Tapping in

News about Bulk Liquids Industry Association Inc

Spring 2016 Edition

President's parable

The cold of winter did not slow down progress in our activities. The next meeting in Sydney on Thursday 24 November is in advanced planning stage. A harbour cruise in conjunction with Intertek will follow our general meeting.

The sale of the Port of Melbourne… A report in DCN states in part "separate proposals to acquire a 50-year lease of the Port of Melbourne have received the green light from the nation's competition regulator.

Negotiations continue for the new lease, but the Andrews Government has announced the appointment of experienced maritime and freight executive Rachel Johnson as the inaugural Chief Executive Officer of Victorian Ports Corporation – Melbourne (VPCM). She will commence in the role from September 5.

At our July meeting much discussion took place about SOLAS [safety of life at sea]. The issues about the ramifications of new regulations are still not resolved.

Gavin Vallely of Holman Fenwick Willan delivered an overview on SOLAS Verified gross mass and new Marine Order 42 (Carriage, stowage and securing of cargoes and containers) 2016.

Issues arising from the amendments were discussed widely and a number of unresolved matters thrown up for further debate.

Australian Maritime Safety Authority [AMSA] is the overriding authority for compliance of the changed regulations,

Meanwhile the ACCC said it would not stand in the way of ports and transport operator **Asciano** being bought out by a global consortium, that includes local stevedoring firm Qube, and Canadian infrastructure investor Brookfield Infrastructure Partners.

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"After careful consideration, the ACCC has concluded there is not likely to be a substantial lessening of competition in any market."

The ACCC investigation looked at the import-export supply chain for containerised freight through the ports of Botany, Brisbane, Fremantle and Melbourne.

Irrigate or perish!

There is a bulk liquid that arrives from the sky and lands on the earth where it meanders and does basically whatever it likes. Sometimes it arrives on schedule, but other times without warning or in volumes that forecasters did not envisage.

The well-known poem *My Country* by Dorethea Mackellar explains in great detail about drought and flooding rains. One area in Australia that is subject to drought and flooding rains is the Lake Eyre basin. It covers over one million square kilometres with the north south boundaries below Mt Isa in Queensland to Maree in South Australia. Alice Springs in the Northern Territory and Blackall in central Queensland define the east west perimeters.

Lake Eyre is fed by a number of rivers and relies on the northern monsoon where high volumes of rain fall and feed into a number of rivers and streams. The major rivers are the Georgina, Diamantina, Thomson and Barcoo and Cooper Creek, which flow from central and western Queensland into South Australia as well as the Finke, Todd and Hugh rivers in Central Australia.

This basin is mainly as nature intended and the water flows along the rivers and creeks with very little interruption by development. Not too far to the east is the Murray Darling basin which has a completely different story and is the subject of much controversy and political intervention.

There are many stories about water all around Australia and overarching most is irrigation. Since the explorers crossed the Blue Mountains farmers and

graziers have built dams to hold water and then artificial creeks to move the water to areas where the annual rainfall is not sufficient to maintain agricultural pursuits, or even grouped populations.

Irrigation channels had been carved out across the land with abandon and in many cases, as the passing of time has proven very little forethought. The state of Victoria has a long term average annual rainfall of 660.2mm with the heaviest falls on the Great Dividing Range and into rivers that flow into the ocean. [Some places in the Top End have recorded more than that in one event.]

To cater for the variable rainfall large dams were built, and used to send water down connecting rivers and then into the irrigation holding basins for release into channels to move water to farms. The loss of water due to evaporation and seepage has been estimated to be as high as 80% over long distances with 30% in shorter distances.

A decade or so ago, the Victorian Government took the initiative to reduce loss and modernise the irrigation system.

The Wimmera Mallee Pipeline Project is the largest water infrastructure project in Australia, replacing 17,500 kilometres of inefficient earthen channel with 9,159 kilometres of pressurised pipeline and associated structures.

Construction commenced in November 2006 with the last pipe being laid in April 2010 - well ahead of the 10 year timeframe originally proposed and within the $688 million project budget.

The pipeline will save on average 103 billion litres of water a year and provide a continuous water supply to approximately 9,000 farms and 34 townships across the Wimmera and Mallee.

Similar changes to the irrigation systems in other parts of the state are also in place. Goulburn-Murray Water's Connections Project is one where just

thirteen kilometres of pipeline is providing 7,000 rural customers with high quality and reliable water supply.

Pipeline distribution has largely replaced the existing channel system and the outdated manual water wheels have been replaced with automated control systems that ensure farmers can get water when and where they need it.

The modernisation of irrigation systems including the cessation of supply to inefficient small farms is saving one of our most valuable but often the most disrespected assets.

Some say future wars will be fought over water! But in the interim keep *Tapping In*!

Matta-a-fact I got it now

If Belgium wasn't enough of a destination for beer lovers before, it certainly is now.

A brewery in the medieval city of Bruges is building an underground pipeline that will transport beer from the brewery to its bottling plant, which is about two miles away.

The pipeline is nearing completion, and will be able to transport around 1,500 gallons of beer at 12 miles per hour.

De Halve Maan (The Half Moon) brewery owner Xavier Vanneste came up with the idea as something of a joke in 2010, but he quickly realised that the pipeline would solve the traffic problem his trucks were experiencing.

Apparently, the distribution fleet of 500 road tankers was creating congestion on Bruges' narrow cobblestone streets.

About $300,000 of the $4.5 million construction cost was offset by inviting beer lovers to crowd fund the pipeline, with various levels of membership resulting in a lifetime supply of beer or personalised glasses.

While many residents were thrilled at the prospect of pipeline tendrils allowing them to install a home tap, Mr Vanneste insists that the pipeline will be impossible to illegally tap into, as it ranges from six to 100 feet underground, and is constructed of super-strong polyethylene.

