



IEM

The Institution of Engineers, Malaysia

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Safety in Engineering Special Interest Group (SESIG), IEM
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BEM APPROVED CPD HOUR: 2.0
REF. NO.: IEM21/HQ/478/T (w)

WEBINAR

TALK ON “SAFE MANAGEMENT OF AMMONIA REFRIGERATION SYSTEM”



DEC 4, 2021 (SATURDAY)
11:30 AM - 1:30 PM
VIRTUAL PLATFORM

IEM Students: FOC

IEM Members: RM15

Non-IEM Members: RM70

Synopsis

Ammonia offers superior thermodynamic qualities which require less heat transfer surface, adequate for smaller pipes and results in less energy consumption compared to other refrigerants. Ammonia is widely used as a heat transfer medium of high-capacity industrial cooling systems for the storage, processing, or manufacturing of foods or daily consumption products due to its natural existence in air. This gas has a strong odor smell that can be detected by anyone who comes close to it but may cause serious health effects if exposed to high concentrations of ammonia. It has certain effects to human health such as respiratory distress or failure from immediate burning of the nose, throat, and respiratory tract, while nose and throat irritation leading to coughing if lower concentrations of ammonia are inhaled.

In refrigeration systems the ammonia liquid is stored in closed pressurized vessels and piping. Any release of the pressure will evaporate ammonia gases with rapid formation of vapor clouds that can harm humans. There are many cases which involved ammonia accidents in Malaysia and the aim of this review session is to present on what went wrong with anhydrous ammonia refrigerant system operation and maintenance that give some causes and effects of the accidents. Some of the cases not only affected the safety and health of workers, but also had involved fatalities. Those involved with the undertaking of ammonia refrigeration businesses shall be aware of their legal liabilities and obligations of their workplace risk to safety and health. This session will give a brief review on the new guideline of ammonia refrigeration safe handling published by dosh and case studies.

About Speaker

Ir. Tajul Ariffin Mohamed Nori is a factory and machinery inspector and currently he is working with Forensic Engineering Division, DOSH. He graduated from Universiti Teknologi Malaysia with B. Eng in Mechanical Engineering, 2008 and M. Sc. (Mechanical Engineering), UTM 2017. He is an active committee member in the IEM, a committee member of METD and currently the chairman of Safety in Engineering Special Interest Group (SESIG). For over a decade, he gained his experience in various workplace accident investigation including the construction industry, demolition works, factories, power plant that involving fatality cases, dangerous occurrence cases, near miss incidents, engineering structures failure, heavy machinery accidents and work-related occupational disease. His contribution in various stages of Malaysia Occupational Safety and Health (OSH) law enforcement from OSH law development, law enforcements to safety and health promotions.

About SESIG

The objective of Safety in Engineering Special Interest Group (SESIG) is to inculcate the safety culture, and improve skills and knowledge of our engineering society; so we as engineers can provide engineering services, which uphold the Code of Ethics, and safety, health, and welfare of the workers and public in the performance of our professional duties.

You should join SESIG if you are practicing in one or more of the following areas:

- Safety Management Systems
- Risk Assessment and Management
- Forensic Engineering
- Ergonomics
- Factory and Machinery Management
- Dangerous Machinery Safety
- Certificated Machinery Safety
- Emergency Response Management
- Industrial Hygiene and Occupational Health
- Workplace & Work Equipment Safety
- Construction Safety
- Hazardous Chemical Management
- Security
- Or any related to occupational health and safety engineering

Engineers from various disciplines are dealing with one or more of these safety aspects as part of their engineering responsibilities. SESIG was established as a space for safety engineers and subject matter experts (SMEs) to come together as a technical group to guide engineers of various disciplines on safety related matters based on the national and global needs at the present and for future.

Join us in this webinar as well as sign up to be a member in SESIG (no additional IEM subscription to join if you're already an IEM member).

Not yet an IEM member? Check out our website to join <https://www.myiem.org.my/>

What to expect when you join SESIG

- A knowledge sharing platform in safety and health related issues
- Bridging the gaps on safety and health requirement
- Involve in change and give input on new safety legislation drafting process
- Board of investigators on accident inquiry
- Formation of Safety Technical Expert Panel
- Regular safety alert based on recent accidents case or safety developments
- Bring engineers input on safety issues for the benefit of public, workers as well as assisting society of safety practitioners

Any engineer is ethically obligated for safety, health and welfare matters in their workplace or engineering design. Risk management and engineering control are cornerstone for safety and health management, and prevent accident and minimize such occurrence.