eMARINA

The quarterly newsletter of
The Hong Kong Institute of Marine Technology and
The Hong Kong Joint Branch of the Royal Institute of Naval Architects
and The Hong Kong Marine Engineering, Science and Technology

香港海事科技學會及皇家造船師學會
暨輪機工程及海事科技學會香港聯合分會季刊

Vol. 1 March 2017

HKJB & HKIMT Activities

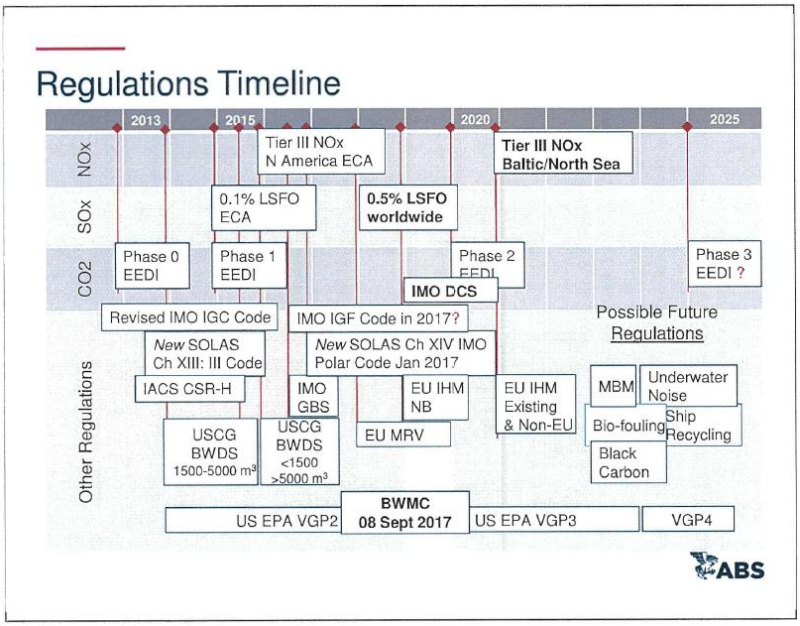
ABS Technical Seminar Environmental Regulatory Update – Post MEPC 70

On 11 November 2016, representatives from the HKJB attended the technical seminar hosted by one of the major classification societies, American Bureau of Shipping (ABS), who is one of the members of the International Association of Classification Societies.

The seminar was presented by Mr. Thomas Kirk, Director of Environmental Performance, who provided an update on the recent developments of environmental protection-related requirements from the IMO, US authorities (USCG and EPA) and the EU. One of the topics of discussion was ballast water management as required under the IMO Convention, Code of Federal Regulations enforced by the USCG and the EPA, as well as the requirements of Code of Californian Regulations. Another topic which attracted interest was on air emissions of sulphur oxides (SOx), covering requirements from the MARPOL Annex VI specifically relating to the North American Emission Control Area (ECA), and California Air Resource Board (CARB). Development of air pollution regulations at MEPC 70 on nitrous oxides emission (NOx) in North America ECA, and in the future the Baltic Sea and the North Sea, was also discussed in detail.

Concerns on the emission of Green House Gas (GHG), particularly CO2, from ships were high on the agenda. The EU has issued their requirements in preparation of controlling GHG emissions from ships, with Monitoring Reporting Verification (MRV) as a first step in collecting vital information for preparing the foundation of future emission control requirements. Similar data collection system requirements have also been developed at the IMO, with in-depth discussions made and subsequently adopted at MEPC 70 as a new regulation, MARPOL annex VI Reg. 22A.

On the right is the timeline of various environmental protection regulations coming into effect. The full set of the presentation materials can be obtained by directly contacting ABS at environmentalperformance@eagle.org.



The seminar was well attended with more than 40 participants from the industry, and lively discussions followed. Mr. Kirk was warmly applauded for his very excellent presentation and informative and knowledgeable explanations on all of the questions raised.

(Submitted by Ir. Ben Y. W. Lau)

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DNVGL Seminar Bulk Carrier Forum

On 21 November 2016, representatives from the HKJB attended the Bulk Carrier Forum hosted by DNV GL, which is an important classification society member in the International Association of Classification Societies.

