SAFETY MANAGEMENT: A BUSINESS DRIVEN APPROACH

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ABSTRACT

A business approach to safety management is presented. It is demonstrated that safety should be planned to support the company's strategies and goals. Developing safety strategy is described. Methodologies for reviewing safety strategy and safety management process are discussed.

1. INTRODUCTION

Management and workers alike want safe and healthful workplace. Safety professionals normally find complying with the prescribed standards as one of the greatest challenges facing them everyday. Broadly speaking there are three fundamental reasons for undertaking safety programs and these are;

1. Moral
2. Legal
3. Economic

Moral reasons are concerned with the prevention of injury purely on human considerations. Legal requirements if not met are likely to result in penalties imposed by safety and health regulatory agencies. Economic consideration is given to monetary losses resulting from injuries, damages to equipment and interruptions of operations.

Most of the literature available treats safety and health from compliance orientation. Although compliance is one of the major issues, organization performance is more, if not an equally important issue, facing the companies (Dhillon, 2003).

In this paper a business driven approach to safety management is presented. In section 2 of the paper a common view of safety practitioners is described. Primary elements driving a business are stated in section 3. Section 4 is devoted to Safety Strategy. Strategy management review is presented in section 5. In section 6 safety management process is described and conclusions are presented in section 7.

2. COMMON VIEW OF SAFETY PROFESSION

If we ask a cross section of managers and employees within manufacturing sector one simple question: "What is the first thought that comes to mind when the word 'safety' is mentioned. The common responses are;

- Worker compensation
- OSHA and other regulations compliances
- High cost
- Under utilized
- Not highly valued
- Bottom of the organizational totem pole

Such comments cannot be considered highly positive. There seems to be a fundamental problem embedded within the word safety itself, and the historical context that it brings. Safety by its own nature and history has self-limiting drawbacks in its ability to further creation of wealth in industry, in the economy, and for the practitioners themselves.

An examination of information and trends, which have been evolving reveals that if not proactively acted upon, then they can either have a detrimental or very positive outcome on safety practice. These trends are as follows;

- Customer expectations of the products continues to increase at a faster and more stringent rates.
- Advances in technology are resulting in manufacturing equipment that continues to rise in complexity and thus become more complicated.
- Environmental and safety legislations continue to place higher levels of custodianship in mitigating safety and environmental consequences.
- Demographic trends are indicating serious shortages of skilled people in the coming years.

The detrimental outcome of the trend is that we could end up with a severe dilution and misalignment of safety functions as is known at present. The positive outcome is that if we act in an organized way and proactive manner to develop a common approach to the practice of safety management we will achieve value creation for industry and the economy and elevate the importance of safety in the eyes of top management. This in fact indicates that safety practice need be business driven.

3. BUSINESS DRIVEN SAFETY MANAGEMENT PRIMARY ELEMENTS

Business driven safety management is a comprehensive, fully integrated, strategy based process and culture, directed at gaining best life-time effectiveness, value, profitability, and return on plant investment.

Currently safety is considered as a cost of doing business but it must be treated as a business itself. Major drivers for value addition, which every company aims to maximize, are operations, maintenance and safety (Raouf, 2003). This is illustrated in figure-1.

3.1.Operating Production Systems

An operating production system has four basic elements as shown in figure-2:

- Production management
- Process Control
- Maintenance of Assets
- Safety

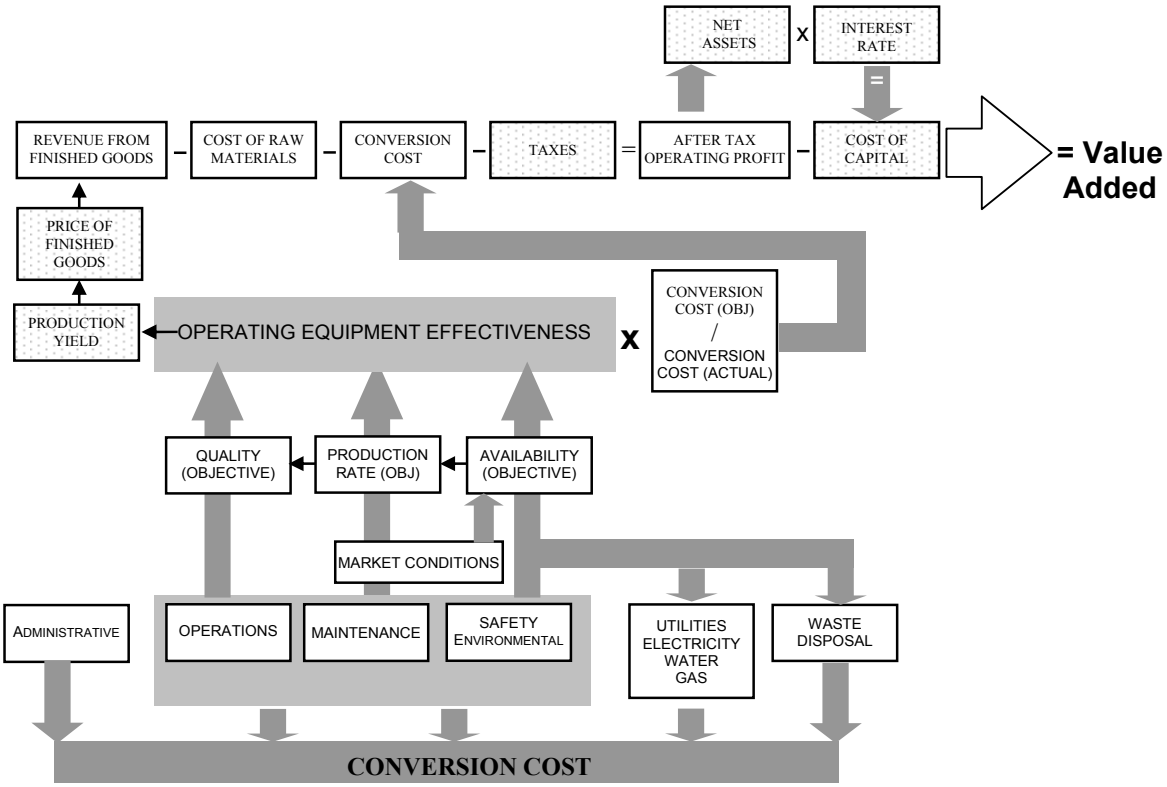

FIGURE-1
VALUE ADDITION PROCESS

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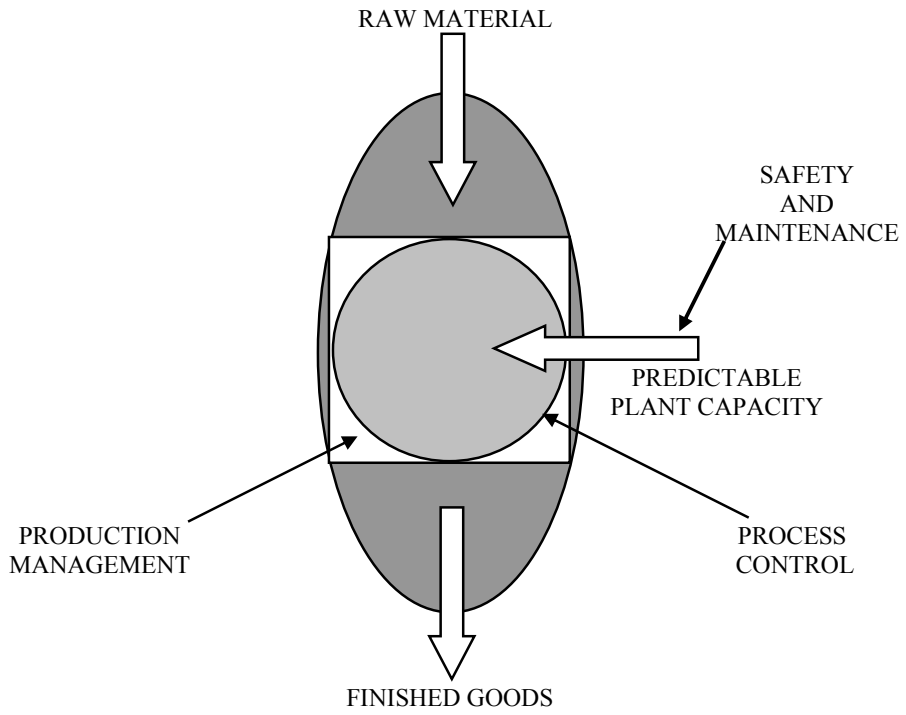

