



professional transparent cost-effective people ideas integrity commitment teamwork

### CEO's Message

This is my last CEO message as I step down as CEO of EMC on 31 December. I would like to take this opportunity to thank all of the National Electricity Market of Singapore (NEMS) participants that have supported EMC during my time as CEO.

The goodwill that the management and the staff of the market participants have displayed, even if the initiatives were not always in their commercial best interest, is one of the key memories that I will take with me.

Over the past 12 months, it was gratifying for me to see a broadening of focus from the internal market to the external market of the retail customers. I very much enjoyed the

occasions that were afforded to me to interact with retail customers and I am sure that the level of interaction will continue to increase as it is important for the credibility of the market.

I would like to commend the industry on the changes it has embraced over the years, changes that have driven market evolution. In many markets, participants accept change rather reluctantly, but Singapore embraces evolution that lends longevity to the market design.

Transparency remains a challenge for our market. I would urge market participants to see transparency as an opportunity rather than as a challenge. Transparency brings many benefits to a market. The NEMS should

focus on the areas where transparency would positively enhance the market without touching on national security issues.

I am certain that if market participants continue with the same commitment and openness to change that they have shown in the past five years, the NEMS would continue to evolve and remain at the forefront of leading electricity markets in Asia.

Allan Dawson  
CEO, Energy Market Company

### EMC Welcomes Diamond Energy as New Market Participant

On 11 November, Diamond Energy Pte Ltd became the newest participant in the Singapore Wholesale Electricity Market. Diamond Energy is also the first organisation to join the market under a license to trade in the wholesale electricity market granted by the Energy Market Authority. Diamond Energy will be trading in the reserve market.

Diamond Energy is a privately owned boutique energy services company providing innovative energy solutions to clients and partners in Australasia.

In Australia, Diamond Energy has been awarded the build, own and operate contracts for three biogas power generation projects in northern Victoria state. The company intends to join the National Electricity Market of Australia as a market generator.

EMC is pleased to welcome Diamond Energy to the Singapore Wholesale Electricity Market.

### Management Changes

EMC would like to thank Allan for building EMC to what it is today and for his commitment to the NEMS. He has made tremendous contributions, not only to EMC but also to the market, as one of the driving forces behind the success of the NEMS in its first three years of operations. We wish him all the best in his future endeavours.

Jomar Eldoy (M-co Group CEO) is CEO on an interim basis, as of 1 January 2006, until a permanent CEO is appointed. Dave Carlson (also of M-co) is interim COO, assisting during this transition period.



## Rule Change: Allocation of Reserve Cost

Reserve cost is currently allocated amongst generators based on their metered injection energy quantity (IEQ).

With IEQ as the allocation basis, generators that contribute to system security by generating more during a contingency may be penalised with a larger share of reserve cost.

This was seen as inequitable and EMC was requested to review whether the IEQ was the correct basis for allocating reserve cost.

Consequently, EMC proposed that the basis for allocating reserve cost be changed to the scheduled energy quantity of generators. The reasons were as follows:

1. It would bring a closer matching of cost to causer. Rationale: The quantity of reserve required is largely based on the (ex-ante) amount of energy scheduled for production by generators. Thus, the proposed basis would allocate reserve cost to generators according to how they create the need for reserve.

2. It would give generators the incentive to revise offers quickly following a forced outage. Rationale: With reserve cost allocated based on IEQ, a generator that is down would pay no reserve cost because its IEQ is zero. There is hence no urgency for it to revise its offer. With the proposed basis, a generator that is down would want to revise its offer quickly so as to avoid being charged for reserve when it is scheduled to generate but cannot do so in real time. This would allow for more efficient dispatch because offers would better reflect the capabilities of generators in real time.

3. It would remove the disincentive for generators to respond in contingencies, thus helping to maintain system security. Rationale: When system security is threatened in real time, the prospect of incurring higher reserve charges through higher IEQs may deter generators from supplying more energy to relieve that threat. With the proposed basis, a generator that is able to relieve

a security threat in real time would not need to worry about incurring higher reserve charges as its IEQ would not affect its allocated reserve charge.

The EMA has approved the rule change to modify the basis of allocating reserve cost amongst generators from their IEQ to their scheduled energy (from the real-time dispatch schedule). Details of this rule change can be found in paper no.: EMC/RCP/22/2005/244 on EMC's website.