Mr. Morten Løvstad, DNV GL Vice President, Business Director, Bulk Carrier Segment, in action

The seminar was presented by Mr. Morten Løvstad, DNV GL Vice President, Business Director, Bulk Carrier Segment, and Mr. Pierre Pochard, DNV GL, Maritime Senior Market Analyst, who explained the recent development of the bulk carrier sectors including areas like Market Update, Sharing Operational Experience for Bulk Carriers, Fuel Performance Benchmarking, Drone-based Survey, and Roadmap Towards Autonomous Ships.

Mr. Pochard offered his view on whether reducing tonnage supply would restore the supply-demand balance of bulk carrier market. After looking into the current status of the supply side of the equation, challenges of the newbuilding market, second hand market with resale opportunities, scrapping of "not-so-old" tonnages, option of installing compliant technology on older tonnages and the effects on the implementation of more stringent environment regulations to the trend in scrapping, his forecast for the fleet size and demand growth in 2017 is cautiously optimistic. However, the fleet growth in 2017 will be slow.

Mr. Løvstad drew the attention of the audience on the new technologies that would lead to the implementation of autonomous ships, the use of drones as a survey tool and the use of Efficient Evaluation Tool for Assets for the procurement of vessels.

The basis for the successful implementation of autonomous ships relies to a great extent on the improvements of the communication systems and their connectivity with the ships. To begin, he reviewed with the audience the current efficiency and effectiveness of data and information exchanges and also their impact on costs and safety. Rate and mode of adoption of technology for the development of autonomous ships were also analysed and discussed. He predicted that autonomous ships could appear as early as 2018. He also looked further into the possible challenges that might come with appearance of such ships. In summary, Mr. Løvstad introduced DNVGL's roadmap for the remote operations of autonomous ships.

The use of drones had already been put into practical application by DNV GL for the surveying of ships. Mr. Løvstad presented to the audience the experiences of DNV GL in using such devices in respect to their image quality, capability, scope of application, limitations, benefits, lighting, durability, control, interferences, competences of the user etc. In conclusion, Mr. Løvstad opined that practical application of drones as a survey tool is practicable and improvements to these devices are actively pursued to widen their applications.

In assisting owners to make decisions on the procurement of existing vessels, DNV GL has developed a decision support system called Efficient Evaluation Tool for Assets (EETA). The system is originally developed for container ships. An enhanced version is now being developed for bulk carriers and tankers too. Mr. Løvstad went on to explained that it is insufficient to use Energy Efficient Design Index (EEDI) as the only criterion for selecting vessels. EEDI is an indicator to show that a particular ship has been designed to meet the minimum energy efficiency level per capacity mile required by MARPOL Annex VI for a specific ship type only. On the other hand, EETA is measuring the performance of vessels by comparing their fuel efficiency under common operating conditions. He also explained in detail the characteristics of EETA and EEDI.

Mr. Løvstad also explained to the audience the latest DNV GL classification rule for bulk carriers and went on to share the operating experiences of bulk carriers classed under DNV GL.

This forum was one of the events of the Hong Kong Maritime Industry Week in 2016. It was well received by the industry. More than 40 persons from the industry attended this forum. And lively discussions took place after each of the sessions. Mr. Morten Løvstad and Mr. Pierre Pochard were applauded heartily for their excellent presentations. The audience also was very pleased with the informative and knowledgeable explanations given by the speakers to the questions raised.

Readers who are interested in obtaining a copy of the presentation materials may contact DNV GL at kitty.leung@dnvgl.com.

(Submitted by Ir. Ben Y. W. Lau)

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Visit Daya Bay Nuclear Power Station on 25 February 2017

HKIMT, HKJB and HKIE (MMNC) jointly organised a visit to the Daya Bay Nuclear Power Station in Longgang District at the east side of Shenzhen. A total of 39 members and their families participated in this event. All participants gathered at Kowloon Tong Railway Station at around 08:30 am on 25 February 2017.

Mr Fung from Hong Kong Nuclear Investment Company Limited (HKNIC) was at the assembly point to meet us. A coach was waiting to take the participants from HK to the Daya Bay Nuclear Power Station.

After two hours travelling, we arrived at the power station where it was planted with trees and flowers in European Style everywhere. A quality athletic field was also noticed when the coach driving us inside the power station. After a tour from the coach, we dropped off at the Daya Bay Training Centre. Mr. Fung then showed us the training centre and the simulation room for the trainee operators of the power station where trainees had chance to demonstrate their capabilities to work in a simulating environment.

