



Preventing Major Accident Events at OMV

OMV, an integrated oil & gas company operating various large and small facilities in a multinational environment, used BowTieXP and Investigator 3 in their Major Accident Events study program. In a structured approach, OMV studied the Major Accident Events that could have a serious impact on the company.

OMV set up a study program to audit and determine how high risks at their operational sites are being managed for prevention of major accident events. "Our goal was to gain a much better understanding of the risks involved. We wanted to know how the sites are managed to prevent a major accident event," says Andreas Scheed from OMV.

"The start of the Major Accident Event (MAE) study project was triggered by two major incidents that had happened in our industry, the Texas City incident and the incident in the Gulf of Mexico," says Rod Ritchie from OMV. "We looked at these incidents not from an upstream, downstream or offshore perspective, but as a major incident."

Ranking the operating assets

In its study, OMV looked at Major Accident Events that could jeopardize the longevity or survivability of the company. "With over 50 sites worldwide, we decided to rank the operating assets having a potential to cause a Major Accident Event and evaluate those in greater detail," Rod Ritchie says. "For example, we have operational refineries in Vienna and Germany. We looked at the Vienna refinery as a much larger risk due to the proximity to the city, the stakeholders surrounding us and the refinery supplying Vienna city and airport. Our refinery in Germany on the other hand is located in the country. So we decided not to include Germany as a high risk site."

OMV came up with 10 -12 key sites to include in the Major Accident Event study program. "If we found something structural, we made sure to investigate this for all the other sites as well. Cross learning is essential," adds Andreas Scheed.

"We decided to include a wide range of risks, so we looked at all the aspects that could have triggered a major event," Rod Ritchie says. "In the Texas City report there are multiple causes; a lot of these causes can be miles away from the site. For example, how does leadership and culture affect the site, how is the technical integrity, do we really know what is going on at the site. We didn't want to leave anything out, so our approach was to pick 10 - 12 major sites and do them thoroughly."

Assessing, valuating and ranking the sites

OMV used BowTieXP and Investigator 3 in the Major Accident Event study program. "BowTieXP helped us in assessing, valuating and ranking the sites. We applied many of the details of our sites in BowTies, relating to how well our sites are operating and the level of technical integrity," Mir Kazim Ali from OVM says. "We then used Investigator 3 to apply the lessons learned. How well are you managing the site, how well are you organized, are we learning?"

Using one language upstream and downstream

As an integrated oil & gas company operating various large & small facilities in a multinational environment, the quantification and relative ranking of risks to cause a major accident in such a diverse environment was a difficult task, says Rod Ritchie. "One of the project challenges we came across is that upstream and downstream are really two different worlds. Within upstream, the BowTie methodology is well known, people understand the language. Within

downstream, the methodology is known but with different terms. Comparing apples with apples took a lot of time. To make matters even more complicated, everything in Germany was written in German."

OMV created its own matrix to deal with the complex ranking. "It took us a little while to come up with a 9 by 9 matrix we could use," Rod Ritchie says. "We created with a lot of people contributing to it, which was a good exercise to do. We also included insurance surveys and recommendations from the insurance companies, so we really looked at it from a wide range of perspectives."

Ownership for implementation

A consolidated Risk screening list is now available for selected OMV facilities, clearly indicating the consequence, likelihood and MAE risk. As a result OMV is now able to prioritize and apply focused approach to risk mitigation projects and initiatives in a more structured manner.

A sense of awareness has been generated at each level of the organization to understand the consequence of a major accident event. "We have two levels of risk owners," Rod Ritchie explains. "The ultimate risk owner, one of the executive board members, and the site risk owners, who run the day to day business at the site."

The study will lead to another result as well. "To be able to talk about risk mitigation, we need to be talking in one language. There are going to be some changes at certain sites to ensure this."

At the level of exposure, facility management is now committed to develop and implement mitigation plans and ensure that the risk of major accidents is reduced to an ALARP (As Low As Reasonably Practicable) level.

"It's amazing what you find, when rolling up your sleeves and looking at the processes," Rod Ritchie says. "To anyone not comfortable with the answers to questions like 'how large is your risk appetite' or 'how well do you know the risks at your major plants', I can recommend doing a Major Accident Event study."

Industry Award nomination 2012

OMV has been nominated for an Industry Award in the category Industry Leading Initiative. Organizations nominated in this category have shown a distinct management effort to make a change.

OMV is an integrated, international oil and gas company. With Group sales of EUR 34.05 bn and a workforce of 29,800 employees in 2011, OMV Aktiengesellschaft is one of Austria's largest listed industrial companies. In Exploration and Production, OMV is active in two core countries Romania and Austria and holds a balanced international portfolio. OMV had proven oil and gas reserves of approximately 1.13 bn boe as of year-end 2011 and a production of around 288,000 boe/d in 2011. In Refining and Marketing, OMV has an annual refining capacity of 22.3 mn t and as of the end of 2011 approximately 4,500 filling stations in 13 countries including Turkey.

In Gas and Power, OMV sold approximately 272 TWh of gas in 2011. In Austria, OMV operates a 2,000 km long gas pipeline network with a marketed capacity of around 101 bcm in 2011. With a trading volume of around 40 bcm in 2011, OMV's gas trading platform, the Central European Gas Hub, is amongst the most important hubs in Continental Europe. OMV further strengthened its position through the ownership of a 97% stake in Petrol Ofisi, Turkey's leading company in the retail and commercial business.

Investigator 3 structures your incident investigation by following the steps of the TOP-SET® methodology. There are two incident analysis methods in Investigator 3: Root Cause analysis and Tripod Beta analysis. Both are well-known methods to find the most important and underlying causes of an incident.

BowTieXP is a next generation risk assessment tool that uses the BowTie Method to assess risks. BowTieXP is unique in its ability to visualize complex risks in a way that is understandable, yet also allows for detailed risk based improvement plans. Many global companies have chosen BowTieXP.