FIGURE 2
OPERATIONS PRODUCTION SYSTEM
PRIMARY OBJECTIVES

Production management includes enterprise resources planning (ERP), supply chains, productions schedules and flow into and within the process.

Process control manages the control and performance of internal production system and controls operating variables to meet the rate and quality requirements.

Maintenance of equipment and safety collectively ensures predictable plant capacity. Predictable capacity implies that production system i.e. equipment and operators are performing with optimal effectiveness and reliability and that this capacity will be available to meet scheduled cost and quality commitments.

Predictable capacity provides the foresight necessary to evaluate the cost/risk/profit balance of future commitments and opportunities.

Maintenance of assets and safety management do influence plant predictable capacity. Every company aims at continuously improving this capacity with a view to increase rate of return on investment and achieve greater market share. Improving rate of return on investment and achieving greater market share are strategic based decisions.

4. SAFETY STRATEGY

In the past safety has achieved a low priority among those strategic policy matters considered by company management. Industry, through pressure of production, meeting delivery schedules and trying to avoid to non-compliance penalties has developed safety management from shop floor upwards. This has resulted in changes within the safety functions initiated by upward flow of operation pressures rather than from top to bottom in the form of considered managerial policy. The evolution of safety practices has generally been based on hard practical experiences rather than on deliberate preplanning. As a result safety has tended to fulfill its role by having to respond to unforeseen problems, rather than developing a pro-active way. Need of the hour is to make policy led safety strategy rather than problem led.

The fundamental philosophy of business driven safety management in terms of total quality management, should be 'obtaining continuous customer need satisfaction, first time every time at the lowest internal costs (Manuele, 1993). This makes it necessary that safety customers be defined.

4.1.Safety Customers

There are more than one safety customer but most safety personal may think that the production department is their only customer. This concept needs broadening to include all the people who have vested interest in the ongoing well being of workers and assets. These may includes

- The Corporate Management
- The Worker
- The Government
- The Trade Unions
- The Legal Services, i.e. police, hospitals
- The local community

4.1.1. Customer Needs

The customer once identified will present a collection of disparate needs. These needs need to be focused into a general statement of needs, requirement and expectations which are to be the prime driving force behind the resultant safety management strategy.

4.2.Safety Strategy Preparation

The preparation of safety strategy seeks to consider the objectives and priorities of the organization, and then evaluate and define how the safety functions shall respond to supporting these needs. Typical company needs are shown in figure-3.