Training Centre

Exhibition Hall

We were then guided to the Daya Bay viewing platform on the hill where we can have an overview of the power plant. We took group photos there on a hill where reactor towers could be seen clearly with light breeze from sea.

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Group Photo

After lunch, we sat back and relax in a theatre where Mr Fung briefed us how electric energy is generated from Uranium, the operations of the power plant and the company by a movie and some powerpoints.

Briefing in Theatre

Nuclear Power Reactor Model

We then visited an exhibition hall where we had a glimpse of the power station arrangement and the construction of different equipments including reactors.

From this visit we learned that the power station adopted the nuclear technology from EDF of French national utility who assumed technical responsibility for the building of the station. After the station was commissioned in 1994, EDF continues to provide engineering services. The power station is equipped with two 984 megawatt Pressurised Water Reactors which are mostly widely used with a

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proven record of safe operation. The station could withstand the intensity of an earthquake with an impact of up to Level VIII higher than the previous ever recorded.

CLP owned 25% shares of the power station and left the operation duties to its partner, Guangdong Nuclear Investment Company (GNIC).

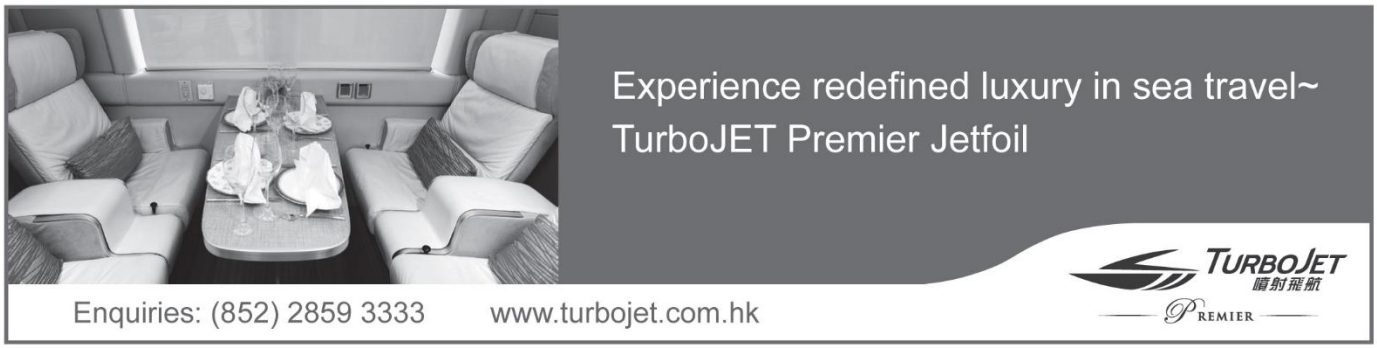
Safety of the power station was assured and monitored by various authorities or organizations, including the follows:

- China's National Nuclear Safety Administration which is the authority to issue permits and safety licenses to the station;
- Ministry of Environmental Protection which monitors the station's operation on environment;
- International Atomic Energy Agency which continues to maintain an active role in safe operation of the station since the building stage of the station.

A plaque was presented to Mr. Fung for the hospitality of the company and the mind broadening explanations given to the participants.

Plaque presented to Mr. Fung of HKNIC

(Reported by Yue Hung Fai)



The Hong Kong Polytechnic University (PolyU) ME 80th Anniversary Alumni Reunion Dinner cum the 1st Outstanding ME Alumni Award on 23 March 2017

The Hong Kong Joint Branch of RINA & IMarEST (HKJB) delegation, led by the Chairman Ir Ben Y W Lau, attended the captioned event at BP International House on 23 March 2017. There were over 50 tables with participation from various engineering enterprises and professional institutions. The HKJB delegation was particularly thrilled with joy to celebrate with HKJB Past Chairman Ir Dr Tsui Shung Yiu, SBS for receiving the PolyU 1st Outstanding Mechanical Engineering Alumni Award.

