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CEO's Message

The past two months have been busy for the market and for EMC.

Just a few days ago, on 25 April, Keppel Merlimau Cogen's two generating facilities began commercial operations. In March, the National Electricity Market of Singapore (NEMS) saw demand reaching new highs with the first quarter showing strong demand. On the other hand, the regulation price, which had hit a record high in January, decreased in February and March. More details are available in the article on page 3.

Many of you may be interested in the report issued by the Market Surveillance and Compliance Panel (MSCP) on 21 March

containing its findings on the high regulation prices observed in late 2006 and January 2007. A recap of the MSCP report is available on pages 1 and 2.

I am very pleased to welcome Coco Choo as our new Chief Financial Officer and head of our Corporate Services team. Coco joined EMC in early April and some of you may already have had the pleasure of interacting with her as she familiarises herself with our industry and its participants.

Our IT team has worked hard over the past year to ensure the successful implementation of the server replacement and our Data Delivery Phase 1 project. Both were successfully released to the market on 11 March. Work on the migration of the NEMS

servers and applications to new hardware began in March 2006 and the implementation took place in two phases – in January and March. The implementation of the Data Delivery Phase 1 enables market participants to automate the submission of offers into the NEMS as well as automate the retrieval of offer and advisory information.

I would like to end with a reminder. If you have not yet had a look at the recently published 2006 Market Report, please go to our website www.emcsg.com or contact us for a printed copy.

[Signature]
Dave Carlson
Chief Executive Officer

MSCP Investigation into High Regulation Prices

On 21 March, the Market Surveillance and Compliance Panel (MSCP) issued a report containing its findings on the high regulation prices observed from the last quarter of 2006 to January 2007. Recapped below, the full MSCP report is available at www.emcsg.com.

Regulation price trend

The high regulation price trend was first observed in October when the regulation price jumped from an average of \$18.1/MWh in September to \$85.9/MWh in October. This was also higher than the average of \$53.4/MWh for the first nine months of the year. The high price trend continued with averages of

\$85.9/MWh in November and \$187.0/MWh in December, before setting a record high of \$719.5/MWh in January 2007. Although the price remained high in February at \$228.9/MWh, it fell to an average of \$75/MWh for the first ten days of March.

Besides the MSCP's observations of the surge in regulation prices, a major electricity consumer also requested the MSCP to carry out an investigation. The consumer's opinion was that the substantial increase in regulation prices in the wholesale market in 2007 over the historical average price levels was an unacceptable outcome of a competitive

market. The consumer said that it had resulted in a significant increase in the cost of electricity for consumers.

Investigation

The MSCP carried out its investigation by reviewing the overall design and structure of the regulation market. The performance of the market during the review period of October 2006 to January 2007 was compared with its past performance. Given that the demand in the regulation market is fixed at 100 megawatts (MW) and has not changed since

(continued on page 2)



market start, a detailed analysis was carried out on supply conditions such as planned outages, regulation offer quantities and regulation offer prices.

#### MSCP findings

The MSCP noted that its role is to assess if the underlying structure of the wholesale electricity markets is consistent with the efficient and fair operation of a competitive market. The panel considered this question with regards to the regulation market performance during the review period and made the following observations:

##### 1. Energy supply cushion

The average supply cushion for energy declined from a high of 26.4% to 23.6% in 2006. As the supply cushion declines, the capacity set aside for reserve and regulation will become more valuable. A declining supply cushion can therefore be expected to give rise to increasing reserve and regulation prices.

##### 2. Planned outages

With the all-time high level of 805.23MW of combined-cycle gas turbine planned outages in January 2007, it was conceivable that prices would be higher than usual in January. Nonetheless, January was only one of the months

under review. Higher regulation prices had been observed since October 2006.

##### 3. Magnitude and speed of change of high prices

Since market start, it has not been unusual to observe big movements in average regulation prices, even on a monthly basis. However, during the review period, the high prices had deviated from the normal trend previously observed, both in terms of the magnitude of change and the speed at which changes occurred.

##### 4. Energy prices and fuel cost

Since hitting a high of \$167.4/MWh in August 2006, the average Uniform Singapore Energy Price (USEP) has generally been lower. The declining fuel cost and energy demand in some periods were the primary reasons behind the lower USEP. The price for 180-CST HSFO (180-centistoke high sulphur fuel oil), the most relevant fuel reference price for generation companies in Singapore, dropped from an average of US\$51.4 per barrel between April and September 2006 to an average of US\$43 per barrel during the review period. However, unlike energy prices, the regulation price performance during the review period did not reflect

the performance of the underlying fuel oil price fundamental.