Wave powered electricity

BioPower Systems is a renewable energy technology company based in Sydney that is developing systems for both wave and tidal power conversion. The company is currently working on ocean-based demonstration projects and follow-on market opportunities for its products and services.

The unique bioWAVE™ and bioSTREAM™ ocean energy devices are based on 'biomimicry', or nature-inspired design, and are designed to generate commercial quantities of clean renewable electricity with no greenhouse gas emission and minimal impact on the environment.

The Port Fairy Pilot Wave Energy Project involves installation and ocean-testing of a pilot bioWAVE unit

This system consists of a 26m high steel structure that sways back and forth, largely below the surface of the ocean. This oscillating motion will activate opposing hydraulic cylinders such that the pressurised hydraulic fluid spins a 250kW generator to produce electricity. The electricity will be transported to the grid via a subsea cable.

The $21m Project is designed to test this patented technology in the high wave energy environment of the Southern Ocean. It has received funding from both the Victorian and Commonwealth Governments.

Once commissioned, it is expected to operate for a 12-month period before being decommissioned. Periodic maintenance and testing will be carried out during the operating period, which will culminate with an independent assessment of the bioWAVE performance.

Webb Dock Container Terminal

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Located at Webb Dock East, Victorian International Container Terminal [VICT] the third terminal operator at the Port of Melbourne is developing the container terminal and empty container park.

Phase 1 of the Terminal, to be ready for operation by 31 December 2016, will have one berth of 330 meters fitted with three Neo-Panamax robotic ship-to-shore (STS) cranes, 23.7 hectares of yard and off-dock area with fully automated operations from the gate to the quayside to deliver an estimated capacity of 350,000 standard containers. Servicing the Terminal will be a 10 hectare empty container park with a working capacity of around 200,000 standard containers annually.

Phase 2 will deliver an additional two Neo-Panamax robotic STS cranes and additional container storage increasing the capacity of the terminal to 1 million standard containers by December 2017.

VICT key location, downstream from the West Gate Bridge, and optimal design and operational configuration will allow the Terminal to handle vessels with a capacity of up to 8,000 standard containers.

What are you fracking on about?

A Houston-based oil and gas company working primarily in U.S. shale basins said it signed a 10-year deal to supply natural gas for a Pennsylvania power plant.

Cabot Oil & Gas Corp. signed a 10-year sales agreement to become the sole supplier to a 1,500-megawatt plant planned for Lackawanna County, Pa. Billed as one of the most efficient power plants in the country, the Lackawanna Energy Center power plant will start full-scale operations by the end of 2018.

Dan Dinges, the company's top executive, said the agreement is unique in that it will power a state-of-the-art facility from natural gas "directly in our backyard."

The announcement comes as the energy landscape is shifting away from coal. According to the Pennsylvania Coal Alliance, the state relies on coal for about 40 percent of its electricity. A federal report, however, finds the amount of coal produced in the United States is the lowest it's been since the early 1980s.

Generating electricity accounts for nearly all of the coal use in the United States. Power plants during the fourth quarter received more coal than they consumed, leaving a net surplus of coal on the market.

Natural gas is becoming the primary source of electricity in the United States. Prior to April 2015, the total monthly share of electricity generated by coal had always been greater than gas, data from the U.S. Energy Information Administration shows.

Cabot relies almost entirely on natural gas found in the Marcellus shale basin, which lies beneath Pennsylvania. During the first quarter of this year, the company produced on average 1.6 million cubic feet of natural gas per day from Marcellus, an increase of 10 percent from fourth quarter 2015.

This little piggy went…

Pipelines snake out across all continents and in some places are isolated from roads and are accessed only by rough terrain vehicles or helicopter. But pipelines are not exclusive to oil, gas or water transportation over land or under water, and are used in manufacture. Pipelines enable the transfer of bulk liquid discharged from ships into storages.

Part of the maintenance of pipelines is a process called pigging. Noel Martin of Horizon Industrial Pty Ltd noelmartin@horizonindustrial.com.au provided comprehensive overviews of the whys and wherefores of pigging. A number of PDF information sheets are available by access to the company web site.

Repeated from the web site is an explanation. *Pipeline Pigging refers to the practice of using devices or implements known as "pigs" to perform various cleaning, clearing, maintenance, inspection, dimensioning, process and pipeline*

testing operations on new and existing pipelines. For existing operational pipelines pigging is normally performed without stopping the flow of the product in the pipeline. The "pigs" can be of differing materials and configurations such Polyurethane Open Cell Foam, Cast Polyurethane and Rubber. In pipeliner folklore it is believed that the first pipeline "pigs" used were made from leather strapping bound into a ball or sphere shape. The noise made by the "pigs" as they traversed the pipeline sounded like a pig squealing; hence the name "pigs" was adopted

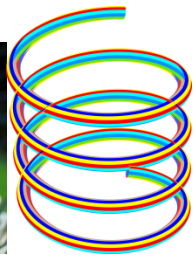
A company making many kinds of condiments used to flush the lines with water at great expense both in time, water cost and energy when changing batches. Nowadays a pig is sent through the lines and when it has completed its journey there is need for only a cursory flush. Many examples can be read at: - http://www.hps-pigging.com/case-studies/food/

http://www.foodprocessing.com.au/content/processing/product/gea-process-engineering-eco-icepush-ice-pigging-service-596065243

Next meeting

Just a reminder that the next general meeting will be held in Sydney on Thursday 24 November 2016!

Plans are to have a guest presenter so please mark your diary and set aside a day for the networking oportunity. A harbour cruise jointly funded by BLIA and Intertek Testing will follow the general meeting.



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