

Smart Energy, Sustainable Future



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TOWARDS A
**GREENER,
SMARTER** AND
MORE **RESILIENT**
POWER SYSTEM



ENGINEERED FOR SUCCESS

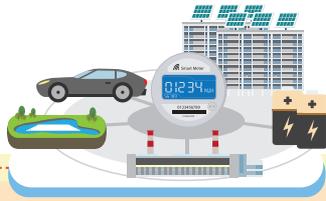


Mr See Cheng Yun
Principal Engineer I
SP Group

“We need to embrace new ideas and technology to enhance the quality of our service to customers and always stay ahead of the competition.”

A passion for engineering landed Mr See Cheng Yun an SP Group (SP) scholarship for his undergraduate studies in 2010. Armed with a degree in Electrical and Electronic Engineering from Nanyang Technological University, his journey in SP began with roles in various departments – Electricity Operations, Enterprise Asset Management Project Team, Strategic Development, and now Asset Management.

In 2018, Cheng Yun led a team of 80 engineers and technical staff in the electricity distribution network. The team responds to any disruption, round-the-clock, and restores supply to



affected customers as quickly and safely as possible. “My team also carries out comprehensive preventive and predictive maintenance programmes to ensure that all equipment is kept in good operational condition, to provide reliable supply to our customers,” he said.

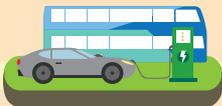
Cheng Yun now leads the Asset Strategy Section to develop asset management policies and plans. Through data analytics, they gather insights into the assets’ performance, condition and age. This helps the team plan for cost-efficient asset renewal while maintaining reliability. “Developing policies and plans is challenging but at the same time fulfilling. My background in operations helps me develop plans that are feasible on ground,” he shares.

Cheng Yun ensures that he keeps abreast with the latest industry trends and developments, and upgrades himself consistently. In 2015, he pursued a full-time Masters programme as part of SP’s Engineering Leadership Development Programme and graduated with a Master of Science in Electrical Power System Engineering. It provided him with greater global perspectives and awareness of emerging technology and trends in the sector.

Cheng Yun shares that, with technological advancements, the energy industry is

evolving rapidly. SP is responding swiftly with digitisation of its business processes and acquiring new capabilities to develop sustainable solutions to serve customers better. “We are now able to remotely monitor our critical assets and pick up any signs of an anomaly real time. We are constantly improving and innovating to bring greater value to customers,” he explains.

“We need to embrace new ideas and technology to enhance the quality of our service to customers and always stay ahead of the competition,” Cheng Yun adds.





Ms Amy Goh Shue Ying
Senior Analyst,
Industry Development Department
Energy Market Authority

I took the path less travelled by females and joined the Power sector. I now have a dream job that marries engineering and energy solutions. I love how I am challenged to think creatively. It may be hard sometimes as technologies evolve faster than we can react. But my dad's motto – “work hard and pursue what you love doing” – reminds me that nothing is impossible.

Keeping the lights on is my passion. Joining EMA and the Power sector was therefore a great choice; there has never been a dull moment since! Here, I am exposed to different roles, from system operations to regulation, each requiring different knowledge and skills.



Ms Boey Sin Yee
Engineer
Energy Management Systems Department
Energy Market Authority



Ms Koh Wen Mei Vanessa
Senior Manager
Regulatory Management
SP Group

I was in the pioneer cohort of fresh graduates in the SP EDGE programme. In a one-year structured training programme, I gained hands-on exposure to critical operational areas. I learnt first-hand how national infrastructure is managed to uphold reliability. Currently in the Regulatory Management team, we work closely with our engineers and the industry regulator to ensure policies and regulations can best serve the interest of consumers.

I was placed under the company's Graduate Development Programme, where I was deployed to the Philippines for a four-month stint in the Projects Engineering team in charge of the Phase 3 Expansion of the Liquefied Natural Gas (LNG) terminal in Manila. During this time, other than honing my technical skills, I was also exposed to areas such as project management, design and engineering. Moving forward, with the increasing emphasis on a sustainable energy future, I see the gas industry as a promising sector.



Ms Tiang Yun
Associate Engineer
Singapore LNG Corporation



Mr Goh Yi Hui

Singapore-Industry Scholarship Scholar, 2014
Executive Engineer, Electrical Maintenance
Tuas Power Generation

I've always had a strong interest in engineering, but the hefty cost of pursuing an engineering degree held me back. The Singapore-Industry Scholarship awarded by Tuas Power allowed me to chase my dream and passion in engineering. The internship experience at Tuas provided me with hands-on experience in electrical maintenance and a head start with the machines, equipment and procedures. This helped to smooth my transition into the workforce, allowing me to excel in my job. Knowing that I play a part in keeping the lights on also provides great career fulfilment.

