



# Skills Framework for Energy and Power

A Guide to Occupations and Skills

An initiative of

**SKILLS**future

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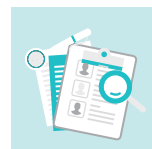
Published in October 2018

# About the Skills Framework

The Skills Framework is a SkillsFuture initiative developed for the Singapore workforce to promote skills mastery and lifelong learning. Jointly developed by SkillsFuture Singapore (SSG), Workforce Singapore (WSG), and the Energy Market Authority (EMA), together with employers, industry associations, education and training providers and unions, the Skills Framework for Energy and Power provides useful information on:



With the Skills Framework, individuals are equipped to make informed decisions about career choices, as well as take responsibility for skills upgrading and career planning.



Assess Career Interests

- Understand career pathways
- Recognise personal attributes required



Prepare for Desired Jobs

- Understand skills and competencies required



Find Avenues to Close Skills Gaps

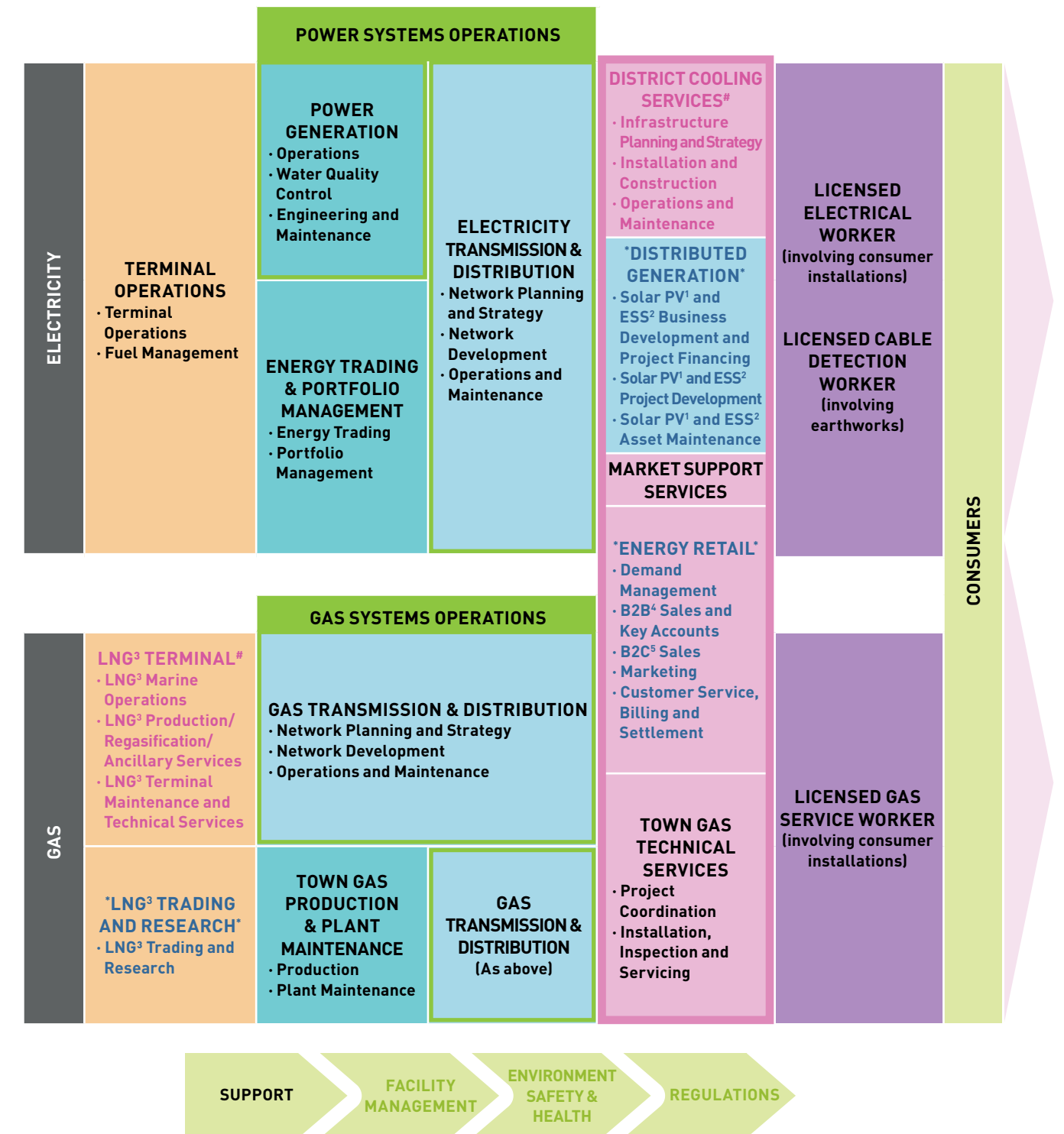
- Identify relevant training programmes to equip oneself with the required skills and competencies
- Participate in on-the-job training opportunities provided by companies



Renew, Upgrade and Deepen Skills

- Plan for career development/transition
- Recognise skills and competencies required for the intended job role
- Identify training programmes to upgrade and deepen skills

## Energy and Power Sector Value Chain



• Functional tracks covered in SkillFramework for Energy and Power.  
<sup>#</sup> Functions covered in other Skills Framework.  
<sup>\*</sup> New/emerging areas that have changed significantly since National Energy Competency Framework (NECF).

<sup>1</sup> Photovoltaic  
<sup>2</sup> Energy Storage System  
<sup>3</sup> Liquefied Natural Gas  
<sup>4</sup> Business to Business  
<sup>5</sup> Business to Consumer



# Energy and Power: Charting Growth and Opportunities

Singapore's energy and power sector is vital to the nation's economic growth and also in our daily lives, whether to live, work or play. Power systems form the backbone of Singapore's economy and critical infrastructure such as transportation, utilities and buildings. Singapore's total electricity consumption rose by 7.8% from 46TWh in 2014 to 49.6TWh in 2017<sup>1</sup>, and this rising demand for energy is expected to grow in tandem with the economy. The energy landscape is fast-evolving, impacted by recent trends and developments (e.g. solar, distributed generation) in the sector. In turn, this would translate to many exciting opportunities (e.g. technological advancements) for the energy sector, without compromising the world-class electricity grid and network.

Being a critical sector, employment in the sector remains stable despite the tight economic conditions. Comprising both the Gas and Electricity sub-sectors, our employees work behind the scenes to deliver reliable electricity to consumers – from securing fuel supply and generating power, to transmitting, distributing, and selling electricity. In tandem with the developments in the sector, our workforce size has grown from 4,300 employees in 2011 to 5,340 employees in 2016. About 62% of the workforce in 2016 are technical positions<sup>2</sup>.

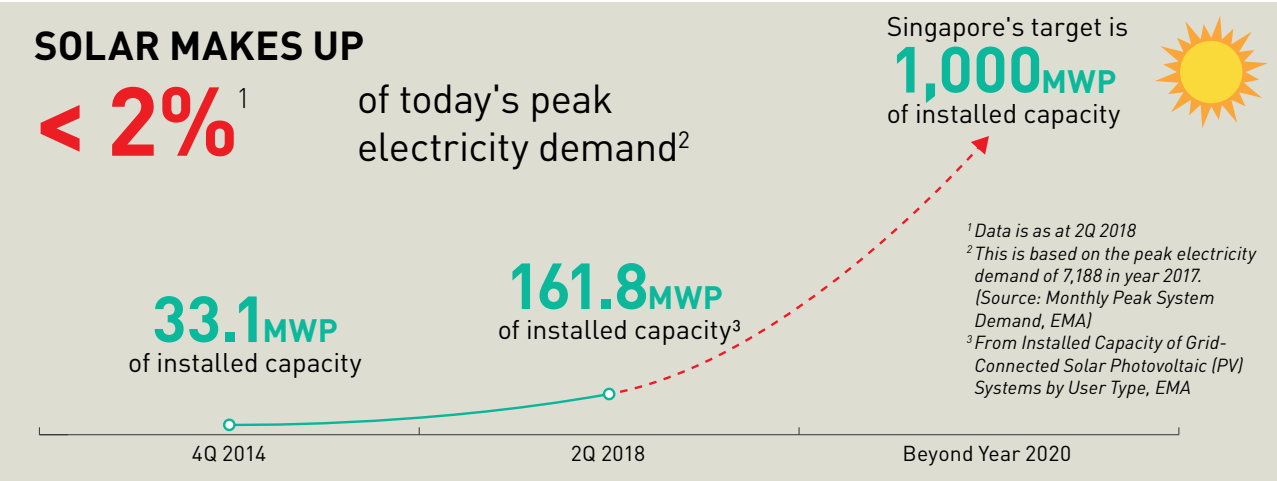
Year	2011	2014	2016
Number of Power Sector Employees <sup>2</sup>	4,300	5,090	5,340

To keep the lights on and gas flowing, the Energy Market Authority (EMA), who serves as a regulator, systems operator and industry developer, will continue to ensure the reliability of our energy infrastructure and resilience of the workforce in the long run through diversifying our energy options, ensuring our electricity is competitively priced, and building up our manpower capabilities.

### We diversify our energy options to enhance our energy security.

As a city-state with finite resources, Singapore needs to constantly balance energy security, energy competitiveness and environmental sustainability, known as the Energy Trilemma, to achieve a sustainable energy future for Singapore.

To enhance our energy security, Singapore set up its very first Liquefied Natural Gas (LNG) Terminal in May 2013, allowing us to source for natural gas globally, to complement piped natural gas that we receive from Indonesia and Malaysia. Keeping in pace with the evolving LNG market, the terminal's facilities were expanded to include a fourth storage tank in March 2018. This increases the terminal's capacity to meet the increasing domestic gas demand, and also creates opportunities for Singapore to offer ancillary services and trading activities such as LNG bunkering, as well as position Singapore as a regional LNG trading hub.



<sup>1</sup> Source: Singapore Energy Statistics 2018, EMA  
<sup>2</sup> Source: Singapore Energy Statistics 2017, EMA

# Energy and Power: Charting Growth and Opportunities

While natural gas, which forms over 95% of our fuel mix, remains the predominant fuel source for generating electricity, Singapore is open to other sources of energy for our electricity generation. This includes renewable energy. In Singapore, solar energy is the most promising renewable energy source. Today, solar energy makes up less than 2% of today's peak electricity demand. Total installed capacity has more than quadrupled in just four years, from 33.1 MWp in 4Q 2014 to 161.8 MWp in 2Q 2018. Singapore's target is 1,000 MWp of installed capacity beyond year 2020. To address intermittency issues related to solar energy, EMA is catalysing R&D innovations, including Energy Storage Systems, Energy Management Systems, and building capabilities in solar forecasting.

### We ensure our electricity supply is competitively priced, through enabling an Open Electricity Market.

Our electricity market is structured to encourage competition, to improve market efficiency. Since 2011, the EMA has progressively opened up the electricity retail market to competition, to bring about competitive pricing for the benefit of consumers. With the move towards an Open Electricity Market (OEM) in the second half of 2018, consumers have the option to choose their preferred retailer, or continue to buy electricity at the regulated tariff from SP Group<sup>3</sup>. To enhance competition in the wholesale electricity market, EMA has also introduced a Demand Response (DR) programme in April 2016. The DR programme allows contestable consumers to reduce their electricity demand voluntarily, in exchange for a share in the system-wide benefits, in terms of reduction in wholesale energy prices as a result of their actions. This could help to improve overall system efficiency, leading to cost savings for contestable consumers<sup>4</sup>.



### We build capabilities to tackle the challenges faced by a rapidly transforming energy sector.

Singapore's energy landscape is fast-evolving, driven by innovative technologies, need for resilient energy infrastructure, and progressive liberalisation of Singapore's electricity retail market. A competitive workforce equipped with relevant skill sets is important to seize new growth opportunities, while keeping the lights on and gas flowing.

EMA works closely with industry players, the Union of Power and Gas Employees (UPAGE), institutions of higher learning (IHLs) and relevant agencies on initiatives to attract, retain and develop the sector's workforce. The Energy-Industry Scholarship (EIS) and Singapore-Industry Scholarship (SgIS) were introduced to attract young entrants pursuing engineering-related courses. EMA-MOE jointly develop resources and review curriculum to socialise energy issues with students. EMA also work with MOE's Education and Career Guidance team to help students make informed career decisions. Students can join our experiential Powering Lives Trails, outreach events and competitions. EMA also collaborated with Singapore Institute of Technology to kick-start a dedicated Electrical Power Engineering course.

To upskill and reskill the workforce, EMA partners key stakeholders to ensure alignment with the National SkillsFuture Movement. In partnership with the industry and UPAGE, we administer various SkillsFuture initiatives (e.g. Study Award, SkillsFuture Fellowship, Earn-and-Learn Programme). EMA also works with IHLs and training partners (i.e. Singapore Institute of Power and Gas), to develop customised training programmes, to ensure workforce's competitiveness and competency.

<sup>3</sup> From Open Electricity Market microsite  
<sup>4</sup> From EMA corporate website

# Key Statistics

In tandem with ensuring a competent workforce to meet the evolving energy demands, building capabilities and capacities is critical to the success of the sector. Key statistics on the manpower profile below allow for a better understanding of workforce trends and developments of the energy and power sector.



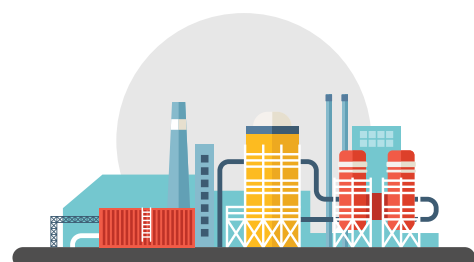
## Number of employees

The Energy and Power sector employed **5,340 employees** in 2016, a **4.9% increase** from 5090 employees in 2014

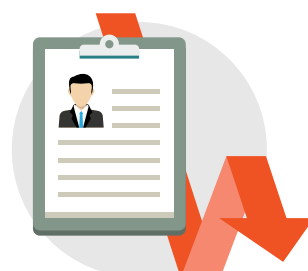


## Increasing electricity consumption

Singapore consumed about **49.6 TWh of electricity** in 2017<sup>1</sup>. This is an **increase of 6.9%** from 46.4 TWh in 2014.



EMA has awarded **over \$60 million under the RIE2015** Energy Innovation Research Programme (EIRP). An additional **\$46 million has been allocated to RIE2020** for innovation grants and test-beds in power utilities, energy storage and smart grids.



## Low resignation rate

The Energy and Power sector has a **low resignation rate of 0.5%\*<sup>2</sup>** in 2016, compared to the national average of **1.9%<sup>3</sup>** for other sectors.  
\*Resignation rate from 1 July 2015 to 30 June 2016.



## High training rate

The Energy and Power sector invests in the development of its workforce, with **93% of the trained technical professionals** in 2016.

# Future Developments/ Evolving Landscape



Cybersecurity

Smart Meter

Alternative Energy

The future of energy is dynamic, evolving and rapidly transforming. Three key drivers of decarbonisation, digitalisation and decentralisation have been shaping the energy landscape both internationally and locally.

## Decarbonisation

Globally, there is an increased momentum for countries to tackle climate change with the Paris Agreement. Singapore has pledged to reduce our emissions intensity (i.e. emissions per unit GDP) by 36% from 2005 levels by 2030. There is thus a need to meet rising energy demands in a sustainable way with cleaner fuels (e.g. adoption of renewable energy) or improving energy efficiency. This has propelled the growth of distributed generation, which will complement traditional power utilities. With solar being the most viable source of renewable energy in Singapore, we will need to develop capabilities not just in Solar Photovoltaic installations, but also in solar forecasting and energy storage systems to address intermittency issues.

## Digitalisation

In line with Singapore's Smart Nation initiative, there will be greater use of new technologies such as sensors, energy analytics and smart meters to harness real-time data, and make timely decisions to optimise and enhance the efficiency of our power grid. EMA is also partnering the Public Utilities Board, SP Group and local companies to develop and test-bed integrated advanced smart metering solutions for all utilities (i.e. electricity, gas, water). In addition to new technologies, digitalisation has also shifted our grid from a traditionally closed system to be more complex and vulnerable, due to the need for more devices to be inter-connected with each other to allow for 2-way communications. In tandem with this trend of digitalisation, our engineers will need to be equipped with data analytics skillsets to harness data meaningfully, and competencies in Cyber-security in Operational Technology to ensure that new points of entry are secured.

<sup>1</sup> From Singapore Energy Statistics 2018

<sup>2</sup> Power Sector Labour Market Study, EMA

<sup>3</sup> Labour Market Report, Manpower Research & Statistics Department, MOM

# Future Developments/ Evolving Landscape

## Decentralisation

With the introduction of the Open Electricity Market (OEM), there will be more than 10 retailers competing in the electricity market. This will spur demand for Business-to-Consumer (B2C) retail roles providing customer service, and digital roles such as e-commerce for pricing, digital marketing for promoting packages, big data analytics to identify market trends and customer preferences to fine-tune product prices accordingly. Other than engineering skillsets, it is also necessary for our employees to possess business acumen in creating innovative electricity packages and marketing them to consumers.

Our industry players and workforce needs to be equipped to deal with potential future challenges. EMA will continue to partner the industry, institutions of higher learning, other government agencies and the Union of Power and Gas Employees (UPAGE) to encourage the development of innovative energy solutions through innovative grants and test-beds in the areas of smart grids, power utilities and energy storage, as well as deepen the skills of our workforce through relevant programmes and initiatives.


The energy landscape is rapidly transforming, bringing about many exciting opportunities. As the sector continues to grow with new jobs created, there will be opportunities for a stable, meaningful and rewarding career with the energy and power sector.

# Desired Attributes and Skills in Demand


A career in the energy and power sector provides diverse opportunities to individuals seeking rewarding and enriching careers. If you enjoy the challenge of working in a highly dynamic and technologically advanced sector, formulating engineering solutions, and are keen to develop deep technical expertise, the sector offers opportunities to develop your passion and grow your career.

As the sector continues to transform, these are some examples of skills in demand now and to take advantage of emerging trends. Those seeking successful careers in the energy and power sector can set themselves apart by developing these attributes and acquiring these skills in demand.


### DESIRED ATTRIBUTES




**Analytical**  
Enjoys analysing things from all angles and thinking of ways to solve problems




**Agile and Innovative**  
Adapts quickly to rapidly developing trends and changing market conditions



**Team Player**  
Understands that each person is part of a larger team working together to bring about success




**Systems Thinker**  
Encourages flexible thinking and appreciation of new, emerging insights and multiple perspectives




**Meticulous**  
Pays attention to fine details and accuracy

### SKILLS IN DEMAND



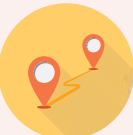
**Distributed Energy Resource Skills**

- Battery Design Management
- Solar PV Energy Assessment
- Solar PV Project Financing and Risk Analysis
- Solar PV Systems Design




**Energy Demand Management Skills**

- Demand Management Operations
- Demand Management Plan Development
- Energy Audit Management



**Internet of Things (IoT) Skills**

- IoT Management




**Autonomous Systems Management Skills**

- Autonomous Systems Technology Application
- Inspection Engineering Management
- Technology Road Mapping




**Operational Technology Cybersecurity Skills**

- Access Control Management
- Cyber Incident Management
- Cybersecurity Framework Application
- Detection and Monitoring Management
- Operational Technology Security Audit Management
- Operational Technology Security Design
- Threat and Vulnerability Management



**Data Analytics Skills**

- Business Intelligence and Data Analytics
- Data Management



**Digital Sales and Marketing Skills**

- Digital Marketing Management
- Innovation Management



# Take Your Career Further

A skilled workforce is essential in sustaining Singapore’s global competitiveness as a leading energy and power sector. There is a wide range of initiatives and schemes available to both individuals and employers to promote skills acquisition and upgrading.



## FOR INDIVIDUALS

### Education and Career Guidance (ECG)

ECG is about equipping students, as well as adults, with the necessary knowledge, skills and values to make informed education and career decisions. With the help of trained ECG counsellors, students will be exposed to a wide range of education and career options, and given the opportunities to make informed post-secondary education choices. Singaporeans in the workforce can benefit from career coaching, employability skills workshops, networking sessions through the WSG Career Centres, and the Employment and Employability Institute (e2i).

### Enhanced Internships

The Enhanced Internships are designed to provide students with a meaningful internship experience through more structured learning and support at the workplace. Participating companies will work closely with the Institute of Technical Education (ITE) and polytechnics to deliver a positive internship experience for their interns.

### SkillsFuture Credit

Credit of \$500 for all Singapore Citizens aged 25 and above to defray costs for a wide range of skills-related courses to encourage skills development and lifelong learning.

### SkillsFuture Earn and Learn Programme in Power Engineering - related areas

A work-learn programme designed to give graduates from the ITE and polytechnics a headstart in careers related to their discipline of study. Suitable candidates which include eligible Public Service officers will be matched with a job related to their field of study, and undergo structured on-the-job training and mentorship in participating companies. They can also gain industry experience and attain an industry-recognised certification concurrently.

### SkillsFuture Work-Learn Bootcamp (Data Analytics)

A short and focused bootcamp training programme in Data Analytics, developed in partnership with post-secondary education institutions (PSEIs) and Generation. This is to equip fresh graduates and mid-career individuals interested in Data Analytics careers with the relevant job-role specific behavioural, mind-set and technical skills to meet acute shortages for such skills in high demand sectors.

### SkillsFuture Fellowships

Monetary award of \$10,000 to recognise Singapore Citizens with deep skills, who are champions of lifelong learning, and committed to contributing to the skills development of others.

# Take Your Career Further



## FOR INDIVIDUALS

### SkillsFuture Mid-Career Enhanced Subsidy

Singaporeans aged 40 and above will receive higher subsidies of up to 90% of course fees for over 8,000 SSG-supported course, and at least 90% of programme cost for Ministry of Education-subsidised full-time and part-time courses.

### SkillsFuture Series

Targeted at Singaporeans who are keen to either gain a basic understanding or deepen their skills in eight emerging areas\*, the SkillsFuture Series comprises training programmes across three proficiency levels, namely Basic, Intermediate and Advanced. Adult learners of different skills proficiency and industry background can therefore benefit from the initiative. Eligible individuals will receive 70-90% course fee subsidy.

\*Eight emerging areas are: Data Analytics, Cybersecurity, Advanced Manufacturing, Urban Solutions, Finance, Tech-enabled Services, Digital Media, and Entrepreneurship.

### SkillsFuture Qualification Award

This award encourages Singapore Citizens to attain full Workforce Skills Qualifications, which equip them with comprehensive and robust sets of skills to perform their jobs competently, pursue career progression and explore new job opportunities.

### SkillsFuture Study Awards

A monetary award of \$5,000 for adults in their early and mid-career to develop and deepen their skills in future economic growth sectors.

### Young Talent Programme

Students from ITE, polytechnics, and universities can embark on overseas internships to take on work and study programmes that will prepare them for international assignments in their future careers.

# Take Your Career Further



## FOR INDIVIDUALS AND EMPLOYERS

### MySkillsFuture

MySkillsFuture is a one-stop online portal that enables Singaporeans to chart their own career and lifelong learning pathways. Users can access various resources related to education and skills training, and search for relevant training programmes.

### P-Max

The place-and-train programme matches job-seeking Professionals, Managers, Executives and Technicians (PMETs), to suitable positions in Small Medium Enterprises (SMEs), and assists SMEs to better recruit, train, manage and retain their newly-hired PMETs.

PMETs can be matched to suitable positions in SMEs and undergo training to help them adapt to the new SME work environment.

### Professional Conversion Programme (PCP)

PCP is a career conversion programme targeted at PMETs, including mid-career switchers, to undergo skills conversion and move into new occupations or sectors that have good prospects and opportunities for progression.

### Career Matching Services

Individuals can access a wide range of career advisory services and resources at WSG's Careers Connect and NTUC's Employment and Employability Institute (e2i) career centres. These include professional guidance from certified Career Coaches as well as career events and workshops.



## FOR INDIVIDUALS AND EMPLOYERS

### Career Trial

The Career Trial aims to help unemployed Singaporean jobseekers try out more jobs through a short term work stint in jobs paying \$1,500 or more. Eligible jobseekers who are employed after the Career Trial and stay on the job for six consecutive months can receive retention incentives of up to \$1,500.

### Career Support Programme (CSP)

Individuals who have been unemployed for six months or more, or at least 40 years old and made redundant, can apply to the CSP for salary support in jobs that pay a gross monthly salary of at least \$4,000 (\$3,600 for SMEs).

### MyCareersFuture.sg

Individuals can make use of MyCareersFuture.sg to find jobs that better match their skills, and look for jobs that do not require any prior work experience by tapping on WSG's Adapt and Grow initiative through the portal.

Initiatives and Schemes by:

SkillsFuture Singapore

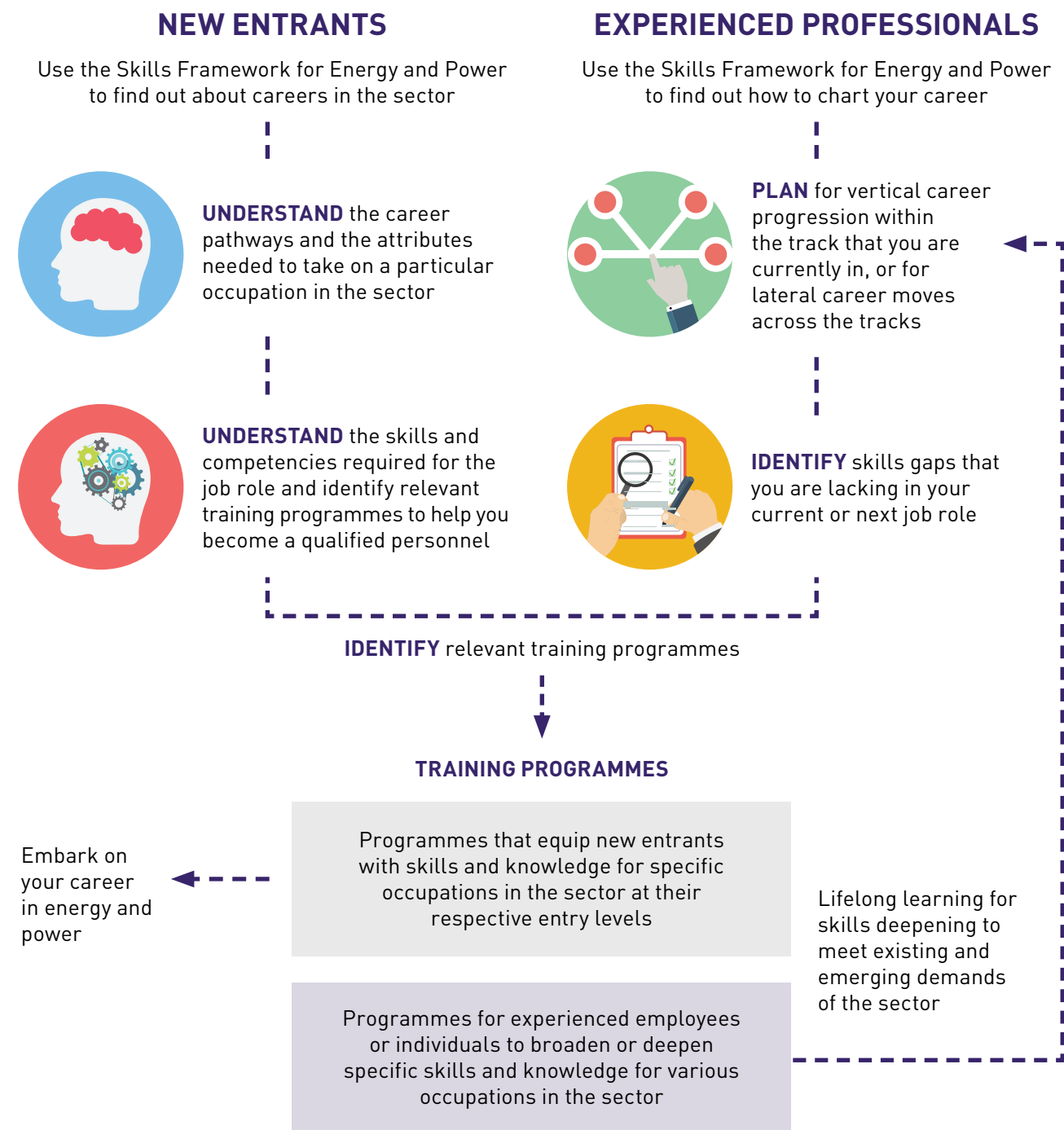
Workforce Singapore

For more information on the initiatives and schemes, please visit  
[skillsfuture.sg](https://skillsfuture.sg) | [wsg.gov.sg](https://wsg.gov.sg)



# Realise Your Potential - Take the Next Step Forward

Now that you have some idea of what a career in the energy and power industry can offer and the available government initiatives and schemes to support your career goals, you are ready to take the next step!



For a list of training programmes available for the energy and power sector, please visit:  
[skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Energy and Power Skills Map and Career Tracks



## Terminal Operations and Fuel System Operations

Facilitates the movement and storage of oil or cargo in the power generation facilities and shipping terminals. The jobs in this track ensure that oil of suitable quantity and quality is stored for clients or transported to the power generation station to generate electricity.

Page 21-28



## Power Generation

Operates power generation facilities to produce electricity, whilst ensuring that assets are maintained and optimised, and that the quality of water in certain equipment is maintained.

Page 29-51



## Energy Trading and Portfolio Management

Buys and sells electricity and oil in the short-term and long-term for capital gain or to optimise one's portfolio whilst managing associated risks.

Page 53-58



## Distributed Generation

Manages solar PV and ESS installation projects, from selling and financing to implementation. Maintenance is carried out for the installed infrastructure.

Page 59-69



## Electricity Transmission and Distribution

Manages electricity transmission and distribution infrastructure, consisting of planning, construction, operations and maintenance to ensure a reliable supply of electricity in Singapore.

Page 71-96



## Gas Systems Operations

Monitors the supply and demand of gas in Singapore, predict potential imbalances and resolve imbalances.

