



BEHAVIOUR BASED SAFETY FOR CORPORATES: A SHIFT TOWARDS AN INTERDEPENDENT SAFETY CULTURE

Dr. Kaila Harbans Lal

Abstract

Indian corporates are one hundred percent safe as per their safety documents and records, but quite lacking in behavior which is the root-cause of all incidents. Hence their safety certifications and awards are questionable, as well as the certification agencies also need to contemplate over this. The major thrust of this article is to bring forth the brief reporting of Indian organizations that focused a shift towards an interdependent safety culture having implemented behavioral safety approach during 2019, so that behavioural safety aspects can be incorporated and emphasized by the corporates and concerned agencies.

Key words: Implementation, Behaviour based Safety, BBS, Industry, Culture

INTRODUCTION

Organizations are challenged every day to produce a safety culture characterized by a continual drive toward the goal of maximum attainable safety, one in which errors and incidents are not only reported, but are evaluated transparently (Njurka et al., 2014). It is quite obvious and evidenced that the reactive safety culture and the dependent safety culture are not protecting industry from small or major incidents. It has become essential to move to the independent and interdependent safety cultures. Accidents connect us in pain. In BBS culture, not only EHS but everyone connects and implements safety (Geller, 2004). But practically, in business organizations, human safety would not get an absolute preference over profits from production (JICOSH, 2013). According to Poncelet et al (2017). when cost-cutting/profit prevails, safety suffers, people lose their lives. BBS is non-profit involvement, and activism for life and humanity.

In Indian scenario, largely. safety management means being reactive and documentation. Change in safety culture is much needed and can be achieved through BBS implementation. There are four categories of organizations with regard to behavioral safety implementation. The first, that consider only training, the second, that thinks that safety is a cost to company, the third, that choose implementation process for long term benefits, and the fourth, that implemented BBS but did not continue for some organizational reasons, and then rejuvenated it after a while. Obviously, the first one and the second category of organizations don't achieve any difference with regard to their safety culture, as their focus is not implementation of behavioural safety program (Kaila, 2017).

The financial losses that are due to industrial safety incidents are controllable, as almost all incidents are behaviour-based. There is a need to follow a simple and scientific behavioural based interdependent safety culture which is, in brief, empowering one and all till the last person at site - for "daily observation and spot-correction of at-risk behaviours" through BBS implementation as a standard procedure (Kaila, 2019). But, if BBS implementation is left only in the hands of safety departments, this generates a dependent safety culture where

incidents keep happening. BBS implementation aims to build an interdependent safety culture by making it essentially each department's safety objective for reaching a common goal of zero-harm at site. According to the Head - QHSE of Tata Projects, BBS is the heart of getting Process Safety right.

METHODOLOGY

This paper is an interdisciplinary intervention of behavioural science, management and industrial safety disciplines which is part of an ongoing national longitudinal action survey in India. Thematic data analysis was used to reflect the findings as mentioned here below. Steps used in thematic analysis were: 1: Become familiar with the data, 2: Generate themes, 3: Review themes, 4: Define themes, 5: Write-up. Reading and re-reading the transcripts is most important in the thematic analysis.

The BBS programme as part of this action survey was implemented in diverse locations in India for employees of multinational companies that were trained as BBS mentors and observers during the year 2019. This programme included the concept and process of BBS, plant visits for observation and correction of at-risk behaviours, developing road map for implementation of BBS, developing training module for imparting training to all employees, formation and functions of BBS steering team. The training participants included managers, heads of departments, contractors, safety officers and contractors' staff from across the plants.

Four big Indian corporates as mentioned below participated in this study during their BBS implementation journey in their respective units belonging to public and private industrial sectors such as chemicals, power, and steel across Indian locations.

STUDY RESULTS

This article covered the following salient aspects of the organizations' BBS implementation for developing an interdependent safety culture at sites.

1. 2nd year of BBS Journey at Sembcorp Energy India Limited
2. BBS score board of DCM Shriram

3. Raurkela Steel plant
4. Galaxy Surfactants BBS practices
5. BBS Review points
6. Conclusion and Implications

1. 2nd year of BBS Journey at Sembcorp Energy India Limited

There are 3 stages in BBS Implementation:

1st Year – Introduction of BBS concept to all manpower.

2nd Year – Reinforcement and attaining maturity for daily observation and spot-correction.

3rd Year - Sustaining the spot-correction culture.