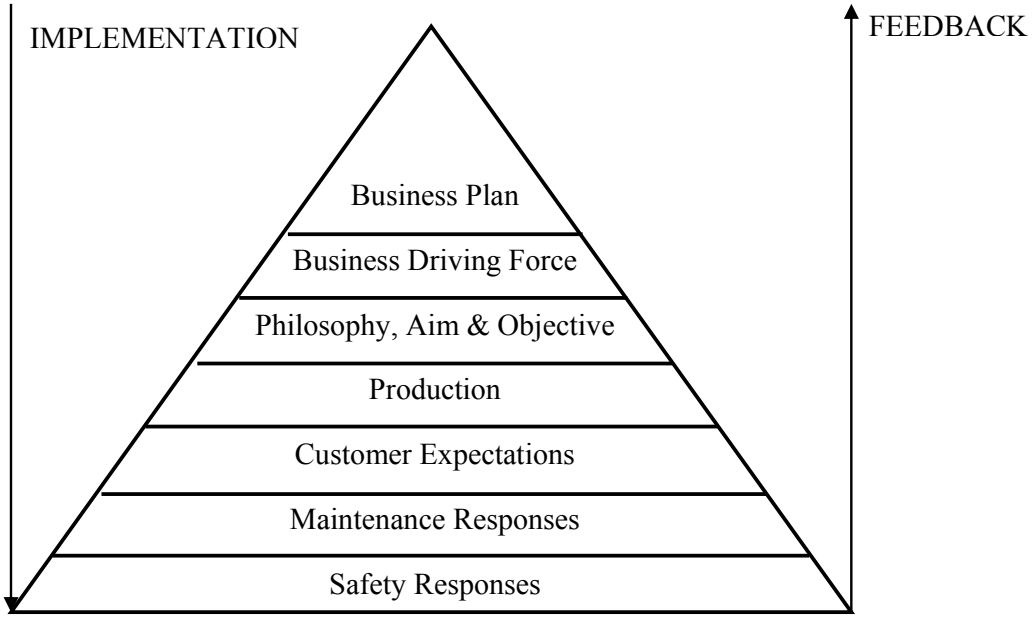

FIGURE-3
COMPANY NEED

In this way safety resources and efforts can be planned, sized and developed to be pro-active.

4.2.1. Business Plan

A company's objectives, organization and policy changes frequently and need to be reviewed regularly. The process of review also known as company planning is normally arranged at three levels and these are;

- Corporate planning
- 3-5 years rolling plan
- Annual plan budget
- The safety managers cannot present any strategy without having knowledge of the following;
- Future market considerations or developments
- Production equipment and new product development
- Future customer requirements

The safety manager should ask the question 'how well the safety strategy operates within the framework of overall business plan?

Development of safety strategy is not easy due to its interaction with other business forces, supporting philosophies and strategies. Benefits need to be clearly identified. This will assist the safety managers to get appropriate commitment and financial support from the top arrangement. The other advantage is of creating an opportunity to actively encourage safety functions awareness and discussion with the top management.

4.2.2. Corporate Philosophies & Safety

The corporate philosophy shapes the application of business forces to the business plan. This can be summarized in general terms as follows;

- To remain competitive in market place
- To increase efficiency and optimize costs
- To increase the profitability
- To maximize production system utilization
- To work safely
- To develop people

The main objectives of safety must be compatible with the production, the production policy and profitability.

Risk of injury can be classified into two categories and these are:

- Resulting in no accident
- Resulting in accident. There could be no injury but damage to material and injury

Pre-incident estimates, which are likely to be valid and valuable can be established in probabilistic terms using techniques like fault tree analysis and failure mode analysis (these are explained elsewhere in this book). Expected cost estimate can then be prepared considering the probability of the incidents occurring and the related costs. Minimizing of the expected cost of potential incidents assists in value addition to the production. As shown in figure-2 safety produces a return on investment. Safety is inevitable and as any other business profit center, has to be carefully planned and scheduled. The development of a supportive strategy should be a recipe of success for the organization.

4.2.3. Production Philosophy and Safety

A basic difference between the production and safety philosophies is in timescales for achieving results. The emphasis shown by production is on the benefit of productivity and immediate delivery. Although this is what safety managers want to see, the benefits of sound safety practice and management strategies are usually obtained over a longer time scale.

4.2.4. Quality and Safety

Safety management is greatly influenced by maintenance functions. A considerable percentage of safety incidents and their associated losses may be identified with maintenance and failure of equipment. Management system do document the way in which an organization will meet customer and business needs. If the techniques which address attitude, and behavior of people should be used alongside and around the management systems which will evaluate quality and safety to become a natural way of life.