Page 97-103

# Energy and Power Skills Map and Career Tracks



## Town Gas Production and Plant Maintenance

Operates and maintains town gas plant facilities to produce town gas.

Page 105-115



## Gas Transmission and Distribution

Manages gas transmission and distribution infrastructure, consisting of planning, construction, operations and maintenance to ensure a reliable supply of gas in Singapore.

Page 117-139



## Town Gas Technical Services

Coordinates projects on the installation of gas equipment, including budgeting, procurement and stakeholder relations. Gas equipment that have been installed at customer sites are also inspected and serviced.

Page 141-149



## Energy Retail

Electricity, gas and/or demand management service products are marketed, priced and sold to customers. Customer service is also provided to drive customer satisfaction levels and resolve billing and settlement issues.

Page 151-169



## Liquefied Natural Gas (LNG) Trading and Research

Concerns the buying and selling of LNG to take advantage of price volatility in the market and generate revenue for the firm.

Page 171-175

# Energy and Power Skills Map and Career Tracks

Tracks	Sub-Tracks (Functional Tracks)	Descriptions
Terminal Operations and Fuel System Operations	Terminal Operations	Facilitates the movement of oil and cargo in and out of the shipping terminal. The jobs in these tracks ensure that oil of suitable quantity and quality is transported to the power generation station to generate electricity.
	Fuel System Operations	Planning of oil transfers in and out of the power generation facility. The jobs in these tracks oversee the storage tanks, some of which are leased out to clients.
Power Generation	Multi-Utility Operations	Operating of static and rotating equipment in the Power Generation facility, in order to produce electricity.
	Water Quality Control	Monitors and maintains the quality of the boiler, feed and waste water in the power generation facility to facilitate smooth plant operations.
	Engineering and Maintenance	Concerns the day-to-day fault identification and troubleshooting of equipment. Also includes optimising return on assets and asset reliability.
Energy Trading and Portfolio Management	Energy Trading	Buying and selling of electricity and oil to take advantage of short-term price movements.
	Portfolio Management	Long-term market research and analysis to identify opportunities to enhance their portfolio of electricity and oil, while managing the associated risks.
Distributed Generation	Solar PV and ESS Business Development and Project Financing	Identify opportunities for solar PV and ESS installation projects. Analyse the financial feasibility of projects.
	Solar PV and ESS Project Development	Implements solar PV and ESS installation projects.
	Solar PV and ESS Asset Maintenance	Conduct routine maintenance as well as asset management for the solar PV and ESS infrastructure.



# Energy and Power Skills Map and Career Tracks

Tracks	Sub-Tracks (Functional Tracks)	Descriptions
Electricity Transmission and Distribution	Network Planning and Strategy	Long-term planning of the transmission and/or distribution grid to support infrastructure developments in Singapore.
	Network Development	Implementation of projects on the construction of transmission and/or distribution network to support infrastructure developments in Singapore.
	Operations and Maintenance	Operate based on demand and supply of electricity in Singapore. Maintenance of the assets is needed to identify and resolve faults that occur in the grid.
Gas Systems Operations	Gas Systems Operations	Monitors the supply and demand of gas in Singapore, predicts potential imbalances and resolves imbalances.
Town Gas Production and Plant Maintenance	Town Gas Production	Includes multiple activities involved in the production of Town Gas.
	Town Gas Plant Maintenance	Includes all types of maintenance and asset management of the plant equipment needed for Town Gas production.
Gas Transmission and Distribution	Network Planning and Strategy	Long-term planning of the gas transmission and/or distribution pipelines in Singapore.
	Network Development	Implementation of projects on the construction of gas transmission and/or distribution pipelines in Singapore.
	Operations and Maintenance	Maintain the gas pipelines in Singapore through its daily operations, monitoring, and asset management to provide a reliable gas network in Singapore.
Town Gas Technical Services	Project Coordination Installation, Inspection and Servicing	Includes the budget and procurement, and stakeholder relations; and inspecting the final gas pressure of installations to ensure high quality standards are met. Also includes inspection, installation and servicing of gas installations works performed at customer sites.

# Energy and Power Skills Map and Career Tracks

Tracks	Sub-Tracks (Functional Tracks)	Descriptions
Energy Retail	Demand Management	Includes selling and managing Demand Response/ Interruptible Load plans.
	Business-to-Business Sales and Key Accounts	Sell electricity and/or gas to commercial customers.
	Business-to-Customer Sales	Sell electricity and/or gas to residential users.
	Marketing	Develop energy products, set prices, and conduct marketing.
	Customer Service, Billing and Settlement	Engages with customers to resolve any issues.
Liquefied Natural Gas (LNG) Trading and Research	Liquefied Natural Gas Trading and Research	Concerns the buying and selling of LNG to take advantage of price volatility in the market and generate revenue for the firm.

JOB ROLES	PAGE
Terminal Operations Technician	22
Terminal Operations Technical Officer	23
Terminal Operations Senior Technical Officer	24
Terminal Operations Manager	25
Fuel System Operations Executive	26
Fuel System Operations Manager/Fuel System Operations Senior Executive	27
Terminal Operations and Fuel System Operations Department Manager	28



# Terminal Operations Technician

## JOB ROLE DESCRIPTION

The Terminal Operations Technician performs the operations and maintenance of the terminals, such as oil movement, in accordance with Safe System of Work (SSoW) practices and safety regulations. He/She prepares the daily logs, supervises the troubleshooting processes carried out by contractors, reports all equipment abnormalities to the maintenance teams, and supports investigations for dispute settlements. In times of emergency, he follows emergency response plans as an Emergency Response Team member.

He may be required to work outdoors at the shipping terminals of the power generation companies.

He is physically fit and organised in ensuring that the oil cargo is safely transported and delivered as scheduled.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Safe System of Work Development and Implementation	Level 1
Continuous Improvement Management	Level 2	Technical Report Writing	Level 2
Corrective Maintenance Management	Level 2	Terminal Operations Management	Level 2
Crisis Management	Level 3	Third Party Management	Level 2
Emergency Response Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Hazards and Risk Identification and Management	Level 1		
Internet of Things Management	Level 2		
Regulatory Compliance	Level 2		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Communication	Basic
Decision Making	Basic	Interpersonal Skills	Basic
Teamwork	Basic		

# Terminal Operations Technical Officer

## JOB ROLE DESCRIPTION

The Terminal Operations Technical Officer supervises the operations and maintenance of the terminals, such as oil movement and coordinating with ship loading masters. He/She reviews relevant operations documents and reports, supports investigations for dispute settlements, reports all equipment abnormalities to the maintenance teams and supervises the troubleshooting processes carried out by contractors. He controls the Programmable Logic Controller (PLC) panels and supervises the transferring of oil into tanks and loading of oil tanks onto trucks. He supports on-the-job training programmes for staff to develop capabilities in the team. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures.

He may be required to work outdoors at the shipping terminals of the power generation companies.

He is a good team player and is organised in coordinating terminal operations.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 2	Safe System of Work Development and Implementation	Level 2
Corrective Maintenance Management	Level 3	Technical Report Writing	Level 2
Crisis Management	Level 3	Terminal Operations Management	Level 3
Emergency Response Management	Level 2	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Internet of Things Management	Level 2		
People Capability Development	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Developing People	Intermediate
Decision Making	Basic	Communication	Intermediate
Teamwork	Intermediate		

# Terminal Operations Senior Technical Officer

## JOB ROLE DESCRIPTION

The Terminal Operations Senior Technical Officer oversees the Terminal Operations Team and supervises works carried out by the staff according to Safe System of Work (SSoW) practices and safety regulations. He/She liaises with fuel suppliers and customers on operations, oversees the troubleshooting processes carried out by contractors, and recommends revisions to the Standard Operating Procedures (SOPs) to enhance operational efficiency. He also conducts investigations and resolves disputes. He implements emergency response plans and relevant safety procedures in the event of oil spillage or oil shortages, and supervises the Emergency Response Team. To develop staff capabilities, he conducts on-the-job training, and identifies appropriate training and development courses for the staff.

He may be required to work outdoors at the shipping terminals of the power generation companies.

He possesses good supervisory, communication and interpersonal skills to coordinate the terminal operations team in ensuring the smooth transportation of cargoes.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 3	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 3	Safe System of Work Development and Implementation	Level 3
Corrective Maintenance Management	Level 4	Technical Report Writing	Level 3
Crisis Management	Level 4	Terminal Operations Management	Level 3
Emergency Response Management	Level 3	Third Party Management	Level 3
Hazards and Risk Identification and Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Internet of Things Management	Level 3		
People Capability Development	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Leadership	Advanced
Decision Making	Intermediate	Teamwork	Advanced
Sense Making	Advanced		

# Terminal Operations Manager

## JOB ROLE DESCRIPTION

The Terminal Operations Manager builds rapport and establishes close working relationship with fuel suppliers and customers on terminal operations. He/She oversees the rectification activities of all equipment abnormalities and drives process improvement initiatives. He proposes innovative methods to improve operational efficiency and implements changes to the Standard Operating Procedures (SOPs). He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans. He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industry practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller.

He may be required to work outdoors at the shipping terminals of the power generation companies.

He demonstrates good leadership skills to ensure the smooth transportation of cargoes. He possesses good analytical thinking skills in formulating plans for process improvement.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Regulatory Compliance	Level 5
Continuous Improvement Management	Level 5	Safe System of Work Development and Implementation	Level 4
Corrective Maintenance Management	Level 5	Staff Training Facilitation	Level 5
Crisis Management	Level 5	Technical Report Writing	Level 4
Emergency Response Management	Level 4	Terminal Operations Management	Level 4
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Internet of Things Management	Level 4		
People Capability Development	Level 5		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Developing People	Advanced
Decision Making	Advanced	Service Orientation	Advanced
Problem Solving	Advanced		

# Fuel System Operations Executive

## JOB ROLE DESCRIPTION

The Fuel System Operations Executive performs routine system operation works, supports the planning of operational processes, such as inter-tank oil transfers, and the preparation of reports on fuel systems operations, fuel consumption and inventory status. He/She manages the tank storage inventory by monitoring the oil quality and quantity. He works with customers to provide clarifications on contract terms, conditions and technical specifications. He prepares tank leasing and technical specifications in contracts and agreements for legal clearance.

He works in a customer-oriented environment.

He is a good team player and possesses good organisational skills to maintain the fuel tank storage inventory.

TECHNICAL SKILLS AND COMPETENCIES			
Business Stakeholder Management	Level 3	Safe System of Work Development and Implementation	Level 4
Continuous Improvement Management	Level 3	Tank Storage Inventory Management	Level 3
Contract Management	Level 3	Technical Report Writing	Level 3
Dispute Settlement	Level 3	Technology and Systems Application	Level 2
Fuel Terminal Operations Management	Level 3	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Regulatory Compliance	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Interpersonal Skills	Intermediate
Decision Making	Basic	Teamwork	Intermediate
Communication	Intermediate		

# Fuel System Operations Manager/ Fuel System Operations Senior Executive

## JOB ROLE DESCRIPTION

The Fuel System Operations Manager/Fuel System Operations Senior Executive supervises routine system operational works, plans for the fuel systems operations, such as inter-tank transfers, and prepares routine reports. He/She manages the tank storage inventory and performs investigations for dispute settlements. He works with customers to provide clarifications on contracts terms, conditions and technical specifications. He also reviews contract specifications for legal clearance. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a customer-oriented environment.

He is a good team player, and possesses good planning skills in reviewing processes and fuel stock.

TECHNICAL SKILLS AND COMPETENCIES			
Business Stakeholder Management	Level 4	Safe System of Work Development and Implementation	Level 5
Continuous Improvement Management	Level 4	Staff Training Facilitation	Level 4
Contract Management	Level 3	Tank Storage Inventory Management	Level 4
Dispute Settlement	Level 4	Technical Report Writing	Level 4
Fuel Terminal Operations Management	Level 4	Technology and Systems Application	Level 3
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 3
People Capability Development	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Regulatory Compliance	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Interpersonal Skills	Advanced
Decision Making	Intermediate	Teamwork	Advanced
Communication	Advanced		

# Terminal Operations and Fuel System Operations Department Manager

## JOB ROLE DESCRIPTION

The Terminal Operations and Fuel System Operations Department Manager builds long-term strategic partnerships with fuel suppliers and customers, and oversees the contract management processes for the hiring of contractors. He/She drives process improvement initiatives and engages with leading industrial experts on emerging trends that shape the landscape. He leads Fuel System Operations to prevent oil spillages and demurrage charges. He drives efforts to maintain the tank storage inventory in terms of the oil quality and quantity to meet the expectations of customers and other stakeholders. He leads negotiations to resolve dispute settlements. He strategises the department's manpower based on projected needs, future trends, and newly adopted solutions and technologies. He also manages the department's capital and operational expenditure budgets, and prepares the annual work plan for the department whilst ensuring that they are aligned with organisational needs.

He establishes innovative safe work practices based on industry best practices, and formulates emergency response strategies, plans and procedures. In times of emergency, he oversees emergency responses as a Site Main Controller. He may be required to work outdoors at the shipping terminals of the power generation companies.

He possesses good leadership skills in providing direction to the Terminal Operations Team and Fuel System Operations Team, and is equipped with good networking and negotiating skills to liaise with internal and external stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Organisational Resource Management	Level 4
Business Stakeholder Management	Level 5	People Capability Development	Level 6
Continuous Improvement Management	Level 6	Regulatory Compliance	Level 6
Contract Management	Level 4	Safe System of Work Development and Implementation	Level 5
Corrective Maintenance Management	Level 5	Staff Training Facilitation	Level 5
Crisis Management	Level 6	Tank Storage Inventory Management	Level 5
Dispute Settlement	Level 5	Technical Report Writing	Level 4
Emergency Response Management	Level 5	Technology Road Mapping	Level 6
Fuel Terminal Operations Management	Level 5	Terminal Operations Management	Level 5
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Internet of Things Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Developing People	Advanced
Decision Making	Advanced	Service Orientation	Advanced
Problem Solving	Advanced		

# Power Generation

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# Electrical Engineer

Heng Wei Shuen  
Senoko Energy Pte Ltd

## SOLVING ISSUES, FIXING CIRCUITS

You could say it was a calling for Wei Shuen to join the energy industry. Fresh out of secondary school and en route to polytechnic, she became fascinated by the concept of electricity, which spurred her to take up Electrical Engineering with Eco-Design at Nanyang Polytechnic. There, on a school tour, she had her first glimpse of Senoko Energy – her current workplace.

Later as an undergraduate at Nanyang Technological University, she completed a 10-weeks internship at Senoko Energy and joined the company upon graduation. Today, she is a respected Electrical Engineer working with a team of 20 engineers and technical officers.

As an Electrical Engineer, Wei Shuen works with other engineers and officers to ensure safe and efficient plant operations. She helps to resolve plant abnormalities, rectify faults, as well as plan and ensure that routine plant maintenance are carried out according to schedule.

For Wei Shuen, the best part of her job is that no one day is ever the same – and it is this dynamic, challenging environment that energises her. “You face new challenges every day and you learn a lot from troubleshooting a wide range of circuits,” she says. “We often take electricity for granted, but there is a lot of work that goes into ensuring a smooth supply and keeping the lights on for every household and business.”

Aside from on-the-job learning, Wei Shuen emphasises the importance of upskilling and reskilling, especially with the introduction of new technologies in the energy industry. “We’re seeing a bigger global push towards renewable energy sources such as wind and solar, so it is important that we enhance our knowledge about these industry developments and also attend courses and workshops to upgrade our skill sets to stay relevant.”

For those considering a career in the energy sector, Wei Shuen believes that a firm grasp of technical knowledge will lay a solid foundation and with experience, one will develop troubleshooting and critical thinking skills. “Above all, I believe that passion is key as one will need to keep up with the rapid industrial and technological changes.” She encourages individuals to assess their career interest with the Skills Framework, from which they can find out more about what the industry can offer and the different career pathways.

“Above all, I believe that passion is key as one will need to keep up with the rapid industrial and technological changes.”

# Multi-Utility Operations Technician

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Technician performs assigned tasks to support the day-to-day power plant operations, inspections, tests and equipment changeovers. He/She performs operational checklists. He/She reports defects, deficiencies and abnormalities and supports frontline maintenance works.

He applies for Permits-to-Work for identified works, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works at the trigeneration and/or power generation plants and may be required to perform shift work.

He is a good team player and is collaborative in supporting the operations and maintenance works. He is also able to respond to situations quickly in times of faults or outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Power Plant Incident Investigation Management	Level 2
Business Intelligence and Data Analytics	Level 2	Power Plant Inspection Management	Level 2
Continuous Improvement Management	Level 2	Power Plant Operations Management	Level 2
Corrective Maintenance Management	Level 2	Regulatory Compliance	Level 2
Crisis Management	Level 3	Safe System of Work Development and Implementation	Level 1
Emergency Response Management	Level 2	Technical Report Writing	Level 2
Hazards and Risk Identification and Management	Level 1	Third Party Management	Level 2
Internet of Things Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Power Generation Process Control and Monitoring	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Communication	Intermediate
Lifelong Learning	Basic	Service Orientation	Basic
Problem Solving	Basic		

# Multi-Utility Operations Technical Officer

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Technical Officer supervises the day-to-day power plant operations, inspections, tests and equipment changeovers. He/She also performs frontline of maintenance works, updates relevant operational and compliance documents and raises fault notifications for defects or deficiencies. He supports on-the-job training programmes for staff to develop capabilities in the team.

He applies for Permits-to-Work for identified works, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works at the power plant station and may be required to perform shift work.

He is a good team player and is collaborative in providing guidance to team members on the operations and maintenance works.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Power Generation Process Control and Monitoring	Level 3
Business Intelligence and Data Analytics	Level 2	Power Plant Incident Investigation Management	Level 3
Continuous Improvement Management	Level 2	Power Plant Inspection Management	Level 3
Corrective Maintenance Management	Level 2	Power Plant Operations Management	Level 3
Crisis Management	Level 3	Regulatory Compliance	Level 3
Emergency Response Management	Level 2	Safe System of Work Development and Implementation	Level 2
Hazards and Risk Identification and Management	Level 2	Technical Report Writing	Level 2
Internet of Things Management	Level 2	Third Party Management	Level 2
People Capability Development	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 2
Permit Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Lifelong Learning	Basic
Interpersonal Skills	Intermediate	Problem Solving	Basic
Developing People	Basic		

# Multi-Utility Operations Team Leader

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Team Leader leads the day-to-day power plant operations by assigning tasks to junior team members, performs high voltage switching operational works and drives the rectification of all major plant faults, defects and outages. He/She supervises the first line maintenance works. He develops staff capabilities through on-the-job training and coaching.

He monitors Permits-to-Work procedures, and ensures works are done according to Safe System of Work (SSoW) practices. In times of emergency, he facilitates the implementation of emergency response plans and relevant safety procedures. He also supervises the Emergency Response Team on site incident management. He works at the power plant station and may be required to perform shift work.

He possesses good leadership and interpersonal skills in leading the operations teams. He is also systematic and able to respond to situations quickly in times of faults or outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Power Plant Incident Investigation Management	Level 4
Business Intelligence and Data Analytics	Level 3	Power Plant Inspection Management	Level 4
Continuous Improvement Management	Level 3	Power Plant Operations Management	Level 4
Corrective Maintenance Management	Level 3	Regulatory Compliance	Level 4
Crisis Management	Level 4	Safe System of Work Development and Implementation	Level 4
Emergency Response Management	Level 4	Staff Training Facilitation	Level 4
Hazards and Risk Identification and Management	Level 4	Technical Report Writing	Level 4
Innovation Management	Level 4	Third Party Management	Level 3
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
People Capability Development	Level 4		
Permit Management	Level 4		
Power Generation Process Control and Monitoring	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Developing People	Intermediate
Teamwork	Advanced	Sense Making	Intermediate
Problem Solving	Intermediate		

# Multi-Utility Operations Senior Technical Officer

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Senior Technical Officer supervises the day-to-day power plant operations, supervises inspections, tests and equipment changeover. He/She also performs first line maintenance works. In addition, he updates and reports relevant data, defects and deficiencies. He conducts on-the-job training when required and identifies appropriate training and development courses for staff to develop capabilities in the team.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures. He also supervises the Emergency Response Team on site incident management. He works at the power plant station and may be required to perform shift work.

He is a good team player and has good leadership skills in guiding team members. He is also systematic and able to respond to situations quickly in times of faults or outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 3	Power Generation Process Control and Monitoring	Level 3
Business Intelligence and Data Analytics	Level 3	Power Plant Incident Investigation Management	Level 4
Continuous Improvement Management	Level 3	Power Plant Inspection Management	Level 4
Corrective Maintenance Management	Level 3	Power Plant Operations Management	Level 4
Crisis Management	Level 4	Regulatory Compliance	Level 3
Emergency Response Management	Level 3	Safe System of Work Development and Implementation	Level 3
Hazards and Risk Identification and Management	Level 3	Technical Report Writing	Level 3
Internet of Things Management	Level 3	Third Party Management	Level 3
People Capability Development	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Permit Management	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Leadership	Intermediate
Communication	Intermediate	Teamwork	Intermediate
Sense Making	Intermediate		

# Multi-Utility Operations Engineer

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Engineer oversees the day-to-day power plant operations and high voltage switching operational works and drives the rectification activities of all major plant faults, defects and outages. He/She analyses historical data on plant performance, leads the first line maintenance works, and contributes to the planning and schedules of maintenance activities and schedules with maintenance team. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities for site incident management. He works at the power plant station and may be required to perform shift work.

He possesses good leadership and interpersonal skills in overseeing the operations teams. He is also systematic and able to respond to situations quickly in times of faults or outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Power Plant Incident Investigation Management	Level 5
Business Intelligence and Data Analytics	Level 4	Power Plant Inspection Management	Level 4
Continuous Improvement Management	Level 4	Power Plant Operations Management	Level 4
Corrective Maintenance Management	Level 4	Project Management	Level 4
Crisis Management	Level 4	Regulatory Compliance	Level 4
Emergency Response Management	Level 4	Safe System of Work Development and Implementation	Level 4
Hazards and Risk Identification and Management	Level 4	Staff Training Facilitation	Level 4
Innovation Management	Level 4	Technical Report Writing	Level 4
Internet of Things Management	Level 3	Third Party Management	Level 4
People Capability Development	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Permit Management	Level 4		
Power Generation Process Control and Monitoring	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Sense Making	Intermediate
Teamwork	Intermediate	Service Orientation	Intermediate
Problem Solving	Intermediate		

# Multi-Utility Operations Shift Manager

## JOB ROLE DESCRIPTION

The Multi-Utility Operations Shift Manager plans for the day-to-day power plant operations and high voltage switching operational works, and formulates actions for the rectification of all major plant faults, defects and outages. He/She plans maintenance activities and coordinates schedules of maintenance team. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industrial practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller. He works at the power plant station and may be required to perform shift work.

He possesses good leadership and interpersonal skills in directing the operations teams. He is also systematic and able to respond to situations quickly in emergencies or outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Power Generation Process Control and Monitoring	Level 5
Business Intelligence and Data Analytics	Level 4	Power Plant Incident Investigation Management	Level 5
Business Planning Management	Level 5	Power Plant Inspection Management	Level 5
Continuous Improvement Management	Level 4	Power Plant Operations Management	Level 5
Corrective Maintenance Management	Level 4	Project Management	Level 5
Crisis Management	Level 5	Regulatory Compliance	Level 5
Emergency Response Management	Level 5	Safe System of Work Development and Implementation	Level 5
Hazards and Risk Identification and Management	Level 4	Staff Training Facilitation	Level 5
Innovation Management	Level 5	Steam and Water Quality Control Management	Level 2
Internet of Things Management	Level 4	Technical Report Writing	Level 4
Organisational Resource Management	Level 4	Technology Road Mapping	Level 5
Outage Planning	Level 4	Third Party Management	Level 4
People Capability Development	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 4
Permit Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Decision Making	Advanced
Teamwork	Advanced	Sense Making	Advanced
Communication	Advanced		

# Water Quality Control Technician

## JOB ROLE DESCRIPTION

The Water Quality Control Technician supports the laboratory’s day-to-day operations by collecting samples on waste, boiler and feed water for water quality control. He/She manages the inventory of laboratory equipment and chemicals by carrying out scheduled calibration of laboratory instruments, apparatus and equipment, and takes readings of equipment to identify faults. He also performs checks according to operational checklists and data entry to maintain laboratory test results.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He is a good team player, is meticulous and organised in carrying out tests and maintaining laboratory records.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Regulatory Compliance	Level 2
Chemical Reagent Management	Level 2	Safe System of Work Development and Implementation	Level 1
Continuous Improvement Management	Level 2	Steam and Water Quality Control Management	Level 2
Corrective Maintenance Management	Level 2	Technical Report Writing	Level 2
Crisis Management	Level 3	Technology and Systems Application	Level 2
Emergency Response Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Hazards and Risk Identification and Management	Level 1		
Power Plant Operations Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Basic	Interpersonal Skills	Basic
Service Orientation	Basic	Communication	Basic
Lifelong Learning	Basic		



# Water Quality Control Technical Officer

## JOB ROLE DESCRIPTION

The Water Quality Control Technical Officer performs analyses on boiler, feed and waste water samples in accordance with Standard Operating Procedures (SOPs) for water quality control. He/She prepares chemical solutions and blendings, and conducts investigations on water quality which falls outside the acceptable limits. He manages the inventory of laboratory equipment and chemicals by carrying out scheduled calibrations and troubleshooting processes of laboratory instrument, apparatus and equipment. He also updates relevant document and performs data entry to maintain laboratory test results. He supports on-the-job training programmes for staff to develop capabilities in the team.

He performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He is a good team player and is collaborative in supporting the operations team in water quality control. He is meticulous and organised in carrying out tests and maintaining laboratory records.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Procurement Management	Level 3
Chemical Reagent Management	Level 2	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 2	Safe System of Work Development and Implementation	Level 2
Corrective Maintenance Management	Level 2	Steam and Water Quality Control Management	Level 2
Crisis Management	Level 3	Technical Report Writing	Level 2
Emergency Response Management	Level 2	Technology and Systems Application	Level 2
Hazards and Risk Identification and Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
People Capability Development	Level 3		
Power Plant Operations Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Decision Making	Basic
Interpersonal Skills	Basic		

# Water Quality Control Senior Technical Officer

## JOB ROLE DESCRIPTION

The Water Quality Control Senior Technical Officer supervises the laboratory's day-to-day operations and tests on waste, boiler and feed water for water quality control as well as the preparation of chemical solutions and blendings. He/She supervises the investigations on water quality which falls outside the acceptable limits. He supports the management of the inventory of laboratory equipment and chemicals. He also procures equipment and services. He also prepares relevant documentation and supervises the data entry to maintain laboratory test results. He performs on-the-job training when required and identifies appropriate training and development courses for staff to develop capabilities in the team.

He supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He is a good team player and possesses good supervisory to guide the operations water quality control team.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Procurement Management	Level 4
Chemical Reagent Management	Level 3	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 3	Safe System of Work Development and Implementation	Level 3
Corrective Maintenance Management	Level 3	Steam and Water Quality Control Management	Level 3
Crisis Management	Level 4	Technical Report Writing	Level 3
Emergency Response Management	Level 3	Technology and Systems Application	Level 3
Hazards and Risk Identification and Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
People Capability Development	Level 3		
Power Plant Operations Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Basic	Communication	Intermediate
Teamwork	Intermediate	Problem Solving	Intermediate
Interpersonal Skills	Intermediate		

# Water Quality Control Chemist

## JOB ROLE DESCRIPTION

The Water Quality Control Chemist leads the laboratory’s day-to-day operations and testings on waste, boiler and feed water for water quality control as well as the preparation of chemical solutions and blendings. He/She leads the investigations on water quality outside of acceptable limits. He manages the inventory of laboratory equipment and chemicals, and directs the calibration and maintenance of equipment. He also reviews relevant documentation and prepares regulatory compliance reports. He implements improved Standard Operating Procedures (SOPs) and test standards for the laboratory to enhance boiler and feed water quality. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities on site incident management. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He possesses good communication, people management and problem solving skills in leading the water quality control team.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	Procurement Management	Level 5
Chemical Reagent Management	Level 4	Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Safe System of Work Development and Implementation	Level 4
Corrective Maintenance Management	Level 4	Staff Training Facilitation	Level 4
Crisis Management	Level 4	Steam and Water Quality Control Management	Level 4
Emergency Response Management	Level 3	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 4	Technology and Systems Application	Level 3
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
People Capability Development	Level 4		
Power Plant Operations Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Decision Making	Intermediate
Sense Making	Intermediate	Communication	Intermediate
Creative Thinking	Basic		

# Water Quality Control Manager

## JOB ROLE DESCRIPTION

The Water Quality Control Manager oversees the water quality control laboratory and testing operations, reviews water quality findings and directs remedial actions based on investigation findings on variances of water quality. He/She manages the inventory of laboratory equipment by controlling the budget for procurement of laboratory supplies. He reviews laboratory test result trends that have been prepared to identify areas for improvement and directs follow-up actions on compliance. He reviews and recommends water quality control laboratory policies and processes to uphold high water quality standards. He manages the overall strengths and development areas of the team and motivates the team to maximise their overall potential in work performance.

