Er. Tan Toa You is a Registered Electrical Professional Engineer and License Electrical Engineer L9(<1000V) with 20 years' experience in designing and and construction supervision for infrastructure projects.

In additional of this, he has wide range of experience in traction supply and power supply control system for the MRT system.

2015 – 2017
Meiden Singapore Pte Ltd
Senior Principal Engineer

2013 -2015
Penta Ocean Construction Co Ltd
M&E Manager

2012 – 2013
Jacobs Engineering Singapore Pte Ltd
Senior Engineer

2011 - 2012
AEC OM Singapore Pte Ltd
Senior Engineer

2008 - 2011
Beca Carter Hollings &Ferner (SE Asia) Pte Ltd
Engineer

2007 – 2008
Wincor Nixdorf (ATM & Computer)
Senior Engineer

1999 - 2007
Seagate Technology(Hard Disk)
Engineer II

Key Experience

He is largely responsible from the concept & detailed design and construction management of large scale of the electrical & mechanical services which enable him to manage the design and contruction of the MRT station.

In additional to the above mention, he is also experience in the replacement of MRT traction power distribution and also power control system which enable him enough knowledge to act as qualify person to supervise for the design and installation of the traction power supply inclusive ISCS and ETTS system.

Summary of 20 years relevant project experience with MRTStations

Tunneling & Rolling Stock

- Singapore Power Asset Cable Tunnel from Tuas to Jurong Island:
- Bendemeer MRT Tunneling
- Common service tunneling at Marina Bay
- Replacement of Traction station switchgear-Qx0015- 10 MRT stations(North East and East West Line)
- Testing on new Traction switchgear for Mandai Depot for Thomson Line
- Replacement of 22KV traction switchgear relay for Changi Airport/ Online MRT stations

Relevant large scale complex infrastructure project

- Nus UTown infrastructure & District Cooling Plant
- Vietnam Singapore Industrial Park infrastructure
- Na Trang Mixed commercial(Vietnam)
- 71 stys residential building
- Amgen Phamarceutical Plant
- International Cruise Terminal

Academic Qualifications

Master of Science (Computer Control & Automation) Nanyang Technological University(Singapore)-1997

Executive Master of Science in Finance Baruch College, City University of New York (New York)-2009

Bachelor of Engineering(Electrical- Honours) Nanyang Technological University(Singapore)-2005

Professional Qualifications
Professional engineer (Electrical), Singapore

LEW (1000V, grade 9)

Citizenship
Singapore PR(Malaysian)

Computer & Control System

- Servo motor control system for hard disk

Project Experience

Tunneling

Singapore Power Asset Cable Tunnel (3 sites)
Construction Cost: $450million
Duration: 2013-2016
Role and Responsibility:
Temporary supply system

- Design, testing, troubleshoot and commissioning of 22KV and LV distribution of the Tunnel Boring Machine(TBM) and slurry treatment plant
- Design and testing and commissioning of 3nos 1.5MVA generators for tunnel boring machines.
- Design, test and install fire alarm, CCTV, RFID, maintenance telephone and fire protection system for the TBM during the tunneling

Tunnel system

- Leading the engineers, project scheduling, cost control, review design, electrical installation inspection(22KV and LV installation)and project management.
- He is a team lead in preparing all M&E services(Fire fighting, HVAC, Electrical, plumbing and sanitary) tender documents and tender interview before awarding the tender to respective sub-contractor.
- He lead a team of M&E subcontractor to co-ordinate the installation work of the M&E services and 400KV support with civil engineer as according to their schedule.
- He also work together with the consultant to get the M&E service from the authority approval.
- He has demonstrate his capacity to manage complexity of contract interface, complexity of the construction and quality assurance.

Bendemeer MRT Tunneling, Singapore
Construction Cost: $400million
Duration: 2013-2016
Explosion of a 22KV switchgear due to partial discharge.
To salvage the accident:

- Accident of 22KV and 11KV power failure distribution system for the tunnel boring machine
- Lead a team of engineer and discuss with the civil engineer that mention an immediate temporary supply is needed urgently for the tunneling.
- Study the feasibility of using temporary generator to support TBM machine.
- Setup the generators and transformers for the boring machine to continue tunnel ing to go through the critical stage
- Replace the of damaged 22KV and 11KV switchgears
- He has demonstrate his capacity to manage critical, complexity and urgent matter

Common Service Tunnel At Marina Bay, Singapore
Construction Cost: $200million
Duration: 2013-2014
Role and Responsibility:

- Leading the engineers, project scheduling, cost control, progress claim, review design, site inspection and project management of this project
- He is a team lead to manage the M&E services sub-contractor (Fire

fighting, HVAC, Electrical, plumbing and sanitary) to complete in schedule and provide good quality work.
- He has demonstrate his capacity to manage complex project to complete according to schedule

Rolling stock

As a system design engineer for QX-0015 for North south and East West Line
Duration: 2015-2017