As part of the Electrical Transmission Planning team, I use software to simulate different scenarios that may occur during the transmission asset renewal works. By planning ahead and tapping on technology, we can mitigate the risks of power disruptions. I take pride in upholding Singapore's world-class network reliability.



Ms Teo Mei Fang

Energy-Industry Scholarship Scholar, 2017
SP Group

With the partial sponsorship scheme and other upgrading opportunities offered by City Gas, I have been able to progress through the ranks since joining as a Technical Officer back in 2003. Now, as an engineer responsible for Gas Network Code applications, I look forward to more opportunities ahead with the company.



Mr Oh Hock Seng

Engineer
City Gas

I am grateful for the SkillsFuture Study Award for Power Sector, which gave me a chance to further my studies even at the age of 59. This enabled me to improve my skillsets and fuelled my passion for the Power Sector.



Mr Woo Kam Wah

Licensed Electrical Worker
(SkillsFuture Study Award for Power
Sector Recipient)

People sometimes ask me what I enjoy most about being in the Power sector. My answer is always the same – the satisfaction of overcoming challenges through collaborative teamwork. At Keppel Infrastructure, we work as a team and tap on each other's strengths to ensure the high reliability and availability of our equipment.



Mr Norhaizam Bin Ismail

Assistant Operations Manager,
Keppel Merlimau Cogen
Keppel Infrastructure

POWERING THROUGH THE CHALLENGES



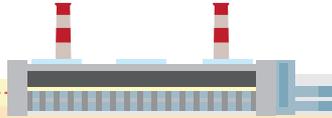
Mr Fendy Nursalim
Assistant Vice President,
Business Development and
Commercial
Semcorp Solar Singapore

“The energy and power sector is massive, and I have had the opportunity to grasp different facets of the energy business by working across departments.”

With an impressive 12-year career with Semcorp Industries (Semcorp), Fendy attributes his continuous job progression within the company to his eagerness to develop himself as a lifelong learner.

The Chemical Engineering graduate attained a Semcorp Overseas Undergraduate Scholarship and began his career at the company in project management before moving on to operations and maintenance, group asset management, and finally business development and commercial.

Fendy’s experience in Cogen Plant operations helped develop his technical



knowledge, business acumen, negotiation and leadership skills. He remembers the 400-megawatt gas-fired combined cycle generating plant project, where he was heavily involved in the project engineering phase. Fendy took care of the safety, operability and maintainability aspects while ensuring the plant could operate efficiently after construction. Subsequently, he joined the Business Development and Commercial team.

exciting time to be in the energy sector” he added.

Today, Fendy leads a team of five in seeking new business opportunities and acquiring clients for Sembcorp Solar, and also manages the commercial aspects of the business.

Currently, Sembcorp Solar has over 180 Megawatts-peak of solar energy capacity in operations and under development, on the rooftops of HDB blocks, government agencies and public institutions, as well as commercial and industrial buildings across Singapore.

“We set up a subsidiary to consolidate all our Solar Photovoltaic systems and are currently expanding our portfolio in this area. Many of our corporate clients want to utilise solar energy harvested from their own roofs, in an effort to be more sustainable as well as to save costs, and they have chosen Sembcorp as their solar energy developer and partner. With sustainability rising up high in the agendas of corporates and governments, it is an



HOW DO I FIT IN?



Play this game to learn more about the job roles available in the Power Sector

Qn
01

I am going on an overseas trip. I would..

- plan a detailed itinerary before going.
- join a packaged tour and stick to the itinerary.
- take down all emergency contact numbers and develop a back-up plan in case of emergency.
- prefer to self-drive than take public transport.
- search for discounts and offers that could be utilised for my trip.

Qn
02

Which noun describes you best?

- | | | |
|------------------|---------------|------------|
| a. Goal-Oriented | c. Dependable | e. Logical |
| b. Systematic | d. Hands-On | |

Qn
03

In a group, when a decision needs to be made...

- I tend to be the one shaping the decision.
- I encourage the others to adopt a step-by-step approach in arriving at a decision.
- I ensure that everyone is able to present his/ her point of view, so that a good decision can be made.
- I consider all points of view presented and play "devil's advocate".
- I will first conduct a cost-benefit analysis.

Qn
04

Which quote do you best relate to?