Ir Dr Tsui Shung Yiu SBS receiving PolyU Outstanding Mechanical Engineering Alumni Award

Ir Dr Tsui Shung Yiu was in the first batch of Marine Engineering graduate form the Hong Kong Technical College in 1967. He completed the Alternative Training Scheme in 1969 and continued to serve as sea-going engineer in the World Wide Shipping Agency Limited where he reached the position of Assistant Superintendent Engineer before joining the Marine Department as Surveyor of Ships in 1978. During his tenure in the Marine Department, he undertook a wide spectrum of responsibilities including surveying of ships, construction of new vessels, representing Hong Kong to attend the IMO meetings, examination and registration of seafarers, marine accident investigation, development of policies and legislation and strategic planning for port development and port services. Under his leadership as the Director of Marine, the Hong Kong Shipping Register had achieved a colossal growth from 6.2 million gross tonnes in December 1998 to over 30 million gross tonnes in January 2006. Ir Dr Tsui won the respect of his colleagues and the shipping community in steering

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the Department to face changes and challenges. In addition to his official commitments, he also participated actively in various community services particularly those related to the development of the maritime sector. He had served as a member of the Advisory Committee on Mechanical and Marine Engineering of the Hong Kong Polytechnic as well as the External Advisory Board of the International Centre for Maritime Studies of the PolyU. Dr Tsui retired from the civil service in 2006 and he continued to participate in various volunteer services. He had served as trustee of the Hong Kong Maritime Museum Trust, member and Chairman of the HKJB of RINA & IMarEST, individual manager of the Stanley Sea School, and executive member of the Hong Kong Sea Cadet Corps. He is also a member of the saxophone team of the PolyU Volunteers.

In the award ceremony speech, in addition to expressing gratitude to various parties including the HKJB, Ir Dr Tsui took the opportunity to sincerely urge the PolyU, in particular the Mechanical Engineering Department to consider the activating of Marine Engineering course. The HKJB was very proud and highly impressed by the contribution and influence of Ir Dr Tsui to the maritime industry as well as the society.

Ir Dr Tsui speaking at the ceremony

(Reported by Ir Leslie Lee and Ir Alan Tsang)

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Maritime Law Seminar Organized by The Institute of Chartered Shipbroker

On 23rd January Institute of Chartered Shipbroker (ICS) Hong Kong branch organised a Maritime Law Seminar in cooperation with Hill Dickson. The event was well supported and attended by our members and the larger industry including law firms and shipowners, shipmanagers, agents and underwriters.

Topics discussed were "Knowing your business partners" and "Managing counterparty risk & Charterers are late paying hire - what to do?" Both the topics are topical issues and related case study(ies) were presented. Speakers interacted with audience during the presentation. During question and answer sessions, the questions raised by attendees had been answered appropriately by the experts.

The guest speaker of the seminar was Ms. Caroline Thomas (Partner, Laracy & Co. in association with Hill Dickinson Hong Kong) and Mr. Julian Clark (Global Head of Shipping, Hill Dickinson LLP).

In the welcome address, Mr. Joseph Chau FICS, Chairman, briefed the audience with branch initiatives over the recent months. He invited the students to take up the Institute qualifying examinations and assured them that the local branch provides help for every student to prepare and take the exam successfully.

Rakesh Sethi MICS (ICS Secretary), delivered vote of thanks to Speakers. He expressed his gratitude especially to Caroline (one of our speaker) who so generously helped to make this event come together smoothly, ICS HK couldn't have done it without her!

The well-attended event was followed by a branch gathering that provided members, students and guests with a networking opportunity over drinks & food.

(*Reported by Rakesh Sethi*)

HKJB & HKIMT Coming Activities

Date	Event
15 April 2017	Technical Visit to Guangzhou, China cum Friendly Soccer Game with GDSNAME
22 April 2017	Technical Visit to Yuanyang Ropes Manufacturing Factory in Xinhui
13 May 2017	Technical Visit to Fire and Ambulance Services Education Centre cum Museum
15 June 2017	HKJB & HKIMT Chairmen Cocktail Reception at the Hong Kong Maritime Museum

