Energy Market Company

EMC Training Programme

Market Clearing Workshop

An interactive in-depth workshop over 2.5 days

Time
10.00am – 6.00pm

Venue
Singapore
To be confirmed for each course

*EMC may adjust the course fees to reflect the costs for the venue, food, and other Safe Management Measures (SMM) imposed by Singapore Government due to Covid-19. Participants will be subject to the prevailing SMM throughout the duration of the course.

Market Clearing Workshop

Practitioner's Perspective of Market Clearing

EMC, the market operator of the Singapore Wholesale Electricity Market (SWEM), has developed a market-clearing workshop that allows workshop participants to understand the market-clearing in SWEM, with a particular focus on the Market Clearing Engine features which are unique to the SWEM.

Having played a vital role in establishing the current market, which commenced on 1 January 2003, EMC is positioned uniquely to bring theory and practice together to understand the SWEM's market clearing process. EMC combines the expertise and perspectives of engineering and economics into a workshop exploring the SWEM's market clearing process in theory and practice.

Course Presenters

Course presenters will be EMC staff directly involved in maintaining and operating the SWEM's Market Clearing Engine (MCE). You will benefit from the expertise and insight that only practitioners can provide.

Who should attend?

- Participants from EMC's "Understanding Electricity Markets" course who are interested in taking an in-depth look at how Market Clearing works in SWEM.
- Executives and managers from the electricity, energy, legal and banking sectors as well as government officials, regulators and consultants who are interested in how market prices and schedules are determined
- Anyone who is interested in taking an in-depth look at how Market Clearing works in NEMS.

Why should you attend?

- Gain an in-depth understanding of Market Clearing in SWEM.
- Understanding pricing mechanism used in MCE
- Understand how constraints interact with each other and affect dispatch schedule
- Understand the co-optimization between Energy, Reserves and Regulation.

EMC Training Programme

Day 1 (Face to Face)

Topic 1
Market Clearing Overview

- Market clearing & dispatch overview
- Market clearing input & processing
- Market clearing output

Topic 2
MCE Mathematical Model

- Introduction to linear programing (LP) and mixed integer linear programing (MILP)
- Market clearing engine formulation

Topic 3
Generation Dispatch and Marginal Pricing

- Generation constraints
- Marginal pricing
- Simulation demos on how constraints affect dispatch

Topic 4
Transmission modelling and nodal pricing

- Transmission line constraints and loss modelling
- Nodal pricing
- Shadow prices
- Simulation demos on nodal price differences

Day 2 (Face to Face)

Topic 5
Ancillary Services Market

- Reserve and its requirement determination
- Reserve constraints
- Regulation and regulation constraints

Topic 6
Co-optimization

- Co-optimization constraints Simulation demo on how co-optimization impact schedule and prices

Topic 7
Constraint Violation Penalties (CVP) and Stepwise CVP

- What is CVP
- How is CVP incorporated in MCE
- Stepwise CVP for ancillary products
- Review of Stepwise CVP for ancillary products

Topic 8
Tie-Breaking

- What is Tie-breaking
- How is Tie-breaking achieved

Day 3 [half-day] (Virtual)

Topic 9
Demand Response

- Demand Response in NEMS
- How is Demand Response integrated in MCE
- EMA consulation: Review on Demand Response Program

Conclusion
Summary and review

- Summary of course
- Q&A with trainers
- Additional simulation demonstrations

Note: The information contained herein is correct at the time of printing. However, EMC reserves the right to change the date, time, content, or format of the course at its sole discretion without notice.

Registration Form (Market Clearing Workshop)

To register, please fill out this form.

Course Date

Course participant

Salutation	☐ Mr ☐ Mrs ☐ Ms ☐ Dr ☐ Prof.
First Name	
Last Name	
Job Title	
Department	
Company	
Address	
Postcode	
E-mail	
H/P	

Invoice details if different from course participant

First Name	
Last Name	
Job Title	
Department	
Company	
Address	
Postcode	
E-mail	
Telephone	
Dietary requirements	No Pork, No Lard / Vegetarian / etc

How to register: Send the scanned form to: trainingprogramme@emcsg.com

Payment method:

- Others ☐ S$2,398 (inclusive of 9% GST)
- MP* ☐ S$2,071 (inclusive of 9% GST)

***MP is a NEMS Market Participant or NEMS service provider registered with EMC.**

Important note

Attendance will only be confirmed upon receipt of payment.
All payments must be received before the course start date unless other arrangements have been made with EMC.
Please note that all bank charges incurred for telegraphic transfers have to be fully borne by the applicant.

Enrolment conditions

If after registering, you are unable to attend, another person may replace you. Cancellations must be in writing. A full refund less an administrative fee of S$272.50 (inclusive of 9% GST) will be given for cancellations received 15 working days before the course start date, a 50% refund for cancellations received between 6 and 14 working days before, and no refund for cancellations thereafter. We may vary the course date, programme, speakers and venue. If we cancel the course, fees will be fully refunded.

For administrative and record purposes, we may require some personal data from you and your consent is deemed to be given when you fill up this form. We assure you that we comply with the Personal Data Protection Act.

By signing where indicated below, I acknowledge that I have read, understand and agree to the terms and conditions stated in the 'Important note' and 'Enrolment conditions' of the form.

Signature

Date: D D / M M / Y Y Y Y

Enquiries: For enquiries please e-mail trainingprogramme@emcsg.com or contact the training coordinator at +65 6779 3000.
Website: Visit www.emcsg.com for more details or to download another copy of this form.