The Company's Action Plan for 2nd Year

01. Road Safety to be included as 10th Behaviour in the checklist, to be tracked.
02. Area-wise BBS Scoreboard Display post concurrence of HODs and Line Managers
03. Schedule of Development and Nurturing of BBS Observers. Each Employee becomes Mentor to develop observers.
04. Sharing of Daily Observations by Observers in Tool Box Talks and with Department Co-ordinators and Co-Observers.
05. Display of Checklist at all Work Locations & with message "BBS is Observation and Spot Correction as Big Brother."
06. HODs to mentor BBS project in the respective departments.
07. Each HOD makes an observation [3 min. minimum] and spot-correction every day
08. HOD to analyse Departmental BBS Data and take corrective actions
09. Circular from BU head - BBS implementation by all employee. [PKR to send draft]
10. Safety Induction to include BBS and how to make BBS Observations
11. Signage at Main Gate – "Seat Belt Saves Lives – Ensure all at Front Seat and Rear Seat are wearing Seat Belt
12. While BBS Observations, no one is Senior and Junior. It applies to everyone.
13. BBS to be taken to Homes, Communities and Schools.

14. Quarterly Reviews to be organised with Steering Committee and Dr. H.L. Kaila.
15. Observations Focus to move from PPE to Safe Working SOP.
16. Weekly Departmental Observers Meeting with Co-Ordinator.
17. One 5 minute BBS Video to be prepared for SEIL.
18. Everybody spends 3 minutes (minimum) for observation per day.
19. Time Duration and Area of Audit to be included in Observer Sheet.
20. Self-Correction is must. Everyday take time to think:
 - What unsafe actions I did
 - What Unsafe Acts I allowed to happen or passed by without correcting

2. BBS Score Board of DCM Shriram

All behaviours were spot-correctable which were witnessed and recorded in the following table. As a result of daily observation and spot-correction by the observers trained in BBS approach, safe behaviours went up to 100 percent.

The first BBS Steering Team Review meeting was held and the following points were discussed:

1. Are BBS observations being incorporated regularly by all sections and departments.
2. That BBS observations file was introduced by the Process Department and the Cane Department. This effort was appreciable and hence was decided all other sections and departments were to follow the same procedure.
3. Culture for no use of mobile phone during work at height was developed and further strengthened.
4. All members shared their experience of BBS implementation for last one month. All appreciated the efforts of their colleagues for incorporating safety culture within the organisation.
5. Efforts were made by all to capture the BBS observations with zeal & team work.
6. BBS score card is attached below for reference.

Base level of Behavioural Data

S.no.	Departments/sections	No. of safe behaviours	No of at-risk behaviours	No. of spot-corrections in at-risk behaviours
1	Process House	25	6	6
2	Boiling house	27	6	5
3	Mills	15	5	5
4	EHS	126	35	35

5	Boiler	666	48	48
6	Electrical	22	14	14
7	Accounts	8	2	2
8	Sales	4	2	2
9	Instrumentation	40	20	20
10	Material	7	3	3
11	Laboratory	15	7	7
12	Sugar Godown	20	6	6
13	Security	20	6	6
14	Cane	4	2	2
15	ETP	104	50	50
16	HR & Administration.	12	6	6
17	Civil	12	5	5
18	ITS	25	10	10
		1152	233	232
	% safe	83		100
	%at-risk	17		
	% spot-correction	100		
	Final Improvement	100		

3. BBS at Raurkela Steel Plant

Rourkela Steel Plant (RSP) has been making all out efforts to become an accident-free Steel producing unit in India. Recently ‘Sankalp – A new Safety Intervention,’ was started to strengthen the safety initiatives at RSP through Behaviour based Safety (BBS) model. As a part of it, a massive two-day campaign named as “*Bhai-Bhauni, Bandhu Suraksha,*” was launched on 27th May 2019. The CEO inaugurated the campaign at HRD Centre which was conducted by a renowned behavioral scientist.



A field visit was organized in which around 50 Departmental Safety Officers, Area Safety Officers and personnel of the Safety

Interdependent Safety Culture

Department made observations on the behavioral pattern of the employees of the plant with the help of the BBS Observation Card. This was based on the conceptual input provided. The findings of this session were analysed and another session was held to chalk out an implementation strategy. The nine areas of employee behavioral concerns that were zeroed in on were: Personal Protection Equipment (PPE), housekeeping, using of tools and equipment, body positioning, material handling, verbal and non-verbal communication, attentiveness and use of mobile phone while working.