He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industrial practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He possesses good leadership skills and is excellent in problem-solving and managing people.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 5	Procurement Management	Level 6
Business Planning Management	Level 5	Regulatory Compliance	Level 6
Chemical Reagent Management	Level 6	Safe System of Work Development and Implementation	Level 5
Continuous Improvement Management	Level 5	Staff Training Facilitation	Level 5
Corrective Maintenance Management	Level 5	Steam and Water Quality Control Management	Level 5
Crisis Management	Level 4	Technical Report Writing	Level 4
Emergency Response Management	Level 3	Technology and Systems Application	Level 4
Hazards and Risk Identification and Management	Level 5	Technology Road Mapping	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Organisational Resource Management	Level 4		
People Capability Development	Level 6		
Power Plant Operations Management	Level 6		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Resource Management	Intermediate	Decision Making	Advanced
Transdisciplinary Thinking	Basic	Developing People	Advanced
Leadership	Intermediate		

# Water Quality Control Principal Chemist

## JOB ROLE DESCRIPTION

The Water Quality Control Principal Chemist provides technical leadership on the daily operations of the laboratory and resolves water quality issues based on investigations conducted. He/She oversees the management of the inventory of resources such as de-mineralised water and chemicals, formulates remedial actions based on review of the laboratory test equipment troubleshooting, and reviews regulatory compliance reports and other prepared documentation to perform trending of laboratory test results and implement follow-up actions. He reviews water quality control laboratory policies and processes and improves Standard Operating Procedures (SOPs) to uphold high water quality standards. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He manages the Permits-to-Work for the team, and establishes Safe System of Work (SSoW) frameworks and practices for his area of work. He proposes emergency technical and recovery activities based on the crisis management framework, and determines the responses needed in emergency situations. He works in the water quality control laboratory of the power plant, which is typically situated in the industrial areas of Singapore, and deals with laboratory apparatus and power plant equipment, such as boilers.

He displays strong leadership and analytical thinking skills to lead, innovate and improve the water quality control operations.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 5	Procurement Management	Level 5
Chemical Reagent Management	Level 5	Regulatory Compliance	Level 5
Continuous Improvement Management	Level 5	Safe System of Work Development and Implementation	Level 5
Corrective Maintenance Management	Level 5	Staff Training Facilitation	Level 5
Crisis Management	Level 4	Steam and Water Quality Control Management	Level 5
Emergency Response Management	Level 3	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 5	Technology and Systems Application	Level 4
Innovation Management	Level 5	Technology Road Mapping	Level 5
People Capability Development	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Power Plant Operations Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Resource Management	Basic
Creative Thinking	Intermediate	Transdisciplinary Thinking	Basic
Decision Making	Intermediate		

# Multi-Utility Operations and Water Quality Control Department Manager

## JOB ROLE DESCRIPTION

The Multi-Utility, Operations and Water Quality Control Department Manager oversees the power plant operations to ensure that adequate fuel is supplied to generate electricity to meet production targets. He/She engages the industry on best practices and implements them to streamline and improve processes and operational management. He also monitors maintenance works for the plant, multi-utility and water quality control facilities. He manages compliance issues by conducting reviews on work processes, establishes the department's work plan and capital and operational expenditure budgets. He also conducts strategic manpower planning for the department.

He establishes innovative safe work practices based on industry best practices, and defines policies and Standard Operating Procedures (SOPs) for Permit-To-Work system. He formulates emergency response strategies, plans and procedures. In times of emergency, he oversees emergency responses as a Site Main Controller. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He may also occasionally deal with the equipment in the power plant station, such as generators, motors, turbines, and high pressure vessels.

He possesses good leadership skills in leading the operations team and is innovative in adopting industry best practices for the department.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Power Generation Process Control and Monitoring	Level 5
Business Intelligence and Data Analytics	Level 5	Power Plant Incident Investigation Management	Level 6
Business Planning Management	Level 6	Power Plant Inspection Management	Level 5
Chemical Reagent Management	Level 2	Power Plant Operations Management	Level 6
Continuous Improvement Management	Level 5	Regulatory Compliance	Level 6
Corrective Maintenance Management	Level 5	Safe System of Work Development and Implementation	Level 5
Crisis Management	Level 5	Staff Training Facilitation	Level 5
Emergency Response Management	Level 5	Steam and Water Quality Control Management	Level 2
Hazards and Risk Identification and Management	Level 5	Technical Report Writing	Level 4
Innovation Management	Level 5	Technology and Systems Application	Level 4
Internet of Things Management	Level 4	Technology Road Mapping	Level 6
Organisational Resource Management	Level 5	Third Party Management	Level 5
Outage Planning	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
People Capability Development	Level 6		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Resource Management	Intermediate	Problem Solving	Advanced
Leadership	Advanced	Managing Diversity	Advanced
Decision Making	Advanced		

# Engineering and Maintenance Technician

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Technician supports the maintenance team in the inspection, installation, troubleshooting and repair of the power plant equipment according to safety and maintenance procedures to ensure that power is generated reliably in the plant.

He/She applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works in the power plant station, where there are various equipment, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He has good interpersonal and communication skills to liaise with team members, the operations teams, and contractors. He is detail-oriented and systematic in carrying out maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 2
Business Intelligence and Data Analytics	Level 2	Mechanical Field Maintenance Management	Level 2
Condition Monitoring	Level 2	Plant Equipment Diagram Review	Level 2
Continuous Improvement Management	Level 2	Power Plant Operations Management	Level 2
Corrective Maintenance Management	Level 2	Preventive Maintenance	Level 2
Crisis Management	Level 3	Regulatory Compliance	Level 2
Electrical Field Maintenance Management	Level 2	Safe System of Work Development and Implementation	Level 1
Emergency Response Management	Level 2	Technical Report Writing	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 1	Workplace Safety and Health Framework Development and Implementation	Level 1
Instrumentation and Control Maintenance Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Sense Making	Basic
Teamwork	Intermediate	Resource Management	Basic
Service Orientation	Basic		

# Engineering and Maintenance Technical Officer

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Technical Officer performs routine inspections and the first line of response to plant incidents. He/She conducts routine preventive and corrective maintenance works, and executes plant improvement projects to ensure the smooth operations of the power generation plant. He supports on-the-job training programmes for staff to develop capabilities in the team.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He has good interpersonal and communication skills to liaise with team members, the operations team, and guide contractors. He is detail-oriented and systematic in conducting maintenance procedures. In addition, he is agile and quick-witted in responding to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 2	Internet of Things Management	Level 2
Autonomous Systems Technology Application	Level 2	Mechanical Field Maintenance Management	Level 2
Business Intelligence and Data Analytics	Level 2	People Capability Development	Level 3
Condition Monitoring	Level 2	Plant Equipment Diagram Review	Level 2
Continuous Improvement Management	Level 2	Power Plant Operations Management	Level 3
Corrective Maintenance Management	Level 2	Preventive Maintenance	Level 2
Crisis Management	Level 3	Regulatory Compliance	Level 3
Electrical Field Maintenance Management	Level 3	Safe System of Work Development and Implementation	Level 2
Emergency Response Management	Level 2	Technical Report Writing	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Instrumentation and Control Maintenance Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Communication	Basic
Sense Making	Basic	Teamwork	Basic
Decision making	Basic		



# Engineering and Maintenance Senior Technical Officer

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Senior Technical Officer carries out preventive and corrective maintenance of the plant equipment according to safety and maintenance procedures to ensure that power is generated reliably in the plant. He/She leads routine inspections and supervises contractors in maintenance works. He conducts on-the-job training when required and identifies appropriate training and development courses for staff to develop capabilities of the team.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He possesses good interpersonal and communication skills to supervise junior team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures. In addition, he is agile and quick-witted in responding to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 3	Internet of Things Management	Level 3
Autonomous Systems Technology Application	Level 3	Mechanical Field Maintenance Management	Level 3
Business Intelligence and Data Analytics	Level 3	Outage Planning	Level 4
Condition Monitoring	Level 3	People Capability Development	Level 3
Continuous Improvement Management	Level 3	Plant Equipment Diagram Review	Level 3
Corrective Maintenance Management	Level 3	Power Plant Operations Management	Level 4
Crisis Management	Level 4	Preventive Maintenance	Level 2
Electrical Field Maintenance Management	Level 3	Regulatory Compliance	Level 3
Emergency Response Management	Level 3	Safe System of Work Development and Implementation	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Technical Report Writing	Level 3
Hazards and Risk Identification and Management	Level 3	Third Party Management	Level 3
Instrumentation and Control Maintenance Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Decision Making	Intermediate
Sense Making	Intermediate	Teamwork	Intermediate
Creative Thinking	Intermediate		

# Engineering and Maintenance Engineer

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Engineer supervises the asset management team in carrying out preventive and corrective maintenance of the plant equipment. He/She performs predictive maintenance and reliability-centred maintenance works, implements plant improvement projects and reviews plant incidents and responses. In a bid to protect the plant against cyberthreats, he carries out cybersecurity operations in monitoring, preparing and responding to incidents. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He monitors the execution of Permits-to-Work procedures, and implements Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations. He also facilitates the Emergency Response Team's activities on site incident management. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He is detail-oriented and systematic in conducting maintenance procedures and has good communication skills to collaborate with his team. In addition, he is agile and quick-witted in responding effectively to faults and outages. Furthermore, he is intellectually curious in identifying ways to improve the plants' preparedness against cyberthreats.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 4	Operational Technology Security Audit Management	Level 4
Autonomous Systems Technology Application	Level 4	Operational Technology Security Design	Level 4
Business Intelligence and Data Analytics	Level 3	Outage Planning	Level 4
Condition Monitoring	Level 4	People Capability Development	Level 4
Continuous Improvement Management	Level 4	Plant Equipment Diagram Review	Level 3
Corrective Maintenance Management	Level 4	Power Plant Operations Management	Level 4
Crisis Management	Level 4	Preventive Maintenance	Level 3
Cyber Incident Management	Level 4	Project Management	Level 4
Electrical Maintenance Management	Level 4	Regulatory Compliance	Level 4
Emergency Response Management	Level 4	Reliability-Centred Maintenance	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Safe System of Work Development and Implementation	Level 4
Hazards and Risk Identification and Management	Level 4	Staff Training Facilitation	Level 4
Innovation Management	Level 4	Technical Report Writing	Level 4
Instrumentation and Control Maintenance Management	Level 4	Third Party Management	Level 4
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 4
Mechanical Maintenance Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Creative Thinking	Intermediate
Teamwork	Intermediate	Decision Making	Intermediate
Sense Making	Advanced		

# Engineering and Maintenance Manager

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Manager oversees the asset management team in carrying out predictive, preventive and corrective maintenance of the plant equipment to ensure that power is generated reliably in the plant. He/She reviews work carried out by the team, and contractors, as well as establishes follow-up actions to be taken. He conducts the planning of asset management and reliability-centred maintenance to improve efficiency in maintenance. In a bid to protect the plant against cyberthreats, he develops and formulates the cybersecurity framework, procedures and guidelines. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industrial practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He possesses good leadership skills to lead junior team members and contractors. He is detail-oriented and systematic in developing plans for the department. In addition, he is agile and quick-witted in adapting to emergency situations. Furthermore, he is innovative in finding ways to improve the plants' preparedness against cyberthreats. He demonstrates good networking skills to collaborate with authorities and other stakeholders for statutory inspections and other requirements.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 6	Operational Technology Security Audit Management	Level 5
Autonomous Systems Technology Application	Level 5	Operational Technology Security Design	Level 5
Business Intelligence and Data Analytics	Level 4	Organisational Resource Management	Level 4
Business Planning Management	Level 5	Outage Planning	Level 5
Condition Monitoring	Level 5	People Capability Development	Level 6
Continuous Improvement Management	Level 5	Plant Equipment Diagram Review	Level 4
Corrective Maintenance Management	Level 5	Power Plant Operations Management	Level 5
Crisis Management	Level 5	Preventive Maintenance	Level 5
Cyber Incident Management	Level 5	Project Management	Level 5
Electrical Maintenance Management	Level 5	Regulatory Compliance	Level 5
Emergency Response Management	Level 5	Reliability-Centred Maintenance	Level 6
Equipment and Systems Installation and Commissioning Management	Level 5	Safe System of Work Development and Implementation	Level 5
Hazards and Risk Identification and Management	Level 5	Staff Training Facilitation	Level 5
Innovation Management	Level 5	Technical Report Writing	Level 4
Instrumentation and Control Maintenance Management	Level 5	Technology Road Mapping	Level 5
Internet of Things Management	Level 4	Third Party Management	Level 5
Mechanical Maintenance Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5

# Engineering and Maintenance Manager

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Managing Diversity	Intermediate
Interpersonal Skills	Advanced	Teamwork	Intermediate
Communication	Advanced		

# Engineering and Maintenance Principal Engineer

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Principal Engineer provides technical leadership to the asset management team in carrying out predictive, preventive and corrective maintenance of the plant equipment, reviews work carried out by the team and formulates follow-up actions to be taken. He/She leads in asset management and reliability-centred maintenance works to improve efficiency. He leads the technical aspects of the execution of cybersecurity framework and procedures, and develops staff capabilities by formulating technical training and development plans for the teams. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He manages the Permits-to-Work for the team, and establishes Safe System of Work (SSoW) frameworks and practices for his area of work. He proposes emergency technical and recovery activities based on the crisis management framework, and determines the responses needed in emergency situations. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He possesses good leadership skills to lead junior team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures. In addition, he is agile and quick-witted in responding effectively to faults and outages. Furthermore, he is innovative in finding ways to improve the plants' preparedness against cyberthreats.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 5	Operational Technology Security Audit Management	Level 5
Autonomous Systems Technology Application	Level 5	Operational Technology Security Design	Level 5
Business Intelligence and Data Analytics	Level 4	Outage Planning	Level 4
Condition Monitoring	Level 4	People Capability Development	Level 6
Continuous Improvement Management	Level 5	Plant Equipment Diagram Review	Level 4
Corrective Maintenance Management	Level 5	Power Plant Operations Management	Level 5
Crisis Management	Level 5	Preventive Maintenance	Level 4
Cyber Incident Management	Level 5	Project Management	Level 5
Electrical Maintenance Management	Level 4	Regulatory Compliance	Level 5
Emergency Response Management	Level 5	Reliability-Centred Maintenance	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Safe System of Work Development and Implementation	Level 5
Hazards and Risk Identification and Management	Level 5	Staff Training Facilitation	Level 5
Innovation Management	Level 5	Technical Report Writing	Level 4
Instrumentation and Control Maintenance Management	Level 4	Technology Road Mapping	Level 5
Internet of Things Management	Level 4	Third Party Management	Level 4
Mechanical Maintenance Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Decision Making	Intermediate
Sense Making	Advanced	Transdisciplinary Thinking	Intermediate
Creative Thinking	Intermediate		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Engineering and Maintenance Department Manager

## JOB ROLE DESCRIPTION

The Engineering and Maintenance Department Manager oversees the asset management team in carrying out maintenance of the plant equipment across the mechanical, electrical, control and instrumentation teams to ensure that power is generated reliably in the plant. He/She also oversees emergency response planning and recovery activities. He engages the Original Equipment Manufacturer (OEM) representatives and authorities on asset management works, and provides strategic direction for the team based on innovative best practices. He also oversees the planning and execution of cybersecurity incident responses and initiates vulnerability assessment and penetration testing on the operation systems.

He formulates the maintenance work plans, manpower allocation plans and budgets to orientate the department towards meeting organisational goals. He works in the administration office of the power plant, which is typically situated in the industrial areas of Singapore. He also deals with the equipment in the power plant station, such as generators, motors, turbines, high pressure vessels, boilers, condensers and compressors.

He possesses good leadership skills to align the department with organisational goals, and stay updated on industry best practices. He is also adept at establishing rapport with external stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 6	Operational Technology Security Audit Management	Level 6
Autonomous Systems Technology Application	Level 5	Operational Technology Security Design	Level 6
Business Intelligence and Data Analytics	Level 5	Organisational Resource Management	Level 5
Business Planning Management	Level 6	Outage Planning	Level 5
Condition Monitoring	Level 5	People Capability Development	Level 6
Continuous Improvement Management	Level 6	Plant Equipment Diagram Review	Level 5
Corrective Maintenance Management	Level 5	Power Plant Operations Management	Level 5
Crisis Management	Level 5	Preventive Maintenance	Level 5
Cyber Incident Management	Level 6	Regulatory Compliance	Level 6
Electrical Maintenance Management	Level 5	Reliability-Centred Maintenance	Level 6
Emergency Response Management	Level 5	Safe System of Work Development and Implementation	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Staff Training Facilitation	Level 5
Hazards and Risk Identification and Management	Level 5	Technical Report Writing	Level 4
Innovation Management	Level 5	Technology Road Mapping	Level 6
Instrumentation and Control Maintenance Management	Level 5	Third Party Management	Level 5
Internet of Things Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5
Mechanical Maintenance Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Managing Diversity	Advanced	Leadership	Intermediate
Resource Management	Intermediate	Decision Making	Intermediate
Developing People	Advanced		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)



# Energy Trading and Portfolio Management

## Manager

Belgi Pyay Hpone Aung  
TP Utilities Pte Ltd

### DIGITALISING FOR PRODUCTIVITY AND GROWTH

Belgi’s first foray into research proved to him what he knew all along – he would very much prefer tinkering with equipment and machineries for a career. He joined the power generation industry next so he could apply what he studied in the real world, and he has not looked back since.

Belgi is currently the manager of the mechanical department at Tuas Power’s Tembusu Multi-Utilities Complex on Jurong Island. His responsibilities include planning and executing major plant maintenance works, as well as leading teams in probing and resolving technical issues encountered. He manages staff competency and training, and ensures the continual updating of documents, reports and checklists, to keep abreast with changing technology. Learning on the job is what Belgi likes best. “As a mechanical engineer by training, I enjoy analysing the plant and process-related issues, and resolving them however complicated they may be.”

The move towards digitalisation at Tuas Power, in particular, has helped to streamline Belgi’s daily work processes. Tuas Power uses wireless sensors to conduct routine monitoring and system checks of critical plant equipment. Data can be obtained automatically from the machines so Belgi no longer has to go to the actual sites for manual collection. Through the use of predictive technology, these sensors and their diagnostic system can also forecast potential problems and alert staff, which has improved their troubleshooting ability and thus enhanced plant reliability.

Moreover, Belgi and his team can use handheld tablets to access the centralised information and handover checklist anytime. He remarks, “The increase in automation has helped our workflow processes become more efficient and reliable. Shift handovers are now much easier and our productivity has increased.”

To keep up with the emerging trends, Belgi looks to acquire new competencies and IT-related skills, such as learning how to code so he can write programmes on workplace procedures that will help scale up production. He agrees that the Skills Framework has comprehensive information and clear indication of work scope and key tasks, which enables him to plan the steps to progress to the next level in his career. He is also confident that the well-established and stable career paths would attract new employees. “With digitalisation and Internet of Things (IoT) emerging within the industry, joining the power sector can be very exciting and rewarding!”

“With digitalisation and IoT emerging within the industry, joining the power sector can be very exciting and rewarding!”

# Energy Trading and Portfolio Management

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# Energy Trading Trader

## JOB ROLE DESCRIPTION

The Energy Trading Trader performs financial and compliance reporting by maintaining trading information databases and spreadsheets, reporting profit and losses, and checking that transactions are consistent with risk management guidelines and exposure limits. He/She conducts electricity trading activities and enhances the organisation’s portfolio value by recommending optimal purchase timings, prices, quantities, and delivery modes. To ensure the availability of machines, feedstock and other resources, he collaborates heavily with other teams. He also liaises with external parties and counterparties for day-to-day operational requirements. He conducts analyses on various factors, such as asset availability, fuel constraints and costs, electricity supply commitments, market conditions and exposure risks, to support outage planning.

He works in a dynamic and fast-paced environment where he must make timely decisions based on market movements and trends, and provide relevant market information for relevant deals. He may have to work in rotating shifts and conduct pool trading half-hourly, 6-hourly and weekly, as pool trading activities occur 24/7.

He is a decisive, analytical and self-motivated individual who is comfortable with numbers and able to work under time pressure.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 4	Technology and Systems Application	Level 2
Data Management	Level 3	Trading Analysis	Level 4
Fuel Trading	Level 3	Trading Pool Management	Level 4
Internet of Things Management	Level 2	Trading Reporting and Assessment	Level 4
Outage Planning	Level 4	Wholesale Transaction Management	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Computational Thinking	Basic	Resource Management	Basic
Decision Making	Intermediate	Communication	Basic
Problem Solving	Intermediate		

# Energy Trading Manager

## JOB ROLE DESCRIPTION

The Energy Trading Manager reviews trade entries and profit and loss reports, drives compliance efforts to ensure consistency of trade transactions with risk management guidelines, and formulates follow-up actions based on investigation outcomes on breaches in electricity and derivative market operations. He/She enhances the organisation’s portfolio value by identifying optimal purchase timings, prices, quantities and delivery modes, and formulating optimal daily nomination strategies in line with the organisation’s portfolio strategy. He leads collaborations between the trading sections and other internal and external stakeholders, and plans for outages by recommending optimal timings for outages in power plants and terminals. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans. He also contributes to the development of portfolio and bidding strategies.

He works in a dynamic and fast-paced environment, where he must make timely decisions based on market movements and trends. He may have to work in rotating shifts and conduct pool trading half-hourly, 6-hourly and weekly, as pool trading activities occur 24/7.

He is an analytical and self-motivated individual who demonstrates good problem-solving skills. He is able to make decisions under uncertainty and time pressure. With good leadership skills and empathy, he directs the team to meet profit targets. He is adept at building rapport with various stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 5
Business Planning Management	Level 5	Regulatory Compliance	Level 4
Continuous Improvement Management	Level 5	Technology and Systems Application	Level 3
Data Management	Level 4	Trading Analysis	Level 5
Fuel Trading	Level 4	Trading Pool Management	Level 5
Internet of Things Management	Level 3	Trading Reporting and Assessment	Level 5
Outage Planning	Level 4	Wholesale Transaction Management	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Transdisciplinary Thinking	Intermediate
Decision Making	Intermediate	Problem Solving	Advanced
Teamwork	Intermediate		

# Portfolio Management Analyst

## JOB ROLE DESCRIPTION

The Portfolio Management Analyst conducts market research to analyse and forecast trends in competitors’ pricing and trading strategies, and proposes revisions to product pricing and structures. He/She supports the identification of portfolio optimisation strategies by analysing optimal configurations for future supplies of fuel and gas, and analyses various factors that determine the strategy for portfolio optimisation. He prepares portfolio and financial reports required for compliance.

He works in a dynamic and fast-paced environment.

He is analytical, decisive, and able to respond quickly to change. He is a team player with good communication and problem-solving skills, and demonstrates initiative in responding appropriately to situations that may arise.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Outage Planning	Level 4
Continuous Improvement Management	Level 4	Regulatory Compliance	Level 3
Data Management	Level 3	Risk and Compliance Management	Level 4
Energy Trading Portfolio Optimisation	Level 4	Technology and Systems Application	Level 2
Internet of Things Management	Level 2	Trading Analysis	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Basic	Transdisciplinary Thinking	Basic
Sense Making	Intermediate	Creative Thinking	Basic
Communication	Basic		

# Portfolio Management Manager

## JOB ROLE DESCRIPTION

The Portfolio Management Manager supervises the forecasting of trends and analysis of competitors’ pricing strategies, and advises on how energy market trends and developments impact portfolios. He/She develops commercial business strategies as well as strategies for optimising the organisation’s position to enhance financial gross margin performance. He conducts trading activities to increase revenue for the organisation, by conducting hedging, commodities trading and futures trading, managing them according to mark-to-market and value-at-risk analyses. He manages risk and compliance by analysing regulatory risks, and decisions and actions by regulatory bodies and other industry providers that may impact the business, and leads in implementing improved procedures related to corporate governance and compliance. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a dynamic and fast-paced environment.

He is decisive and able to solve problems and respond quickly to change. He has good leadership skills and can lead the portfolio optimisation team effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Outage Planning	Level 4
Business Planning Management	Level 5	People Capability Development	Level 5
Continuous Improvement Management	Level 5	Regulatory Compliance	Level 4
Data Management	Level 4	Risk and Compliance Management	Level 5
Energy Trading Portfolio Optimisation	Level 5	Staff Training Facilitation	Level 5
Hedging Management	Level 5	Technology and Systems Application	Level 3
Internet of Things Management	Level 3	Trading Analysis	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Teamwork	Intermediate
Decision Making	Advanced	Transdisciplinary Thinking	Intermediate
Resource Management	Intermediate		

# Energy Trading and Portfolio Management Department Manager

## JOB ROLE DESCRIPTION

The Energy Trading and Portfolio Management Department Manager oversees and provides technical advice to the energy trading and portfolio management teams. He/She optimises purchase timings, prices, quantities and delivery modes across all portfolios, and oversees the implementation of strategies and trading activities by the trading team. He evaluates trade entries and profit and loss reports to assess the business impact, and oversees the collaboration between the teams and other internal and external stakeholders. He stays abreast of the latest market trends and oversees the implementation of interventions by the department for adapting to these changes. He establishes strategies and optimisation opportunities for future supply periods, and reviews the risks that the portfolio management team is exposed to. He also reviews outage planning plans.

He works in a dynamic and fast-paced environment, and plans for the department’s manpower based on projected needs and trends.

He manages the department’s capital and operating expenditure budgets and develops work plans according to organisational goals and strategies. He also contributes to the development of the organisation’s business plans. He is decisive and able to respond quickly to change. He demonstrates good leadership skills and foresight in leading the department to optimise financial gross margins.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	People Capability Development	Level 6
Business Planning Management	Level 6	Regulatory Compliance	Level 5
Continuous Improvement Management	Level 6	Risk and Compliance Management	Level 6
Data Management	Level 5	Staff Training Facilitation	Level 5
Energy Trading Portfolio Optimisation	Level 6	Technology and Systems Application	Level 4
Fuel Trading	Level 5	Trading Analysis	Level 6
Hedging Management	Level 6	Trading Pool Management	Level 6
Internet of Things Management	Level 3	Trading Reporting and Assessment	Level 5
Outage Planning	Level 5	Wholesale Transaction Management	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Transdisciplinary Thinking	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Teamwork	Advanced		

# Distributed Generation

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## Senior Manager, Business Development and Commercial

Fendy Nursalim  
Sembcorp Solar Singapore

### POWERING THROUGH THE CHALLENGES

With an impressive 11-year long career with Sembcorp Industries (Sembcorp), 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 Sembcorp 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. “The energy and power sector is massive, and I have had the opportunity to grasp all facets of the energy business by working in different departments,” he shares.

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 most efficiently after construction.

Subsequently, he joined the Business Development and Commercial team. Today, Fendy not only leads a team of five in seeking new business opportunities and acquiring clients for Sembcorp Solar, but also manages the commercial aspects of the business. “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

have decided to utilise solar energy harvested from their own roofs, in an effort to go green as well as to save costs, and they have chosen Sembcorp as their solar energy developer and partner. It is an exciting time for the solar business!”

Sembcorp Solar now has over 109 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.

Using his own career progression as an example of how one can benefit from the Skills Framework, Fendy remarks that the framework helped him to identify and sharpen the skill sets that are important as he expands his management role within the industry. “It also helps me to know the transferability of some of the skill sets that I obtained across the different job roles,” he explains.

“We set up a subsidiary to consolidate all our Solar Photovoltaic systems and are currently expanding our portfolio in this area. It is an exciting time for the solar business!”

## Solar PV Project Development Site Supervisor

### JOB ROLE DESCRIPTION

The Solar PV Project Development Site Supervisor assesses the feasibility of solar PV installation by conducting energy audits and supervising site inspections. He/She designs solar PV and ESS systems by recommending technical, mechanical and civil specifications and performing computer simulations of the solar PV and ESS system to assess its efficiency. He supervises the installation and testing of solar PV, ESS and grounding systems and monitors costs and risks incurred.

He works outdoors at installation sites and is systematic and detail-oriented in performing energy audits and supervising the installation process. He is service-oriented, and driven to provide quality service and products to customers.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Project Management	Level 3
Business Stakeholder Management	Level 3	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 3	Solar Photovoltaic Systems Designs	Level 2
Energy Management and Audit	Level 3	Technical Report Writing	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Technology and Systems Application	Level 2
Permit Management	Level 3	Third Party Management	Level 3
Procurement Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Basic	Interpersonal Skills	Basic
Decision Making	Basic	Resource Management	Basic
Communication	Intermediate		



# Solar PV Project Development Engineer

## JOB ROLE DESCRIPTION

The Solar PV Project Development Engineer assesses the feasibility of solar PV installation by reviewing energy audits and evaluating the technical viability of the project. He/She conducts site audits and subsequently prepares technical, mechanical and civil specifications and configurations for solar PV and/or integrated energy solutions according to clients' needs. He conducts quality checks on the installation of solar PV systems and contributes to the development of Standard Operating Procedures (SOPs) to ensure safety and quality assurance on sites. He develops project plans and evaluates project progress. He manages all key internal and external stakeholders to ensure that projects can be completed successfully. He develops staff through on-the-job training and analyses their strengths and developmental areas.

He occasionally works outdoors at installation sites and is organised and, detail-oriented, he also possesses good networking skills to manage projects and various stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Battery Systems Design	Level 3	Project Management	Level 4
Business Intelligence and Data Analytics	Level 3	Regulatory Compliance	Level 4
Business Stakeholder Management	Level 4	Solar Photovoltaic Systems Designs	Level 3
Continuous Improvement Management	Level 4	Staff Training Facilitation	Level 5
Energy Management and Audit	Level 4	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Technology and Systems Application	Level 3
Permit Management	Level 4	Third Party Management	Level 4
Procurement Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Basic	Decision Making	Basic
Creative Thinking	Basic	Resource Management	Basic
Problem Solving	Basic		

# ESS Project Development Engineer

## JOB ROLE DESCRIPTION

The ESS Project Development Engineer installs Energy Storage Systems (ESS) and integrates them with the grid and/or solar PV systems. He/She implements ESS projects and liaises with customers and contractors on deliverables. He implements Safe System of Work (SSoW) frameworks and practices to his area of work, and leads safety checks in the workplace.

He may be required to work at substations, transmission and/or distribution sites or at clients' premises.

He is systematic and detail-oriented in performing technical checks for ESS. He is a good team player with good communication skills to manage stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Battery Systems Design	Level 4	Procurement Management	Level 4
Business Intelligence and Data Analytics	Level 3	Project Management	Level 4
Business Stakeholder Management	Level 4	Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Safe System of Work Development and Implementation	Level 4
Energy Management and Audit	Level 4	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Technology and Systems Application	Level 3
Permit Management	Level 4	Third Party Management	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Creative Thinking	Basic	Teamwork	Basic
Sense Making	Basic		

# Solar PV and ESS Asset Maintenance Senior Technical Officer

## JOB ROLE DESCRIPTION

The Solar PV and ESS Asset Maintenance Senior Technical Officer conducts data analyses to identify faults and possible methods to improve asset condition of distributed generation systems, and operates remote monitoring systems. He/She conducts maintenance works for solar PV and Energy Storage System (ESS) systems and identifies equipment parts needed for procurement. He monitors the temperature of the batteries and their surrounding environment to detect deviations, and takes corrective measures to restore temperatures to acceptable levels. He follows cybersecurity procedures and incidence response for solar PV and ESS control systems. He monitors work according to Safe System of Work (SSoW) procedures and risk control measures to ensure work activities are carried out safely. He implements emergency response plans and relevant safety procedures, and is an Emergency Response Team member.

