Electromagnetic Transients in Power Systems
12 – 13, May 2015 Singapore
The Regent Singapore

Course objective:
This two-day short course introduces the audience to the simulation and analysis of power system transients. It reviews the simulation methods used in EMTP-type software packages such as MicroTran, PSCAD, EMTP-RV, etc. Typical studies show applications for switching and lightning surges, faults, transient recovery voltage, ferroresonance, subsynchronous resonance and other types of transients. Some software packages can also do frequency scans to obtain frequency-dependent impedances.

Instructors: Prof. Hermann W. Dommel and Prof. Jose R. Marti

Intended audience:
• EMTP users who want to increase their knowledge.
• Engineering personnel from the electric utility industry.
• University researchers who want to get a basic knowledge of power system transients.

Hotel: The Regent Singapore www.regenthotels.com/EN/Singapore
All travel and hotel arrangements are the responsibility of the attendee.

Fee:
US$ 1,200-00*/per person
(This Fee does not apply to Indonesia participants, please see the note below)
1/. Fee does not include lodging, transportation and Singapore Government Tax.
2/. Courses are limited to 30 participants. So please register early!
3/. Payment in full must be received two weeks prior to start date of course.
Note: *For Indonesia participants, the fee is US$ 1,500-00 / per person (Including 20% WHT)

Pre-registration and Payment – If you register and pay 30 days prior to the course date, the attendee fee for the course is discounted US$ 100-00.

Date: 12 – 13, May 2015

Time: 09:00 a.m. – 4.30 p.m.

Information / Registration:
Cahaya Jaya Services
627A Aljunied Road, #04-01 BizTech Centre, Singapore 389842
Tel: (65) 64814106
Fax: (65) 64814609
Email: cahayaj6@singnet.com.sg
Website: www.cjaya.com
Course Outline:

<table>
<thead>
<tr>
<th>Time</th>
<th>Day 1</th>
<th>Day 2</th>
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<tbody>
<tr>
<td>9:00 am to 12:00 noon</td>
<td>Introduction to solution methods in EMTP type programs; networks with R, L, C; discretization methods for differential equations; ideal transmission lines: system of nodal equations [G][v]=[h].</td>
<td>Frequency-dependent line models; nonlinear elements</td>
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<tr>
<td>1:30 pm to 4:30 pm</td>
<td>Overhead transmission line parameters; underground cables; transformers; generators</td>
<td>Test cases for electromagnetic transients</td>
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Instructors Profile:

Professor Dr. H.W. Dommel was one of the originators of a computer program for solving electromagnetic transients in power systems. The solution techniques that were developed with his graduate students and colleagues are now used in various “EMTP-type” programs, such as MicroTran, PSCAD, EMTPRV, etc. Professor Dr. H.W. Dommel is the creator of the first version of the widely known Electromagnetic Transients Program (EMTP). He developed, together with Professor Dr. Jose R. Martí and Dr. L. Martí, the UBC version of the EMTP which today is known as Microtran.

For more information, please visit this link [http://power.ece.ubc.ca/index_Hermann.html](http://power.ece.ubc.ca/index_Hermann.html)

Professor Dr. Jose R. Martí's Research Group is a world leader in the development of models and solution techniques for fast transient circuit solutions of large systems, particularly, in connection with the EMTP. His group has extended the basic EMTP solution techniques to adopt them to very fast Real-Time simulation. UBC is developing a Power System Simulator, OVNI, that uses a matched software (MATE algorithm) and hardware architecture (Pentium-class PC-Cluster) to achieve very fast performance for systems of virtually unlimited size. The OVNI development is aimed at simulating, in real-time, the operation and control of large power system networks (OVNI-NET).

For more information, please visit this link [http://www.ece.ubc.ca/~jrms/](http://www.ece.ubc.ca/~jrms/)
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Please complete a registration form with payment to Cahaya Jaya Services to confirm registration. Reservations are taken on a first come, first serve basis. Submitting this form electronically does NOT confirm your reservation. Contact cahayaj6@singnet.com.sg if you have any questions.

Name _______________________________________________________________

Position _______________________________________________________________

Company _______________________________________________________________

Address _______________________________________________________________

Phone ___________________________ Fax _____________________________

E-mail _______________________________________________________________

Payment:
Payment methods available:
- Visa, MasterCard (add on 7% administration fee)
- Cheques should be crossed and made payable to ‘Cahaya Jaya Services’ (for local attendee)
- via telegraphic transfer (for oversea attendee)

Remark:
1. A confirmation letter will be sent to you upon receipt of the enrollment form.
2. Any cancellation must be in writing and received by 14 days prior to the course date. Otherwise the full fee will be chargeable.
3. Cahaya Jaya Services reserves the right to reschedule, change venue or cancel the course due to unforeseen circumstances.
4. Course fee does not include lodging, transportation and taxes.

Note: For group registration, please photocopy this form for submission.

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