DuPont Sustainable Solutions: Promoting Safety in production processes

(As translated from Portuguese to English)

No job is more important than the commitment to maintain a life. This is how companies such as DuPont understand it, focusing on operational risks, and demonstrating that the proactive management of these risks is an investment rather than a cost.

The management of process safety and operational risk represents a great opportunity for companies to predict and control the risks in their operations and production processes. Many CEO's have said that what keeps them awake at night is the possibility of a "serious incident" that could generate casualties, bring negative attention from the media, and could even bring down a company.

DuPont, with its 212 years of history, has had safety as a key core value, which has allowed the company to position itself as a world leader in safety. This approach has contributed to significant gains in productivity and efficiency. DuPont Sustainable Solutions (DSS) is the business within DuPont that is involved in transferring knowledge and skills to clients in various industries, including mining.

Srinivasan Ramabhadran, Global Leader of Process Safety Management and Operational Risks at DuPont Sustainable Solutions, speaks to Vías Especiales about this.

Srinivasan, what is your view about the safety of the mining process and its impact on the safety of workers?

Operating safely is a requirement for any industry, and in particular for the mining industry, given the perception that mining is a highly dangerous industry. If one of the purposes of mining is to improve the lives of people, can there be lost lives in the process? The answer is no. Mining is a business and every business aims to generate money. There is nothing wrong with that. The challenge is how to balance between the need to make money safely and helping to improve the lives of people.

It is imperative that the mining industry addresses safety issues proactively, for a variety of reasons. The first reason is to attract and retain talented people in the industry. It will be increasingly difficult if it is not perceived as safe. Second, it is necessary to address safety in order to retain the right to operate. If there is no license to operate, there will be no business and, therefore, no profit. Third, operating plants and facilities safely allows organizations to increase productivity and efficiency. Some companies perceive safety as a cost. However, if you look at the history and the implications of mining incidents, the long-term business implications can far outweigh the cost of investing in safety. Therefore, focusing on process safety makes financial sense, and is a preventative measure.
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How do you minimize the risks and maximize returns, while minimizing waste in mining and industrial operations through good management of a safety process?

It is necessary to proactively identify operational risks as a part of the project planning process, and also to install the appropriate layers of protection to prevent operational incidents. There is an opportunity to learn from past mining incidents and avoid going through the same consequences. Both activity-based risks and operational risks should be considered. The activity-based risks consider routine activities and non-routine activities where there is the possibility of a catastrophic incident. Identifying such activities proactively, ensuring that there are adequate control levels and that they will be operative is vital to avoiding incidents. The second type of risk, operational risk, is based on "operative parameters" in terms of process design, equipment design, and the hazards of the materials. Here again, the recommendation is to have a structured approach for proactive identification of risks.

How can the mining industry prioritize the resources to optimize process safety and reduce the risks in their operations?

One of the greatest opportunities to benefit the industry is to adopt a proactive approach in managing operational risk. This requires the integration of operational risk considerations in the planning stage of a project. Companies that have adopted this approach of proactive planning have seen the benefits.

Another key factor to consider is to ensure that the investment in safety is maintained over time. In many cases, companies spend a significant amount of money on safety due to operational risk and/or regulatory requirements. However, this investment in equipment and facilities is not adequately maintained, and when demand is generated, these control measures they are not available. For example, it takes a huge investment of money to install a fire protection system, and often when incidents have occurred, investigation reveals that the fire protection systems were not maintained and were not operative in the time of need.

Cases such as those mentioned above, show that it’s necessary to identify the "critical equipment" where a breach may contribute to a potential catastrophic incident. Identifying critical equipment will help companies to ensure their financial and human resources are deployed when needed, providing an adequate return.

Which are the operational benefits of these solutions, and what results do they generate in the short, medium and long term?

The greatest benefit to companies that incorporate Operational Risk Management is an improvement in productivity and efficiency. This is an important contribution to return on the investment when companies adopt a risk-based approach.

When an incident occurs, the amount of time and money that takes to react and respond should not be underestimated. If the same amount of time and money is spent by management on improving the business, the return on investment will be much higher. The leaders and managers will have increased confidence in the reliability of operations, which
will give them peace of mind in terms of the sustainability of their operations consistently. In the long term, the mining industry will be perceived as a safe industry and can attract more talent, which in turn, is going to contribute to building a better and safer industry.

*Can you explain the phrase “Creating a strong safety culture is more than the elimination of hazards and the institutionalization of safety procedures”?*

Creating a culture of safety requires organizations to institutionalize critical thinking skills as a part of the day-to-day business. Programs to determine, evaluate, eliminate and manage risk, plus compliance of safety programs, must come with a strong commitment from the leaders of the top management of an organization. A safety culture is much more than identifying and eliminating hazards. It requires an understanding of "why we are doing what we are doing". In this way, safety becomes an integral part of the business and the project planning cycles. This is a key consideration, even before deciding to invest.