He may be required to work outdoors at solar PV and ESS sites.

He is systematic and has good problem-solving skills in performing the operations and maintenance works for solar PV and ESS systems. He is a good team player and can collaborate effectively with team members.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 3	Internet of Things Management	Level 3
Autonomous Systems Technology Application	Level 2	Mechanical Field Maintenance Management	Level 4
Business Intelligence and Data Analytics	Level 3	Permit Management	Level 3
Business Stakeholder Management	Level 3	Preventive Maintenance	Level 3
Continuous Improvement Management	Level 3	Procurement Management	Level 4
Corrective Maintenance Management	Level 3	Project Management	Level 3
Cyber Incident Management	Level 3	Regulatory Compliance	Level 3
Distributed Generation System Performance Monitoring	Level 3	Safe System of Work Development and Implementation	Level 3
Electrical Field Maintenance Management	Level 4	Technical Report Writing	Level 3
Instrumentation and Control Maintenance Management	Level 3	Third Party Management	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Basic	Communication	Basic
Problem Solving	Basic	Interpersonal Skills	Basic
Decision Making	Basic		

# Solar PV and ESS Asset Maintenance Engineer

## JOB ROLE DESCRIPTION

The Solar PV and ESS Asset Maintenance Engineer leads the operations and maintenance of solar PV and Energy Storage Systems (ESS) executed by the team, and establishes new methods to optimise system performance and improve maintenance processes. He/She prepares cost estimates required for maintenance and verifies claims by contractors on relevant repair works. He leads cybersecurity procedures and incidence response for solar PV and ESS control systems. He develops staff capabilities through on-the-job training and analyses their strengths and developmental areas. He implements Safe System of Work (SSoW) frameworks and safety regulations to his area of work, analyses the impact of emergency response plans and relevant safety procedures, and coordinates the Emergency Response Team.

He occasionally works outdoors at solar PV and ESS sites.

He is systematic and has good problem-solving skills in leading the operations and maintenance works for solar PV and ESS systems, and developing process improvement solutions. He has good leadership and communication skills to engage with internal and external stakeholders. He is also service-oriented and aims to achieve customer satisfaction.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 4	Operational Technology Security Audit Management	Level 4
Autonomous Systems Technology Application	Level 3	Operational Technology Security Design	Level 4
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 4
Business Stakeholder Management	Level 4	Permit Management	Level 4
Continuous Improvement Management	Level 4	Preventive Maintenance	Level 4
Corrective Maintenance Management	Level 4	Procurement Management	Level 5
Cyber Incident Management	Level 4	Project Management	Level 4
Distributed Generation System Performance Monitoring	Level 4	Regulatory Compliance	Level 4
Electrical Maintenance Management	Level 4	Safe System of Work Development and Implementation	Level 4
Instrumentation and Control Maintenance Management	Level 4	Staff Training Facilitation	Level 5
Internet of Things Management	Level 3	Technical Report Writing	Level 4
Mechanical Maintenance Management	Level 4	Third Party Management	Level 4
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Intermediate
Creative Thinking	Advanced	Teamwork	Basic
Sense Making	Basic		

# Solar PV and ESS Project Development and Asset Maintenance Project Manager

## JOB ROLE DESCRIPTION

The Solar PV and ESS Project Development and Asset Maintenance Project Manager leads the implementation of projects, develops systems to ensure adherence to regulatory requirements and oversees energy and International Organization for Standardization (ISO) audits and assessments. He/She reviews the design of solar PV and Energy Storage Systems (ESS), overall project plans and conducts quality checks to ensure installation of equipment meet project requirements. He leads operations and asset management works and plans for condition monitoring analyses. He oversees ESS installation, operations and maintenance works and collaborates with cybersecurity teams to develop systems and frameworks to protect solar PV control systems. He develops staff capabilities by motivating staff to maximise their work potential and reviews the overall strengths and developmental areas of the team. He manages overall Safe System of Work (SSoW) practices for the teams, and works with the crisis management team on emergency situations.

He may be required to work outdoors, at clients' premises, such as on rooftops.

He has good leadership skills in driving the team to meet organisational goals. He is also skilled at networking and managing various stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 5	Mechanical Maintenance Management	Level 5
Autonomous Systems Technology Application	Level 4	Operational Technology Security Audit Management	Level 5
Battery Systems Design	Level 5	Operational Technology Security Design	Level 5
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 5
Business Stakeholder Management	Level 5	Permit Management	Level 5
Continuous Improvement Management	Level 5	Preventive Maintenance	Level 5
Corrective Maintenance Management	Level 5	Procurement Management	Level 5
Cyber Incident Management	Level 5	Project Management	Level 5
Distributed Generation System Performance Monitoring	Level 5	Regulatory Compliance	Level 6
Electrical Maintenance Management	Level 5	Safe System of Work Development and Implementation	Level 5
Energy Management and Audit	Level 5	Solar Photovoltaic Systems Designs	Level 4
Equipment and Systems Installation and Commissioning Management	Level 5	Staff Training Facilitation	Level 5
Instrumentation and Control Maintenance Management	Level 5	Technical Report Writing	Level 4
Internet of Things Management	Level 4	Technology and Systems Application	Level 4
		Third Party Management	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Sense Making	Intermediate
Creative Thinking	Intermediate	Decision Making	Basic
Problem Solving	Intermediate		

# Solar PV and ESS Business Development Senior Executive

## JOB ROLE DESCRIPTION

The Solar PV and ESS Business Development Senior Executive develops the solar PV and ESS business by participating in trade shows, industry meetings and conferences and following business leads. He/She conducts research and development initiatives to develop innovative product offerings, and designs product structures suited to clients' needs. He prepares sales and business plans that are aligned with organisational goals, and drafts contractual information and technical specifications in agreements with customers. He manages partnerships with clients and strives to shorten sales cycles and increase revenue for the firm.

He works in a customer-oriented environment and may need to travel across the island and in the region for trade shows, conferences and client meetings.

He is outgoing and has good interpersonal skills in liaising with various internal and external stakeholders. He is service-oriented and driven to provide distributed generation solutions that meets clients' needs. He is also driven and motivated to achieve sales targets and generate business for the company.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Public Relations Management	Level 3
Business-to-Business Customer Relationship Management	Level 4	Sales and Business Development	Level 4
Continuous Improvement Management	Level 4	Sales Strategy Development	Level 4
Credit Management	Level 4	Solar Photovoltaic Energy Assessment	Level 3
Innovation Management	Level 4	Technology and Systems Application	Level 2
Product and Pricing Analysis	Level 4	Third Party Management	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Creative Thinking	Basic
Communication	Intermediate	Problem Solving	Intermediate
Interpersonal Skills	Intermediate		

# Solar PV and ESS Project Financing Senior Executive

## JOB ROLE DESCRIPTION

The Solar PV and ESS Project Financing Senior Executive assesses the viability of potential solar PV and Energy Storage System (ESS) projects by conducting financial analyses, determining risk ratings and developing viable financing strategies. He/She develops risk management and mitigation plans based on analysed risks associated with solar PV projects, and prepares terms of reference for conducting technical, legal and commercial due diligence on solar PV and ESS projects. He is up-to-date with the solar PV and ESS business environment, and updates the company on new developments. He collaborates with other teams for transactions, business process planning and project implementation.

He works in a customer-oriented and innovative environment, as renewable energy solutions are customised to customers’ needs.

He has good networking and interpersonal skills in liaising with various internal and external stakeholders. He is also comfortable with numbers and developing financing models and plans.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Project Management	Level 3
Business Stakeholder Management	Level 4	Sales and Business Development	Level 4
Continuous Improvement Management	Level 4	Solar Photovoltaic Project Financing and Risk Analysis	Level 4
Contract Management	Level 4	Technical Report Writing	Level 3
Innovation Management	Level 4	Technology and Systems Application	Level 2
Permit Management	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Creative Thinking	Basic
Communication	Intermediate	Problem Solving	Intermediate
Interpersonal Skills	Intermediate		

# Solar PV and ESS Business Development and Project Financing Manager

## JOB ROLE DESCRIPTION

The Solar PV and ESS Business Development and Project Financing Manager oversees business development efforts and participates in trade shows, industry meetings and conferences. He/She formulates overall sales strategies and business plans with the senior management to achieve organisation sales targets and goals and defines the financial and business targets for the year. He reviews the financing plans and strategies for solar PV and ESS projects, and determines their financial and commercial feasibility. He reviews risk management and mitigation plans and builds partnerships with financing parties and clients.

He works in a customer-oriented environment and may need to travel across the island and in the region for trade shows, conferences and client meetings.

He has good networking and negotiating skills in liaising with various internal and external stakeholders. He also has good leadership skills to motivate staff to maximise their potential in work performance and drive positive work attitudes in the team. He has business acumen and is able to drive the team to achieve revenue targets.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Project Management	Level 5
Business Stakeholder Management	Level 6	Public Relations Management	Level 4
Business-to-Business Customer Relationship Management	Level 5	Sales and Business Development	Level 5
Continuous Improvement Management	Level 5	Sales Strategy Development	Level 5
Contract Management	Level 5	Solar Photovoltaic Energy Assessment	Level 4
Credit Management	Level 5	Solar Photovoltaic Project Financing and Risk Analysis	Level 5
Innovation Management	Level 5	Staff Training Facilitation	Level 5
People Capability Development	Level 5	Technical Report Writing	Level 4
Permit Management	Level 5	Technology and Systems Application	Level 3
Product and Pricing Analysis	Level 5	Third Party Management	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Global Mindset	Basic	Creative Thinking	Intermediate
Communication	Advanced	Problem Solving	Intermediate
Service Orientation	Intermediate		



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# Principal Engineer

See Cheng Yun  
SP Group

## ENGINEERED TO SUCCEED

A passion for engineering landed Cheng Yun a SP Group (SP) Mid-Term scholarship for his undergraduate studies in 2010. Upon graduating from Nanyang Technological University, his journey in SP exposed him to various roles – the Operations Department, the Enterprise Asset Management Project Team, and the Strategic Development Department.

Eight years on, Cheng Yun now leads a team of 80 engineers and technical staff in the electricity distribution network. The team responds to power outage incidents round the clock, and restores supply to affected customers in a safe and fast manner. “My team also carries out comprehensive preventive and predictive maintenance programmes to ensure that all equipment is kept in operational condition, to provide reliable supply to our customers,” he says.

To ensure that he is kept abreast with the latest trends and developments within the sector, Cheng Yun continues to acquire more knowledge. In 2015, he pursued a full-time Masters programme as part of SP’s Engineering LEAdership Development Programme, attaining a Master of Science in Electrical Power System Engineering. This experience provided him with greater global perspectives and awareness of emerging technology and trends in the sector.

Cheng Yun shares that the energy sector has transformed rapidly, due to technological advancements. SP is also swiftly digitalising and acquiring new capabilities to develop sustainable

solutions to serve customers better. “We are improving our work processes to drive productivity and efficiency. With technology, we are also able to remotely monitor our critical assets and pick up any signs of an anomaly instantly. This has helped increased the reliability of our network,” he explains.

The Skills Framework maps out emerging trends, and provides a clear direction on the future of the Energy and Power sector. Cheng Yun reasons, “It identifies the skill sets required for each impacted job role and the relevant training needed to be ready for the digital future. Potential entrants will therefore be able to appreciate how the sector functions, and decide on a suitable role within the sector, from energy resources to retailers and end-users.”

“The Skills Framework maps out emerging trends, and provides a clear direction on the future of the Energy and Power sector. It identifies the skill sets required for each impacted job role and the relevant training needed to be ready for the digital future.”

# Network Planning and Strategy Technical Officer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Technical Officer supports the design of conceptual infrastructural layouts and cable routings for transmission and/or distribution by collating materials for the forecasting of power demands and distributed generation supply. He/She conducts site surveys to monitor progress of transmission and/or distribution projects, and supports the planning for low-voltage network projects. He reports non-compliance and anomalies in maintenance and equipment data and updates the database on network incidents.

He works in a collaborative and intellectually-stimulating environment. He occasionally works outdoors and underground in cable tunnels and substations for site surveys.

He is a good team player with good planning and problem-solving skills to support the network planning team. He has good interpersonal and communication skills to liaise with key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Hazards and Risk Identification and Management	Level 2
Business Stakeholder Management	Level 3	Network Monitoring and Control Management	Level 2
Continuous Improvement Management	Level 2	Regulatory Compliance	Level 3
Electricity Network Performance Monitoring Management	Level 2	Safe System of Work Development and Implementation	Level 2
Electricity Network Planning	Level 2	Technology and Systems Application	Level 2
Electricity Service Connections Planning	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 2

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Service Orientation	Basic
Communication	Basic	Lifelong Learning	Basic
Teamwork	Basic		

# Network Planning and Strategy Senior Technical Officer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Senior Technical Officer prepares preliminary designs of conceptual infrastructural layouts and cable routings for transmission and distribution. He/she supports the forecasting of power demands and distributed generation supply and the preparation of 10-year transmission network development plans. He/She supervises site surveys, and investigates minor network incidents. He develops staff through on-the-job training and coaching.

He works in a collaborative and intellectually stimulating environment. He occasionally works outdoors and underground in cable tunnels and substations for site surveys.

He is a good team player and demonstrates good planning and problem-solving skills in preparing network development plans, investigating network incidents and resolving issues. He possesses good interpersonal and communication skills to engage with government agencies and other key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Network Monitoring and Control Management	Level 3
Business Stakeholder Management	Level 3	People Capability Development	Level 3
Continuous Improvement Management	Level 3	Regulatory Compliance	Level 3
Electricity Network Incident Management	Level 3	Safe System of Work Development and Implementation	Level 3
Electricity Network Performance Monitoring Management	Level 3	Site and Factory Acceptance Testing Management	Level 3
Electricity Network Planning	Level 3	Substation Design Development	Level 3
Electricity Service Connections Planning	Level 3	Technology and Systems Application	Level 3
Hazards and Risk Identification and Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Service Orientation	Intermediate
Communication	Intermediate	Managing Diversity	Intermediate
Teamwork	Intermediate		

# Network Planning and Strategy Engineer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Engineer leads the preparation of 10-year network development plan and prepares proposals on network development project feasibility, and the integration of distributed generation sources and storage systems. He/She forecasts power demands and distributed generation supply, plans projects, prepares project progress reports, investigates network incidents and monitors the power quality of the networks. He prepares engineering design specifications, asset management plans and strategies, and reviews asset management policies using data analytics. He also develops staff through on-the-job training and coaching.

He works in a collaborative and intellectually-stimulating environment, and contributes to staff capability development by conducting on-the-job training and coaching. He occasionally works outdoors and underground in cable tunnels and substations for site surveys.

He is insightful and displays good critical thinking and analytical skills in reviewing asset management policies and conducting network planning. He possesses good interpersonal and communication skills to engage with government agencies and other key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 4	People Capability Development	Level 4
Business Intelligence and Data Analytics	Level 2	Regulatory Compliance	Level 4
Business Stakeholder Management	Level 4	Reliability-Centred Maintenance	Level 4
Continuous Improvement Management	Level 3	Safe System of Work Development and Implementation	Level 3
Electricity Network Incident Management	Level 4	Site and Factory Acceptance Testing Management	Level 4
Electricity Network Performance Monitoring Management	Level 3	Staff Training Facilitation	Level 4
Electricity Network Planning	Level 4	Substation Design Development	Level 4
Electricity Service Connections Planning	Level 4	Technical Report Writing	Level 3
Hazards and Risk Identification and Management	Level 3	Technology and Systems Application	Level 3
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Network Monitoring and Control Management	Level 5		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Intermediate	Computational Thinking	Intermediate
Problem Solving	Intermediate	Creative Thinking	Intermediate
Decision Making	Intermediate		

# Network Planning and Strategy Manager

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Manager provides overall direction in network planning and asset strategy and develops long-term network plans based on forecasted power demands and distributed generation supply. He/She directs the development of project proposals and project plans, and establishes solutions to facilitate network performance, project management and asset management. Additionally, he approves renewal and augmentation plans for transmission and distribution assets. He also develops staff by managing the overall strengths and development areas of the team and motivating them to maximise their work potential.

He works in an intellectually-stimulating and collaborative environment. He occasionally works outdoors and underground in cable tunnels and substations for site surveys.

He possesses foresight and is innovative in establishing new solutions and methods to enhance transmission and/or distribution network planning and asset strategy. He networks effectively and builds strong partnerships with government agencies and the wider engineering community.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 6	People Capability Development	Level 5
Business Intelligence and Data Analytics	Level 3	Regulatory Compliance	Level 6
Business Stakeholder Management	Level 5	Reliability-Centred Maintenance	Level 6
Continuous Improvement Management	Level 5	Safe System of Work Development and Implementation	Level 4
Electricity Network Performance Monitoring Management	Level 5	Site and Factory Acceptance Testing Management	Level 6
Electricity Network Planning	Level 5	Staff Training Facilitation	Level 5
Electricity Service Connections Planning	Level 5	Substation Design Development	Level 6
Hazards and Risk Identification and Management	Level 4	Technology and Systems Application	Level 4
Innovation Management	Level 5	Technology Road Mapping	Level 5
Internet of Things Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 4
Network Monitoring and Control Management	Level 6		
Organisational Resource Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Problem Solving	Advanced
Decision Making	Advanced	Interpersonal Skills	Intermediate
Communication	Intermediate		

# Network Planning and Strategy Principal Engineer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Principal Engineer provides technical leadership on network planning. He/She reviews project proposals and development plans, and recommends plans to address the projected impacts associated with forecasted long-term energy demand and distributed generation supply. He manages transmission and/or distribution projects by reviewing project progress reports, and identifies methods to enhance asset management. Additionally, he leads the development of asset management plans and strategies.

He works in an intellectually-stimulating and collaborative environment, and leads technical capability development programmes and on-the-job training. He occasionally works outdoors and underground in cable tunnels and substations for site surveys.

He networks effectively and builds strong partnerships with government agencies and the wider engineering community. He possesses exceptional critical thinking and analytical skills in network planning.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 5	People Capability Development	Level 5
Business Intelligence and Data Analytics	Level 3	Regulatory Compliance	Level 5
Business Stakeholder Management	Level 5	Reliability-Centred Maintenance	Level 5
Continuous Improvement Management	Level 4	Safe System of Work Development and Implementation	Level 4
Electricity Network Incident Management	Level 5	Site and Factory Acceptance Testing Management	Level 5
Electricity Network Performance Monitoring Management	Level 4	Staff Training Facilitation	Level 5
Electricity Network Planning	Level 5	Substation Design Development	Level 5
Electricity Service Connections Planning	Level 4	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 4	Technology and Systems Application	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Internet of Things Management	Level 4		
Network Monitoring and Control Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Intermediate
Communication	Intermediate	Resource Management	Intermediate
Problem Solving	Advanced		



# Network Development Technician

## JOB ROLE DESCRIPTION

The Network Development Technician assists with the execution of electricity transmission and/or distribution network development projects, the integration of distributed generation sources and energy storage systems with the grid, and the coordination of civil works for substation buildings, cable installations and equipment erection work. He/She conducts meter readings at customer sites, as well as the testing and installation of metering equipment.

He applies for Permits-to-Work for identified works and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works at outdoor construction sites, as well as at customer premises to build the power transmission and/or distribution infrastructure.

He is a good team player who can collaborate and communicate effectively with internal and external stakeholders. He is detailed in ensuring that operations are carried out according to procedural guidelines.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Instrumentation and Control Maintenance Management	Level 2
Business Intelligence and Data Analytics	Level 2	Internet of Things Management	Level 2
Continuous Improvement Management	Level 2	Meter and Associated Equipment Maintenance Management	Level 2
Contract Management	Level 2	Network Technical Specifications Development	Level 3
Corrective Maintenance Management	Level 2	Project Management	Level 2
Crisis Management	Level 3	Regulatory Compliance	Level 2
Electricity Meter and Associated Equipment Installation and Commissioning	Level 2	Safe System of Work Development and Implementation	Level 1
Electricity Metering Data Management	Level 2	Technical Report Writing	Level 2
Emergency Response Management	Level 2	Third Party Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Hazards and Risk Identification and Management	Level 1		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Teamwork	Basic	Digital Literacy	Basic
Resource Management	Basic		

# Network Development Technical Officer

## JOB ROLE DESCRIPTION

The Network Development Technical Officer contributes to transmission and/or distribution project development by supporting the preparation of engineering designs, drawings and equipment interlocking schemes. He/She executes the projects on network development and the integration of distributed generation sources and energy storage systems with the grid as well, coordinating civil works, assisting in commissioning checks and tests, and resolving site problems encountered. He develops staff by supporting on-the-job training programmes. He performs installation of metering equipment, sensors and accessories at high tension sites and troubleshoots any metering or sensor irregularities.

He applies for Permits-to-Work for identified works, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works at outdoor construction sites, as well as at customer premises to build the power transmission and/or distribution infrastructure.

He is a good team player who can collaborate and communicate effectively with internal and external stakeholders. He is detailed in ensuring that operations are carried out according to procedural guidelines.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 2
Business Intelligence and Data Analytics	Level 2	Meter and Associated Equipment Maintenance Management	Level 2
Continuous Improvement Management	Level 2	Network Technical Specifications Development	Level 3
Contract Management	Level 3	People Capability Development	Level 3
Corrective Maintenance Management	Level 2	Project Management	Level 3
Crisis Management	Level 3	Regulatory Compliance	Level 3
Electricity Meter and Associated Equipment Installation and Commissioning	Level 2	Safe System of Work Development and Implementation	Level 2
Electricity Metering Data Management	Level 2	Technical Report Writing	Level 2
Emergency Response Management	Level 2	Third Party Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Hazards and Risk Identification and Management	Level 2		
Instrumentation and Control Maintenance Management	Level 2		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Teamwork	Basic	Digital Literacy	Basic
Resource Management	Basic		

# Network Development Senior Technical Officer

## JOB ROLE DESCRIPTION

The Network Development Senior Technical Officer develops electricity transmission and/or distribution project plans, preparing engineering designs and drawings. He/She supervises the team and contractors on project execution of network development and/or the integration of distributed generation sources and energy storage systems with the grid, and conducts investigations of site problems. He supervises the installation of metering equipment, sensors and accessories, and liaises with customers and other stakeholders on meter related activities. He performs on-the-job training when required and identifies appropriate training and development courses for staff to develop capabilities in the team.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works at outdoor construction sites, as well as at customer premises to build the power transmission and/or distribution infrastructure.

He is a good team player who can collaborate and guide team members and contractors. He is detail-oriented and analytical in ensuring the successful installation of equipment and carrying out administrative duties concerning budgets and contract claims.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 3	Internet of Things Management	Level 3
Business Intelligence and Data Analytics	Level 3	Meter and Associated Equipment Maintenance Management	Level 3
Continuous Improvement Management	Level 3	Network Technical Specifications Development	Level 4
Contract Management	Level 4	People Capability Development	Level 4
Corrective Maintenance Management	Level 3	Project Management	Level 4
Crisis Management	Level 4	Regulatory Compliance	Level 3
Electricity Meter and Associated Equipment Installation and Commissioning	Level 3	Safe System of Work Development and Implementation	Level 3
Electricity Metering Data Management	Level 3	Technical Report Writing	Level 3
Emergency Response Management	Level 3	Third Party Management	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Hazards and Risk Identification and Management	Level 3		
Instrumentation and Control Maintenance Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Leadership	Intermediate
Resource Management	Intermediate	Interpersonal Skills	Intermediate
Problem Solving	Basic		

# Network Development Engineer

## JOB ROLE DESCRIPTION

The Network Development Engineer reviews electricity transmission and/or distribution project designs and drawings and prepares specifications for required the procurement of engineering services and equipment. He/She implements projects on network development and/or the integration of distributed generation sources and energy storage systems with the grid, and develops plans for the coordination of civil works. He recommends process improvements based on metering reports to ensure grid efficiency and effectiveness, and develops staff through on-the-job training and coaching.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team's activities on site incident management. He works in the office, at outdoor construction sites, as well as at customer premises to build the power transmission and/or distribution infrastructure.

He has an analytical mindset in developing plans for the team. He demonstrates good leadership and communication skills in leading the execution of projects.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Internet of Things Management	Level 3
Business Intelligence and Data Analytics	Level 4	Meter and Associated Equipment Maintenance Management	Level 4
Continuous Improvement Management	Level 4	Network Technical Specifications Development	Level 4
Contract Management	Level 4	People Capability Development	Level 4
Corrective Maintenance Management	Level 4	Project Management	Level 4
Crisis Management	Level 4	Regulatory Compliance	Level 4
Electricity Meter and Associated Equipment Installation and Commissioning	Level 4	Safe System of Work Development and Implementation	Level 4
Electricity Metering Data Management	Level 4	Staff Training Facilitation	Level 4
Emergency Response Management	Level 3	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Third Party Management	Level 4
Hazards and Risk Identification and Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Instrumentation and Control Maintenance Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Leadership	Intermediate
Teamwork	Intermediate	Decision Making	Intermediate
Interpersonal Skills	Intermediate		

# Network Development Manager

## JOB ROLE DESCRIPTION

The Network Development Manager oversees the execution of electricity transmission and/or distribution projects on network development and/or the integration of distributed generation sources and energy storage systems with the grid, and procurement exercises. He/She builds partnerships with contractors and customers, and establishes solutions to improve operational efficiency. He oversees operations on the installation of metering equipment and sensors, and develops the team's technological capabilities, especially in advanced metering infrastructure (AMI). He develops staff capability by motivating them to maximise their work potential, and managing the overall strengths and development areas of the team.

He manages the overall Safe System of Work (SSoW) practices and risk control measures to ensure work activities are carried out safely. He leads emergency responses as a Site Incident Controller and collaborates with the crisis management team on emergency situations and recovery activities. He works in the office, at outdoor construction sites, as well as at customer premises to develop the power transmission and/or distribution infrastructure.

He is a decisive, strong team leader who manages projects and key stakeholders effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Internet of Things Management	Level 4
Business Intelligence and Data Analytics	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Business Planning Management	Level 5	Network Technical Specifications Development	Level 5
Continuous Improvement Management	Level 5	Organisational Resource Management	Level 4
Contract Management	Level 5	People Capability Development	Level 5
Corrective Maintenance Management	Level 5	Project Management	Level 5
Crisis Management	Level 5	Regulatory Compliance	Level 6
Electricity Meter and Associated Equipment Installation and Commissioning	Level 5	Safe System of Work Development and Implementation	Level 5
Electricity Metering Data Management	Level 5	Staff Training Facilitation	Level 5
Emergency Response Management	Level 4	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 5	Third Party Management	Level 5
Hazards and Risk Identification and Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Instrumentation and Control Maintenance Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Teamwork	Advanced
Developing People	Advanced	Creative Thinking	Advanced
Decision Making	Advanced		

# Network Development Principal Engineer

## JOB ROLE DESCRIPTION

The Network Development Principal Engineer provides technical leadership to the network development team and develops detailed project plans for electricity transmission and/or distribution network development and/or the integration of distributed generation sources and energy storage systems with the grid. As the technical expert, he/she reviews project progress reports and investigation findings of site problems encountered to propose follow-up actions. He reviews installation plans for metering equipment and sensors, and leads process improvement initiatives. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He manages the Permits-to-Work for the team, and establishes Safe System of Work (SSoW) frameworks and practices for his area of work. He proposes emergency technical and recovery activities based on the crisis management framework, and determines the responses needed in emergency situations. He works in the office, at outdoor construction sites, as well as at customer premises to develop the power transmission and/or distribution infrastructure.

He has an analytical mind in developing plans for the team. He is a decisive and strong technical expert. He provides valuable technical advice to team members and the wider engineering community.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Internet of Things Management	Level 4
Business Intelligence and Data Analytics	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Continuous Improvement Management	Level 5	Network Technical Specifications Development	Level 5
Contract Management	Level 5	People Capability Development	Level 5
Corrective Maintenance Management	Level 5	Project Management	Level 5
Crisis Management	Level 5	Regulatory Compliance	Level 5
Electricity Meter and Associated Equipment Installation and Commissioning	Level 5	Safe System of Work Development and Implementation	Level 5
Electricity Metering Data Management	Level 5	Staff Training Facilitation	Level 5
Emergency Response Management	Level 4	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 5	Third Party Management	Level 4
Hazards and Risk Identification and Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Instrumentation and Control Maintenance Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Decision Making	Advanced
Problem Solving	Advanced	Interpersonal Skills	Intermediate
Developing People	Advanced		

# Operations and Maintenance Technician

## JOB ROLE DESCRIPTION

The Operations and Maintenance Technician supports the operations, testing, monitoring, installation, troubleshooting and repair of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations, including condition monitoring and preventive and predictive maintenance of equipment, conducting major cable diversion works to allow equipment and cable fault repair works to be carried out. He/She tracks disturbance events to support trending of power quality and reads sensor inputs to analyse equipment condition. He implements cybersecurity measures according to the frameworks and policies, detects anomalous activities and potential threats to network resources, and responds to cybersecurity incidents.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He inspects worksites and performs maintenance works at substations or at cable sites. He may also be required to perform shift work.