EMC shared this change with market participants at EMC's Market Information Sharing Forum on 23 November 2005.

EMC has commenced the settlement IT system development necessary to support the rule change. This will be followed by user acceptance testing. The change is due to be implemented on 9 February 2006.

If you have any queries on this change, please contact Paul Poh, SVP Market Administration.

## Re-appointment of MSCP Members and the DRC

The EMC Board reappointed members of the Market Surveillance and Compliance Panel (MSCP) and the Dispute Resolution Counsellor (DRC). Their new terms commenced on 1 January 2006.

The MSCP is responsible for monitoring market activities and enforcing market rule compliance. At market start on 1 January 2003, prominent lawyer Joseph Grimberg SC was appointed as Chair, MSCP. Other distinguished individuals who were appointed to the Panel at that time were economist Professor Lim Chin, electrical engineer Lee Keh Sai and lawyer TPB Menon. The latest addition to the Panel in 2005 was banking chief executive David Wong.

George Lim, litigation lawyer, mediator and arbitrator was appointed at market start as the Dispute Resolution Counsellor to help resolve market disputes.

The terms of all of the panel members who were appointed at market start expired at the end of December 2005. Upon discussion with EMC, they all agreed to continue in office and were reappointed by the EMC Board. The MSCP members were reappointed with terms of different duration of up to three years so as to ensure ongoing continuity on the Panel. The DRC was reappointed for a three-year term.

EMC would like to express its appreciation to all panel members for continuing to devote their time and efforts to the National Electricity Market of Singapore.



## Meeting of the Best at Singapore Electricity Roundtable 2005

EMC gathered some of the best minds in today's global electricity industry on 14 and 15 November 2005 for the inaugural Singapore Electricity Roundtable at the Grand Hyatt Singapore.

Over 120 participants — including representatives from our market participants, the EDB, the electricity and energy industry, financial institutions, law firms and consultancies from Hong Kong, Malaysia, Mongolia, New Zealand, Singapore, Sweden and the US — convened to engage and participate in an event dedicated to the electricity industry.

This gathering saw the highest participation of all our events, and EMC would like to thank all attendees for their sound support of the Roundtable.

Participants listened to inspirational debates among panel members and animated exchanges between speakers and audience members.

EMC's Chairman Tan Soo Kiang opened the two-day event, remarking, "EMC, as market operator, not only prides itself on operating an efficient market, we also see it as one of our objectives to bring the industry together".

"The timing of this Roundtable is particularly pertinent, given the recent buzz that the divestment of the Temasek generators could occur as early as 2006."

The first speaker, Sohail Hasnie, Senior Energy Specialist from the Asian Development Bank, updated participants on regional developments in power reform. Advocating the need for reform, Mr Hasnie also cautioned that there is no single answer to fit all needs.

Next was Frederick T. Baird, one of the architects of Singapore's electricity market and a noted authority on network industries and competitive markets, and currently Head of Europe and Middle East for CRA International.

In his presentation, Mr Baird took a critical look at his initial design for Singapore and where the market is today, covering vesting contracts, retail competition, derivatives market, gas

market reform and market transparency. He ended by noting, "that there is always room for improvement but Singapore can be proud of its liberalised electricity market (and should get on with the job in gas)."

Both in-depth and insightful, his presentation certainly met participants' expectations, some of whom had attended the Roundtable specifically to hear him.

Another highlight was the panel discussion in the afternoon on the benefits and costs of transparency in electricity markets. Jomar Eldoy, EMC board member, facilitated the panel discussion with Mr Baird and two eminent local experts — Roy Adair, President and CEO of Senoko Power Ltd, and Neil McGregor, Managing Director of PowerSeraya Ltd.

Two of the gentlemen presented their views on the benefits and costs of market transparency and offered interesting personal insights into the pros and cons of the issue with different perspectives on transparency.

With Mr Baird also stating his position on the issue, it provided for a very lively exchange.



**Frederick T. Baird fielded questions and queries from a captivated audience, many of whom had come just to hear him speak.**

Prompted by questions from an enthusiastic audience, the panel took on various queries, and the room was abuzz with engaging exchanges.