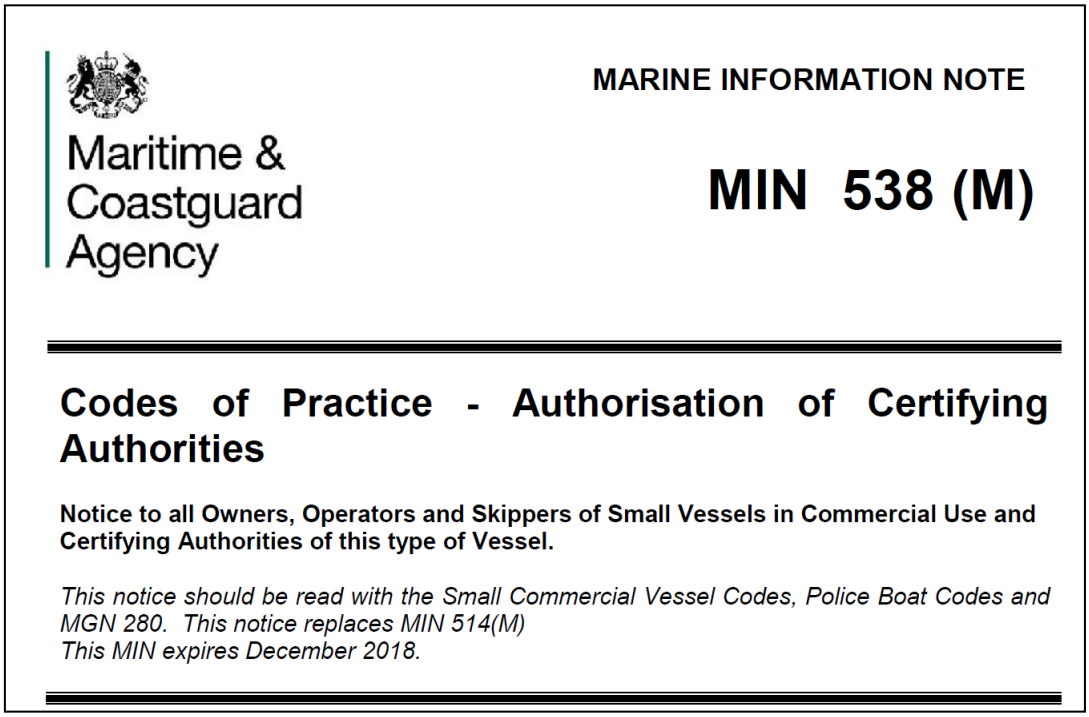
Notices

Certifying Vessels Used In UK

Small utility vessels for use in the UK may be designed and built in Asia, including China and Hong Kong. The technical requirements are given in various UK MCA Code of Practice including:

- The Safety of Small Commercial Sailing Vessels – A Code of Practice (Blue Code)
- The Safety of Small Commercial Motor Vessels – A Code of Practice (Yellow Code)
- The Code of Practice for the Safety of Small Workboats and Pilot Boats (Brown Code)
- The Code of Practice for the Safety of Small Vessels in Commercial use for Sport or
- Pleasure Operating from a Nominated Departure Point (NDP) (Red Code)
- The Police Boat Codes (A, B, C, D)
- The Police Boat Code (PBC3)
- The Code of Practice for the Safety of Small Workboats and Pilot Boats (Industry
- Working Group Technical Standard)
- The Code of Practice for the Safety of Small Workboats and Pilot Boats. Edition 2
- MGN 280 (M) – Small Vessels in Commercial Use for Sport or Pleasure, Workboats and
- Pilot Boats – Alternative Construction Standards is available as an equivalent standard
- to the Small Commercial Vessel Codes of Practice.

HKJB members may like to note the notice UK MCA MIN 538(M) "Codes of Practice - Authorisation of Certifying Authorities". Members who would like to be authorised by the UK MCA in acting on their behalf in certifying small vessels to be used in the UK please refer to this notice. This notice can be accessed via https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/588945/MIN_538_M.pdf.



Maritime & Coastguard Agency

MARINE INFORMATION NOTE

MIN 538 (M)

Codes of Practice - Authorisation of Certifying Authorities

Notice to all Owners, Operators and Skippers of Small Vessels in Commercial Use and Certifying Authorities of this type of Vessel.

