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Behavioral Based Safety

Richard Gillis explaining a point

Safety professionals have over the years made significant progress in improving the safety performance of the industries in which they work. This progress has been due to a combination of regulatory requirements, advances in technology, training and education of all levels of employees, and a determination by boards of management and managers to make an improvement. Regulations have usually been introduced as a reaction to some incident. They set minimum standards and do not or have little influence on determining the significant step changes in safety performance. They only go so far. Advances in technology and in the design of plants have made a significant difference. In the last twenty years or so we have heard more and more about Inherently Safer Design. This is an idea that has been borrowed from the Quality Improvement movement. A famous quote from this way of thinking is, "What is not there, can't leak". Imagine the savings in investment, plant running costs and the accidents that would never happen because the offending material is not there in the first place. This would be ideal and an idea that must be seriously considered whenever we have an opportunity to build a new plant or to modify an existing one.

What about the more immediate concerns of people who have to run a plant that has already been built. Boards of management and senior managers must want to make the commitment to improve and significantly. So they must "walk the talk" and they must establish SHE Management Systems. The rigorous implementation of these systems have produced significant improvements in safety performance. And these investments in safety improvement have paid good dividends. It has to be good business to improve safety performance or managements would not be interested.

Even organizations with exemplary safety, health and environmental performance have come to a point where it is difficult to improve further. Alas, the stumbling block is man himself. Human beings are inherently error prone. But to blame accidents to human error is to dodge the real root cause. Much more has to be done before human error is identified as the root cause.

Fortunately, for all SHE practitioners, much has been learned about human behavior. Psychologists have studied a person's perception of risk and the resulting behavior. Psychologists have also studied the effect of reward (positive stroking) and punishment (negative stroking) on a person's behavior. The field of behavioral based safety (BBS) has grown very rapidly in the last few years. The belief is that safety performance can only move to the next (better) level by the application of good psychological principles.



Cheng Pheng and two other members sharing some insights before the start of the talk



The discussion must be profound -- everyone is so serious

Mr Seow Min Fook, a former employee of ExxonMobil, who had played a significant role in the roll out of BBS in ExxonMobil Chemical in Singapore, presented a technical talk to SLP members on Nov.17.2004. His talk was entitled "Implementation of BBS – Development, Experience and Challenges to Improved Safety". He shared his experience starting from 2000 in the implementation of BBS in the petro-chemical industry and even a company in the construction industry. He and his psychologist colleague based their Singapore implementation model on the experience of USA and Europe. Although the psychological principles were the same, they found that they had to make modifications to the approach to suit the Singapore environment and culture eg. Singaporeans are less outspoken than their US and European counterparts.

Naturally, there had to be an implementation plan. The plan emphasized buy-in from all sections of the work force – from managers to operators. The plan relied heavily on an in-house implementation team. Training and education started with the management team first, then the implementation team and so on down the line until every person, including contractors, on the site was covered. Training and education covered the psychological principles and the application of these principles at the plant site. Trust had to be gained about the process because a large part of BBS implementation was an observation and intervention activity. For most companies, this would be a major shift in behavior. In the observation and intervention model, every person can be an observer and is encouraged to be one, not just supervisors and managers. BBS is not another inspection program. It is not enough just to observe, it is also necessary to intervene because as a slogan says, "I care for your safety". If every person at a plant site did this, what a powerful force this would be. Employees were involved in the design of the observation and intervention forms which employees (the observer) were required to complete. Simplicity is the rule for these. These completed forms (reports) are centrally collected eg. the Safety section and analyzed to determine the 5 Key Hot Spots. These would be the areas for follow up. Feedback is constantly provided to the whole plant organization. The system has to be open and transparent. Regular reports on the progress of BBS implementation would be generated for senior management.

Improvements would be tracked. It is also recommended that an independent 3rd party be employed to regularly monitor the effectiveness of BBS implementation so that deviations may be corrected in a timely manner.

In order not to burden the organization with more work, BBS should be built around existing strengths eg. integrate BBS into the existing safety management system. For example, if there is already a regular plant walk around by managers, make this into an observation and intervention activity.

Speed of implementation is another key factor. After the training and education, BBS field implementation should be in place within 3 months. Keep up the momentum.

What are the obstacles to implementing BBS?

For BBS to work there must be a basic safety system already in place. A company with a poor safety performance needs to do all the foundation work eg sound technology, good design, a well trained work force and a working safety management system, before embarking on BBS. Since BBS represents a major change for most organizations, much attention must be paid to obtain buy-in from all levels of the company. BBS is not a magic bullet. Senior management support is a pre-requisite not only to provide the initial resources and leadership, this support is also necessary on a sustained basis. This can be a challenge because of the multitude of pressures on a manager. Care must also be taken to build up the trust level. People must feel free to make observations and to intervene without regard to company hierarchy.

Mr Seow finished the talk with a lively exchange of views with the audience. The usefulness of the talk was evidenced by the formal audience feedback which was very positive.

By Ngiam Tong Yuen



Min Fook in full flow -- he has such passion for BBS

The talk is under way -- the audience paying rapt attention



After the hard work, the reward -- Min Fook receiving his memento



See Hee making a point during the discussion