The eight-pronged strategy finalized to address these issues included *parikrama* (going around), *prashna* (question), *Prashansa* (praising), *parivartan* (conversion), *prashikshan* (training), *pratigya* (pledge), *prachaar* (teach) and *prarthana* (request). This interaction was followed by a motivational session that was attended by around 450 employees from across the plant including senior officers. An emphasis was laid on right observation, spot correction and spot reward. Stress was on the concept of moving from awareness to alertness.

4. Galaxy Surfactants’ BBS Practices

Galaxy implemented BBS in January 2019 and found a significant change in its safety culture. It observed the following practices.

- The Blank BBS checklist box, and the filled-in checklist box were kept at the Main gate
- Have you done BBS today? – this message came daily on all employees’ mobile phone in order to reinforce observations of at-risk behaviour and its spot-correction.

- c. BBS trained safety officer was invited to visit neighbouring units for BBS awareness sessions
- d. Instead of just sharing numbers in BBS monthly meeting, members started sharing quality difference in the standard operating procedure (SOP) before and after BBS implementation.
- e. Linking monthly observation matrix with individual variable pay, so that each employee is encouraged to make observations. Substantial weightage is to be given to BBS observation and spot-correction in employees' key result areas (KRA).
- f. Overall Enterprise reported incident rate is declining but needs significant improvement.

5. BBS Review Points

The tool with the following questions and points was used in the workplace for the assessment.

Has your safety cultural change slowed down? If so, please review the BBS processes checklist below. Mark each process below out of 10 and then check, what's lacking (Kaila, 2018).

1. Safety cultural shift from reactive, dependent culture to independent, interdependent culture
2. Leadership increased involvement
3. Monthly BBS meetings
4. Incidents reduction
5. Behavioral trends improvement
6. Sharing of at-risk behaviors during tool box talks (TBT).
7. Motivational reward, recognition for observers/ units
8. Managements regular observation rounds
9. Regular repeat BBS awareness sessions for spot-correction
10. Quarterly reviews across units/ sites

Total: $10 \times 10 = 100$

Your score:

An organization's vice president shared as to why BBS approach failed or slowed down with the main reasons being,

- BBS documentation was cumbersome;
- Trained BBS observers left the organization;
- Training and retraining of employees on BBS didn't take place;
- Cross-function teams were not involved,
- It was driven by HSE department instead of the CEO.

6. Conclusion and Implications

Safety culture across Indian industry is at cross-roads lacking regular compliances in terms of behavior; hence it becomes utmost important to address the behavioral aspects of safety culture for saving human life and business losses due to incidents.

An interdependent safety cultural perspective requires a host of change management strategies and initiatives for shifting existing safety situation to a new level, which would need a stringent review of the prevalent safety systems and implementation of the latest behavioural safety approach (Matthews, Grainne A. 2013), and a total participation campaign in an organisation (Japan International Center for Occupational Safety and Health, 2013).

Some aspects in the management of an interdependent safety culture need to be dealt with:

- a) no corporate completely gives up on punishment practice,
- b) during serious level audits, the managements temporarily suspend activities of risky contractors and resume them after the audits,
- c) production pressures obstruct safe practices, and many of the companies conduct BBS training to fulfil their client's obligations and requirements, not to sustain it in future.

A Safety Head of a chemical plant in Maharashtra emphasized that the incident investigation/management must focus on behaviour and involve observers of the concerned departments, sections, area operators, and not to hold safety departments responsible. Secondly, the BBS observations need to be linked with variable pay, promotion, increments, and not to consider promotions in departments where the incidents took place. When people are promoted who don't have incident-free records in their department, this indicates a wrong message to others who maintain best safety practices. This reflects on the departments to take responsibility of daily observations and spot-correction of at-risk behaviours across all areas.

Quite often, organizations reach about 95% of safe behaviours, thereafter, find it difficult to go beyond that level. In this regard, all HODs must take responsibility of activating their observers for spot-correction each day, and daily sharing of observations-cum-spot-correction must take place in respective departments, in order to move from dependent safety culture to an interdependent safety culture. Dependent safety culture is dependence on safety department staff and management actions, which does not give a total safety culture. The number of unsafe observations will start reducing when all HODs take responsibility and shift from dependent safety culture to interdependent safety culture. As long as HODs are not involving actively in BBS activities, the observers of those areas also remain inactive. That's the basic reason, the HODs are part of the BBS steering team at site. And regularly monthly meeting of the steering team is held to review and support BBS progress. According to Vice President of Tata Projects, it's all an agenda best driven by the HODs. Workplace is Safe when at-risk behaviours are 100% corrected each day, and each area observers are active for spot-correction.