He has good interpersonal skills and is a good team player in liaising with team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 2	Internet of Things Management	Level 2
Autonomous Systems Technology Application	Level 2	Mechanical Field Maintenance Management	Level 2
Business Intelligence and Data Analytics	Level 2	Mobile Generator Deployment	Level 2
Cable Damage Prevention Management	Level 2	Network Diversion Management	Level 2
Condition Monitoring	Level 2	Network Equipment Testing	Level 2
Continuous Improvement Management	Level 2	Power Quality Management	Level 2
Corrective Maintenance Management	Level 2	Preventive Maintenance	Level 2
Crisis Management	Level 3	Regulatory Compliance	Level 2
Cyber Incident Management	Level 2	Relay and Protection Systems Development	Level 2
Cybersecurity Framework Application	Level 2	Safe System of Work Development and Implementation	Level 1
Detection and Monitoring Management	Level 2	Technical Report Writing	Level 2
Electrical Field Maintenance Management	Level 2	Third Party Management	Level 2
Electricity Network Incident Management	Level 1	Threat and Vulnerability Management	Level 2
Electricity Network Operations Management	Level 2	Transmission and Distribution Facilities Maintenance Management	Level 2
Emergency Response Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Equipment and Systems Installation and Commissioning Management	Level 2		
Hazards and Risk Identification and Management	Level 1		
Instrumentation and Control Maintenance Management	Level 2		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Service Orientation	Basic
Communication	Basic	Lifelong Learning	Basic
Teamwork	Basic		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Operations and Maintenance Technical Officer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Technical Officer performs the operations, testing, monitoring, installation, troubleshooting and repair of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations. This includes integrating distributed generation sources with the grid, and performing condition monitoring and preventive and predictive maintenance of equipment, major cable diversion works to allow equipment and cable fault repair works to be carried out. He/she reviews disturbance events to support trending of power quality and interprets sensor inputs for the analysis of equipment condition. He implements cybersecurity measures according to the frameworks and policies, detects anomalous activities and potential threats to network resources, and responds to cybersecurity incidents. He supports on-the-job training programmes for staff to develop capabilities in the team.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works at substations or at cable sites, and may be required to perform shift work.

He has good interpersonal skills and is a good team player in liaising with team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 2	Hazards and Risk Identification and Management	Level 2
Asset Management	Level 2	Instrumentation and Control Maintenance Management	Level 2
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 2
Business Intelligence and Data Analytics	Level 2	Mechanical Field Maintenance Management	Level 2
Cable Damage Prevention Management	Level 2	Mobile Generator Deployment	Level 2
Condition Monitoring	Level 3	Network Diversion Management	Level 3
Continuous Improvement Management	Level 2	Network Equipment Testing	Level 3
Contract Management	Level 2	People Capability Development	Level 3
Corrective Maintenance Management	Level 3	Power Quality Management	Level 3
Crisis Management	Level 3	Preventive Maintenance	Level 2
Cyber Incident Management	Level 3	Regulatory Compliance	Level 3
Cybersecurity Framework Application	Level 2	Relay and Protection Systems Development	Level 3
Detection and Monitoring Management	Level 2	Safe System of Work Development and Implementation	Level 2
Electrical Field Maintenance Management	Level 3	Technical Report Writing	Level 3
Electricity Network Incident Management	Level 2	Third Party Management	Level 2
Electricity Network Operations Management	Level 2	Threat and Vulnerability Management	Level 2
Emergency Response Management	Level 2	Transmission and Distribution Facilities Maintenance Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Teamwork	Basic	Digital Literacy	Basic
Resource Management	Basic		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)



# Operations and Maintenance Senior Technical Officer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Senior Technical Officer supervises the operations, testing, monitoring, installation, troubleshooting and repair of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations. This includes condition monitoring, preventive and predictive maintenance of equipment, and major cable diversion works to allow equipment and cable fault repair works to be carried out. He/She recommends mitigating measures based on his review of disturbance event reports to prevent future occurrences from happening. He also manages the communication networks in the power quality monitoring system to ensure smooth transmission of information. He supervises teams in the implementation of cybersecurity frameworks and policies, cybersecurity incident response, and validates anomalous cyber activities and potential threats detected. He performs on-the-job training when required and identifies appropriate training and development courses for staff to develop capabilities in the team.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works in the control room, at substations or at cable sites, and may be required to perform shift work.

He has good leadership skills to supervise team members and contractors. He is detail-oriented and systematic in enforcing maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 2	Instrumentation and Control Maintenance Management	Level 3
Asset Management	Level 3	Internet of Things Management	Level 3
Autonomous Systems Technology Application	Level 3	Mechanical Field Maintenance Management	Level 3
Business Intelligence and Data Analytics	Level 3	Mobile Generator Deployment	Level 3
Cable Damage Prevention Management	Level 3	Network Diversion Management	Level 3
Condition Monitoring	Level 3	Network Equipment Testing	Level 3
Continuous Improvement Management	Level 3	Network Monitoring, Control and Supply Restoration	Level 3
Contract Management	Level 3	People Capability Development	Level 3
Corrective Maintenance Management	Level 3	Power Quality Management	Level 3
Crisis Management	Level 4	Preventive Maintenance	Level 2
Cyber Incident Management	Level 3	Regulatory Compliance	Level 3
Cybersecurity Framework Application	Level 3	Relay and Protection Systems Development	Level 3
Detection and Monitoring Management	Level 3	Safe System of Work Development and Implementation	Level 3
Electrical Field Maintenance Management	Level 3	Technical Report Writing	Level 3
Electricity Network Incident Management	Level 3	Third Party Management	Level 3
Electricity Network Operations Management	Level 3	Threat and Vulnerability Management	Level 3
Emergency Response Management	Level 3	Transmission and Distribution Facilities Maintenance Management	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Hazards and Risk Identification and Management	Level 3		

# Operations and Maintenance Senior Technical Officer

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Basic	Leadership	Basic
Resource Management	Basic	Interpersonal Skills	Intermediate
Problem Solving	Intermediate		

# Operations and Maintenance Engineer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Engineer leads the operations and maintenance team in the operations, testing, monitoring, installation, troubleshooting and repair of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations. This includes implementing processes to integrate distributed generation sources with the grid, leading condition monitoring and preventive and predictive maintenance of equipment, and coordinating major cable diversion works to allow equipment and cable fault repair works to be carried out. He/She reviews recommended mitigating measures to prevent power disturbance events from happening. He also conducts the expansion of networks in the power quality monitoring system, and plans for the inspections of contractor activities carried out at worksites. He analyses the impacts of cybersecurity and access control on network development policies and procedures and develops network segregation and mitigation measures to minimise cybersecurity risks in the transmission and/or distribution network. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities on site incident management. He works in the control room, at substations or at cable sites and may be required to perform shift work.

He is detail-oriented and systematic in enforcing maintenance procedures within the safety and operational guidelines. He possesses good leadership skills to lead team members and contractors.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Instrumentation and Control Maintenance Management	Level 3
Asset Management	Level 4	Internet of Things Management	Level 3
Autonomous Systems Technology Application	Level 4	Mechanical Maintenance Management	Level 3
Business Intelligence and Data Analytics	Level 4	Mobile Generator Deployment	Level 4
Cable Damage Prevention Management	Level 4	Network Diversion Management	Level 4
Condition Monitoring	Level 4	Network Equipment Testing	Level 4
Continuous Improvement Management	Level 4	Network Monitoring, Control and Supply Restoration	Level 3
Contract Management	Level 3	People Capability Development	Level 4
Corrective Maintenance Management	Level 4	Power Quality Management	Level 4
Crisis Management	Level 4	Preventive Maintenance	Level 3
Cyber Incident Management	Level 4	Regulatory Compliance	Level 4
Cybersecurity Framework Application	Level 4	Relay and Protection Systems Development	Level 3
Detection and Monitoring Management	Level 3	Reliability-Centred Maintenance	Level 4
Electrical Maintenance Management	Level 3	Safe System of Work Development and Implementation	Level 4
Electricity Network Incident Management	Level 3	Staff Training Facilitation	Level 4
Electricity Network Operations Management	Level 4	Technical Report Writing	Level 4
Emergency Response Management	Level 4	Third Party Management	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Threat and Vulnerability Management	Level 3
Hazards and Risk Identification and Management	Level 4	Transmission and Distribution Facilities Maintenance Management	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Operations and Maintenance Engineer

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Leadership	Basic
Teamwork	Intermediate	Decision Making	Intermediate
Interpersonal Skills	Intermediate		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Operations and Maintenance Manager

## JOB ROLE DESCRIPTION

The Operations and Maintenance Manager oversees the operations, preventive, predictive and corrective maintenance of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations, including integrating distributed generation sources with the grid and major cable diversion works. In addition, he/she actively explores and establish new solutions, technology and policies to increase operational efficiency. To scale up the company's cybersecurity capabilities, he collaborates with the cybersecurity team to drive the implementation and enforcement of cybersecurity measures, and drives implementation of mitigation measures to address the risks identified through vulnerability assessment and penetration testing. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industrial practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller. He regularly works in the control room, at substations or at cable sites and may be required to perform shift work.

He has good leadership skills to direct the department and contractors and drive a positive work culture.. He is detail-oriented and systematic in planning maintenance procedures, and has foresight in identifying trends and new solutions to adopt.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 4	Innovation Management	Level 5
Asset Management	Level 6	Instrumentation and Control Maintenance Management	Level 5
Autonomous Systems Technology Application	Level 5	Internet of Things Management	Level 4
Business Intelligence and Data Analytics	Level 5	Mechanical Maintenance Management	Level 4
Business Planning Management	Level 5	Mobile Generator Deployment	Level 5
Cable Damage Prevention Management	Level 5	Network Diversion Management	Level 5
Condition Monitoring	Level 5	Network Equipment Testing	Level 5
Continuous Improvement Management	Level 5	Network Monitoring, Control and Supply Restoration	Level 5
Contract Management	Level 5	Organisational Resource Management	Level 4
Corrective Maintenance Management	Level 5	People Capability Development	Level 6
Crisis Management	Level 5	Power Quality Management	Level 5
Cyber Incident Management	Level 5	Preventive Maintenance	Level 5
Cybersecurity Framework Application	Level 5	Regulatory Compliance	Level 6
Detection and Monitoring Management	Level 4	Relay and Protection Systems Development	Level 5
Electrical Maintenance Management	Level 5	Reliability-Centred Maintenance	Level 6
Electricity Network Incident Management	Level 4	Safe System of Work Development and Implementation	Level 5
Electricity Network Operations Management	Level 5	Staff Training Facilitation	Level 5
Emergency Response Management	Level 5	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 5	Technology Road Mapping	Level 5
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 5

# Operations and Maintenance Manager

Threat and Vulnerability Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5
Transmission and Distribution Facilities Maintenance Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Teamwork	Advanced
Developing People	Intermediate	Creative Thinking	Intermediate
Decision Making	Intermediate		

# Operations and Maintenance Principal Engineer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Principal Engineer provides technical leadership in the operations and maintenance of electricity transmission or distribution equipment, auxiliaries, energy storage, control systems and substations, including planning for the integration of distributed generation sources with the grid, daily operations, condition monitoring and preventive and predictive maintenance of equipment. He/She also coordinates major cable diversion works to allow equipment and cable fault repair works to be carried out. He develops contract terms for the hiring of contractors and vendors, and manages the related Permits-to-Work. He manages transmission and/or distribution power quality by overseeing implementation of mitigating measures for disturbance events, and evaluates risk assessment measures for works carried out. He also evaluates the severity of cyber incidents to determine the type of responses needed, and provides technical advisory in the implementation of vulnerability assessment and penetration testing. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He manages the Permits-to-Work for the team, and establishes Safe System of Work (SSoW) frameworks and practices for his area of work. He proposes emergency technical and recovery activities based on the crisis management framework, and determines the responses needed in emergency situations. To maintain high power quality, he oversees the implementation of mitigating measures to prevent future disturbance events from happening.

He works in the control room, at substations or at cable sites and may be required to perform shift work. He has good leadership skills to direct team members and contractors. He is detail-oriented and systematic in planning maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Hazards and Risk Identification and Management	Level 5
Asset Management	Level 5	Innovation Management	Level 5
Autonomous Systems Technology Application	Level 5	Instrumentation and Control Maintenance Management	Level 4
Business Intelligence and Data Analytics	Level 5	Internet of Things Management	Level 4
Cable Damage Prevention Management	Level 5	Mechanical Maintenance Management	Level 4
Condition Monitoring	Level 5	Mobile Generator Deployment	Level 5
Continuous Improvement Management	Level 5	Network Diversion Management	Level 4
Contract Management	Level 4	Network Equipment Testing	Level 5
Corrective Maintenance Management	Level 5	Network Monitoring, Control and Supply Restoration	Level 4
Crisis Management	Level 5	People Capability Development	Level 6
Cyber Incident Management	Level 5	Power Quality Management	Level 5
Cybersecurity Framework Application	Level 5	Preventive Maintenance	Level 4
Detection and Monitoring Management	Level 4	Regulatory Compliance	Level 5
Electrical Maintenance Management	Level 4	Relay and Protection Systems Development	Level 4
Electricity Network Incident Management	Level 4	Reliability-Centred Maintenance	Level 5
Electricity Network Operations Management	Level 5	Safe System of Work Development and Implementation	Level 5
Emergency Response Management	Level 5	Staff Training Facilitation	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Technical Report Writing	Level 4

# Operations and Maintenance Principal Engineer

Technology Road Mapping	Level 5	Transmission and Distribution Facilities Maintenance Management	Level 4
Third Party Management	Level 4		
Threat and Vulnerability Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Intermediate
Problem Solving	Intermediate	Interpersonal Skills	Intermediate
Developing People	Intermediate		



# Electricity Transmission and Distribution Department Manager

## JOB ROLE DESCRIPTION

The Electricity Transmission and Distribution Department Manager provides overall direction to the transmission or distribution teams by providing technical guidance and actively exploring and establishing new solutions, technology and best practices, such as integrating distributed generation sources with the grid, and data analytics. To scale up the company's cybersecurity capabilities, he/she drives the development of cybersecurity procedures and response plans to address cyber incidents. He strategises for the department's manpower and deployment based on projected needs, future trends, and new solutions and technologies that have recently been adopted. He also manages the department's capital and operational expenditure budgets, and prepares the annual work plan for the department whilst ensuring that they align with organisational needs.

He establishes innovative safe work practices based on industry best practices, and defines policies and Standard Operating Procedures (SOPs) for Permit-to-Work systems. He liaises with external stakeholders, such as local authorities, on safety standards and compliance. He formulates emergency response strategies, plans and procedures. In times of emergency, he oversee emergency responses as a Site Main Controller.

He has good leadership skills to oversee the department and contractors. He is detail-oriented and systematic in planning department policies, and has foresight in identifying trends and new solutions to adopt.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 4	Equipment and Systems Installation and Commissioning Management	Level 5
Asset Management	Level 6	Hazards and Risk Identification and Management	Level 5
Autonomous Systems Technology Application	Level 5	Innovation Management	Level 5
Business Intelligence and Data Analytics	Level 5	Instrumentation and Control Maintenance Management	Level 5
Business Planning Management	Level 6	Internet of Things Management	Level 5
Condition Monitoring	Level 5	Mechanical Maintenance Management	Level 5
Continuous Improvement Management	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Contract Management	Level 5	Mobile Generator Deployment	Level 5
Corrective Maintenance Management	Level 5	Network Diversion Management	Level 5
Crisis Management	Level 5	Network Equipment Testing	Level 5
Cyber Incident Management	Level 6	Network Monitoring, Control and Supply Restoration	Level 5
Cybersecurity Framework Application	Level 6	Organisational Resource Management	Level 5
Detection and Monitoring Management	Level 4	People Capability Development	Level 6
Electrical Maintenance Management	Level 5	Power Quality Management	Level 5
Electricity Meter and Associated Equipment Installation and Commissioning	Level 6	Preventive Maintenance	Level 5
Electricity Metering Data Management	Level 6	Regulatory Compliance	Level 6
Electricity Network Incident Management	Level 5	Relay and Protection Systems Development	Level 5
Electricity Network Operations Management	Level 5	Reliability-Centred Maintenance	Level 6
Electricity Service Connections Planning	Level 6		
Emergency Response Management	Level 5		

# Electricity Transmission and Distribution Department Manager

Safe System of Work Development and Implementation	Level 5	Third Party Management	Level 5
Staff Training Facilitation	Level 5	Threat and Vulnerability Management	Level 4
Technical Report Writing	Level 4	Transmission and Distribution Facilities Maintenance Management	Level 5
Technology Road Mapping	Level 6	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Global Mindset	Intermediate
Decision Making	Advanced	Developing People	Intermediate
Communication	Advanced		



# Gas System Operations

## Meter Reader

Mohamed Asadullah bin Mohd Khalid  
SP Group

### CONSTANTLY RESKILLING AND UPSKILLING

Upon graduating with a GCE 'N' Level Certificate, Asadullah joined SP Group (SP) as a Piece Rate Contractor performing meter reading activities. His exemplary performance, coupled with his good communication skills and willingness to learn, led to his subsequent appointment as a full-time meter reader.

Being a meter reader is more than just reading electricity, gas and water meters accurately at customer premises, or planning effective meter reading routes. Asadullah also attends to customer queries and reports any meter irregularities detected at site. Encouraged by SP's management and the Union of Power and Gas Employees (UPAGE), Asadullah took up a scholarship for further studies in 2015 and completed his part-time NITEC in Electrical Technology two years later.

Now, with digitalisation and the opening of the electricity market, Asadullah is looking to upgrade his technical skills on meter installation and testing, to be equipped to conduct site supervision of contractors performing smart meter replacement works. "My role has evolved from manual recording and paper submission of meter readings to using mobile devices to update readings automatically, and immediately, to backend systems," he describes.

In light of technological disruptions, SP Group initiated Project Fusion (FUture Skills in EveryONE)<sup>1</sup>

and worked with Workforce Singapore to develop a Professional Conversion Programme (PCP) to retrain and redeploy meter readers into higher value technician roles. Asadullah is currently undergoing training and considers the PCP useful for meter readers who want to stay relevant and be reassigned other job roles with improved career progression pathways. "Technological advancement is now part of our daily operations. We need to embrace it, and acquire new skills and competencies to perform different job functions easily," he states.

Competencies outlined in the Skills Framework were incorporated to ensure relevancy of training, including theory lessons and on-the-job training. "I was also trained in areas relating to power metering principles and practices, as well as the electricity regulatory framework to help me progress in my future role."

"Technological advancement is now part of our daily operations. We need to embrace it, and acquire new skills and competencies to perform different job functions easily."

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<sup>1</sup>Project Fusion is the result of a concerted effort between SP, UPAGE and Workforce Singapore. The initiative aims to enable staff to enhance their employability through future skills roadmaps, and equipping staff with new skills and competencies.





## Engineer, Production (Facilities)

Gandhi S/O Munusamy  
City Gas Pte Ltd (As Trustee)

### MAKING A DIFFERENCE IN PEOPLE’S LIVES DAILY

What started out as a 3-year apprenticeship programme with the Public Utilities Board grew into a 25-year-long and counting career in the Energy and Power sector for Gandhi. During the earlier years, he was exposed to different areas of work in the gas, water and electricity supply departments, but remained in the gas retail business – even when City Gas Pte Ltd separated from PowerGas Ltd in 2002. It was the realisation of the positive impact the work he and his team has on the lives of residents in Singapore, that made him stay at his job.

Other than managing maintenance operations and attending to faults and breakdowns of gas production plants’ mechanical equipment and machineries, Gandhi’s role as an engineer requires him to maintain an optimum level of mechanical spares for plants and ancillaries. He also has to keep abreast with new product innovation and use it to enhance the reliabilities of the equipment within Gasworks. “I feel a strong sense of satisfaction when I see that the equipment and machineries of Gasmaking plants are functioning efficiently under my care,” he adds.

Most recently, Gandhi and his team participated in the Keppel Group Safety Innovation Project 2018. Their project, titled ‘Catalyst Dust Scrubber’, discovered a way to use water mist to capture and eliminate catalyst dust channelled through the dust scrubber

during the loading process, which effectively reduces the risk of inhaling catalyst dust. He and his team won the Silver award.

Gandhi credits the many opportunities to undertake such challenging projects to City Gas and for offering the Partial Sponsorship Scheme, which he took up in 2015 to study for his Master’s Degree in Engineering and Technology Management. With that higher qualification, he was able to progress from Technical Officer to Engineer. He now turns to the Skills Framework to see what other skills and competencies he can equip himself with, so as to bring about more efficient operations. “The Energy and Power sector is definitely ever-changing and exciting. Joining it can offer a rewarding career, as our jobs have – in one way or another – a direct impact on people’s lives,” he concludes.

“The Energy and Power sector is definitely ever-changing and exciting. Joining it can offer a rewarding career, as our jobs have – in one way or another – a direct impact on people’s lives.”

## Gas Systems Operations Technical Officer

### JOB ROLE DESCRIPTION

The Gas System Operations Technical Officer conducts the operations of system control centre, gas transportation network and gas market in accordance with relevant standards and procedures to ensure a continuous supply of gas in the network. He/She supports in the natural gas network analysis on shipper nominations, and generates reports related to the operations. He supports Permit-to-Work procedures, identifies measures to resolve abnormalities that arise from the network system, and responds to reported system faults. He also supports the preparation of management reports on market operations, injection tolerance and nomination divergence, and executes billing cases in the settlement and billing system for verification of accuracy. In times of emergency, he guides staff on emergency response plans and relevant safety procedures.

He works in the system control centre and may be required to perform rotating shift work as the operations are conducted round the clock. He should be physically fit and have good eyesight as the job involves the operations of network on the Supervisory Control and Data Acquisition (SCADA) system and multiple screens for long hours.

He is alert and systematic in conducting the operations, and has good interpersonal skills to liaise with the team and contractors. He is agile and calm in responding effectively to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 2	Internet of Things Management	Level 2
Autonomous Systems Technology Application	Level 2	Load Profile and Capacity Certificate Management	Level 3
Business Intelligence and Data Analytics	Level 2	Network Monitoring and Control Management	Level 2
Continuous Improvement Management	Level 2	Network Simulation and Analysis	Level 2
Corrective Maintenance Management	Level 2	Supervisory Control and Data Acquisition Maintenance Management	Level 2
Gas Metering Data Management	Level 3	Technical Report Writing	Level 2
Gas Network System Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Hazards and Risk Identification and Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Basic	Digital Literacy	Basic
Communication	Basic	Interpersonal Skills	Basic
Teamwork	Basic		

# Gas Systems Operations Senior Technical Officer

## JOB ROLE DESCRIPTION

The Gas System Operations Senior Technical Officer supervises the operations of system control centre, gas transportation network and gas market in accordance with relevant standards and procedures to ensure a continuous supply of gas in the network. He/She coordinates with key stakeholders for projects and prepares technical specifications for tenders. He performs maintenance of the gas system and network by implementing measures to resolve abnormalities in the network system and investigating reported system faults. He also prepares management reports on market operations, injection tolerance and nomination divergence, and verifies billing cases in settlement and billing system. He develops staff capabilities through on-the-job training and coaching.

He works as a shift leader managing the team in the system control centre and may be required to perform rotating shift work as the operations are conducted round the clock. He works in the control room, where he uses equipment such as control panels, consoles and computers to manage gas operations. He knows the emergency protocols and supervises the Emergency Response Team in the event of emergencies.

He is observant and systematic in conducting the operations, and has good interpersonal skills to supervise the junior team members and contractors. He is alert and calm in responding effectively to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 3	Load Profile and Capacity Certificate Management	Level 3
Autonomous Systems Technology Application	Level 3	Network Monitoring and Control Management	Level 3
Business Intelligence and Data Analytics	Level 3	Network Simulation and Analysis	Level 3
Continuous Improvement Management	Level 3	People Capability Development	Level 3
Corrective Maintenance Management	Level 3	Regulatory Compliance	Level 3
Crisis Management	Level 4	Supervisory Control and Data Acquisition Maintenance Management	Level 3
Gas Metering Data Management	Level 4	Technical Report Writing	Level 3
Gas Network System Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Hazards and Risk Identification and Management	Level 3		
Internet of Things Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Intermediate	Teamwork	Intermediate
Problem Solving	Basic	Communication	Basic
Decision Making	Basic		

# Gas Systems Operations Engineer

## JOB ROLE DESCRIPTION

The Gas Systems Operations Engineer manages the operations of system control centre, gas transportation network and gas market in accordance with relevant standards and procedures to ensure a continuous supply of gas in the network. He/She implements the network analysis on available capacity for booking by shippers. He manages gas system operation projects by preparing budget estimations and managing key stakeholders. He develops measures to resolve abnormalities in the network system and analyses reported system faults for maintenance of the gas system and network. He also develops management reports on market operations, injection tolerance and nomination divergence and supervises the settlement and billing operations. He analyses the impacts of cybersecurity and access control on network development policies and procedures. He develops network segregation and mitigation measures to minimise cybersecurity risks in the transmission and/or distribution network. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He analyses the impact of emergency response plans, network performance and relevant safety procedures on the business. He works in the control room, where he uses equipment such as control panels, consoles and computers to manage gas operations. He may be required to perform occasional rotating shift work as the operations are conducted round the clock.

He has good leadership skills to lead junior team members. He is analytical and systematic in performing the operations. He is attentive and quick in responding effectively to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Internet of Things Management	Level 3
Asset Management	Level 4	Load Profile and Capacity Certificate Management	Level 4
Autonomous Systems Technology Application	Level 4	Network Monitoring and Control Management	Level 4
Business Intelligence and Data Analytics	Level 4	Network Simulation and Analysis	Level 4
Continuous Improvement Management	Level 4	People Capability Development	Level 4
Corrective Maintenance Management	Level 4	Regulatory Compliance	Level 4
Crisis Management	Level 4	Staff Training Facilitation	Level 4
Cyber Incident Management	Level 4	Supervisory Control and Data Acquisition Maintenance Management	Level 4
Cybersecurity Framework Application	Level 4	Technical Report Writing	Level 4
Detection and Monitoring Management	Level 3	Threat and Vulnerability Management	Level 3
Gas Metering Data Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 4
Gas Network System Management	Level 4		
Hazards and Risk Identification and Management	Level 4		
Innovation Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Leadership	Intermediate
Sense Making	Advanced	Developing People	Intermediate
Decision Making	Intermediate		



# Gas Systems Operations Manager

## JOB ROLE DESCRIPTION

The Gas Systems Operations Manager oversees the operations of system control centre, gas transportation network and gas market in accordance with relevant standards and procedures to ensure a continuous supply of gas in the network. He/She oversees network analysis to determine the natural gas capacities of the different networks and the available capacities for booking by shippers. He oversees project implementation and engagement with key stakeholders. He approves standards for response processes and measures to resolve abnormalities that arise from the network system. He also reviews management reports on market operations, injection tolerance and nomination divergence. He collaborates with the crisis management team on emergency situations and recovery activities. To scale up the organisation's cybersecurity capabilities, he collaborates with the cybersecurity team to drive the implementation and enforcement of cybersecurity measures, and drives implementation of mitigation measures to address the risks identified through vulnerability assessments and penetration testings. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in the control room, where he uses equipment such as control panels, consoles and computers to manage gas operations.

He has good communication and leadership skills to motivate and drive positive work attitudes in the team. He is detail-oriented and systematic in planning operational procedures. In addition, he is responsible and confident in managing stakeholders under emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Internet of Things Management	Level 4
Asset Management	Level 5	Load Profile and Capacity Certificate Management	Level 5
Autonomous Systems Technology Application	Level 5	Network Monitoring and Control Management	Level 4
Business Intelligence and Data Analytics	Level 5	Network Simulation and Analysis	Level 4
Business Planning Management	Level 5	Organisational Resource Management	Level 4
Continuous Improvement Management	Level 5	People Capability Development	Level 5
Corrective Maintenance Management	Level 5	Regulatory Compliance	Level 5
Crisis Management	Level 5	Staff Training Facilitation	Level 5
Cyber Incident Management	Level 5	Supervisory Control and Data Acquisition Maintenance Management	Level 4
Cybersecurity Framework Application	Level 5	Technical Report Writing	Level 4
Detection and Monitoring Management	Level 4	Technology Road Mapping	Level 5
Emergency Response Management	Level 5	Threat and Vulnerability Management	Level 4
Gas Metering Data Management	Level 6	Workplace Safety and Health Framework Development and Implementation	Level 5
Gas Network System Management	Level 5		
Hazards and Risk Identification and Management	Level 5		
Innovation Management	Level 5		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Developing People	Advanced		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Gas Systems Operations Principal Engineer

## JOB ROLE DESCRIPTION

The Gas Systems Operations Principal Engineer reviews the operating procedures of system control centre operation, gas transportation network and gas market in accordance with relevant standards and procedures to ensure a continuous supply of gas in the network. He/She leads the network analysis to determine the natural gas capacities of different networks and the available capacities for booking by shippers. He provides technical direction on gas system operation project requirements. He reviews response processes and measures to resolve abnormalities in the network system. He also supervises the technical contents of management reports on market operations, injection tolerance and nomination divergence, and defines the load profiling methodologies for capacity certificates. He formulates technical training and development plans for the teams and leads staff technical capability development programmes. He proposes emergency technical and recovery activities based on the crisis management framework. He also evaluates the severity of cyber incidents to determine the type of responses needed, and provides technical advisories in the implementation of vulnerability assessments and penetration testings.

He works in the control room, where he uses equipment such as control panels, consoles and computers to manage gas operations. He may be required to perform occasional rotating shift work as the operations are conducted round the clock.