The day ended with two presentations. Geoff Swier — a consultant at Farrier Swier Consulting and recently appointed to the Australian Energy Regulator — offered participants an insight into the recent major reforms to the Australian system of energy sector regulation.



**The event drew more than 120 delegates and 7 speakers from around the region, hailing from Asia, New Zealand and the US**



With focus on electricity transmission and wholesale electricity markets, Mr Swier gave his views on the lessons that Singapore and other markets could draw from the Australian example.

Paul Poh, EMC's Senior Vice President of Market Administration, presented the results of an electricity Market Operation Benchmarking Survey, facilitated by EMC in 2005 among nine market operators around the world. The findings included areas where the National Electricity Market of Singapore (NEMS) and EMC set best practices, areas for improvement and areas for future consideration.



**Jeanne Cheng of SP Services was one of many who took the opportunity to tap some of the best minds in the industry**



The day ended on a special note with a gala dinner at The Forbidden City at Clarke Quay. The highly thematic Bar CoCoon was transformed into a Chinese Opera gallery, where guests were treated to dramatic performances such as plate spinning and face mask changing.

EMC's CEO Allan Dawson opened the second day that focused on risk management and trading, with presentations by speakers who provided insights into how trading and risk management practices in Singapore and other markets are likely to change in the future.

First at the podium was Bruce Turner, SVP for Suez Energy International and advisor to Electrabel, providing a trader's perspective on risk management.

Mr Turner used his own experiences in three different markets (Europe, Singapore, New Zealand) at different stages of market evolution to provide an interesting perspective on how electricity is not just another traded commodity, as it possesses unique local and regional peculiarities. In addition, Mr Turner also gave insights on how to hedge generation output and how to best optimise and manage portfolios for value.

Mr Allan Koh, Executive Director of Morgan Stanley Dean Witter Capital Group Singapore, followed with his presentation on energy trading. He shared his extensive experience in physical oil and derivative markets, starting with an outlook for the price of oil, the current state of the oil market and the elasticity of today's fuel

market. Fuel oil hedging and various examples of the most common hedging instruments were of great interest to the audience, as risk management and trading are key for players in today's electricity markets.

Allan Dawson closed the main session of the Roundtable noting that he was very pleased to bring together participants from all over Asia and further a field. He said that the high attendance underscored the level of interest in a forum purely focused on electricity industry reform.

In the afternoon, many of the participants joined in one of the two workshops or played golf.

The workshop providing an introduction to electricity trading and risk management, conducted by Kaspar Walet of Maycroft, was fully booked with over 35 attendees. Just as popular was the other workshop conducted at EMC premises by Yip Pak Ling, Senior Vice President of Market Operations, who provided an overview of how the NEMS operates.

This inaugural event was very well received by the participants — for both the quality of the event and the high calibre of speakers as well as the relevance of the topics. It was a privilege for EMC to organise and host the event, which we hoped would help to position Singapore as a hub for discussion on the evolution of the industry.

We would again like to thank all of the participants for their support and look forward to hosting the Singapore Electricity Roundtable 2006. Watch this space for the 2006 dates.



**Colourful feast: Madame Butterfly was the theme that lent a dramatic flair to the gala dinner at The Forbidden City**



## Nurturing a Giving Spirit Throughout the Year

Goodwill and generosity are not only associated with the year-end festive celebrations. Here at EMC, the spirit of giving is nurtured throughout the year.

A series of staff volunteer events were organised in 2005 to help foster the spirit of generosity towards the less fortunate. These events are part of the company's corporate social responsibility programme, and are organised specifically for EMC staff involvement.

The year's activities kicked off with a tour of the F&N Coca Cola Factory, on 18 September, with friends from the Chao Yang Special School. This school is under the auspices of the Association for Persons with Special Needs and caters to the needs of people with learning disabilities.

On this excursion, 12 EMC staff hosted about 25 children, which was especially fun for the children as they had the opportunity to see how their favourite soft drinks were manufactured. Colouring contests and song and dance performances during lunch brought extra cheer to the group.



**Getting creative with Coke: EMC Staff Volunteer, Lu Feiyu provides encouragement as the Chao Yang students vie for prizes in the colouring contest**

The charitable spirit took on a competitive edge when EMC sent three teams to participate in Asia's most gruelling vertical marathon at the Swissotel the Stamford. On 6 November, our six marathoners were part of an 800-strong group that ran up the 72 storeys of the hotel, with charitable proceeds going to the Spastic Children's Association of Singapore. The group did EMC proud by finishing the marathon, each one in good time.