##### 5. Offer prices

During the review period, regulation offers, particularly those in the lower price bands (\$0.01 to \$100/MWh) and the extremely high price band (more than \$2,000/MWh) were converging in the \$100.01 to \$2,000/MWh price band. The increased regulation offer prices were mainly responsible for the higher average prices during the review period.

##### 6. Market reaction to regulator announcement

Around the time that the EMA informed market players on 9 February 2007 that it was investigating the high regulation prices, the MSCP observed a significant drop in the regulation prices.

#### Conclusion

Having considered the above, the MSCP concluded that the regulation price performance during the review period indicated that the current regulation market structure warrants closer review. Nonetheless, the MSCP noted that the matter is receiving the requisite attention as the regulator, the EMA, had informed the industry that it is investigating the high regulation prices.

## Supporting the Less Fortunate



Fossil hunt at the Science Center

With our last financial year complete, it is time to reflect on the support that our corporate social responsibility programme (CSR) and the NEMS charity programme have given to four charitable organisations.

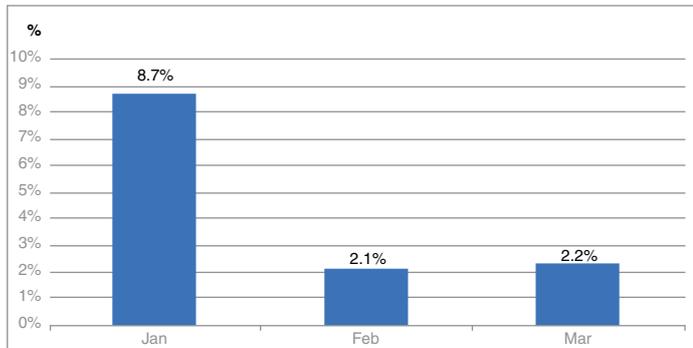
The NEMS charity initiative, comprising staff from Diamond Energy, PowerSeraya, Senoko and EMC, participated in *A Very Special Walk 2006* in support of Pathlight, raising over \$23,000 (see *EMC Bulletin 33* for full details).

The initiative also arranged an outing to the Science Centre for children from Child at Street 11, a child and after-school care centre for underprivileged children. Twenty staff volunteers from the four market participants took 50 children, ages two to six, to see a dinosaurs exhibition. Together, we continue

## Growth of Demand in the First Quarter

In the first three months of 2007, demand increased as compared with 2006 (see Chart 1). The strongest increase was in January: 8.68%. In addition, on 27 March, the highest daily average demand ever, of 4,785MW, was recorded as well as a new peak demand of 5,525MW.

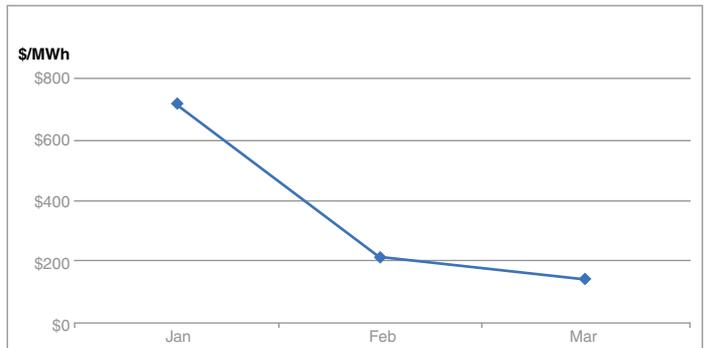
Chart 1: Change in Year-on-Year demand for Q1 2007



## Regulation price declined in February and March

It was mentioned in *EMC Bulletin 36* that the record high regulation price since market start was registered in January. However, regulation prices then fell in the following two months. In March 2007, the monthly regulation price decreased for the second consecutive month to settle at \$142/MWh (see Chart 2).

