YET AGAIN, ANOTHER ENGINEERING ACCIDENT!  
25th June 2012

THE fire at the PETRONAS Carigali’s Tukau B Platform offshore Miri on Monday, 11 June 2012 highlights yet another accident at an oil and gas facility. The alarming numbers of accidents that have occurred deserve attention from both the industry and authorities. There could be some serious underlying issues pertaining to safety procedures or their enforcement in the industry.

Whilst technical reasons are often cited as a common culprit that causes accidents, human factors could well be an important element in the safety process. The lack of understanding and appreciation of safety concepts amongst engineering personnel who simply follow procedures by rote, are some of the possible causes.

For example, while various standard operating procedures exist for safe operations of skids and package equipment, the procedures need to be applied with some thought. A pre-job safety analysis and an understanding of the actual job condition and limitations of the specific equipment need to be incorporated into the work plan. If there is any deviation from the initial plan, a review needs to be carried out to ensure that any new risks are identified and adequately managed.

Many things are often taken for granted as well. Engineering documentation may be a standard requirement, but are they properly reviewed prior to operation? Equipment of similar utility may not have the same configuration, with possible subtle differences. Have alerts and safety warnings for known problems by equipment manufacturers ever been monitored? Procedures applicable to one type of equipment cannot be assumed to be automatically applicable to another. Work which affects systems outside its designated area must be checked, so that they do not result in a compromise of overall integrity and safety. Safety does require a little more understanding, effort and care, which extends beyond the safety manuals.

It is important that lessons learnt from previous accidents are disseminated quickly throughout the organisation and to the industry as a whole. For instance, the accidents which had happened at PETRONAS GPP Plants (explosion, May 2012), Esso Refinery (fire, Sept 2011), Bekok C (fire, Dec 2010) and at other facilities should be documented and made available to authorised personnel. A widespread, timely alert of the causes and suggested preventive measures will reduce the probability of a similar accident to happen again.

In fact, a systematic refresh of the industry’s collective experience on a periodic basis may be beneficial to the industry as a whole. These may be coordinated through an impartial body, for example, the National Institute of Occupational Safety and Health (NIOSH), or the Institution of Engineers, Malaysia (IEM).

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ONE MORE LESSON IN SAFETY  
8th August 2012

THE fire on board of the Malaysian International Shipping Corporation (MISC) tanker, MT Bunga Alpinia in Labuan on 26th July 2012 during methanol loading is yet another unfortunate incident that has not only resulted in the loss of lives and damage to properties but also indirect economic losses due to disruption at the Patau-Patau Power Station. It is a cause of concern for everyone in the industry but hopefully, it will also prove to be an opportunity for rectifying shortcomings and in initiating new measures to improve the existing safety procedures and to ensure that accidents are minimised, if not altogether mitigated in future.

Whatever the reasons for the incident, the cause of the fire will fall into one of these three possibilities: human error, faulty safety systems or a combination of both. If freak lightning was the cause of the incident as reported, then the next question arises is whether sufficient mitigating measures have been taken, as there are technologies available to contain the effects and dangers of lightning. To solely identify lightning as the cause and at the same time to label it as too challenging to manage is technically unjustifiable; which leaves us with the pressing question – what really did happen?

A comprehensive investigation and a transparent answer will benefit everyone if it could help to avoid such incidences in the future because lightning is a natural phenomenon which will not disappear but will continue to happen.

It is pertinent to note that this incident enhances the fact that Hazard and Operability Studies (HAZOP) are still very fundamental to risk management. From the HAZOP’s perspective, the transfer of flammable material such as methanol will surely need to address fundamental questions such as the dangers of lightning which would have required a systematic engineering approach of protection, prevention and mitigation.

As a learned professional organisation, the Institution of Engineers, Malaysia (IEM) would be keen to engage with the relevant authorities on safety issues such as this, as our members and the engineering fraternity in general will learn from such incidences that will go a long way in helping to build a safer Malaysia.

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