Rising energy demand of customers in densely populated areas is a challenge as available space for the construction of substations in limited. Underground electrical substation is a feasible solution to overcome such space constraints, while still providing reliable power supply to the customers.

**LEARNING OBJECTIVES**
This one-day masterclass will address specific requirements of underground installations, to ensure a properly planned and designed underground substation for reliable and safe operation of a power system network. Practical examples on the resolution of technical challenges, such as physical security and access of underground substations, increased heating due to electrical loads and transmission equipment losses, planned and unplanned maintenance, and provision of quick and effective equipment replacement will be shared. This masterclass also covers health, safety and environmental issues.

**LEARNING OUTCOMES**
- Explain the technical, environmental and safety considerations of underground substations
- Specify the requirements of equipment used in underground substations
- Explain the design concepts and layout of an underground substation
- Describe the constraints and mitigating measures for operation and maintenance of underground substations
- Describe the requirements of auxiliary systems in underground substations

**WHO SHOULD ATTEND**
Engineers and specialists in the field of Transmission and Distribution operations, planning, maintenance and asset management.

**ABOUT THE TRAINERS**

**SHINOBU MATSUMOTO**
THE Power Grid Solution

Mr Matsumoto has over 20 years of experience as a transmission and distribution engineer for Tokyo Electric Power Company (TEPCO), with overseas consulting experience for the T&D division in TEPCO. He is currently the Vice President of THE Power Grid Solution, a new consulting and engineering company jointly established by Hitachi and TEPCO.

Prior to joining THE Power Grid Solution in 2014 to manage overseas T&D consulting, Mr Matsumoto was the General Manager of the facility department at Gunma branch office of TEPCO. He was also in TEPCO’s London office for research on transmission and distribution in Europe. His expertise and knowledge of transmission and distribution extends to the protection, control and monitoring of system, as well as the distribution power network control center.

**RYOICHI SHINOHARA**
Hitachi T&D Systems

Mr Shinohara has over 20 years of experience in Japan and the United States, focusing on areas such as design and management, procurement, production and technical support of substation equipment. He is currently the CEO and MD of Hitachi T&D Systems Asia Pte Ltd in Singapore.

Mr Shinohara is an experienced business manager with a demonstrated history of working in the electrical and electronic manufacturing industry. He is skilled in energy, power systems, smart grid, engineering, and project engineering. He holds a Masters Degree on Nuclear Engineering from Tokyo Institute of Technology.
### DELEGATE ONE

| Full Name: | ______________________________ |
| NRIC No.: | ______________________________ |
| Nationality: | ______________________________ |
| Date of Birth: | ____________ PE No. __________ |
| Company: | ______________________________ |
| Company Address: | ____________________________________ |

#### DESIGNATION:

| ______________________________ |
| ______________________________ |

#### EMAIL ADDRESS:

| ______________________________ |

#### DIETARY RESTRICTION (IF ANY)

- [ ] Halal
- [ ] Vegetarian
- [ ] Indian Vegetarian
- [ ] Others: ______________________________

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### DELEGATE TWO

| Full Name: | ______________________________ |
| NRIC No.: | ______________________________ |
| Nationality: | ______________________________ |
| Date of Birth: | ____________ PE No. __________ |
| Company: | ______________________________ |
| Company Address: | ____________________________________ |

#### DESIGNATION:

| ______________________________ |
| ______________________________ |

#### EMAIL ADDRESS:

| ______________________________ |

#### DIETARY RESTRICTION (IF ANY)

- [ ] Halal
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- [ ] Indian Vegetarian
- [ ] Others: ______________________________

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### Personal Data Protection Act

I/we acknowledge and agree that SIPG may collect, use and disclose to any third party any and all particulars relating to my/our personal information for the purposes of:

1. Providing the requested services in respect of the course(s);
2. Billing and account management (including debt collection and recovery);
3. Conducting surveys or obtaining feedback;
4. Informing me/us of services of and offers by SIPG, its related entities and business affiliates (unless I/we duly inform you otherwise); and
5. Complying with all applicable laws and regulations, and business requirements.

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### Declaration

By submitting and signing this registration form, I hereby declare that all information given in this form is true and accurate and agree to the terms and conditions stated below.

#### Name: ______________________________

#### Signature: ______________________________

#### Date: ______________________________

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### TERMS AND CONDITIONS

1. The company and individual applicant has read and understood the terms of the course information and registration form.
2. The information collected on this form is used for course registration, account servicing of course-related activities and/or for application of course-related funding to appropriate funding agencies.
3. This registration form must be submitted to SIPG at least 2 weeks before course commencement.
4. Payment must be made to SIPG before course commencement.
5. SIPG reserves the right to amend any details relating to the course without any prior notice.
6. Request for withdrawal must be made in writing and are subject to approval by SIPG.
7. Request for transfer/replacement must be made in writing at least 5 working days before course commencement and are subject to approval by SIPG.
8. Trainee shall be bound by the terms and conditions of any applicable funding scheme as approved by SIPG.
9. In the event that the trainee fails to meet any of the requirements set under the funding scheme or has been granted funding for the same course before, thereby resulting that his/her funding application is rejected, the trainee is liable to pay the balance of the full course fee to SIPG.
10. Photographs of trainees will be taken at the event for SIPG’s marketing materials and other publications.