4.2.5. Customer Needs

A safety strategy will be considered effective in the long run only if it both focuses on the customer requirements, and meets them. The safety function must have a clear understanding and ownership of the business/manufacturing strategies and objectives and so develop safety strategies and objectives that are mutually supportive. There should be an appropriate measurement and continuous improvement process in order to deliver superior performance when compared with competition.

4.2.6. Maintenance and Safety Response

Safety and environment management are greatly influenced by the maintenance function and the maintenance management process. Availability, yield, and first time quality are more of profit factors than cost issues. Safety and maintenance both affect these factors. Concentrating on low costs by elimination people and programs will produce short term results and may become case of "paying less now then paying more in future." Quality, safety and maintenance are important cost reducing factors.

Normally companies resort to loss source analysis-that is the determination of the actual source of loss and include the measurement of the number of incidents, the severity of incidents and the direct cost of damages, illness and injuries. In addition to direct costs there are indirect costs, which normally include the following:

- Loss is supervising time
- Loss of production time
- Accident investigation and cleanup time
- Training of replacement orders
- Overtime required to meet production schedules

Proactive approach to safety management is a conceptual plan to reduce the risk of injury as measured and severity. Risk of injury is considered to be a function, amongst many other factors of process and conditions on one hand and management, supervision and worker behavior on the other hand.

The philosophy of safety on which the strategy will be built should enhance the corporate production philosophies, needs for change and be pro-active. It should apply a well thought out philosophy to the allocation of resources, and should focus attention on the management of those activities which requires reasoning (Brown, 1976).

5. Strategy Management Review

The development of a safety management strategy requires that safety service should be considered as a business. Within the safety business, like any other business, there are a range of elements consisting of the policies, aims, and objectives, a resource structure, procedures, documentation, and computer systems, together with information of current performance levels. In order to take the safety business forward, all the elements need to be looked at critically so that areas for improvement can be identified. The safety operation can then be organized in a way which will allow the safety team to pull together in the desired direction.

The safety management strategy review seeks to accomplish it. An approach for developing and implementing safety management review is shown in figure-4. Needless to say that for having an adequate safety strategy review, experience and foresight is required and it is imperative that an open mind is kept regarding need for changes.

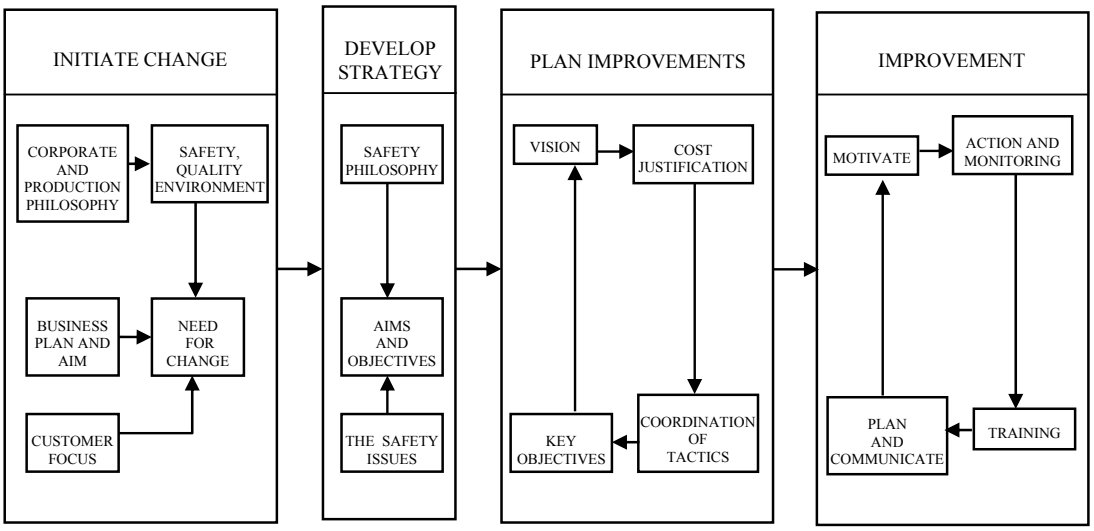

FIGURE-4
SAFETY STRATEGY REVIEW

The range of safety elements to be considered in a strategy review are many. This interdependence makes safety interesting and sometimes frustrating. They include all the safety policies, practices, and methods used in assessing what should be done, and who should do it.