Chart 2: Monthly regulation price drops in Q1 2007



## Keppel's Two Generating Facilities Begin Commercial Operations

As reported in *EMC Bulletin 35*, Keppel Merlimau Cogen started its commissioning activities on 30 October 2006. As of 25 April, Keppel Merlimau Cogen's facilities have been

officially registered and now trade as two combined-cycle gas turbine units. Similar to most generating units registered in the NEMS, these two generating units are equally capable

of providing reserve and regulation. These additional units bring the total number of registered generation facilities in the NEMS to 38.

to make a difference for both organisations in addition to each company's own programmes of giving back to society.

EMC's staff volunteer events form an integral part of our CSR programme to help foster the spirit of generosity.

We started in May with a telematch with the clients of the Movement for the Intellectually Disabled of Singapore (MINDS) at Ang Mo Kio. It was a rewarding experience that provided the EMC staff volunteers with the opportunity to interact with the clients in an active and participative way.

The charitable spirit of our staff lit up when we transformed the Christmas tree in our lobby into a Wishing Tree decorated

with wishes from clients from the MINDS centre at Ang Mo Kio. Almost 50 gifts were bought and donated by our staff in addition to cash donations from staff and EMC of \$4,770 to the centre's fee subsidy fund for transportation and training. Through our engagement with MINDS Ang Mo Kio over the past years, we have witnessed how important and beneficial the centre and training is for these people, and EMC will continue its support.

Chaoyang School, under the auspices of the Association for Persons with Special Needs, which serves people with learning disabilities, recently merged with another school and wanted to host its first sports day for its 300 students in June 2006. EMC donated trophies

and different coloured t-shirts for each of the teams. To ensure that there will be another sports day to foster camaraderie among the students, EMC will sponsor this year's event on 6 July, and our staff will volunteer and compete in some of the events.



Getting ready for the Telematch

## User Forum

### Market Information Sharing Forum (MISF)

On 20 March, our bi-monthly MISF drew strong attendance from the industry. The forum covered the usual topics of market performance, market share and market outlook. We also briefed the forum on the topic of pricing re-runs. EMC had observed abnormal market network node (MNN) prices on a fully connected generating unit, due to the binding of a type 1 artificial line. This is the virtual line that connects physical units within a facility. This observation drew much discussion and many different points of view from the industry players, thereby making the session a lively one.

Attendees were given advance notice of the planned enhancements to the market clearing engine (MCE) in the financial year 2007/2008. It was also announced that the revised *EMC Market Trading Report* would be rolled out to the market stakeholders from 26 March onwards. Last but not least, we briefed the market participants on the re-modelling of artificial type 2 lines, discussed in detail in *EMC Bulletin 36*, which was successfully implemented on 9 February.

The next MISF is scheduled for Wednesday, 16 May at 2.30 pm.

### Market System User Group (MSUG)

During the MSUG meeting on 19 April, EMC provided market participants with an update on the progress of current IT projects as well as an insight into future projects, including the Offer Management System, which will provide market participants with a feature-rich web-based replacement for the PowerBid application. This project is due to start shortly and is scheduled to be completed in mid 2008.

As part of promoting the usage of web services among market participants, EMC is planning to arrange a visit to the Singapore Infocomm Technology Federation (SiTF) SOA Centre in May. The centre specialises in interoperability testing of web services. Participants who would like to know more about web services and how the SOA centre can help them should contact the EMC Help Desk at [helpdesk@emcsg.com](mailto:helpdesk@emcsg.com) to register their interest in attending this event.

The next MSUG is scheduled for Thursday, 21 June.

## EMC Training Programme – Next Course on 17 and 18 May

EMC will be holding its regular two-day training course *Understanding Electricity Markets* on 17 and 18 May. Our staff will be conducting six sessions covering the following topics:

- Understanding Electricity
- Overview of the Electricity Sector
- The NEMS and its Unique Features
- Pricing in Detail
- Settlement
- The Demand Side

Further courses are scheduled for:

- 16–17 August 2007
- 15–16 November 2007

We advise you to book early to secure your place in the course 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](http://www.emcsg.com). For enquiries please e-mail [trainingprogramme@emcsg.com](mailto:trainingprogramme@emcsg.com) or contact Ong Pui Sze at +65 6779 3000.

## Send us Comments, Feedback or Questions

The bi-monthly *EMC Bulletin* is written by EMC for you and we are always striving to improve our service. Therefore 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 any questions either via e-mail to [info@emcsg.com](mailto:info@emcsg.com) or via fax to +65 6779 3030.

Thank you in advance for your time and effort.