- "Fail to plan, plan to fail."
- "Don't worry, don't hurry, trust the procedure."
- "I will do what I say I will do."
- "People who 'know-how' make money from those who don't."
- "Progress is made by men trying to find easier ways to do something."

Qn
05

It is your birthday and you receive the latest smart watch as a present. The first thing you do is...

- think of the ways the watch will enhance your life.
- read through the operating manual.
- check for the "safety mark" on the charger or battery before using the watch.
- try out the watch's functions without reading through the operating manual and figure out how to use it along the way.
- read up on reviews of the watch and think of how it could be improved.



Qn
06

You are part of a team that has been put in charge of a new electricity transmission project. You...

- take the lead and ensure that things go according to plan.
- ensure that everyone adheres to Standard Operating Procedures (SOP).
- ensure that all safety and reliability protocols are followed.
- execute the project in a hands-on manner.
- ensure that the project is carried out according to plan, while looking into ways to improve efficiency and cost-effectiveness.

Qn
07

There is a major disruption to the supply of LNG due to a delay in the supply ship's arrival. You...

- take charge and direct operations to ensure that things run smoothly.
- first determine how the disruption would impact the LNG network, before executing the SOP to minimise its effects.
- first ensure that safety and reliability protocols are being followed, before resolving the issue.
- get actively involved in getting the LNG to port as soon as possible.
- implement mitigating measures and resolve to look into the causes of the disruption, so as to prevent a repeat of such an incident.

Qn
08

You received an anonymous email alerting you to an impending cyber-attack on your plant. Your priority is to...

- look into how to prevent other plants from being attacked.
- develop counter-measures according to the SOP.
- ensure that safety protocols are in place and that existing security measures have been updated.
- go to the plant and try to solve the problem.
- ensure that the transmission and distribution of electricity and gas will not be compromised, and resolve to look into strengthening existing systems.

Qn
09

There is a meltdown at a major power plant. Your priority is to...

- ensure that other plants are not affected.
- execute well-rehearsed back-up plans to ensure that power supply is not disrupted.
- ensure that all personnel at the affected power plant are safe and accounted for, before ensuring the safe and efficient transmission of power.
- go to the affected power plant and try to rectify the situation.
- try to find an efficient and cost-effective solution to ensure that end-users are not affected, and find ways to prevent a repeat of such an incident.



HOW DO I FIT IN?

Qn
10

As Energy Minister of the new nation, you...

- develop an appropriate energy master plan and ensure that it is implemented accordingly.
- adopt tried-and-tested energy policies and systems.
- adopt the safest, most reliable and most efficient systems from other nations.
- implement tried and tested methods and conduct regular ground visits to ensure that they are effective.
- learn from case studies and other nations, and adopt best practices for your nation.

Qn
11

There is a massive blackout in the new nation. As Chief Power System Supervisor, you...

- look into how the blackout would affect end-users and try to mitigate the impact.
- follow the SOP to rectify the situation.
- ensure that safety protocols and security measures are in place.
- personally visit the affected power plant(s) and oversee/ direct operations to restore power.
- instruct the relevant parties to conduct checks on their equipment and carry out maintenance/ repair works, where necessary.

RESULTS

If your answers are mostly As...

TYPE
A

You tend to see the big picture, have the end-goal in mind and are able to ensure that things move along towards the end-goal.

The job families you are most suited for include:
**Network Planning and Strategy, Network Development,
Network Management**



TYPE B

If your answers are mostly Bs...

You tend to enjoy developing and maintaining systems and ensuring that they work and meet required safety and reliability specifications. Adhering to Standard Operating Procedures (SOP) is also important to you.

The job families you are most suited for include:
Power Generation Operations, Asset Management, Regulations

TYPE C

If your answers are mostly Cs...

You take great satisfaction from ensuring that everything runs in a safe, reliable and efficient manner.

The job families you are most suited for include:
LNG Terminal Maintenance

TYPE D

If your answers are mostly Ds...

You enjoy getting your hands dirty - not literally - rather, you derive the most satisfaction from taking things apart and putting them back together. You feel good making things work based on tried-and-tested methods.

The job families you are most suited for include:
Licensed Electrical Worker, Licensed Gas Service Worker

TYPE E

If your answers are mostly Es...

You derive great satisfaction from improving on things in an efficient and cost-effective manner. You are not satisfied with the status quo and are always pushing boundaries in order to achieve better outcomes.

The job families you are most suited for include:
Network Management, Portfolio Management, Energy Trading

Please visit www.poweringlives.sg for more information.