6. Safety Management Process

Safety Management Process is represented in Figure-5. The figure illustrates the progression of identifying and prioritizing opportunities, conducting a strategy and tactical action plan to address opportunities, injecting safety process, measuring results and closing the loop with continuous improvement.

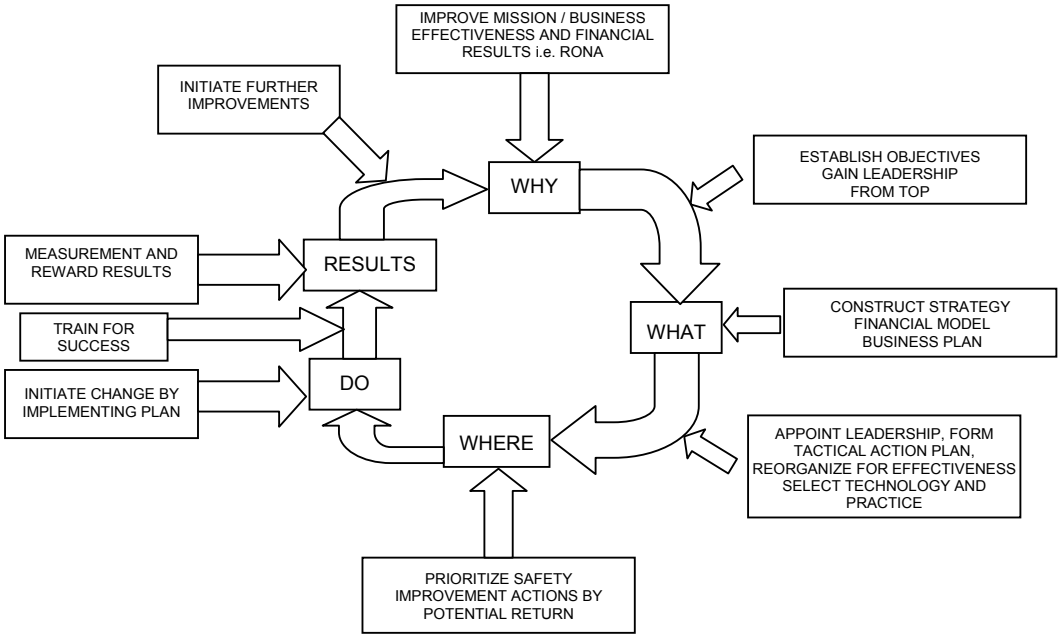

FIGURE-5
DEVELOPING AND IMPLEMENTING
SAFETY FUNCTION

Conclusion

Improving safety involves human issues. When introducing an improvement program of development, people must receive awareness training to fully explain the need for change. It is necessary to involve them and be a part of the development process so that they are interested and develop a sense of ownership.

The safety objectives are likely to change in line with frequent changes in the company objectives and production strategies. Safety strategy should be reviewed accordingly. Safety strategy preparation must consider the priorities of the company and then evaluate how to respond. Safety tactics are interactive and correct set of tactics to meet the objectives must be coordinated into an integrated strategy. Safety training must be provided in line with the development needs for the workers, in line with future safety strategy.

Feedback and communication at each stage of the development process is essential and the achievement of the various goals set out in the program must be publicized to help develop the motivation of individuals by building on success.

To have continuous improvement of safety, measurement of safety performance must be an integral part of feedback. Safety performance must be included along with output, cost per unit and profitability of the department thus assuring that safety is not cost of doing business but is a business itself and its strategy is inline with the overall business strategy.

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