- Study the existing relay setting for 22KV rectifier transformer switchgear and revised the relay setting due to new load increase of the rectifier transformer.
- Study the maximum load during the train peak hour in order to allow half board migration
- Study the existing schematic diagram of the DC switchgear to rework the wiring system during the halfboard migration
- After the halfboard migration, the existing relay was tested work as according to the requirement.
- Provide professional advice to team regarding the technical difficulty will be faced during the schedule of the installation.
- Provide professional advice to team so that installation was installed as according to specification and authority requirement
- Briefing the SMRT team coordination curve of the DC switchgear relay setting, 22KV transformer panel relay setting and 22KV loop main relay setting are coordinate well with the thermal curve of the rectifier transformer.
- As professional engineer has to check the interlocking system of the DC switchgear is working properly example Negative panel interlocking system.
- As a professional engineer 64P relay has to be tested accordingly for safety purpose.
- He has demonstrate his capacity to overcome the technical complexity and management of this project

As a Test engineer for Thomson Line Mandai Depot(FAT)
Duration: 2015-2017

- Test the interlocking system of the 66KV switchgear until to the 22kV DM switchgear and loop main.
- Parallel supply is allowed for the 66KV switchgear and all the relay like 87T,87L, 50/51, 27/59(Overvolatge), 25(synchronization), 47(negative sequence), 32(Directional Power), power meter, VT and CT and breaker gas compartment were tested according.
- The tested was done through proposed simulation with LTA agreement.
- He has demonstrate as a hands on person and able to handle complexity project to complete on schedule.

Changi Airport and Changi Online MRT stations for replacement of Hitachi relay for 22KV switchgear
Duration: 2015-2017

- Study the existing schematic diagram of Hitachi 50/51, and 87L relay with the Japan design engineer for the replacement with new relays example scheider electric relay.
- Come out with proposal of the new relay after studying this new relay is able to incorporate into the existing 22Kv switchgear. Spacing of the switchgear is studied for the accommodation of the new relay and also interfacing of the 87L new relay with the existing relay was studied also.
- Give presentation to SMRT how the replacement will be done and propose the schedule of the replacement relay.
- He has demonstrate as a hands on person and able to handle complexity project and fully understand the power distribution of the rolling stock.

Design sectionalizing switch for SMRT
Duration: 2015-2017

Summary of project experience with complexity and large scale

National University of Singapore-U Town- Infrastructure and 6.6KV District Cooling Plant (Singapore)
Construction Cost: $70million
Duration: 2008-2011
Role and Responsibility:

- Master planning 22KV power distribution U-Town inclusive hostels, research centers, education center, sport complex and 6.6KV district cooling plant
- Design and preparing tender for 15 MVA 22KV Ring and radial electrical circuit distribution to the U Town
- Design and preparing tender for 6.6KV electrical distribution for the District cooling plant.
- Tender interview with the subcontractor and write recommendation tender award to the client.
- Design the 10MVA transformer(22/0.4KV), 4MVA transformer(22/0.4KV), 1.5 MVA standby generator, lightning protection system, BAS system, UPS, voltage drop transient analysis for generator

- Interface with the structural engineer and architect to provide spacing and support for the Electrical services
- Manage the project as according to the schedule and ensure the quality of the project.
- He has demonstrate his capacity to manage complex project to complete according to schedule

Marina Bay Cruise Centre at Marina Coastal Drive, Singapore
Construction Value: S$500million
Duration: 2011-2012
The project comprises of the construction of a 350m by 120m pier deck, a 28,000m² cruise terminal and a 32,000m² multi-storey carpark on the pier deck and infrastructure works such as land reclamation, marine dredging, current training wall, roads, drainage and sewerage system.
Role and Responsibility:

- Leading the engineers, project scheduling, cost control, progress claim, review design, site inspection and project management of this project
- He is a team lead to manage the M&E services sub-contractor (Fire fighting, HVAC, Electrical, plumbing and sanitary) to complete in schedule and provide good quality work.
- Manage the project as according to the schedule and ensure the quality of the project.
- He has demonstrate his capacity to manage complex project to complete according to schedule

High-Rise Building

Super High Rise Condominium, Enggor Street 71th Storeys, Singapore
Construction Cost: $130million
Duration: 2008-2011

Na-Trang, Vietnam
27th Storey Mixed Development of Commercial, Residential and Hote
Construction Cost: $200million
Duration: 2008-2011

Amgen Pharmaceutical Plant, Singapore
Construction Value: $350million
Duration: 2012-2013

VSIP(Vietnam Singapore Industrial Park-Vietnam project)
Construction Cost: $350 million
Duration: 2008-2011

A&A works

Upgrade fire alarm system for 6 nos *66KV Singapore Power Grid substations*
Construction Value: $1.2 million
Duration: 2011-2012

Alteration and Addition of Electrical Services for Waste Water Treatment Plant
Construction Cost: $18million

Alteration and Addition of Electrical Services for Glaxo SmithKline Pharmaceutical Hydrogenation Plant-
Construction Cost: $10million

Alteration and Addition of Electrical Services for MerckJanumet Lab
Construction Cost: $6million