He has good leadership skills to lead junior team members, and engages the key stakeholders. He is systematic and approachable in guiding the team on operational procedures. He is responsible and nimble in responding effectively to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Innovation Management	Level 5
Asset Management	Level 5	Internet of Things Management	Level 4
Autonomous Systems Technology Application	Level 5	Load Profile and Capacity Certificate Management	Level 5
Business Intelligence and Data Analytics	Level 5	Network Monitoring and Control Management	Level 5
Continuous Improvement Management	Level 5	Network Simulation and Analysis	Level 5
Corrective Maintenance Management	Level 5	People Capability Development	Level 5
Crisis Management	Level 5	Regulatory Compliance	Level 5
Cyber Incident Management	Level 5	Staff Training Facilitation	Level 5
Cybersecurity Framework Application	Level 5	Supervisory Control and Data Acquisition Maintenance Management	Level 5
Detection and Monitoring Management	Level 4	Technical Report Writing	Level 4
Emergency Response Management	Level 5	Technology Road Mapping	Level 5
Gas Metering Data Management	Level 6	Threat and Vulnerability Management	Level 4
Gas Network System Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Hazards and Risk Identification and Management	Level 5		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Transdisciplinary Thinking	Advanced
Decision Making	Advanced	Communication	Advanced
Sense Making	Advanced		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Town Gas Production and Plant Maintenance

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Town Gas Plant Maintenance Manager	115

# Town Gas Production Technician

## JOB ROLE DESCRIPTION

The Town Gas Production Technician supports the operations of town gas production plants and its ancillaries in accordance with the production strategies, standards and procedures. He/She drafts inputs on the quality control standards of gas production activities and prepares unit logs detailing production activities and incidents that occur. He troubleshoots faults and breakdowns at the gas production plants, and coordinates repairs with the maintenance teams and contractors.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds as an Emergency Response Team member according to plans and relevant safety procedures. He works in a safety-oriented environment at the town gas production plant facility. He may also be required to perform routine shift work.

He has good interpersonal skills to be able to liaise with team members, maintenance team and contractors. He is detail-oriented and systematic in performing operational procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Regulatory Compliance	Level 2
Business Intelligence and Data Analytics	Level 2	Safe System of Work Development and Implementation	Level 1
Continuous Improvement Management	Level 2	Technical Report Writing	Level 2
Corrective Maintenance Management	Level 2	Third Party Management	Level 2
Emergency Response Management	Level 2	Town Gas Production Management	Level 2
Hazards and Risk Identification and Management	Level 1	Workplace Safety and Health Framework Development and Implementation	Level 1
Quality Assurance Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Basic	Decision Making	Basic
Teamwork	Basic	Service Orientation	Basic
Problem Solving	Basic		

# Town Gas Production Technical Officer

## JOB ROLE DESCRIPTION

The Town Gas Production Technical Officer operates the town gas production plants and its ancillaries in accordance with the production strategies, standards and procedures. He/She enhances inputs on the quality control standards of gas production activities and maintains comprehensive unit logs detailing the production activities and incidents. He supervises the troubleshooting of faults and breakdowns at the gas production plants and supports on-the-job training programmes to build internal capabilities.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds accordingly as an Emergency Response Team member to plans and relevant safety procedures. He works in a safety-oriented environment at the town gas production plant facility. He may also be required to perform routine shift work.

He has good interpersonal skills to be able to liaise with team members, maintenance team and contractors. He is meticulous and systematic in performing operational procedures. He is alert and calm in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Regulatory Compliance	Level 3
Business Intelligence and Data Analytics	Level 2	Safe System of Work Development and Implementation	Level 2
Continuous Improvement Management	Level 2	Technical Report Writing	Level 2
Corrective Maintenance Management	Level 3	Third Party Management	Level 2
Emergency Response Management	Level 2	Town Gas Production Management	Level 2
Hazards and Risk Identification and Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Quality Assurance Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Basic
Teamwork	Intermediate	Leadership	Basic
Problem Solving	Intermediate		

# Town Gas Production Senior Technical Officer

## JOB ROLE DESCRIPTION

The Town Gas Production Senior Technical Officer supervises the end-to-end town gas production. He/She implements and observes the proper and efficient operations of the gas production plants and ancillaries. He oversees the troubleshooting of faults and breakdowns in the gas production plants, and develops staff capabilities through on-the-job training.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works in a safety-oriented environment at the town gas production plant facility. He may also be required to perform routine shift work.

He has good interpersonal skills to be able to supervise junior team members and contractors, and coordinate with the maintenance team. He is meticulous and systematic in performing operational procedures. He is agile and calm in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 3	Quality Assurance Management	Level 3
Business Intelligence and Data Analytics	Level 3	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 3	Safe System of Work Development and Implementation	Level 3
Corrective Maintenance Management	Level 3	Technical Report Writing	Level 3
Emergency Response Management	Level 3	Third Party Management	Level 3
Hazards and Risk Identification and Management	Level 3	Town Gas Production Management	Level 3
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
People Capability Development	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Resource Management	Intermediate
Decision Making	Intermediate	Problem Solving	Intermediate
Developing People	Intermediate		

# Town Gas Production Engineer

## JOB ROLE DESCRIPTION

The Town Gas Production Engineer analyses the gas production processes to optimise operations and production. He/She supervises the troubleshooting of production faults and breakdowns, and plans the corrective actions required on gas production equipment and ancillaries for operational safety. He executes strategies for fault and breakdown management on the gas production plants and develops staff capabilities through on-the-job training and development programmes.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team's activities on site incident management. He works in a safety-oriented environment at the town gas production plant facility. He may also be required to perform routine shift work.

He has good leadership skills to lead junior team members and contractors. He is analytical and systematic in performing operational procedures. He is attentive and nimble in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Quality Assurance Management	Level 4
Business Intelligence and Data Analytics	Level 4	Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Safe System of Work Development and Implementation	Level 4
Corrective Maintenance Management	Level 4	Staff Training Facilitation	Level 5
Crisis Management	Level 4	Technical Report Writing	Level 4
Emergency Response Management	Level 4	Third Party Management	Level 4
Hazards and Risk Identification and Management	Level 4	Town Gas Production Management	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Internet of Things Management	Level 3		
People Capability Development	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Developing People	Intermediate	Leadership	Intermediate
Managing Diversity	Advanced	Sense Making	Intermediate
Resource Management	Advanced		



# Town Gas Production Manager

## JOB ROLE DESCRIPTION

The Town Gas Production Manager oversees the operation of the town gas production plants and drives the operational strategies to optimise operational effectiveness. He/She manages the cost and quality requirements in the plant integrity management processes, and drives the strategies for managing faults and breakdowns in the plant. He develops staff capabilities by motivating them to maximise their work potential and managing the strengths and developmental areas of the teams.

He directs work according to Safe System of Work (SSoW) procedures and risk control measures to ensure work activities are carried out safely. He collaborates with the crisis management team on emergency situations and recovery activities. He works in a safety-oriented environment at the town gas production plant facility.

He has good leadership skills to lead junior team members and contractors. He is strategic and systematic in planning and managing operational procedures. He is responsible and swift in adapting to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Quality Assurance Management	Level 5
Business Intelligence and Data Analytics	Level 5	Regulatory Compliance	Level 6
Business Planning Management	Level 5	Safe System of Work Development and Implementation	Level 5
Continuous Improvement Management	Level 5	Staff Training Facilitation	Level 5
Corrective Maintenance Management	Level 4	Technical Report Writing	Level 4
Crisis Management	Level 5	Technology Road Mapping	Level 5
Emergency Response Management	Level 5	Third Party Management	Level 5
Hazards and Risk Identification and Management	Level 5	Town Gas Production Management	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Internet of Things Management	Level 4		
Organisational Resource Management	Level 4		
People Capability Development	Level 5		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Decision Making	Advanced	Sense Making	Advanced
Leadership	Advanced	Developing People	Advanced
Interpersonal Skills	Advanced		

# Town Gas Plant Maintenance Technician

## JOB ROLE DESCRIPTION

The Town Gas Plant Maintenance Technician supports the preventive, predictive and corrective maintenance of town gas plant equipment and ancillaries according to safety and maintenance procedures to ensure that town gas is stored and produced efficiently in the plant.

He/She applies Safe System of Work (SSoW) procedures and risk control measures to ensure work activities are carried out safely. He is a member of the Emergency Response Team and follows emergency response plans and relevant safety procedures. He works in the gas plant facility containing equipment such as pumps, tanks and valves, where there is high focus on safety.

He has good interpersonal skills to be able to liaise with team members, the production team, and contractors. He is detail-oriented and systematic in performing maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Mechanical Field Maintenance Management	Level 2
Condition Monitoring	Level 2	Preventive Maintenance	Level 2
Continuous Improvement Management	Level 2	Regulatory Compliance	Level 2
Corrective Maintenance Management	Level 2	Safe System of Work Development and Implementation	Level 1
Crisis Management	Level 3	Technical Report Writing	Level 2
Electrical Field Maintenance Management	Level 2	Technology and Systems Application	Level 2
Emergency Response Management	Level 2	Third Party Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Hazards and Risk Identification and Management	Level 1		
Instrumentation and Control Maintenance Management	Level 2		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Basic	Developing People	Basic
Communication	Basic	Managing Diversity	Basic
Computational Thinking	Basic		

# Town Gas Plant Maintenance Technical Officer

## JOB ROLE DESCRIPTION

The Town Gas Plant Maintenance Technical Officer conducts the preventive, predictive and corrective maintenance of town gas plant equipment and ancillaries according to safety and maintenance procedures to ensure that town gas is stored and produced efficiently in the plant. He/She contributes to the formulation of tenders, tender evaluations of contractors, and coordinates works done by contractors. He builds staff capabilities through supporting on-the-job training.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds according as an Emergency Response Team member to plans and relevant safety procedures. He works in the gas plant facility containing equipment such as pumps, tanks and valves, where there is high focus on safety.

He has good interpersonal skills to be able to liaise with team members, the production team and guide contractors. He is meticulous and systematic in performing maintenance procedures. He is alert and calm in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 2	Instrumentation and Control Maintenance Management	Level 2
Business Intelligence and Data Analytics	Level 2	Mechanical Field Maintenance Management	Level 3
Condition Monitoring	Level 2	Preventive Maintenance	Level 2
Continuous Improvement Management	Level 2	Regulatory Compliance	Level 3
Corrective Maintenance Management	Level 2	Safe System of Work Development and Implementation	Level 2
Crisis Management	Level 3	Technical Report Writing	Level 2
Electrical Field Maintenance Management	Level 3	Technology and Systems Application	Level 2
Emergency Response Management	Level 2	Third Party Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Hazards and Risk Identification and Management	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Developing People	Basic
Communication	Intermediate	Managing Diversity	Basic
Computational Thinking	Basic		

# Town Gas Plant Maintenance Senior Technical Officer

## JOB ROLE DESCRIPTION

The Town Gas Plant Maintenance Senior Technical Officer plans the schedules for the preventive, predictive and corrective maintenance of town gas production plants and ancillaries to ensure that town gas is stored and produced efficiently in the plant. He/She monitors works done by contractors to ensure projects meet the organisational requirements. He prepares the technical specifications for tenders and supports in tender evaluations of large projects. He builds staff capabilities through on-the-job training.

He issues work orders for Permits-to-Work, and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He works in the gas plant facility containing equipment such as pumps, tanks and valves, where there is high focus on safety.

He has good interpersonal skills to be able to supervise junior team members and contractors, and coordinate with the production team. He is meticulous and systematic in performing maintenance procedures. He is agile and calm in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 3	Mechanical Field Maintenance Management	Level 4
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 3
Condition Monitoring	Level 3	Preventive Maintenance	Level 3
Continuous Improvement Management	Level 3	Regulatory Compliance	Level 3
Corrective Maintenance Management	Level 3	Safe System of Work Development and Implementation	Level 3
Crisis Management	Level 4	Staff Training Facilitation	Level 4
Electrical Field Maintenance Management	Level 4	Technical Report Writing	Level 3
Emergency Response Management	Level 3	Technology and Systems Application	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Third Party Management	Level 3
Hazards and Risk Identification and Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Instrumentation and Control Maintenance Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Developing People	Intermediate
Leadership	Intermediate	Computational Thinking	Basic
Communication	Advanced		

# Town Gas Plant Maintenance Engineer

## JOB ROLE DESCRIPTION

The Town Gas Plant Maintenance Engineer reviews plans for preventive, predictive and corrective maintenance of gas production plants and ancillaries to ensure that town gas is stored and produced efficiently in the plant. He/She reviews the technical specifications prepared for tenders, conducts tender evaluations for large projects and oversees works done by the contractors to ensure projects meet the organisational requirements. He builds staff capabilities through organising appropriate training and developmental courses for staff and providing on-the-job training and coaching. To protect the plant against cyberthreats, he carries out cybersecurity operations in monitoring, preparing and responding to incidents.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities on site incident management. He works in the gas plant facility containing equipment such as pumps, tanks and valves, where there is high focus on safety.

He has good leadership skills to lead junior team members and contractors. He is analytical and systematic in performing maintenance procedures. He is attentive and nimble in responding effectively to faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 4	Mechanical Maintenance Management	Level 4
Business Intelligence and Data Analytics	Level 4	Operational Technology Security Audit Management	Level 4
Condition Monitoring	Level 4	Operational Technology Security Design	Level 4
Continuous Improvement Management	Level 4	People Capability Development	Level 4
Corrective Maintenance Management	Level 4	Preventive Maintenance	Level 4
Crisis Management	Level 4	Regulatory Compliance	Level 4
Cyber Incident Management	Level 4	Safe System of Work Development and Implementation	Level 4
Electrical Maintenance Management	Level 4	Staff Training Facilitation	Level 5
Emergency Response Management	Level 4	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Technology and Systems Application	Level 4
Hazards and Risk Identification and Management	Level 4	Third Party Management	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Instrumentation and Control Maintenance Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Developing People	Intermediate
Leadership	Intermediate	Computational Thinking	Basic
Communication	Advanced		

# Town Gas Plant Maintenance Manager

## JOB ROLE DESCRIPTION

The Town Gas Plant Maintenance Manager oversees the town gas plant maintenance processes. He/She manages the manpower, including the hiring of contractors, to execute the preventive, predictive and corrective maintenance schedule of gas production plants and ancillaries to ensure that town gas is stored and produced efficiently in the plant. He builds staff capability by motivating staff to maximise their work potential and manages the strengths and development areas of the teams. To protect the plant against cyberthreats, he develops and formulates the cybersecurity frameworks, procedures and guidelines.

He manages the overall Safe System of Work (SSoW) practices according to statutory requirements and best industry practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller. He works in the gas plant facility containing equipment such as pumps, tanks and valves, where there is high focus on safety.

He has good leadership skills to manage junior team members and contractors. He is strategic and systematic in planning and managing maintenance procedures. He is responsible and swift in adapting to emergency situations, faults and outages.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 6	Mechanical Maintenance Management	Level 5
Business Intelligence and Data Analytics	Level 5	Operational Technology Security Audit Management	Level 5
Business Planning Management	Level 5	Operational Technology Security Design	Level 5
Condition Monitoring	Level 5	Organisational Resource Management	Level 4
Continuous Improvement Management	Level 5	People Capability Development	Level 5
Corrective Maintenance Management	Level 5	Preventive Maintenance	Level 5
Crisis Management	Level 5	Regulatory Compliance	Level 6
Cyber Incident Management	Level 5	Safe System of Work Development and Implementation	Level 5
Electrical Maintenance Management	Level 5	Staff Training Facilitation	Level 5
Emergency Response Management	Level 5	Technical Report Writing	Level 4
Equipment and Systems Installation and Commissioning Management	Level 5	Technology and Systems Application	Level 4
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Instrumentation and Control Maintenance Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Advanced	Developing People	Advanced
Leadership	Advanced	Managing Diversity	Basic
Communication	Advanced		

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# Network Planning and Strategy Technical Officer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Technical Officer contributes to network planning by preparing proposals on project feasibility based on his/her evaluation of the suitability of sites for the development of network infrastructure and accessibility of pipes and equipment. He also prepares the layout, schematics and long-term development plans for network and renewal projects. He collects data for the development of asset management policies and performs simulation modelling of gas networks to analyse their performance. He assists in projects on process improvement and innovation.

He works in a collaborative and intellectually-stimulating environment and occasionally goes outdoor along pipelines for site surveys.

He is a team player with good analytical and problem-solving skills to support the network planning and strategy team. He demonstrates good communication and interpersonal skills in working with others.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Network Monitoring and Control Management	Level 2
Business Stakeholder Management	Level 3	Network System Planning and Design	Level 2
Condition Monitoring	Level 2	Technical Report Writing	Level 2
Continuous Improvement Management	Level 2	Technology and Systems Application	Level 2
Gas Network Performance Monitoring Management	Level 2	Trunk and Feeder Expansion Management	Level 2
Gas Network Planning	Level 2		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate	Leadership	Basic
Problem Solving	Intermediate		

# Network Planning and Strategy Senior Technical Officer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Senior Technical Officer supervises site suitability and pipe and equipment accessibility assessments to facilitate network planning. He/She reviews the layouts, schematics and long-term development plans for network projects, and performs simulation modelling of gas networks to analyse performance. He carries out project activities that champion process improvement and innovation. To build capabilities, he conducts on-the-job training and identifies appropriate training and development courses for staff.

He works in a collaborative and intellectually-stimulating environment and occasionally goes outdoors along pipelines for site surveys.

He is a good team player and demonstrates good planning and problem-solving skills in preparing network plans and strategies. He possesses good interpersonal and communication skills to engage with key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Network Monitoring and Control Management	Level 3
Business Stakeholder Management	Level 3	Network System Planning and Design	Level 3
Condition Monitoring	Level 3	People Capability Development	Level 3
Continuous Improvement Management	Level 3	Technical Report Writing	Level 3
Gas Network Performance Monitoring Management	Level 3	Technology and Systems Application	Level 2
Gas Network Planning	Level 2	Trunk and Feeder Expansion Management	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Advanced	Communication	Intermediate
Problem Solving	Advanced		

# Network Planning and Strategy Engineer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Engineer reviews proposals on project feasibility based on the evaluations conducted on site suitability to facilitate network planning. He/She prepares the layouts, schematics and long-term development plans for network projects, and generic specifications before procuring multiple types of assets. To enhance operational efficiency in network planning, he identifies new solutions and technologies in engineering practices. He gathers insights on condition monitoring, network performance and failures through data analytics, and contributes to the development of asset management and asset renewal policies and plans. He leads projects on process improvement and innovation.

He works in a collaborative and intellectually-stimulating environment. He contributes to staff capability development by carrying out appropriate capability development interventions and on-the-job training. He occasionally works outdoors along pipelines for site surveys.

He is insightful and displays good critical thinking and analytical skills in conducting network planning and strategisation. He possesses good interpersonal and communication skills to engage with key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 4	Network System Planning and Design	Level 3
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 4
Business Stakeholder Management	Level 4	Procurement Management	Level 4
Condition Monitoring	Level 4	Reliability-Centred Maintenance	Level 4
Continuous Improvement Management	Level 3	Staff Training Facilitation	Level 4
Gas Network Performance Monitoring Management	Level 3	Technical Report Writing	Level 4
Gas Network Planning	Level 3	Technology and Systems Application	Level 3
Innovation Management	Level 4	Trunk and Feeder Expansion Management	Level 4
Network Monitoring and Control Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Advanced	Lifelong Learning	Intermediate
Problem Solving	Advanced		

# Network Planning and Strategy Manager

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Manager oversees the network planning team and establishes broad policies and procedures for project feasibility proposal evaluation, procurement of assets and asset renewal. To enhance asset management and network planning, he/she implements new solutions and technologies. He sets the strategy and direction to drive innovation and process improvement, in line with the organisational strategy. He establishes insights and follow-up actions based on data analytics and simulation models conducted on network performance and equipment condition. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in an intellectually-stimulating and collaborative environment, where he occasionally works outdoors along pipeline for site surveys.

He possesses foresight and is innovative in establishing new solutions and methods to enhance network planning and asset strategies. He builds strong partnerships and networks with key stakeholders and the engineering community.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 5	Organisational Resource Management	Level 4
Business Intelligence and Data Analytics	Level 2	People Capability Development	Level 6
Business Stakeholder Management	Level 5	Procurement Management	Level 6
Condition Monitoring	Level 5	Reliability-Centred Maintenance	Level 6
Continuous Improvement Management	Level 5	Staff Training Facilitation	Level 5
Gas Network Performance Monitoring Management	Level 5	Technical Report Writing	Level 4
Gas Network Planning	Level 5	Technology and Systems Application	Level 4
Innovation Management	Level 5	Technology Road Mapping	Level 5
Network Monitoring and Control Management	Level 5	Trunk and Feeder Expansion Management	Level 5
Network System Planning and Design	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Developing People	Advanced	Managing Diversity	Advanced
Leadership	Advanced	Transdisciplinary Thinking	Intermediate
Lifelong Learning	Advanced		

# Network Planning and Strategy Principal Engineer

## JOB ROLE DESCRIPTION

The Network Planning and Strategy Principal Engineer contributes to policy development initiatives on project feasibility and refines policies on network renewal projects to facilitate network planning. He/She reviews generic specifications and procures multiple types of assets. To enhance the engineering practices used in network planning, he facilitates the implementation of new solutions and technologies. He reviews policies and plans for the prioritisation of assets due for renewal and proposes technical solutions for the development of asset management policies and plans. He reviews simulation models and leads data analytic activities carried out by the team for network performance and equipment condition. He develops approaches to champion innovation and process improvement. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He works in an intellectually-stimulating and collaborative environment, and occasionally goes outdoor along pipelines for site surveys.

He builds strong partnerships and networks with key stakeholders and the engineering community. He possesses exceptional critical thinking and analytical skills in network planning and strategy.

TECHNICAL SKILLS AND COMPETENCIES			
Asset Management	Level 5	Network System Planning and Design	Level 4
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 6
Business Stakeholder Management	Level 5	Procurement Management	Level 5
Condition Monitoring	Level 5	Reliability-Centred Maintenance	Level 5
Continuous Improvement Management	Level 4	Staff Training Facilitation	Level 5
Gas Network Performance Monitoring Management	Level 4	Technical Report Writing	Level 4
Gas Network Planning	Level 4	Technology and Systems Application	Level 3
Innovation Management	Level 4	Trunk and Feeder Expansion Management	Level 5
Network Monitoring and Control Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Global Mindset	Intermediate	Managing Diversity	Intermediate
Transdisciplinary Thinking	Intermediate	Leadership	Intermediate
Lifelong Learning	Intermediate		

# Network Development Technician

## JOB ROLE DESCRIPTION

The Network Development Technician implements gas transmission and/or distribution network development projects and monitors site activities. He/She supports the preparation of construction activity records, project progress reports and materials required for payments. He also liaises with contractors and customers to carry out metering works and performs the installation, testing and commissioning of residential meters.

He applies Safe System of Work (SSoW) procedures and risk control measures to ensure work activities are carried out safely, and in compliance with Workplace Safety and Health (WSH) Act. He is a member of the Emergency Response Team and follows emergency response plans and relevant safety procedures. He occasionally works at construction sites for the gas transmission and/or distribution network development projects.

He is a good team player who collaborates and communicates effectively with key stakeholders. He is detailed in ensuring that operations are carried out according to procedural guidelines.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 2
Business Intelligence and Data Analytics	Level 2	Meter and Associated Equipment Maintenance Management	Level 2
Continuous Improvement Management	Level 2	Network Technical Specifications Development	Level 3
Contract Management	Level 2	Project Management	Level 2
Emergency Response Management	Level 2	Quality Assurance Management	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Regulatory Compliance	Level 2
Gas Meter Installation and Commissioning	Level 2	Safe System of Work Development and Implementation	Level 1
Gas Meter Maintenance	Level 2	Technical Report Writing	Level 2
Gas Metering Data Management	Level 2	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 1	Workplace Safety and Health Framework Development and Implementation	Level 1

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Teamwork	Basic	Digital Literacy	Basic
Resource Management	Basic		

# Network Development Technical Officer

## JOB ROLE DESCRIPTION

The Network Development Technical Officer implements the gas transmission and/or distribution network development projects, supervises site activities, and checks construction activity records and project progress reports. He/She performs the installations, testings and commissioning of meters, sensors and metering stations at non-residential sites, and liaises with relevant authorities and parties for the obtainment of permit approvals. To develop staff capabilities, he supports on-the-job training programmes and suggests appropriate training and development courses for staff.

He applies for Permits-to-Work for identified works and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds accordingly as an Emergency Response Team member to plans and relevant safety procedures. He occasionally works at construction sites for the gas transmission and/or distribution network development projects.

He is a good team player who collaborates and communicates effectively with internal and external stakeholders. He is detailed in ensuring that operations are carried out according to procedural guidelines.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 2
Business Intelligence and Data Analytics	Level 2	Meter and Associated Equipment Maintenance Management	Level 3
Continuous Improvement Management	Level 2	Network Technical Specifications Development	Level 3
Contract Management	Level 2	Project Management	Level 3
Emergency Response Management	Level 2	Quality Assurance Management	Level 3
Equipment and Systems Installation and Commissioning Management	Level 2	Regulatory Compliance	Level 3
Gas Meter Installation and Commissioning	Level 2	Safe System of Work Development and Implementation	Level 2
Gas Meter Maintenance	Level 2	Technical Report Writing	Level 2
Gas Metering Data Management	Level 2	Third Party Management	Level 2
Hazards and Risk Identification and Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Decision Making	Basic
Teamwork	Basic	Digital Literacy	Basic
Resource Management	Basic		

# Network Development Senior Technical Officer

## JOB ROLE DESCRIPTION

The Network Development Senior Technical Officer contributes to the development of gas transmission and/or distribution project concept plans and specifications, guides junior team members in site activities and verifies the construction activity records and project progress reports. He/She supervises the installations, testings and commissioning of meters, sensors and metering stations, and monitors project expenses against the approved budget. He liaises with relevant authorities regarding approvals and other project requirements. To develop staff capabilities, he conducts on-the-job training when required and identifies appropriate training and development courses for staff.

He issues work orders for Permits-to-Work and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He occasionally works at construction sites for gas transmission and/or distribution network development projects.

He is a good team player who collaborates and guides team members and contractors. He is detail-oriented and analytical in resolving issues and ensuring the successful installations of equipment.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 3	Meter and Associated Equipment Maintenance Management	Level 3
Business Intelligence and Data Analytics	Level 3	Network Technical Specifications Development	Level 4
Continuous Improvement Management	Level 3	People Capability Development	Level 3
Contract Management	Level 3	Project Management	Level 4
Crisis Management	Level 3	Quality Assurance Management	Level 3
Emergency Response Management	Level 3	Regulatory Compliance	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Safe System of Work Development and Implementation	Level 3
Gas Meter Installation and Commissioning	Level 3	Technical Report Writing	Level 3
Gas Meter Maintenance	Level 3	Third Party Management	Level 3
Gas Metering Data Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Hazards and Risk Identification and Management	Level 3		
Internet of Things Management	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Teamwork	Basic	Leadership	Basic
Resource Management	Basic	Interpersonal Skills	Basic
Problem Solving	Basic		



# Network Development Engineer

## JOB ROLE DESCRIPTION

The Network Development Engineer develops the front-end designs, project specifications and implementation schedules of gas transmission and/or distribution development projects, supervises the development projects and monitors the progress of construction activities. He/She inspects sites to ensure compliance with metering and sensor requirements, modifications and upgrading of metering facilities by contractors and staff. He liaises with various stakeholders for the specification requirements of the projects. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities on site incident management. He occasionally works at construction sites for the gas transmission and/or distribution network development projects.

He has an analytical mindset in developing network development plans for the team. He demonstrates good leadership and communication skills in leading the execution of projects.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 4	Internet of Things Management	Level 3
Business Intelligence and Data Analytics	Level 4	Meter and Associated Equipment Maintenance Management	Level 4
Continuous Improvement Management	Level 4	Network Technical Specifications Development	Level 4
Contract Management	Level 4	People Capability Development	Level 4
Crisis Management	Level 4	Project Management	Level 4
Emergency Response Management	Level 3	Quality Assurance Management	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Regulatory Compliance	Level 4
Gas Meter Installation and Commissioning	Level 4	Safe System of Work Development and Implementation	Level 4
Gas Meter Maintenance	Level 4	Staff Training Facilitation	Level 4
Gas Metering Data Management	Level 4	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 4	Third Party Management	Level 4
Innovation Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Leadership	Intermediate
Teamwork	Intermediate	Decision Making	Intermediate
Interpersonal Skills	Intermediate		

# Network Development Manager

## JOB ROLE DESCRIPTION

The Network Development Manager oversees development projects and reviews the overall project plans and specifications of gas transmission and/or distribution development projects according to statutory, industry and customers’ requirements. He/She drives the progress of construction activities and payments according to the requirements and timelines, and controls the operating and capital expenditure budgets. He manages the procurement, installations and maintenance of metering and sensor equipment and metering stations. He manages key stakeholders through the implementation of projects. To develop staff capabilities, he reviews training and development plans according to the organisation’s needs and manages the strengths and development areas of the teams.

He manages overall Safe System of Work (SSoW) practices according to statutory requirements and best industry practices. He collaborates with the crisis management team on emergency situations and recovery activities, and leads emergency responses as a Site Incident Controller.

He is a decisive and strong team leader who drives projects, builds partnerships and manages key stakeholders effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Business Intelligence and Data Analytics	Level 5	Network Technical Specifications Development	Level 5
Business Planning Management	Level 5	Organisational Resource Management	Level 4
Continuous Improvement Management	Level 5	People Capability Development	Level 6
Contract Management	Level 5	Project Management	Level 5
Crisis Management	Level 5	Quality Assurance Management	Level 5
Emergency Response Management	Level 4	Regulatory Compliance	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Safe System of Work Development and Implementation	Level 5
Gas Meter Installation and Commissioning	Level 5	Staff Training Facilitation	Level 5
Gas Meter Maintenance	Level 5	Technical Report Writing	Level 4
Gas Metering Data Management	Level 5	Technology Road Mapping	Level 5
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Internet of Things Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Teamwork	Advanced
Developing People	Advanced	Creative Thinking	Advanced
Decision Making	Advanced		

# Network Development Principal Engineer

## JOB ROLE DESCRIPTION

The Network Development Principal Engineer reviews project technical designs, plans and specifications of gas transmission and/or distribution development projects and metering and sensor equipment. He/She also reviews the costs incurred by projects, leads the technical aspects of development projects, as well as discussions with key stakeholders. He reviews metering and sensor maintenance programmes to drive process improvement. He leads technical capability development programmes, including on-the-job training and coaching, and formulates the technical training and development plans for the teams.

He manages the Permits-to-Work for the team, and establishes Safe System of Work (SSoW) frameworks and practices for his area of work. He proposes emergency technical and recovery activities based on the crisis management framework, and determines the responses needed in emergency situations. He occasionally works at construction sites for the gas transmission and/or distribution network development projects.

