banners and Sticker for observers' identity.
- 5) Average base level of behaviours at Sites was found to be 73% safe behaviours, 27% unsafe / at-risk behaviours. As a result of corrections of unsafe behaviours, the safe behaviours have gone up from 73% to 95% that needs to be sustained by continuing BBS observation rounds.
- 6) Some of the characteristics of lead trainers were found to be good voice quality, involvement of participants, clarity of BBS Objective, dealing with questions effectively, creativity and originality of examples/workshop material, high energy level.
- 7) The receptivity of the BBS programme by employees, CISF (Central Industrial Security Force), contract workmen at the sites is felt to a great extent.
- 8) The BBS banners are displayed across the plants.
- 9) The monthly BBS award scheme has been chalked out for observers based on observation data in 4 categories i.e. executives, non-executives, CISF and contract workers.
- 10) The BBS Checklist (bound booklet) was distributed to all trained observers for continuing observations.
- 11) The personal involvement, administrative support and leadership of OIC, the cooperation and coordination of Head (Fire and Safety and IT) and all HODs are visible and appreciated for all BBS activities.
- 12) The regular discussions on the daily developments were held between BBS Task Force members and Experts.
- 13) The guidance and involvement of faculty members was found to be useful for the site to implement BBS in true spirit and to be an incident-free organization.
- 14) Despite all strengths of BBS Implementation, some employees at the sites expressed resistance, pressures of work for target completion, too many audits going on, degree of time involvement and lack of resources such as PPE etc. which were dealt with effectively and addressed by the officer in-charge (OIC) and BBS experts.
- 15) The regular highlighting of the fact at the sites that the BBS Implementation is a Corporate Agenda and personal involvement of the Chairman of Corporate Steering Committee, General Manager – HSE and his team, Task Force Members helped implementation of BBS.
- 16) Interacting with individual HODs and clarifying their role and involvement facilitated driving BBS.
- 17) Behavioral changes are visible as a result of implementation as perceived by the lead trainers.
- 18) Lead trainers perceived that on an average, 75% of safety is exercised by the work-permit issuer, 50% by the receiver/ acceptor, 30% by the executors and these gaps are filled by the BBS observers.
- 19) The closing meetings of the Site BBS Steering Committee expressed satisfaction and looked forward to the first follow-up meeting with BBS experts.

Recommendations

Unsafe behaviour of anybody in the site/plant is a continuous risk for all persons and the plant till it exists and does not get corrected. Unsafe behaviour howsoever small would become critical for life and property anytime. The following recommendations would help consolidating BBS implementation for maintaining incident-free organization⁵.

- 1) Lead Trainers/observers must practice observation of one SOP or work permit or Lock-out Tag-out (LOTO) a day besides observation of PPE or housekeeping etc.
- 2) It is suggested for the company to set up an e-group on the intranet /website for lead trainers, observers and those related to BBS from all sites to share their success stories and experiences.
- 3) Maintaining a 'directory of lead trainers of all sites' at the Corporate HSE and periodic mentoring by the corporate team would facilitate BBS Project.
- 4) The CISF enforcement for 'use of PPE and disallowing mobile' at the gate by employees as well as contract workers is emphasized. The CISF needs to be empowered for the same.
- 5) Lead trainers are backbone of BBS implementation and their active participation is a must for successful BBS implementation.
- 6) Lead Trainers are also internal change agents within the organization and have to train further observers, weekly review among themselves and sharing observations on fortnightly basis among their departmental observers for continuous improvement in their respective departments.

- 7) The training honorarium/incentive to lead trainers as per existing company rules for conducting training for non-executives/contract workmen would be a motivating force.
- 8) It is suggested for sites to display 'board for best observer' of every month, board for behavioural trends as well as display board for listing names of site lead trainers and area observers.
- 9) The Corporate BBS Task Force members should simultaneously train themselves and emerge as permanent BBS trainers to sustain this project. Moreover all HSE staff whenever they are on internal audit should also conduct BBS refresher programme for the sites across India.
- 10) The lead trainers must conduct first BBS awareness session for contractors, their supervisors as well as concerned engineers-in-charge as most safety violations take place from contractors. For example, most of the contractors have not provided basic PPE to their workmen and the company has also not enforced much or put penalty for not providing PPE.
- 11) Field medical attendant on-site is needed for immediate care for preventing blood loss in case of injury. "I have visited the plant area 17 years after joining the company hospital today for BBS observations", said a lady medical officer.
- 12) Completing 100% BBS awareness training by lead trainers across the plant is a challenge of lead trainers. Weekly schedule for BBS awareness training for each lead trainer is needed for spreading awareness across the plant among all employees and contract workmen. This schedule needs to be prepared by safety department along with lead trainers.
- 13) Validation of observers' training conducted by lead trainers is required which can be achieved by weekly contact/meeting between them for better implementation.
- 14) Near-miss incident reporting is to be replaced with unsafe behaviours for HSE index as near-miss shall be reduced by corrections of unsafe behaviour itself.

Conclusion

Almost all accidents are a compromise with unsafe behaviours. This research points out that accidents at workplace are caused as a result of compromising with unsafe/at-risk behaviours on part of contractors, engineers-in-charge, security/safety personnel and HODs in order to achieve more production in a less time. This fact is agreed by all concerned during deliberations while implementing BBS. This reflects that people are pushed to accidents and killed by organizations in a joint effort of all in any project

execution. This can be avoided by BBS implementation accompanied by corporate leadership towards zero tolerance for unsafe behaviors at the workplaces.

These days, workers and executives of Indian organizations are working in a highly competitive environment and hard-task oriented environment. Sometimes, they have to give the required production with less manpower in less time. This results into creation of unsafe conditions due to pressure and they adopt shortcut also. In such situation, it is required to care their behaviours by their co-workers which are missing in Indian organizations.

The safety standards, systems, procedures and manuals are well defined in companies but unsafe behaviours are observable at several execution points. According to an executive director, "we have best safety systems but not the best safety behaviours". The existence of unsafe behaviours precisely reflects the lack of enforcement and compromising with safety standards which is a collective arrangement of HODs, safety department, the plant head and contractors to meet production targets. At the company gate, if security personnel stop employees who are entering without proper PPE, some senior employee would call up or send email to the security department to allow such people inside the company so that the work does not stop. Such compromise with safety only begins with PPE and then employees and workmen compromise safety standards at every execution level even violating work permit, LOTO, SOP. This is how safety culture deteriorates and accidents begin. Hence the unsafe or accident behaviours are carried out with the knowledge of all concerned simply to achieve targets.

The unsafe behaviours exist and occur every day at the workplace indicating that the journey for injuries and fatalities for employees has commenced. It is widely recognized that the unsafe or at-risk behaviours of employees are the root cause of almost all accidents in organizations. If we try to analyze why people died in workplace accident, we understand that their unsafe behaviors were not observed and/or not corrected. By increasing number of trained BBS observers, we augment our range of observation and address unsafe behaviours of employees and contract workmen on regular basis. To sustain safe behaviours, we need to observe and correct unsafe behaviours again and again by training behaviour safety observers in every area of an organization. Thus BBS implementation attempts to minimize or zero down injuries and fatalities at the workplace. "If BBS was implemented earlier, it would have saved few more lives", said a senior safety manager. BBS is to promote safe behaviours partnering everybody in an organization as an individual change orientation leads to organizational change.

Finally, an overall feeling about the BBS implementation experience is found to be encouraging and satisfying for

everyone involved in this case of a large Indian gas company which could be a great support for other organizations willing to implement BBS for taking a step forward to achieving zero unsafe behaviours.

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