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CEO'S MESSAGE

I hope everyone had a good break during the recent Lunar New Year holidays. With 2015 already in full swing, I look forward to your continued support and another successful year for the National Electricity Market of Singapore (NEMS) during the year of the sheep.

Since last year, many of us in EMC have been working tirelessly on the system changes required for three major rule changes that will be implemented in 2015 – the Minimum Stable Load, Automatic Financial Penalty Scheme and Demand Response Scheme. We provide an overview of the key timelines in this issue of the EMC Bulletin. We look forward to the participation of all market participants (MPs) in the training and system trials that will be arranged in the lead up to the implementation of these significant initiatives.

Still on rule changes, the Energy Market Authority approved two rule changes at the start of the year. The *Review of Dispute Resolution Procedures* seeks to improve the current procedures through which an MP can seek compensation under the Market Rules, while the *Remodelling of Multi-Unit Facilities* aims to better account for situations when constituent generating units of a multi-unit facility are disconnected from the dispatch network. These changes came into effect in January and March respectively.

In the wholesale electricity market, the monthly average Uniform Singapore Energy Price (USEP) traded below \$100/MWh in the first two months of 2015. In comparison, it hovered between \$130/MWh and \$150/MWh in the corresponding months last year. The drop in the USEP was consistent with the decline in fuel oil price since 2014.

I am pleased to share that EMC's signature event, the Singapore Electricity Roundtable, will be back in July this year. We have already confirmed a strong line-up of speakers for the event which has evolved into a leading forum in Asia Pacific for the discussion of issues facing the electricity and energy sectors.

Finally, we are in the final production stages of the NEMS Market Report and the Market Surveillance and Compliance Panel Annual Report 2014. We target to publish both reports on our website by end March, and to distribute the print copies in April.

Dave Carlson
Chief Executive Officer

SAVE THE DATE – SINGAPORE ELECTRICITY ROUNDTABLE 2015

Singapore
Electricity
Roundtable 2015

8 July 2015
The St. Regis Singapore

EMC is pleased to announce that the highly-anticipated Singapore Electricity Roundtable is back in 2015. The event, which is into its tenth edition, will be held on 8 July 2015 at The St. Regis Singapore.

An important forum for the discussion of issues and challenges facing the electricity and energy sectors, the Roundtable brings together influencers, decision makers, potential investors and experts in these sectors from the region and around the world. Close to 250 participants attended the last Roundtable in 2013.

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This year, the Roundtable will discuss developments in the European and Asian gas markets, provide an update on the power sectors in the Gulf region and the Philippines, and look at the regulatory and market developments in Singapore's energy sector.

Distinguished speakers this year include:

- Arnaud Dubois-Denis, General Manager, BG Singapore Gas Marketing: *The Race to Establish an Asian LNG Hub*;
- Lim Yeow Keong, Chief Executive Officer, Sembcorp Salalah Power & Water Company: *State of the Power Sector in the GCC and Key Lessons Learnt in Oman*;
- Eugene Toh, Director, Policy, Energy Market Authority: *Fostering a Competitive and Dynamic Energy Sector in Singapore – An Update on EMA's Initiatives*;
- Martin J. van der Lugt, Director, Chambers Street (UK) Limited: *European Gas Market Developments and the Implications for Singapore*;
- Melinda L. Ocampo, President, Philippine Electricity Market Corporation: *Regional Developments – The Philippines*; and
- Toh Seong Wah, Deputy Chief Executive Officer, Energy Market Company: *Developments in the National Electricity Market of Singapore (NEMS)*.

The event will end with a networking cocktail and dinner.

So, mark the date of the Roundtable in your calendar. Do not miss the opportunity to gain insight into the electricity industry and network with industry experts and decision makers from the region and around the world.

For latest updates, visit our website: www.emcsg.com.

RULE CHANGE UPDATES

The following rule changes took effect on 20 January and 12 March respectively.

1. Review of Dispute Resolution Procedures

As part of its three-yearly review of the dispute resolution procedures, the Rules Change Panel received two proposals to improve the compensation application procedures, which delineate the processes through which a claimant can seek compensation under the Market Rules.

Proposal 1: Extension of time limit for making a determination

After receiving a compensation request, the rules previously required EMC or the Power System Operator (PSO) to notify the claimant of its eligibility for compensation within 20 business days. However, as EMC or the PSO may need to seek further information to support the claimant's application, it was suggested that the time limit of 20 business days commences on either the date of receipt of the compensation request or on the date of receipt of further information requested by the EMC or the PSO, whichever is later. This will allow EMC or the PSO to have sufficient time to assess the compensation request.