He has an analytical mindset in developing network development plans for the team. He is a decisive and strong technical leader who provides valuable technical advices to team members and the wider engineering community.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Business Intelligence and Data Analytics	Level 5	Network Technical Specifications Development	Level 5
Continuous Improvement Management	Level 5	People Capability Development	Level 5
Contract Management	Level 5	Project Management	Level 5
Crisis Management	Level 5	Quality Assurance Management	Level 5
Emergency Response Management	Level 4	Regulatory Compliance	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Safe System of Work Development and Implementation	Level 5
Gas Meter Installation and Commissioning	Level 5	Staff Training Facilitation	Level 5
Gas Meter Maintenance	Level 5	Technical Report Writing	Level 4
Gas Metering Data Management	Level 5	Technology Road Mapping	Level 5
Hazards and Risk Identification and Management	Level 5	Third Party Management	Level 4
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Internet of Things Management	Level 4		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Intermediate
Problem Solving	Intermediate	Interpersonal Skills	Intermediate
Developing People	Intermediate		

# Operations and Maintenance Technician

## JOB ROLE DESCRIPTION

The Operations and Maintenance Technician checks for irregularities in the gas transmission and/or distribution network system as well as the functionality of network equipment. He/She supports leak surveys on medium and low-pressure gas pipelines and conducts pipe inspections and replacements in accordance with regulatory requirements. He raises notifications of any deviations from contractual terms in the execution of works.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices. In times of emergency, he responds accordingly as an Emergency Response Team member to plans and relevant safety procedures. He works in the control room and occasionally at the pipeline sites. He performs standby duties and rotating shift work.

He has good interpersonal skills and is a good team player in liaising with team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Inspection Engineering Management	Level 2
Business Intelligence and Data Analytics	Level 2	Instrumentation and Control Maintenance Management	Level 2
Condition Monitoring	Level 2	Internet of Things Management	Level 2
Continuous Improvement Management	Level 2	Mechanical Field Maintenance Management	Level 2
Corrective Maintenance Management	Level 2	Network Equipment Testing	Level 2
Crisis Management	Level 3	Pipeline Damage Prevention Management	Level 2
Electrical Field Maintenance Management	Level 2	Preventive Maintenance	Level 2
Emergency Response Management	Level 2	Regulatory Compliance	Level 2
Equipment and Systems Installation and Commissioning Management	Level 2	Riser and Service Pipe Inspection	Level 2
Gas Cathodic Protection System Operations and Maintenance	Level 2	Safe System of Work Development and Implementation	Level 1
Gas Network Operations Management	Level 2	Technical Report Writing	Level 2
Gas Pipeline Leak Surveying	Level 2	Third Party Management	Level 2
Gas Receiving and Holder Operations and Maintenance	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 1
Hazards and Risk Identification and Management	Level 1		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Interpersonal Skills	Basic
Teamwork	Basic	Digital Literacy	Basic
Communication	Basic		

# Operations and Maintenance Technical Officer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Technical Officer investigates irregularities in the gas transmission and/or distribution network system as well as the functionality of network equipment. He/She conducts leak surveys on medium and low-pressure gas pipelines and other gas inspections and replacements in accordance with regulatory requirements. He monitors the execution of works according to contractual terms and implements the cybersecurity and access control framework, policies, procedures and guidelines. To build staff capabilities, he provides on-the-job training.

He applies for Permits-to-Work for identified faults, and performs works according to Safe System of Work (SSoW) practices and safety regulations. In times of emergency, he responds accordingly as an Emergency Response Team member to plans and relevant safety procedures. He works in the control room and occasionally at the pipeline sites. He may be required to perform rotating shift work.

He has good interpersonal skills and is a good team player in liaising with team members and contractors. He is detail-oriented and systematic in conducting maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 2	Gas Receiving and Holder Operations and Maintenance	Level 3
Asset Management	Level 2	Hazards and Risk Identification and Management	Level 2
Autonomous Systems Technology Application	Level 2	Inspection Engineering Management	Level 2
Business Intelligence and Data Analytics	Level 2	Instrumentation and Control Maintenance Management	Level 2
Condition Monitoring	Level 3	Internet of Things Management	Level 2
Continuous Improvement Management	Level 2	Mechanical Field Maintenance Management	Level 2
Contract Management	Level 2	Network Equipment Testing	Level 3
Corrective Maintenance Management	Level 3	People Capability Development	Level 3
Crisis Management	Level 3	Pipeline Damage Prevention Management	Level 2
Cyber Incident Management	Level 3	Preventive Maintenance	Level 2
Cybersecurity Framework Application	Level 2	Regulatory Compliance	Level 3
Detection and Monitoring Management	Level 2	Riser and Service Pipe Inspection	Level 3
Electrical Field Maintenance Management	Level 3	Safe System of Work Development and Implementation	Level 2
Emergency Response Management	Level 2	Technical Report Writing	Level 3
Equipment and Systems Installation and Commissioning Management	Level 2	Third Party Management	Level 2
Gas Cathodic Protection System Operations and Maintenance	Level 3	Threat and Vulnerability Management	Level 2
Gas Network Operations Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Gas Pipeline Leak Surveying	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Basic	Interpersonal Skills	Basic
Teamwork	Basic	Digital Literacy	Intermediate
Communication	Basic		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Operations and Maintenance Senior Technical Officer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Senior Technical Officer implements improvement measures for irregularities in the gas transmission and/or distribution network as well as the functionality of network equipment. He/She leads the leak surveys on medium and low-pressure gas pipelines, and gas equipment replacements in accordance with regulatory requirements. He monitors the execution of works according to contracts and guides the team to implement cybersecurity and access control frameworks, policies, procedures and guidelines. To develop staff capabilities, he conducts on-the-job training and identifies appropriate training and development courses for the staff.

He issues work orders for Permits-to-Work and supervises works according to Safe System of Work (SSoW) practices. In times of emergency, he implements emergency response plans and relevant safety procedures, and supervises the Emergency Response Team on site incident management. He leads the inspections of worksites and maintenance checks of pipelines. He works in the control room and occasionally at the pipeline sites. He may be required to perform rotating shift work.

He is a good team player who collaborates and guides team members and contractors. He is detail-oriented and systematic in resolving issues and conducting maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 2	Gas Receiving and Holder Operations and Maintenance	Level 3
Asset Management	Level 3	Hazards and Risk Identification and Management	Level 3
Autonomous Systems Technology Application	Level 3	Inspection Engineering Management	Level 2
Business Intelligence and Data Analytics	Level 3	Instrumentation and Control Maintenance Management	Level 3
Condition Monitoring	Level 3	Internet of Things Management	Level 3
Continuous Improvement Management	Level 3	Mechanical Field Maintenance Management	Level 3
Contract Management	Level 3	Network Equipment Testing	Level 3
Corrective Maintenance Management	Level 3	People Capability Development	Level 3
Crisis Management	Level 4	Pipeline Damage Prevention Management	Level 3
Cyber Incident Management	Level 3	Preventive Maintenance	Level 2
Cybersecurity Framework Application	Level 3	Regulatory Compliance	Level 3
Detection and Monitoring Management	Level 3	Riser and Service Pipe Inspection	Level 3
Electrical Field Maintenance Management	Level 3	Safe System of Work Development and Implementation	Level 3
Emergency Response Management	Level 3	Technical Report Writing	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Third Party Management	Level 3
Gas Cathodic Protection System Operations and Maintenance	Level 3	Threat and Vulnerability Management	Level 3
Gas Network Operations Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
Gas Pipeline Leak Surveying	Level 3		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Teamwork	Intermediate
Communication	Intermediate	Decision Making	Basic
Leadership	Basic		

For a list of Critical Work Functions and Key Tasks for this job role, visit [skillsfuture.sg/skills-framework/energyandpower](https://skillsfuture.sg/skills-framework/energyandpower)

# Operations and Maintenance Engineer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Engineer evaluates improvement measures for irregularities in the gas transmission and/or distribution network based on operational statistics. He/She performs computer network analysis and pressure profile simulations to evaluate improvement measures to enhance network resiliency and integrity. He analyses the leak survey results on medium and low-pressure gas pipeline and implements gas pipe inspection and replacement programmes in accordance with regulatory requirements. He analyses the impact of cybersecurity and access control on network development policies, procedures and guidelines. He prepares terms and specifications for contracts and supervises the execution of works according to contractual terms. In addition, he monitors the capital and operating expenditures to ensure that the budget requirements are met. To develop staff capabilities, he conducts on-the-job training, and analyses the strengths and developmental areas of staff.

He monitors Permits-to-Work procedures, and interprets Safe System of Work (SSoW) frameworks and practices to his area of work. In times of emergency, he analyses the impact of emergency responses and relevant safety procedures on business operations, and facilitates the Emergency Response Team’s activities on site incident management. He works in the office at the headquarters or at the sites, and is required to perform standby duties.

He is a communicative and good team leader and engages with internal and external stakeholders for operational requirements. He is analytical and systematic in resolving issues and enforcing maintenance procedures within the safety and operational guidelines.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Hazards and Risk Identification and Management	Level 4
Asset Management	Level 4	Innovation Management	Level 4
Autonomous Systems Technology Application	Level 4	Inspection Engineering Management	Level 3
Business Intelligence and Data Analytics	Level 4	Instrumentation and Control Maintenance Management	Level 3
Condition Monitoring	Level 4	Internet of Things Management	Level 3
Continuous Improvement Management	Level 4	Mechanical Maintenance Management	Level 3
Contract Management	Level 3	Network Equipment Testing	Level 4
Corrective Maintenance Management	Level 4	People Capability Development	Level 4
Crisis Management	Level 4	Pipeline Damage Prevention Management	Level 4
Cyber Incident Management	Level 4	Preventive Maintenance	Level 3
Cybersecurity Framework Application	Level 4	Regulatory Compliance	Level 4
Detection and Monitoring Management	Level 3	Reliability-Centred Maintenance	Level 4
Electrical Field Maintenance Management	Level 3	Riser and Service Pipe Inspection	Level 4
Emergency Response Management	Level 4	Safe System of Work Development and Implementation	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Staff Training Facilitation	Level 4
Gas Cathodic Protection System Operations and Maintenance	Level 4	Technical Report Writing	Level 4
Gas Network Operations Management	Level 4	Third Party Management	Level 4
Gas Pipeline Leak Surveying	Level 4	Threat and Vulnerability Management	Level 3
Gas Receiving and Holder Operations and Maintenance	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4

# Operations and Maintenance Engineer

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Resource Management	Intermediate	Teamwork	Intermediate
Communication	Intermediate	Decision Making	Intermediate
Leadership	Intermediate		



# Operations and Maintenance Manager

## JOB ROLE DESCRIPTION

The Operations and Maintenance Manager oversees the Operations and Maintenance team in gas transmission and/or distribution. He/She reviews the overall guidelines and Standard Operating Procedures (SOPs) and plans improvement works to enhance network resiliency and integrity. He oversees the management of gas inspection and leakage survey operations, and manages gas pipe inspection and replacement programmes in accordance with regulatory requirements. He also leads the contract management processes and collaborates with the cybersecurity team to drive the implementation and enforcement of cyber security measures in the development of the transmission and/or distribution network. He manages the strengths and developmental areas of the teams, and leads communication sessions with staff to facilitate team effectiveness.

He manages the overall Safe System of Work (SSoW) practices and risk control measures to ensure work activities are carried out safely. He leads emergency responses as a Site Incident Controller and collaborates with the crisis management team on emergency situations and recovery activities. He oversees the management of maintenance works at the pipeline sites or from the office.

He is a decisive, communicative and strong leader who has the foresight in identifying trends and new solutions to adopt and manages the team and key stakeholders effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 4	Innovation Management	Level 5
Asset Management	Level 6	Inspection Engineering Management	Level 5
Autonomous Systems Technology Application	Level 5	Instrumentation and Control Maintenance Management	Level 4
Business Intelligence and Data Analytics	Level 5	Internet of Things Management	Level 4
Business Planning Management	Level 5	Mechanical Maintenance Management	Level 4
Condition Monitoring	Level 5	Network Equipment Testing	Level 5
Continuous Improvement Management	Level 5	Organisational Resource Management	Level 4
Contract Management	Level 5	People Capability Development	Level 6
Corrective Maintenance Management	Level 5	Pipeline Damage Prevention Management	Level 5
Crisis Management	Level 5	Preventive Maintenance	Level 5
Cyber Incident Management	Level 5	Regulatory Compliance	Level 6
Cybersecurity Framework Application	Level 5	Reliability-Centred Maintenance	Level 6
Detection and Monitoring Management	Level 4	Riser and Service Pipe Inspection	Level 5
Electrical Maintenance Management	Level 5	Safe System of Work Development and Implementation	Level 5
Emergency Response Management	Level 5	Staff Training Facilitation	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Technical Report Writing	Level 4
Gas Cathodic Protection System Operations and Maintenance	Level 5	Technology Road Mapping	Level 5
Gas Network Operations Management	Level 5	Third Party Management	Level 5
Gas Pipeline Leak Surveying	Level 5	Threat and Vulnerability Management	Level 4
Gas Receiving and Holder Operations and Maintenance	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Hazards and Risk Identification and Management	Level 5		

# Operations and Maintenance Manager

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Resource Management	Advanced
Communication	Advanced	Developing People	Advanced
Decision Making	Intermediate		

# Operations and Maintenance Principal Engineer

## JOB ROLE DESCRIPTION

The Operations and Maintenance Principal Engineer provides technical leadership in the operations and maintenance of gas transmission and/or distribution network and leads improvement works to enhance network resiliency and integrity. He/She devises comprehensive technical guidelines and Standard Operating Procedures (SOPs) for the operations of the network system and high-pressure gas metering stations. He reviews contractual terms and specifications, and ensures that project works are carried out accordingly. He reviews the leak survey results on medium and low-pressure gas pipeline in the distribution network. He also reviews the network development policy, procedures and guidelines to ensure cybersecurity measures are implemented in the transmission and/or distribution network. He reviews contractual terms and specifications and ensures that project works are carried out according to these. He also executes the operating and capital expenditures for the team. To build staff capabilities, he formulates technical training and development plans for the team and leads training and development programmes.

He establishes the Safe System of Work (SSoW) frameworks, practices and risk control measures to ensure work activities are carried out safely. He evaluates the severity of emergency situations, determines the type of responses needed, and proposes the emergency technical and recovery activities based on the crisis management framework. He works in the office at the headquarters or at the sites, and is required to perform standby duties.

He is a decisive, communicative and strong technical leader who provides effective technical guidance to team members and contractors, and engage various stakeholders regarding projects, regulations and compliance. He is detail-oriented and systematic in planning maintenance procedures.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 3	Gas Pipeline Leak Surveying	Level 4
Asset Management	Level 5	Gas Receiving and Holder Operations and Maintenance	Level 4
Autonomous Systems Technology Application	Level 5	Hazards and Risk Identification and Management	Level 5
Business Intelligence and Data Analytics	Level 5	Innovation Management	Level 5
Condition Monitoring	Level 5	Inspection Engineering Management	Level 4
Continuous Improvement Management	Level 5	Instrumentation and Control Maintenance Management	Level 4
Contract Management	Level 4	Internet of Things Management	Level 4
Corrective Maintenance Management	Level 5	Mechanical Maintenance Management	Level 4
Crisis Management	Level 5	Network Equipment Testing	Level 4
Cyber Incident Management	Level 5	People Capability Development	Level 6
Cybersecurity Framework Application	Level 5	Pipeline Damage Prevention Management	Level 4
Detection and Monitoring Management	Level 4	Preventive Maintenance	Level 4
Electrical Maintenance Management	Level 4	Regulatory Compliance	Level 5
Emergency Response Management	Level 5	Reliability-Centred Maintenance	Level 5
Equipment and Systems Installation and Commissioning Management	Level 4	Riser and Service Pipe Inspection	Level 4
Gas Cathodic Protection System Operations and Maintenance	Level 4	Safe System of Work Development and Implementation	Level 5
Gas Network Operations Management	Level 5		

# Operations and Maintenance Principal Engineer

Staff Training Facilitation	Level 5	Third Party Management	Level 4
Technical Report Writing	Level 4	Threat and Vulnerability Management	Level 4
Technology Road Mapping	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Managing Diversity	Intermediate
Communication	Intermediate	Developing People	Intermediate
Resource Management	Advanced		

# Gas Transmission and Distribution Department Manager

## JOB ROLE DESCRIPTION

The Gas Transmission and Distribution Department Manager formulates the gas network strategies, planning and development in alignment with business requirements and oversees the natural gas transmission and/or distribution projects. He/She drives the adoption of best practices for process improvement and establishes the procedures and policies according to safety requirements. He reviews the Standard Operating Procedures (SOPs) for cybersecurity operations and defence mechanisms.

He establishes innovative safe work practices based on industry best practices, and defines policies and SOPs for Permit-to-Work system. He liaises with external stakeholders, such as local authorities, on safety standards and compliance. He formulates emergency response strategies, plans and procedures. In times of emergency, he oversees emergency responses as a Site Main Controller. He contributes to the formulation of the organisation's business plans, and plans the budgets and work plans of the department in alignment to the organisation's objectives. He also conducts manpower planning for the department and oversees their training and development.

He is a decisive, communicative and strong leader who has foresight in identifying trends and new solutions to adopt, and is able to lead and drive the department and manage key stakeholders effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Access Control Management	Level 4	Gas Network Planning	Level 5
Asset Management	Level 6	Gas Pipeline Leak Surveying	Level 5
Autonomous Systems Technology Application	Level 5	Gas Receiving and Holder Operations and Maintenance	Level 5
Business Intelligence and Data Analytics	Level 5	Hazards and Risk Identification and Management	Level 5
Business Planning Management	Level 6	Innovation Management	Level 5
Condition Monitoring	Level 5	Inspection Engineering Management	Level 5
Continuous Improvement Management	Level 5	Instrumentation and Control Maintenance Management	Level 5
Contract Management	Level 5	Internet of Things Management	Level 5
Corrective Maintenance Management	Level 5	Mechanical Maintenance Management	Level 5
Crisis Management	Level 5	Meter and Associated Equipment Maintenance Management	Level 5
Cyber Incident Management	Level 6	Network Equipment Testing	Level 5
Cybersecurity Framework Application	Level 5	Network Monitoring and Control Management	Level 5
Detection and Monitoring Management	Level 4	Network System Planning and Design	Level 5
Electrical Maintenance Management	Level 5	Organisational Resource Management	Level 5
Emergency Response Management	Level 5	People Capability Development	Level 6
Equipment and Systems Installation and Commissioning Management	Level 5	Pipeline Damage Prevention Management	Level 5
Gas Cathodic Protection System Operations and Maintenance	Level 5	Preventive Maintenance	Level 5
Gas Meter Installation and Commissioning	Level 5	Quality Assurance Management	Level 5
Gas Meter Maintenance	Level 5	Regulatory Compliance	Level 6
Gas Metering Data Management	Level 6	Reliability-Centred Maintenance	Level 6
Gas Network Operations Management	Level 5		

# Gas Transmission and Distribution Department Manager

Riser and Service Pipe Inspection	Level 5	Technology Road Mapping	Level 6
Safe System of Work Development and Implementation	Level 5	Third Party Management	Level 5
Staff Training Facilitation	Level 5	Threat and Vulnerability Management	Level 4
Technical Report Writing	Level 4	Trunk and Feeder Expansion Management	Level 5
Technology and Systems Application	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Managing Diversity	Advanced
Leadership	Advanced	Transdisciplinary Thinking	Advanced
Decision Making	Advanced		

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# Project Coordination Senior Technical Officer/ Project Coordination Technical Officer

## JOB ROLE DESCRIPTION

The Project Coordination Senior Technical Officer/Project Coordination Technical Officer coordinates project discussions with key stakeholders on town gas technical services projects and monitors the status of projects according to plans and requirements. He/She supervises works performed by contractors such as Licensed Gas Service Workers (LGSWs) and professional engineers, conducts site investigations in response to customers' feedback, and performs inspections and pressure testing on gas installations. He also checks bills and completion certificates, and processes quotations and tax invoices for gas works.

He works in the office and at customers' sites, including domestic, commercial and industrial buildings.

He demonstrates good interpersonal skills in liaising with key stakeholders. He is observant and systematic in supervising works performed by Licensed Gas Service Workers (LGSWs), ensuring projects are completed in accordance with the Codes of Practice, regulatory and project requirements.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Procurement Management	Level 2
Business Stakeholder Management	Level 3	Project Management	Level 3
Continuous Improvement Management	Level 3	Technical Report Writing	Level 2
Electrical Field Maintenance Management	Level 2	Technical Service Process Management	Level 3
Inspection Engineering Management	Level 2	Technical Services Management	Level 3
Instrumentation and Control Maintenance Management	Level 3	Technology and Systems Application	Level 2
Mechanical Field Maintenance Management	Level 4	Third Party Management	Level 3
Permit Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Basic
Decision Making	Basic	Teamwork	Basic
Service Orientation	Basic		

# Project Coordination Engineer

## JOB ROLE DESCRIPTION

The Project Coordination Engineer develops town gas technical services project plans and facilitates project execution with key stakeholders. He/She collaborates with authorities and agencies to set up procedures and requirements for projects, conducts briefings to highlight procedures and safety precautions, and monitors final pressure testing and turn-on of gas supply. He also consolidates approved bills to monitor costs and control budgets. To develop staff capability, he provides on-the-job training to others.

He works in the office and at customers' sites, including domestic, commercial and industrial buildings.

He demonstrates good communication and interpersonal skills in coordinating with key stakeholders. He is analytical and systematic in monitoring works performed for projects to ensure projects are completed in accordance with the Codes of Practice, regulatory and project requirements.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Permit Management	Level 4
Business Stakeholder Management	Level 4	Procurement Management	Level 3
Continuous Improvement Management	Level 4	Project Management	Level 4
Electrical Maintenance Management	Level 3	Staff Training Facilitation	Level 4
Inspection Engineering Management	Level 4	Technical Report Writing	Level 3
Instrumentation and Control Maintenance Management	Level 3	Technical Service Process Management	Level 4
Mechanical Maintenance Management	Level 3	Technical Services Management	Level 4
People Capability Development	Level 4	Technology and Systems Application	Level 3
		Third Party Management	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Service Orientation	Intermediate
Decision Making	Intermediate	Teamwork	Intermediate
Problem Solving	Intermediate		

# Project Coordination Manager

## JOB ROLE DESCRIPTION

The Project Coordination Manager oversees town gas technical services projects and reviews work procedures to improve the coordination of projects. He/She manages the annual budget estimates and expenditures incurred for projects. He engages authorities and agencies to discuss procedures and requirements of the project, manages briefings to highlight procedures and safety precautions, and inspects work site prior to final pressure testing and turn-on of gas supply. He reviews work procedures in accordance with changes in organisational and statutory requirements. To build staff capabilities, he motivates them to maximise their work potential and manages the team’s strengths and areas development.

He works in the office and at customers' sites, including domestic, commercial and industrial buildings.

He demonstrates good negotiation and networking skills in engaging key stakeholders. He is a good leader, driving positive work attitude in the team, and overseeing the performance of contractors to achieve project objectives.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	Permit Management	Level 5
Business Stakeholder Management	Level 5	Procurement Management	Level 4
Continuous Improvement Management	Level 5	Project Management	Level 5
Electrical Maintenance Management	Level 3	Staff Training Facilitation	Level 5
Inspection Engineering Management	Level 5	Technical Report Writing	Level 4
Instrumentation and Control Maintenance Management	Level 4	Technical Service Process Management	Level 5
Mechanical Maintenance Management	Level 4	Technical Services Management	Level 5
People Capability Development	Level 5	Technology and Systems Application	Level 4
		Third Party Management	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Resource Management	Advanced
Decision Making	Intermediate	Interpersonal Skills	Advanced
Problem Solving	Advanced		

# Installation, Inspection and Servicing Technical Officer

## JOB ROLE DESCRIPTION

The Installation, Inspection and Servicing Technical Officer carries out inspections and investigations of gas installations and servicing of gas appliances and proposes solutions to address non-compliances with regulations and procedures. He/She liaises with contractors for daily operations and checks gas installation and servicing works done by them to ensure compliance with Codes of Practice, regulatory and project requirements. He also responds to customers' feedback and queries on consumption and billings.

He works at customers' sites, which includes domestic, commercial and industrial buildings, and is therefore required to have a high awareness of safety.

He is meticulous and observant, and is able to propose suitable locations and components to install gas equipment that cater to customers' needs. He is a good team player and can interact effectively with team members and customers.

TECHNICAL SKILLS AND COMPETENCIES			
Business Stakeholder Management	Level 3	Regulatory Compliance	Level 3
Continuous Improvement Management	Level 2	Safe System of Work Development and Implementation	Level 2
Emergency Response Management	Level 2	Technical Report Writing	Level 3
Equipment and Systems Installation and Commissioning Management	Level 2	Technical Service Process Management	Level 2
Hazards and Risk Identification and Management	Level 2	Technology and Systems Application	Level 2
Inspection Engineering Management	Level 2	Third Party Management	Level 2
Internet of Things Management	Level 2	Workplace Safety and Health Framework Development and Implementation	Level 2
Project Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Basic	Teamwork	Intermediate
Problem Solving	Basic	Sense Making	Basic
Decision Making	Basic		

# Installation, Inspection and Servicing Senior Technical Officer

## JOB ROLE DESCRIPTION

The Installation, Inspection and Servicing Senior Technical Officer conducts site inspections and investigations on gas equipment installations and proposes solutions to customers for gas installation non-compliance issues. He/She supervises contractors on day-to-day operations to ensure compliance with Codes of Practice, regulatory and project requirements, and leads the servicing of gas installations and commissioning of gas appliances. He prepares technical specifications for tender contracts, and builds internal capabilities through on-the-job training.

He works at customers' sites, including domestic, commercial and industrial buildings and is therefore required to have a high awareness of safety.

He is meticulous, systematic, and a good problem solver, able to propose solutions to customers with gas pipe infringements. He is a good team player and interacts effectively with team members and customers.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 3
Business Stakeholder Management	Level 3	Project Management	Level 3
Continuous Improvement Management	Level 3	Regulatory Compliance	Level 3
Contract Management	Level 3	Safe System of Work Development and Implementation	Level 3
Emergency Response Management	Level 3	Technical Report Writing	Level 3
Equipment and Systems Installation and Commissioning Management	Level 3	Technical Service Process Management	Level 3
Hazards and Risk Identification and Management	Level 3	Technology and Systems Application	Level 2
Inspection Engineering Management	Level 3	Third Party Management	Level 3
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Basic	Decision Making	Basic
Service Orientation	Intermediate	Teamwork	Intermediate
Problem Solving	Intermediate		

# Installation, Inspection and Servicing Engineer

## JOB ROLE DESCRIPTION

The Installation, Inspection and Servicing Engineer plans for inspections of gas installations, reviews gas investigation findings and relevant documentation, and recommends servicing and/or rectification works required for gas installation issues. He/She oversees gas installation, and servicing works, and the commissioning of gas appliances. He manages the submissions of billings and meter statements, and reviews the technical specifications prepared for tender contracts. He/She oversees works performed by Licensed Gas Service Workers (LGSWs) to ensure compliance with Codes of Practice, regulatory and project requirements, and manages customers' feedback and requests for the installation, replacement and troubleshooting of gas appliances. To build internal capabilities, he provides on-the-job training and analyses staff's strengths and areas of development.

He supervises gas pipe works at customers' sites, including domestic, commercial and industrial buildings, and is therefore required to have a high awareness of safety.

He is analytical, systematic and communicative in performing the gas technical services. He is a good team leader and collaborates effectively with key stakeholders.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 4
Business Stakeholder Management	Level 4	Project Management	Level 4
Continuous Improvement Management	Level 4	Regulatory Compliance	Level 4
Contract Management	Level 4	Safe System of Work Development and Implementation	Level 4
Emergency Response Management	Level 4	Staff Training Facilitation	Level 4
Equipment and Systems Installation and Commissioning Management	Level 4	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 4	Technical Service Process Management	Level 3
Innovation Management	Level 4	Technology and Systems Application	Level 3
Inspection Engineering Management	Level 4	Third Party Management	Level 4
Internet of Things Management	Level 3	Workplace Safety and Health Framework Development and Implementation	Level 4
Organisational Resource Management	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Intermediate
Service Orientation	Intermediate	Teamwork	Advanced
Problem Solving	Intermediate		

# Installation, Inspection and Servicing Manager

## JOB ROLE DESCRIPTION

The Installation, Inspection and Servicing Manager drives servicing and/or rectification works for gas installations and reviews gas installation and servicing procedures in accordance with regulatory requirements, Codes of Practice and Standard Operating Procedures. He/She assists in managing of operating and capital expenditure budgets for the team, and leads interactions with key stakeholders to facilitate site investigations and rectification works. He formulates strategic plans to manage customers' feedback and requests. To build staff capabilities, he motivates them to maximise their work potential and manages the team's strengths and areas of development.

He visits gas installation sites to oversee the management of customer complaints and incidents.

He demonstrates good negotiation and networking skills in engaging key stakeholders. He can lead effectively, driving positive work attitude in the team, and overseeing the performance of Licensed Gas Service Workers (LGSWs) and consultants to achieve project objectives.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 5
Business Stakeholder Management	Level 5	Project Management	Level 5
Continuous Improvement Management	Level 5	Regulatory Compliance	Level 5
Contract Management	Level 5	Safe System of Work Development and Implementation	Level 5
Emergency Response Management	Level 5	Staff Training Facilitation	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 5	Technical Service Process Management	Level 4
Innovation Management	Level 5	Technology and Systems Application	Level 4
Inspection Engineering Management	Level 5	Third Party Management	Level 5
Internet of Things Management	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 5
Organisational Resource Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Service Orientation	Intermediate
Decision Making	Advanced	Teamwork	Advanced
Problem Solving	Intermediate		

# Town Gas Technical Services Department Manager

## JOB ROLE DESCRIPTION

The Town Gas Technical Services Department Manager oversees the installation and servicing of gas equipment and develops such procedures for the organisation. He/She establishes revisions to working procedures in response to changes in organisational, safety and statutory requirements for site inspections and investigations, and oversees servicing and/or rectification works required for gas installations. He builds strong rapport with key stakeholders for projects, site investigations and rectification works, and engages with industry experts on the latest trends and developments in the field. He also leads process improvement initiatives.