Another event undertaken for charity was the excursion to the Singapore Zoo on 1 December, with 25 clients of the Movement for the Intellectually Disabled of Singapore (MINDS).



**Our triumphant marathoners: (L to R) David Bullen, Henry Gan, Gan Yee Sing, Luke Peacocke and Mark Ashcroft**

It was a day of excitement and good fun for the MINDS clients and EMC staff volunteers alike, as they spent a morning

visiting one of Asia's best zoos. Everyone had ample opportunities to interact, as they went on tram rides and enjoyed animal performances together.

These events were in addition to the year's first charity event, which was organised for industry-wide participation. The Very Special Walk held on 9 July, jointly organised by the Pathlight School, Rainbow Centre and the Gryphons Alumni, saw a 150-strong delegation representing most of the market participants of the NEMS.

With events throughout the year, EMC is able to continually nurture the spirit of volunteerism, allowing it to cascade to all levels of staff.



**Jungle jaunt: Both EMC staff and MINDS clients look for nature's treasures during their trek to the Fragile Forest at the zoo**



## User Forums

### Market Information Sharing Forum (MISF)

### Settlement Initiatives Sharing Forum (SISF)

The SISF was held in conjunction with the MISF on 23 November at EMC's office and was attended by a capacity crowd. The joint forum offered an interesting sharing session for market participants, giving them yet another opportunity to be updated on the latest developments in market performance, demand and supply conditions and many other current topics.

A particular discussion point that piqued interest among the attendees was the development of price neutralisation. Market participants were familiarised with the development of this system and the impending inclusion of a settlement module to cater for price neutralisation. Participants were acquainted with the system through examples provided by the EMC facilitators.

The next MISF will be held on 11 January at 2.30 pm.

## EMC Training Programme — February 2006 Course

EMC will be holding its regular training course Understanding Electricity Markets on 15 and 16 February 2006. Our staff will be conducting seven 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
- An Overview of Current Electricity Market Design Issues

A further course is scheduled for 18 to 19 May 2006.

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.

## Changes at EMC

### Joining

#### Wang Jing, Analyst

Wang Jing was the latest addition to the Market Administration Team when she assumed the position of Analyst on 20 December.

A recent NTU Research Scholar, Wang Jing pursued her Doctorate in NTU's Power Engineering Division of the School of Electrical & Electronic Engineering. Her field of research focused on power quality regulation under a deregulated environment, making her well equipped to handle the challenges of the Singapore market.

She also has a Bachelor's degree in Engineering, with a minor in Arts, from China's Chongqing University.

#### Tan Choon Kiat, Market Analyst

Choon Kiat joined EMC on 3 January, as a member of the Market Operations Team.

After graduating with a Bachelor of Honours degree in Banking and Finance, Choon Kiat gained professional experience working for one of the leading foreign banks.

## EMC Well Represented at Conferences

The last couple of months saw an increased profile for EMC, as several key staff represented the company through various speaking engagements.

On 16 November, CEO Allan Dawson was invited by Seraya Energy to speak at 'Power Updates'. This seminar was jointly organised by Seraya Energy and the Singapore Manufacturing Federation for members who were interested to learn more about the liberalisation of the electricity market in Singapore. Allan spoke on the topic of 'How the National Electricity Market of Singapore Operates', to an audience of about 50 people.

The following month, Ramon Staheli and Lu Fei Yu were both speakers at the 7th Power Engineering Conference, hosted from 30 November to 2 December at the Marina Mandarin. Ramon spoke about Interruptible Load while Fei Yu presented an overview of the NEMS.

The session was well attended, with a mixed audience from local universities, industries and overseas academics. A few questions were raised on the nodal pricing model, and someone suggested that a market be developed for reactive power in the future. Overall, the feedback on the NEMS was encouraging.

EMC will begin 2006 with a speaking engagement at Asia Power 2006, hosted in Singapore in January. Paul Poh, EMC's Senior Vice President of Market Administration, will be speaking on the topic of 'Electricity Market Deregulation in Singapore — Challenges and Achievements So Far'.

## Send us Comments, Feedback or Questions

The *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.