Proposal 2: Stipulation of time limit for acceptance of compensation and submission of matter for arbitration

After EMC or the PSO has made a determination on the claimant's eligibility and compensation amount, claimants can either accept the determination or disagree and submit the matter for arbitration. However, the rules previously did not set a time limit for them to do so. The proposal thus suggested requiring that claimants either accept the compensation amount or submit the matter for arbitration within 20 business days of EMC or the PSO's determination.

The proposals were approved by the Energy Market Authority and came into effect on 20 January 2015.

2. Remodelling of Multi-Unit Facilities

A proposal was received to refine the modelling of Multi-Unit Facilities (MUFs) in the Market Clearing Engine (MCE) to better account for situations when any of an MUF's Constituent Generating Units (CGUs) comprising either steam turbines or gas turbine units are disconnected from the dispatch network.

When a CGU is disconnected, the MCE will notionally connect it back to cater to the possibility that they can be connected to the grid in future periods. The MCE previously apportioned the line flows from an MUF's energy schedule across all of its individual CGUs (even those that are only notionally connected), and set each of its gas turbine CGU output as a proportion of its steam turbine CGU output. This led to potential problems whereby the whole MUF might not be scheduled if its steam turbine CGU was not connected. This posed a system risk as it reduced supply, and impeded market efficiency.

To overcome this, a rule change was passed to implement a conditional check to decide whether or not to connect back each non-synchronised CGU to the dispatch network. In addition, two proportionality constraints used to allocate line flows to the CGUs were revised to more accurately reflect the reduced capacity of a steam turbine when one of the two gas turbines that drive it is disconnected.

This rule change took effect on 12 March 2015.

DEMAND RESPONSE, COMPENSATION & PENALTY PROJECT (DRCAP) – AN OVERVIEW

Since the third quarter of 2014, EMC has been working on the following three key projects arising from the Energy Market Authority's directive or rule changes approved by the Rules Change Panel:

1. Modelling of Minimum Stable Load (MSL) and its financial compensation;
2. Automatic Financial Penalty Scheme (AFPS) for deviating generation registered facilities; and
3. Demand Response (DR) scheme for load registered facilities through the demand-side bidding to supplement the current competition on the supply side.

The development of market system changes for MSL and AFPS will be completed by April. EMC will be conducting rigorous testing on these changes before releasing them for market trial. Market participants (MPs), Market Support Services Licensee (MSSL) and the Power System Operator (PSO) will be invited to take part in this market trial, targeted for July. Both the MSL and AFPS are scheduled to take effect on 27 August.

Market system changes for DR are presently in developmental stage and its market trial is scheduled for October/November. The target month for roll-out is December.

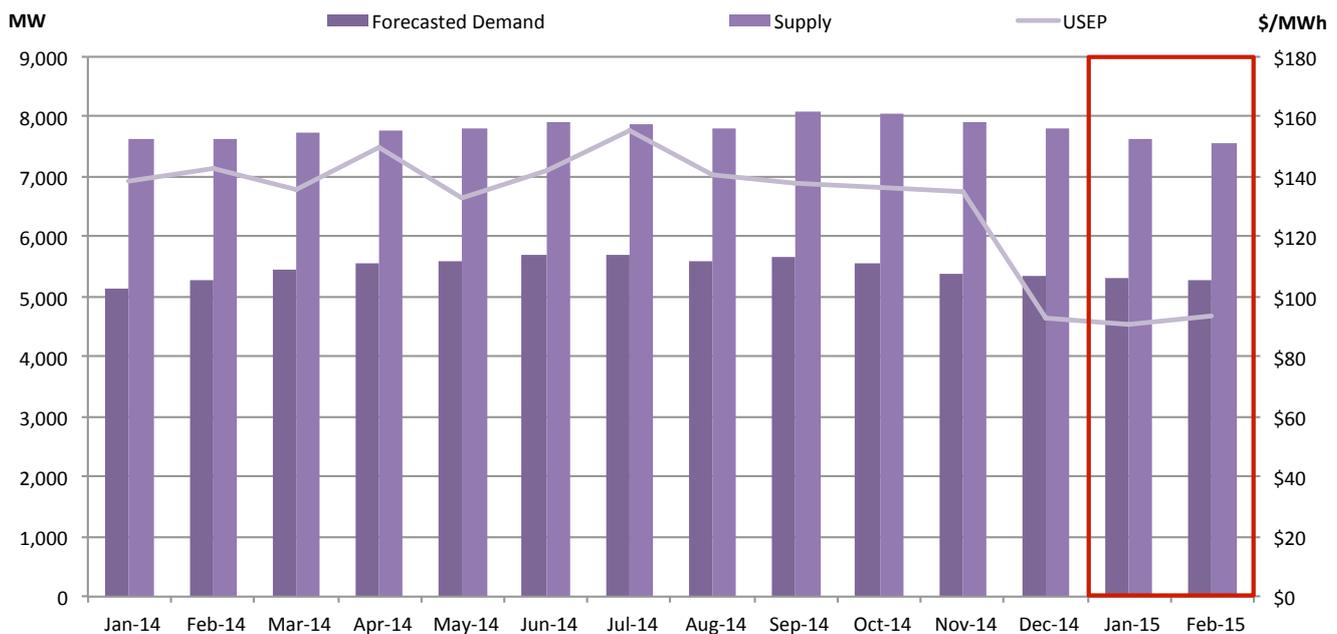
An overview of the target dates for market trials and roll-out for the three key projects can be seen in the table below:

	Target Date	
	AFPS and MSL	DR
Market trial for MPs, MSSL and PSO	Jul 2015	Oct/Nov 2015
System roll-out	27 Aug 2015	Dec 2015

EMC will provide more information pertaining to the training and market trial schedule of these three projects in the next bulletin.

MARKET UPDATE

USEP stays under \$100/MWh in January and February



Despite seeing a year-on-year (YOY) increase in forecasted demand as well as a YOY decrease in supply, the Uniform Singapore Energy Price (USEP) traded below \$100/MWh in the first two months of 2015. The monthly USEP averaged \$91/MWh and \$93/MWh for January and February respectively compared to \$139/MWh and \$143/MWh in the same months last year. The drop in the USEP was largely in tandem with the drop in oil price, where the HSFO 180-CST fell from more than US\$600/MT in January and February 2014 to under US\$400/MT in January and February this year.

Market Information Sharing Forum (MISF)

At the 79th session of the MISF held on 15 January, Bai Jie, from the Market Operations team, presented a round-up of the market's performance including key highlights of 2014. She also provided an in-depth analysis on the price separation incident that took place in November 2014. The forum ended with a status update of current system enhancements as well as on-going projects for 2015.

The MISF held on 12 March was presented by Cherie Chen from the Market Operations team. Market participants who are interested in presenting at future MISFs are encouraged to come forward.

Market Systems User Group (MSUG)

The bi-monthly MSUG forum was held on 25 February. EMC IT updated attendees on the following topics:

- Overview of NEMS systems availability year-to-date for FY 14/15;
 - Overview of NEMS systems service desk calls received;
 - Overview of Change Releases that occurred between February 2014 and January 2015;
 - IT incidents that occurred from December 2014 to February 2015, and actions taken to resolve them;
 - Completion of WebServices Secure Sockets Layer certificate replacement on 7 January;
 - Activation of Disaster Recovery switchover on 16 January and successful switchover on 12 February;
 - Announcement of planned NEMS systems maintenance on 12 March for the deployment of:
- » Market Enhancements for Intermittent Generation Sources;
 - » Bilateral Contract Upload by Market Participants; and
 - » Remodelling of Multi-Unit Facilities.
- Status updates on key on-going IT Infrastructure and Application projects:
 - » Market Enhancements for Intermittent Generation Sources;
 - » Bilateral Contract Upload by Market Participants; and
 - » Demand Response, Compensation & Penalty Project.
- The next MSUG forum is tentatively scheduled for Thursday, 16 April.

EMC TRAINING PROGRAMME NEXT COURSE ON 14 AND 15 MAY 2015

EMC will be holding the next run of its two-day course *Understanding Electricity Markets* on 14 and 15 May 2015. Our staff will be conducting six sessions covering the following topics:

- Understanding Electricity
 - Why Reform and Regulation is Essential in the Electricity Industry
 - The National Electricity Market of Singapore and its Unique Features
 - Pricing Mechanism and Economic Dispatch
 - Settlement
 - How Consumers can Influence Electricity Markets
- The course dates for 2015 are as follows:
- 14 – 15 May
 - 13 – 14 August
 - 12 – 13 November

We advise you to book early to secure your place in the course date of your choice, and benefit from our early-bird discount.

Further details on the programme and on how to register are on our website, www.emcsg.com. For enquiries, please e-mail trainingprogramme@emcsg.com or contact Jan Lee at +65 6779 3000.

SEND US COMMENTS, FEEDBACK OR QUESTIONS

The EMC Bulletin is written by EMC for you and we are always striving to improve our service. We are interested in any feedback you might have about specific articles and topics covered or comments and suggestions about other areas you would like to see included.

Please send your comments, feedback or questions via e-mail to emc.newsletter@emcsg.com or via fax to +65 6779 3030. Thank you in advance for your time and effort.

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