Moreover, the BBS approach does not encourage safety in certificate rather in behaviour of people. A company can have 100 percent safety practice in documents, but safety lacking in behaviour. How to tackle this issue? It is the behavioural aspect which is essentially a cultural shift experience of

industries engaged in BBS implementation across the country. There is a need to linking monthly observation matrix with individual variable pay, so that each employee is encouraged to observe more than one at-risk behaviour and spot-correct the same within less than 5 minutes each day (Kaila, 2019). Secondly, an organization that fails to take a scientific approach to safety's human-behaviour element is gambling with their futures and is ultimately only safe accidentally. Behaviour Safety is a statistically meaningful improvement of the Safety Performance in the Workplace. ISO 45001 emphasizes that all companies should measure their organization's risks and capacities for controlling those risks. Spot-correction lies between the observer and the accident that can save the human life as well as the business.

An observation a day, keep the risk away. An observation is an early warning assessment for spot-correction by an observer. An interdependent safety cultural approach is 100% spot-correction of all at-risk behaviours daily before leaving the site by the teams of trained observers and by developing observers down the level in each of the work areas. According to a Vice President – HSE, “Now we have a well-trained big team of thirty-four BBS observers at Mundra. Let us utilise the inputs from this training, carry out BBS observations, do the spot corrections of at-risk behaviours for creating the interdependent safety culture. It should be a continuous journey towards achieving a goal of Zero Unsafe Behaviour and Safety Excellence in Dorf Ketal.

An interdependent safety culture comes by involvement of all, not by safety professionals alone. The corporates have achieved an increased involvement of employees at all levels in terms of controlling accidents as well as creating safer workplaces. Somewhere BBS fails due to lack or change of leadership of top management (Forum of Behavioural Safety, 2018).

This article would prove to be useful in providing guidelines for behavioural aspects of an interdependent safety culture to be incorporated by corporate and safety organizations.

REFERENCES

- 1) *Forum of Behavioural Safety (2018). Souvenir of National BBS Conference on Best Experiences, Practices and Challenges of Behavioural Based Safety Implementation in Indian Industry at Mumbai On 19th January 2018.*
- 2) *Geller, E.S. (2004). Behavior-based safety: A solution to injury prevention. Behavior based safety empowers*

employees and addresses the dynamics of injury prevention. Risk & Insurance, 15(12, 01 Oct), 66.

- 3) *Japan International Center (2013). Concept of zero-accident total participation campaign. Retrieved June for Occupational Safety 29, 2013, from <http://www.jniosh.go.jp/icpro/jicoshold/english/index.html> and Health JICOSH (2013). Concept of Zero-accident Total Participation Campaign. Retrieved on June 29, 2013. <http://www.jniosh.go.jp/icpro/jicosh-old/english/index.html>*
- 4) *Kaila, H.L. (2017). Behaviour-Based Safety in Organizations - Saving Life before the Accident. IK International Publishing House Pvt. Ltd. New Delhi.*
- 5) *Kaila H.L. (2018). Behaviour safety culture in India: from compromise to compliance (learnings from 10 success cases). Industrial Safety Chronicle, XLIX (1), 35-50, April-June 2018.*
- 6) *Kaila Harbans Lal (2019). Behaviouralizing Safety Implementation among Indian Corporates: A Research Review. University News, 57 (20), May 20- 26, 2019, 14-16.*
- 7) *Matthews, Grainne A. (2013). Behavioral Safety from the Consumer's Perspective: Determining Who Really Provides Behavior safety. Retrieved on 4 July 2013. Cambridge Center for Behavioral Studies. <http://www.behavior.org/safety/consumer.cfm>*
- 8) *Niurka Rivero, Beth Zemetra and Cynde Herman (2014). Intersection of Leadership, Organizational Culture, and Clinical Performance. Pediatric and Congenital Cardiology, Cardiac Surgery and Intensive Care, 2014, pp 3391-3408.*
- 9) *Poncelet, E., Anderson J., Chirkov, V (2017). Observation-based safety programs. In Chirkov, V., Anonson, J., Anderson, J., Press, M., Gerrard, A., & Ha, C. (Eds.). Enhancing cultures of safety and safety engagement in the Saskatchewan mining industry: A collaborative and multidisciplinary inquiry (pp. 200 - 213). Saskatoon, SK Canada: International Minerals Innovation Institute.*

AUTHOR

Dr. Kaila Harbans Lal, Professor of Psychology (Retd.)
SNDT Women's University Mumbai
Email: kailahl@hotmail.com