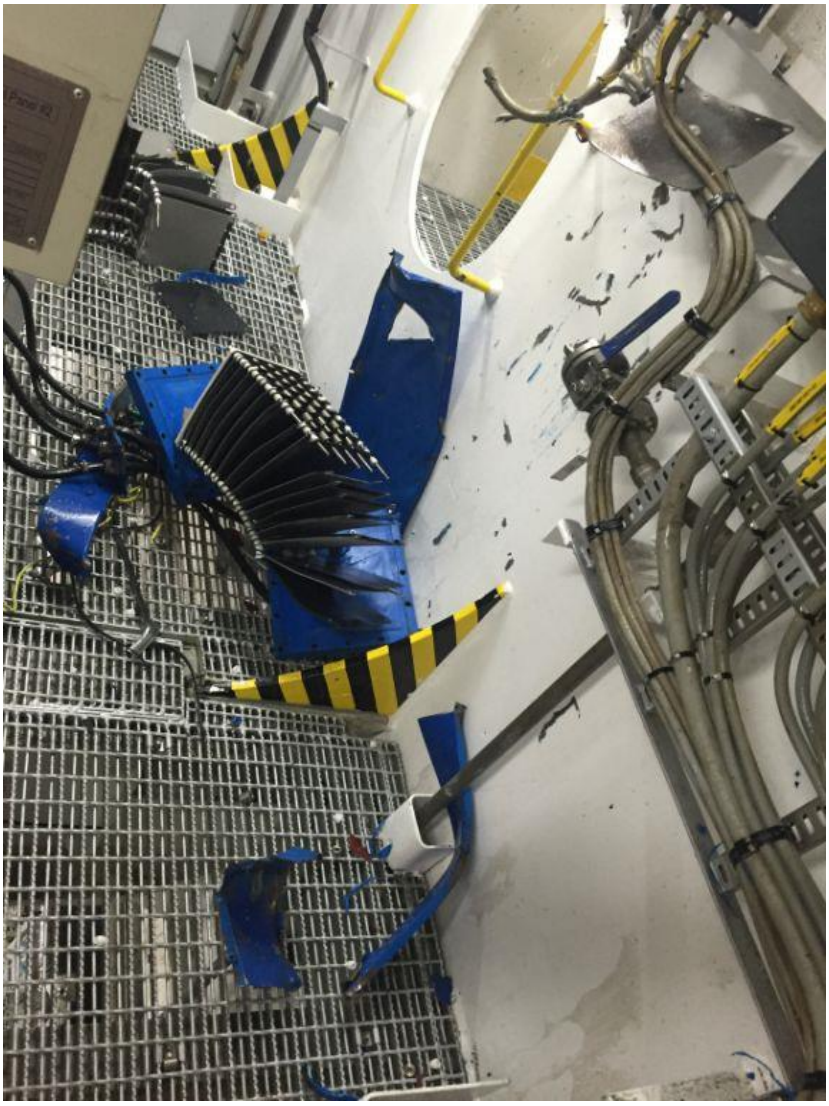
This notice should be read with the Small Commercial Vessel Codes, Police Boat Codes and MGN 280. This notice replaces MIN 514(M)
This MIN expires December 2018.

(*Notified by Ir. Ben Y. W. Lau*)

SAFETY ALERT – EXPLOSION OF BALLAST WATER MANAGEMENT SYSTEM

An explosion of a ballast water management system (BWTS) using electrolysis technology occurred in August 2016 on a semi-submersible operating on the UK Continental Shelf. The manufacturer of

the BWTS issued a Technical Circular # 2007-001 (dated 23 January 2017) alerting owners and operators of ships or offshore units with their system installed, that free of charge annual inspection will be provided.



On 14 February 2017, the manufacturer issued a statement after carrying out a thorough investigation in conjunction with the approval authority and the Health and Safety Executive (HS&E) of the UK, at which time the root cause was found and confirmed.

The manufacturer's statement issued on advised that the catastrophic failure was attributed to the failure on the test engineer's part. Since then, the BWTS has been upgraded and tested the relevant parts at the testing facilities before delivering the BWTS to customers, rather than relying on testing engineers on site.

The HS&E of the UK has also issued a Safety Alert (Bulletin No. ED 2-2016) dated 25 November 2016, advising all relevant parties to perform risk assessment such as a detailed HAZOP by considering the following factors when BWTS using electrolysis technology are installed or planned to be installed. Where hazards are identified the risks to persons and equipment should be eliminated and/or controlled to prevent harm.

- Internal temperature;
- Internal pressure;
- Flow rate;
- Alarm systems;
- Isolations;
- Over-pressure protection;
- Gas production
- Access to and ability to alter control unit controls, Software and/or Override functions;
- Commissioning / Maintenance / Calibration activities;
- Power supply to electrodes
- Proximity / orientation to surrounding persons and equipment

This is not the first time that similar incident occurred to BWTS using electrolysis technology, however, the root cause is not exactly the same. For further information, readers could contact Ir. Ben Y. W. Lau via benlau.md@yahoo.com for further information.

(Submitted by Ir. Ben Y. W. Lau)

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