

ENGINEERING ACCIDENTS ARE PREVENTABLE

15th May 2012

THE explosion at the Petronas Gas Processing Plant in Kerteh on Thursday, 10 May, highlights the safety and risk factors inherent in engineering work and the need for adherence to the highest safety standards to prevent the occurrence of accidents. Otherwise, needless injuries and loss of lives as well as damage to properties and assets will result.

In view of this incident, the Institution of Engineers, Malaysia (IEM) considers it pertinent and timely to highlight the importance of safety in engineering. Many people know that in our technological world, engineering products and processes are instrumental in shaping a better life for all of us, but many are unaware that lots of these products and processes actually come with inherent risks.

Whether it is the operation of nuclear power plants, flying a plane or simply driving our cars, they can be dangerous if not properly built and correctly handled. Thus, stringent safety standards and the deployment of qualified personnel mitigate these risks. When standards are compromised, whether they are due to ignorance or indifference, problems will arise and danger will seep in.

For example, whilst there are standards and regulations in place to govern safety, the IEM noted that there is often a lack of understanding and commitment in the way that these standards and regulations are implemented. There is no follow-up on resolving the actual engineering problems that the procedures refer to, often with disastrous consequences.

Organisations should always ensure that appropriate and thorough reviews are conducted to properly understand the task at hand, to make the right estimate of the risks involved in executing the task and the appropriate measures to mitigate risks. Awareness programmes on engineering safety must therefore be accorded top priority to maintain the understanding of and commitment to safety by everyone in an organisation.

Besides the human factors, technical reasons are often overlooked usually by economic and financial analysts. One particular risk would be related to operating and maintaining a plant, which is at the end stage of its designed life. The potential for equipment in such a plant to be sub-optimal is very high. In order to mitigate the potentially higher risks of such plants, continuous and tighter surveillance of personnel and the work environment should be in place. A plant should be refurbished or rebuilt when it reaches the end of its designed life and any attempt to extend its life without special precaution is a recipe for failure, possibly of catastrophic proportions. Therefore it is the responsibility of an organisation to employ professionally qualified engineers, not only during design and construction stages, but also during maintenance stage where the risk of accident is higher.

The cause of the explosion at the Petronas Gas Processing Plant in Kerteh is being investigated by the relevant authorities and the result is yet to be known. However, the findings will definitely be invaluable in helping to identify the likely solutions needed to mitigate future accidents. If there is a need, the IEM is willing to provide the technical expertise and independent advice for investigating the cause of this accident and in reviewing the follow-up measures required to prevent a similar accident from occurring again. ■

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 Honorary Secretary
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Serious issues concerning safety procedures

THE fire at Petronas Gas Processing Plant in Kerteh on Thursday, 10 May, highlights yet another accident at an oil and gas facility.

The number of accidents, however, attention by the industry and the authorities. There could be reduced serious issues regarding safety procedures and/or enforcement in the industry.

Whilst technical reasons are often cited as the common cause of accidents, human factors could well be an important element in the safety process. It is often suspected that engineering personnel do not have proper understanding of and appreciation for safety concepts beyond that of simply following procedures by rote.

For example, while various standards and operating procedures exist for

nate operations of such and such equipment, the procedures seem to be applied with loose thoughts. 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 usual plans, 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. Engineering documentation may be standard requirement but are they properly reviewed prior to operation. An equipment of similar utility may not have the same configuration, with possible subtle differences? Are alerts and safety warnings for known problems by equipment manufacturer

ever investigated?

Procedures applicable to one type of equipment cannot be assumed to be automatically applicable to another, and work which affects systems outside its designated area must be checked that they do not result in a compromise of overall integrity and safety.

Safety does require a little more understanding, effort and care that extend 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 example, the accident that happened at the Petronas Gas Processing Plant (explosion, May 2012), Feroz refinery (fire, September 2011), Bako's (fire, December 2010) and at other facilities should be

NEW STRAITS TIMES
IEM offers technical expertise to probe gas plant explosion

KUALA LUMPUR: The Institution of Engineers Malaysia (IEM) has offered its technical expertise to assist the relevant authorities in investigating the cause of the explosion at the Petronas Gas Processing Plant in Kerteh on Thursday.

The IEM said that it will provide independent advice and technical expertise to the relevant authorities in reviewing the follow-up measures required to prevent a similar accident from occurring again.

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If there is a need, the IEM is willing to provide the technical expertise and independent advice for investigating the cause of this accident and in reviewing the follow-up measures required to prevent a similar accident from occurring again.

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