He plans for the department's manpower and deployment based on projected needs, future trends, and new solutions and technologies that have recently been adopted by the organisation. He also manages the department's capital and operating expenditure budgets, and prepares the annual work plan for the department whilst ensuring that they align with organisational needs.

He is good at networking and engaging key stakeholders in the industry. He is an excellent leader, able to drive the business in alignment with customers' needs and achieve revenue targets.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	People Capability Development	Level 6
Business Stakeholder Management	Level 6	Permit Management	Level 5
Continuous Improvement Management	Level 6	Procurement Management	Level 5
Contract Management	Level 5	Project Management	Level 6
Electrical Maintenance Management	Level 3	Regulatory Compliance	Level 5
Emergency Response Management	Level 5	Safe System of Work Development and Implementation	Level 5
Equipment and Systems Installation and Commissioning Management	Level 5	Staff Training Facilitation	Level 5
Hazards and Risk Identification and Management	Level 5	Technical Report Writing	Level 4
Innovation Management	Level 6	Technical Service Process Management	Level 5
Inspection Engineering Management	Level 5	Technical Services Management	Level 5
Instrumentation and Control Maintenance Management	Level 5	Technology and Systems Application	Level 4
Internet of Things Management	Level 5	Third Party Management	Level 5
Mechanical Maintenance Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
Organisational Resource Management	Level 6		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Communication	Advanced	Managing Diversity	Advanced
Leadership	Advanced	Transdisciplinary Thinking	Advanced
Decision Making	Advanced		



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Customer Service Senior Executive	165
Billing and Settlement Executive	166
Billing and Settlement Senior Executive	167
Customer Service, Billing and Settlement Manager	168
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# Demand Management Data Analyst

## JOB ROLE DESCRIPTION

The Demand Management Data Analyst develops the organisation’s demand management business by conducting pre-audits at customers’ premises, and developing demand management or integrated energy solution proposals for customers. He/She ensures customers conduct load shifting as required, and collaborates with the IT department to aid customers in resolving difficulties that they encounter. He facilitates the payment process between the Energy Market Company (EMC) and customers, and conducts market research and analysis on energy market price trends. He conducts audits on customers’ energy consumption data and prepares compliance reports on load patterns and consumption for the authorities.

He works in a dynamic environment, and is required to conduct site visits at customers' premises for pre-audits.

He is passionate about the power industry and is forward-looking in embracing new technologies. He demonstrates deep analytical thinking skills and intellectual curiosity in understanding energy market pricing trends and developments.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 3
Business Intelligence and Data Analytics	Level 3	Project Management	Level 4
Continuous Improvement Management	Level 3	Regulatory Compliance	Level 4
Demand Management Operations	Level 4	Safe System of Work Development and Implementation	Level 4
Demand Management Plan Development	Level 4	Technical Report Writing	Level 4
Energy Management and Audit	Level 4	Workplace Safety and Health Framework Development and Implementation	Level 4
Hazards and Risk Identification and Management	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Teamwork	Basic
Sense Making	Intermediate	Virtual Collaboration	Basic
Problem Solving	Basic		

# Demand Management Manager

## JOB ROLE DESCRIPTION

The Demand Management Manager develops the organisation’s demand management business by forging relationships with customers and pitching proposals to potential customers. He/She oversees demand management operations, and collaborates with the IT department on the implementation and maintenance of the Network Operating Centre (NOC) systems. He reviews demand management operations to identify and implement areas of improvement in demand management. He leads customer audits and engages with authorities on compliance and reporting. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a dynamic environment, and is required to visit customers' premises to liaise on demand management matters.

He is customer-oriented and motivated to bring demand savings to customers, and committed to reducing Singapore’s carbon footprint. He demonstrates good leadership qualities and can build effective partnerships with customers. He also possesses a forward-looking mindset in embracing new technologies.

TECHNICAL SKILLS AND COMPETENCIES			
Autonomous Systems Technology Application	Level 2	Internet of Things Management	Level 5
Business Intelligence and Data Analytics	Level 4	Organisational Resource Management	Level 4
Business Stakeholder Management	Level 5	People Capability Development	Level 6
Continuous Improvement Management	Level 5	Project Management	Level 5
Contract Management	Level 5	Regulatory Compliance	Level 4
Demand Management Operations	Level 5	Safe System of Work Development and Implementation	Level 5
Demand Management Plan Development	Level 5	Sales and Business Development	Level 5
Energy Management and Audit	Level 4	Sales Strategy Development	Level 6
Equipment and Systems Installation and Commissioning Management	Level 5	Technical Report Writing	Level 4
Hazards and Risk Identification and Management	Level 4	Technology Road Mapping	Level 5
Innovation Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Developing People	Intermediate	Transdisciplinary Thinking	Advanced
Creative Thinking	Advanced	Communication	Advanced
Problem Solving	Intermediate		

# Business-to-Business Sales and Key Accounts Executive

## JOB ROLE DESCRIPTION

The Business-to-Business Sales and Key Accounts Executive executes technical sales strategies and business plans, identifies potential new business avenues and platforms through the client base, rectifies technical issues for clients during the sales process, and contributes to the organising of networking events to enhance client relationships. He/She implements new account development strategies to capitalise on potential opportunities.

He works in a customer-centric, dynamic and challenging sales environment.

He is a resourceful, self-driven and sales-savvy team player who is able to interact with others effectively and work under pressure within tight deadlines to deliver sales results.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Internet of Things Management	Level 3
Business-to-Business Customer Relationship Management	Level 3	Public Relations Management	Level 2
Continuous Improvement Management	Level 3	Sales and Business Development	Level 3
Contract Management	Level 3	Sales Strategy Development	Level 3
Credit Management	Level 3	Technology and Systems Application	Level 3
Data Management	Level 3	Third Party Management	Level 2
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate	Interpersonal Skills	Intermediate
Problem Solving	Intermediate		

# Business-to-Business Sales and Key Accounts Senior Executive

## JOB ROLE DESCRIPTION

The Business-to-Business Sales and Key Accounts Senior Executive develops sales strategies and business plans that are aligned to the organisation's sales targets and goals, and prospects potential new business avenues and platforms through existing and potential client bases. He/She engages clients to resolve contractual issues, and collaborates with different departments on client accounts to manage client relationships and service experience. He analyses new account development strategies to capitalise on potential opportunities. He develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He works in a customer-centric, dynamic and challenging sales environment.

He is a resourceful, communicative and sales-savvy team player who can collaborate with others effectively and work under pressure to deliver sales results under tight deadlines. He is outgoing and adept at building rapport with customers.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 4
Business-to-Business Customer Relationship Management	Level 4	Public Relations Management	Level 3
Continuous Improvement Management	Level 4	Sales and Business Development	Level 4
Contract Management	Level 4	Sales Strategy Development	Level 4
Credit Management	Level 4	Staff Training Facilitation	Level 4
Data Management	Level 4	Technology and Systems Application	Level 3
Internet of Things Management	Level 3	Third Party Management	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate		

# Business-to-Business Sales and Key Accounts Manager

## JOB ROLE DESCRIPTION

The Business-to-Business Sales and Key Accounts Manager conceptualises sales strategies and business plans with senior management, and drives the performance of the sales team to achieve sales targets. He/She engages clients on issues pertaining to tender documents and technical specifications of products and services, and synergises with the various departments on client accounts to manage client relationships and service experience. He/She formulates new account development strategies to capitalise on potential opportunities. He coaches the team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a customer-centric, dynamic and challenging sales environment.

He is intellectually curious and has a deep understanding on electricity package product offerings. He is a decisive, communicative and strong leader who can manage key stakeholders effectively, and drive the team to deliver sales results and meet tight deadlines.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 5
Business-to-Business Customer Relationship Management	Level 6	Public Relations Management	Level 4
Continuous Improvement Management	Level 6	Sales and Business Development	Level 5
Contract Management	Level 5	Sales Strategy Development	Level 5
Credit Management	Level 5	Staff Training Facilitation	Level 5
Data Management	Level 5	Technology and Systems Application	Level 4
Internet of Things Management	Level 4	Third Party Management	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Creative Thinking	Intermediate
Sense Making	Advanced	Communication	Advanced
Problem Solving	Advanced		

# Business-to-Customer Sales Executive

## JOB ROLE DESCRIPTION

The Business-to-Customer Sales Executive executes sales strategies and plans, and identifies potential sales opportunities through the existing customer base. He/She implements new account development strategies to capitalise on potential opportunities, and follows up on existing customer contracts that are due for renewal. He provides suggestions to contribute to sales process improvement to shorten sales cycles and increase revenue and business growth.

He works in a customer-centric and dynamic sales environment.

He is a resourceful, self-driven and sales-savvy team player who is able to interact with others effectively and work under pressure to deliver sales results.

TECHNICAL SKILLS AND COMPETENCIES			
Continuous Improvement Management	Level 3	Sales Strategy Development	Level 3
Data Management	Level 3	Technology and Systems Application	Level 3
Internet of Things Management	Level 3	Third Party Management	Level 2
Product Performance Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate	Interpersonal Skills	Intermediate
Problem Solving	Intermediate		

# Business-to-Customer Sales Senior Executive

## JOB ROLE DESCRIPTION

The Business-to-Customer Sales Senior Executive develops sales strategies and plans that are aligned to the organisation’s sales targets and goals and translates them into actionable plans to retain existing customers. He/She prospects potential sales opportunities through existing and potential customer bases, devises sales process improvement plans to shorten sales cycles and increase revenue and growth, monitors existing customer contracts that are due for renewal, and analyses the payment turnaround time of customers with the credit control department. He develops staff through on-the-job training and analyses the team’s strengths and areas for development.

He works in a customer-centric and dynamic sales environment.

He is a resourceful, communicative and sales-savvy team player who can collaborate with others effectively and work under pressure to deliver sales results.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Product Performance Management	Level 4
Continuous Improvement Management	Level 4	Sales Strategy Development	Level 4
Data Management	Level 4	Staff Training Facilitation	Level 5
Internet of Things Management	Level 3	Technology and Systems Application	Level 4
People Capability Development	Level 4	Third Party Management	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate		

# Business-to-Customer Sales Manager

## JOB ROLE DESCRIPTION

The Business-to-Customer Sales Manager conceptualises sales strategies and plans with senior management to attain the organisation’s sales targets and goals, and drives the performance of the sales team to meet or exceed individual and team sales targets. He/She engages customers to negotiate contracts for escalated cases, formulates new account development strategies to capitalise on potential opportunities, reviews contract renewal for customers, and determines the course of action to be taken for customers with long outstanding payments or possibility of default. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a customer-centric and dynamic sales environment.

He is a decisive and communicative leader who can manage the team and key stakeholders effectively, and work under pressure to deliver sales results.

TECHNICAL SKILLS AND COMPETENCIES			
Billing Process Improvement Management	Level 4	Product Performance Management	Level 5
Business Intelligence and Data Analytics	Level 4	Sales Strategy Development	Level 5
Continuous Improvement Management	Level 5	Staff Training Facilitation	Level 5
Data Management	Level 5	Technology and Systems Application	Level 4
Internet of Things Management	Level 4	Third Party Management	Level 4
People Capability Development	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Problem Solving	Advanced
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Advanced		



# Product and Pricing Senior Executive

## JOB ROLE DESCRIPTION

The Product and Pricing Senior Executive implements product development and pricing strategies, develops designs and content for product collaterals, and analyses product performance and end-of-life planning. He/She supports product development and pricing activities throughout the product development life cycle process, and communicates with other internal teams on product development and pricing strategies. He gathers feedback and proposes methods for improvement on the product and pricing.

He works in a dynamic and competitive retail environment with tight timelines to meet and key stakeholders to manage.

He is an analytical, creative and collaborative team player who is able to interact with others effectively and multi-task under pressure to execute product development and pricing strategies.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Product and Pricing Analysis	Level 4
Continuous Improvement Management	Level 4	Product and Pricing Strategy Development	Level 4
Innovation Management	Level 4	Technology and Systems Application	Level 2
Internet of Things Management	Level 3	Third Party Management	Level 3
Marketing Content Development	Level 4		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Developing People	Intermediate	Sense Making	Advanced
Service Orientation	Intermediate	Creative Thinking	Intermediate
Leadership	Intermediate		

# Marketing and Channel Management Senior Executive

## JOB ROLE DESCRIPTION

The Marketing and Channel Management Senior Executive implements marketing strategies that are aligned to the organisation's business directions, and conducts market research and cost analysis to gather information on competitive opportunities and risks in launching new products. He/She performs marketing tasks and activities, and proposes strategies to accelerate product sales. He delivers marketing plans and programmes for energy products, and executes communication approaches for engaging key stakeholders. He identifies prospective channel partners that align with the organisation's business goals, and develops channel partnership strategies. He analyses how the organisation's products fit within channel partners' business models, and implements channel strategy activities. He also analyses strategies to increase market share and customises business plans for the individual targeted partners.

He works in a dynamic and competitive retail environment.

He is a communicative, analytical and creative team player who can interact with others effectively and multi-task under pressure to deliver market strategies, plans and programmes.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Marketing Operations Management	Level 4
Continuous Improvement Management	Level 4	Marketing Strategy Development	Level 4
Digital Marketing Management	Level 4	Partnership Development and Management	Level 4
Innovation Management	Level 4	Staff Training Facilitation	Level 4
Internet of Things Management	Level 3	Technology and Systems Application	Level 2
Marketing Content Development	Level 5	Third Party Management	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate		

# Marketing Manager

## JOB ROLE DESCRIPTION

The Marketing Manager manages product development, pricing, marketing, and channel partnerships for the organisation’s energy retail products. He/She develops marketing strategies and plans, synergises activities within the team and across stakeholders, and monitors the team’s compliance with policies and procedures. He evaluates opportunities and risks in launching new products, and manages product performance and end-of-life planning. He also leads channel partnership strategies and reviews prospective channel partners with the sales team to support the organisation’s business goals. He establishes improved methods for product development and pricing.

He works in a dynamic and competitive retail environment, with tight timelines and sales targets to meet, and key stakeholders to manage.

He is a decisive, communicative, and strategic team leader who is able to manage the team and key stakeholders effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	Partnership Development and Management	Level 5
Continuous Improvement Management	Level 5	People Capability Development	Level 5
Digital Marketing Management	Level 5	Product and Pricing Analysis	Level 5
Innovation Management	Level 5	Product and Pricing Strategy Development	Level 5
Internet of Things Management	Level 4	Staff Training Facilitation	Level 5
Marketing Content Development	Level 5	Technology and Systems Application	Level 3
Marketing Operations Management	Level 5	Third Party Management	Level 4
Marketing Strategy Development	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Problem Solving	Advanced
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Intermediate		

# Demand Management, B2B Sales and Key Accounts, B2C Sales and Marketing Department Manager

## JOB ROLE DESCRIPTION

The Demand Management, Business-to-Business Sales and Key Accounts, Business-to-Customer Sales and Marketing Department Manager aligns the department’s plans with organisational needs, oversees the performance of the sales teams, and synergises product development and marketing strategies for energy products. He/She maintains strategic partnerships with channel partners and strategises for the department’s manpower requirements and deployment. He also reviews the effectiveness of energy retail frameworks with key stakeholders, and drives the department’s compliance with procedures and guidelines. He is accountable for the organisation’s demand management services, engaging with the authorities on compliance and reporting matters, and driving new approaches in managing demand for electricity.

He works in a dynamic and challenging sales environment.

He is a decisive and communicative leader who is able to manage the department and key stakeholders effectively, and can work under pressure to drive sales and achieve revenue growth.

TECHNICAL SKILLS AND COMPETENCIES			
Billing Process Improvement Management	Level 5	Organisational Resource Management	Level 5
Business Intelligence and Data Analytics	Level 4	Partnership Development and Management	Level 6
Business Stakeholder Management	Level 6	People Capability Development	Level 6
Business-to-Business Customer Relationship Management	Level 6	Product and Pricing Analysis	Level 6
Continuous Improvement Management	Level 5	Product and Pricing Strategy Development	Level 6
Contract Management	Level 5	Product Performance Management	Level 6
Credit Management	Level 6	Project Management	Level 6
Data Management	Level 6	Public Relations Management	Level 5
Demand Management Operations	Level 6	Regulatory Compliance	Level 5
Demand Management Plan Development	Level 6	Safe System of Work Development and Implementation	Level 5
Digital Marketing Management	Level 6	Sales and Business Development	Level 6
Energy Management and Audit	Level 5	Sales Strategy Development	Level 6
Equipment and Systems Installation and Commissioning Management	Level 5	Staff Training Facilitation	Level 5
Hazards and Risk Identification and Management	Level 4	Technical Report Writing	Level 4
Internet of Things Management	Level 5	Technology and Systems Application	Level 4
Marketing Content Development	Level 6	Technology Road Mapping	Level 6
Marketing Operations Management	Level 6	Third Party Management	Level 5
Marketing Strategy Development	Level 6	Workplace Safety and Health Framework Development and Implementation	Level 5

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Problem Solving	Advanced
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Advanced		

# Customer Service Executive

## JOB ROLE DESCRIPTION

The Billing and Settlement Senior Executive Customer Service Executive executes order processing and order fulfilment tasks, and analyses customers' needs and information to improve customer relationships and experience. He/She maintains the client contact database to ensure it is up-to-date, and implements business process improvement solutions to achieve effectiveness in customer service operations. He responds to and follows up on customers' requests and queries in a timely and effective manner.

He works in a customer-driven and service-oriented environment.

He is a communicative, attentive and patient team player who can address customers' issues effectively and achieve customer satisfaction.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Settlement Administration	Level 2	Internet of Things Management	Level 3
Business-to-Consumer Management	Level 3	Order Processing and Change Request Management	Level 3
Continuous Improvement Management	Level 2	Regulatory Compliance	Level 2
Customer Service Innovation Management	Level 3	Technical Report Writing	Level 2
Data Management	Level 3	Technology and Systems Application	Level 3
Energy Product Advisory	Level 2		
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Interpersonal Skills	Intermediate
Communication	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate		

# Customer Service Senior Executive

## JOB ROLE DESCRIPTION

The Customer Service Senior Executive supervises order processing and order fulfilment tasks. He/She organises the client contact database and monitors responses to customer requests and queries to minimise lapses in customer service delivery. He researches on customer needs and needs to improve customer relationships and experience, identifies appropriate channels and solutions for managing customer concerns and analyses feedback and trends on customers' cross-channel journeys to identify pain points and opportunities for developing business process improvement solutions.

He works in a customer-driven and service-oriented environment.

He is a communicative, analytical and creative team player who can address customers' issues effectively and achieve high levels of customer satisfaction.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Data Risk Management	Level 4	Data Management	Level 4
Billing and Settlement Administration	Level 3	Energy Product Advisory	Level 2
Billing Enquiry Management	Level 4	Internet of Things Management	Level 3
Billing Process Improvement Management	Level 4	Order Processing and Change Request Management	Level 4
Business Intelligence and Data Analytics	Level 3	People Capability Development	Level 4
Business-to-Business Customer Relationship Management	Level 3	Regulatory Compliance	Level 3
Business-to-Consumer Management	Level 4	Staff Training Facilitation	Level 4
Continuous Improvement Management	Level 2	Technical Report Writing	Level 3
Customer Service Innovation Management	Level 4	Technology and Systems Application	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Problem Solving	Intermediate
Sense Making	Intermediate	Interpersonal Skills	Advanced
Communication	Intermediate		

# Billing and Settlement Executive

## JOB ROLE DESCRIPTION

The Billing and Settlement Executive conducts factual checks to aid investigations customer billing disputes and addresses billing enquiries and resolves disputes according to Service Level Agreements (SLAs). He/She grants waiver of charges according to the requisite guidelines, follows up on channels billing feedback and complaints with the relevant departments for service enhancement. He analyses trends in billing and settlement and prepares customer and financial reports. He implements business processes improvement solutions to achieve operational effectiveness.

He works in a customer-focused and service-oriented environment.

He is a communicative, analytical and positive team player who can perform under pressure and achieve customer satisfaction.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Settlement Administration	Level 2	Data Management	Level 3
Billing Enquiry Management	Level 3	Internet of Things Management	Level 3
Billing Process Improvement Management	Level 3	Technical Report Writing	Level 2
Continuous Improvement Management	Level 2	Technology and Systems Application	Level 3
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Sense Making	Intermediate	Teamwork	Intermediate
Problem Solving	Intermediate	Managing Diversity	Intermediate
Decision Making	Intermediate		

# Billing and Settlement Senior Executive

## JOB ROLE DESCRIPTION

The Billing and Settlement Senior Executive conducts detailed document checks in cases of escalated customer billing disputes, and addresses billing enquiries and resolves disputes that are escalated according to the Service Level Agreements (SLAs). He/She grants waiver of charges to customers according to the guidelines, monitors cases and escalations to ensure adherence to SLAs, and analyses billing feedback and complaints channelled to the relevant departments to identify methods for enhancing the quality of service provided by the organisation. He analyses risks associated with different approaches of process change for developing business improvement solutions. He determines the major trends in billing and settlement with customers and supervises the preparation of customer and financial reports. He develops and supports audit surveillance on service quality process flows. As a senior team member, he develops staff capabilities using appropriate capability development interventions and through on-the-job training.

He works in a customer-centric and service-oriented environment.

He demonstrates good communication and analytical skills, and can perform under pressure to achieve high levels of customer satisfaction.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Data Risk Management	Level 4	Customer Service Innovation Management	Level 4
Billing and Settlement Administration	Level 3	Data Management	Level 4
Billing Enquiry Management	Level 4	Internet of Things Management	Level 3
Billing Process Improvement Management	Level 4	People Capability Development	Level 4
Business Intelligence and Data Analytics	Level 3	Staff Training Facilitation	Level 4
Business-to-Business Customer Relationship Management	Level 3	Technical Report Writing	Level 3
Business-to-Consumer Management	Level 4	Technology and Systems Application	Level 3
Continuous Improvement Management	Level 3		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate	Decision Making	Intermediate
Creative Thinking	Intermediate		

# Customer Service, Billing and Settlement Manager

## JOB ROLE DESCRIPTION

The Customer Service, Billing and Settlement Manager oversees customer service and billing and settlement operations. He/She assigns staff duties and resources, develops and reviews frameworks for customer service recovery and billing and settlement, and oversees the maintenance of the client contact database to ensure it is up-to-date. He manages bill checks and investigations into customer billing disputes, monitors billing feedback and complaints channelled to the relevant departments to identify methods for enhancing the quality of service provided by the team. He oversees the maintenance of the team's databases. He reviews financial and customer reports. He establishes process improvements and drives the implementation of service quality process flows in the organisation. He coaches team according to their strengths and areas of development to help them achieve performance targets. He reviews overall training and development plans for the department to ensure that they are aligned with organisational plans.

He works in a customer-focused and service-oriented environment.

He strives to achieve operational excellence, high customer service satisfaction, and effective settlement of billing issues. He is a decisive, communicative and well-organised team leader who can manage the customer needs and the team's resources effectively.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Data Risk Management	Level 5	Data Management	Level 5
Billing and Settlement Administration	Level 4	Energy Product Advisory	Level 3
Billing Enquiry Management	Level 5	Internet of Things Management	Level 4
Billing Process Improvement Management	Level 5	Order Processing and Change Request Management	Level 5
Business Intelligence and Data Analytics	Level 4	Partnership Development and Management	Level 4
Business-to-Business Customer Relationship Management	Level 4	People Capability Development	Level 5
Business-to-Consumer Management	Level 5	Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Staff Training Facilitation	Level 5
Crisis Management	Level 5	Technical Report Writing	Level 4
Customer Service Innovation Management	Level 5	Technology and Systems Application	Level 4

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Service Orientation	Advanced
Decision Making	Advanced	Developing People	Advanced
Leadership	Advanced		

# Customer Service, Billing and Settlement Department Manager

## JOB ROLE DESCRIPTION

The Customer Service, Billing and Settlement Department Manager drives the implementation of customer satisfaction initiatives in the department to improve customer service operations and experience. He/She reviews frameworks to minimise lapses in billing and settlement and sets the strategic direction for business process improvement initiatives. He formulates strategies for the department's manpower and deployment based on projected needs, future trends, and new solutions and technologies that have recently been adopted by the organisation. He also manages the department's capital and operational budgets, and prepares annual work plans for the department whilst ensuring that they align with organisational needs.

He works in a customer-focused and service-oriented environment.

He has good foresight and is a decisive leader, and is able to steer the department to achieve targets. He demonstrates good critical thinking skills in analysing frameworks and developing plans for the department.

TECHNICAL SKILLS AND COMPETENCIES			
Billing and Data Risk Management	Level 6	Data Management	Level 6
Billing and Settlement Administration	Level 5	Energy Product Advisory	Level 3
Billing Enquiry Management	Level 6	Internet of Things Management	Level 5
Billing Process Improvement Management	Level 5	Order Processing and Change Request Management	Level 6
Business Intelligence and Data Analytics	Level 5	Partnership Development and Management	Level 5
Business-to-Business Customer Relationship Management	Level 5	People Capability Development	Level 6
Business-to-Consumer Management	Level 6	Regulatory Compliance	Level 5
Continuous Improvement Management	Level 5	Technical Report Writing	Level 4
Crisis Management	Level 6	Technology and Systems Application	Level 4
Customer Service Innovation Management	Level 6		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Service Orientation	Advanced	Problem Solving	Advanced
Sense Making	Advanced	Decision Making	Advanced
Creative Thinking	Intermediate		



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# LNG Research Analyst

## JOB ROLE DESCRIPTION

The LNG Research Analyst supports the LNG Trading team in identifying opportunities for closing deals and increasing portfolio value. He/She conducts research using market and economic data for the preparation of market reports and analyses data regarding risks associated with trading deals. He engages clients on presentations on market insights and liaises with key stakeholders for the preparation of hedging activities.

He works in a dynamic and fast-paced environment where he must provide accurate analyses and research material to support the closing of deals.

He is a decisive, analytical and self-motivated individual who is comfortable with numbers and able to work under pressure.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 2	Internet of Things Management	Level 4
Continuous Improvement Management	Level 4	Regulatory Compliance	Level 3
Contract Management	Level 3	Technology and Systems Application	Level 2
Data Management	Level 4	Trading Analysis	Level 4
Energy Trading Portfolio Optimisation	Level 4	Trading Reporting and Assessment	Level 3

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Intermediate	Teamwork	Intermediate
Decision Making	Intermediate	Transdisciplinary Thinking	Intermediate
Resource Management	Intermediate		

# LNG Trading Trader

## JOB ROLE DESCRIPTION

The LNG Trading Trader manages financial deals, portfolio value and related financial risks by analysing opportunities and executing deals on a spot and term basis to increase portfolio value. He/She conducts research and analyses on appropriate trading deals and prepare market reports. He conducts Liquefied Natural Gas breakbulk services by making decisions on the optimal purchase timings, quantities and delivery modes and collaborating with the bunkering teams for the management of Liquefied Natural Gas breakbulk services. He also manages relationships between counterparties for trade executions, and prepares contracts for transactions. He builds staff capabilities by managing the team's strengths and developmental areas, and leading work and well-being communication sessions with the staff.

He works in a dynamic and fast-paced environment where he must make timely decisions based on market movements and trends.

He is a decisive, analytical and self-motivated individual who can communicate well and is able to work under pressure involving tight timelines.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 3	Internet of Things Management	Level 4
Business Planning Management	Level 5	Liquefied Natural Gas Breakbulk Services Management	Level 4
Continuous Improvement Management	Level 5	Regulatory Compliance	Level 3
Contract Management	Level 4	Sales and Business Development	Level 4
Counterparty Relationship Management	Level 5	Technology and Systems Application	Level 3
Data Management	Level 5	Trading Analysis	Level 5
Energy Trading Portfolio Optimisation	Level 5	Trading Reporting and Assessment	Level 4
Hedging Management	Level 5		

GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Computational Thinking	Intermediate	Resource Management	Intermediate
Decision Making	Intermediate	Communication	Intermediate
Problem Solving	Intermediate		

# LNG Trading and Research Head

## JOB ROLE DESCRIPTION

The LNG Trading and Research Head leads the trading team in managing financial deals, portfolio value and related financial risks by developing trading strategies on spot and term basis and optimising trading decisions across portfolios to maximise revenue, while balancing the needs of multiple stakeholders. He oversees client engagement on research and market insights. He leads the planning of Liquefied Natural Gas breakbulk services with the bunkering team, and manages counterparty contracts by reviewing contracts for compliance with regulations, and builds strategic relationships with counterparties. He conducts manpower planning, and sets the direction for the department's operations by managing the budget and formulating the annual work plan.

He works in a dynamic and fast-paced environment where he must make timely decisions based on market movements and trends.

He is a forward-looking and results-oriented individual who can work well under pressure and is able to provide strategic direction in enhancing the organisation's portfolio value and profitability.

TECHNICAL SKILLS AND COMPETENCIES			
Business Intelligence and Data Analytics	Level 4	Internet of Things Management	Level 5
Business Planning Management	Level 6	Liquefied Natural Gas Breakbulk Services Management	Level 5
Continuous Improvement Management	Level 5	People Capability Development	Level 6
Contract Management	Level 5	Regulatory Compliance	Level 5
Counterparty Relationship Management	Level 6	Sales and Business Development	Level 6
Data Management	Level 6	Technology and Systems Application	Level 4
Energy Trading Portfolio Optimisation	Level 6	Trading Analysis	Level 6
Hedging Management	Level 6	Trading Reporting and Assessment	Level 5
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Leadership	Advanced	Transdisciplinary Thinking	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Teamwork	Advanced		

# Chief Executive Officer/Chief Operating Officer/Managing Director/General Manager/President

## JOB ROLE DESCRIPTION

The Chief Executive Officer/Chief Operating Officer/Managing Director/General Manager/President establishes the overall strategy and direction for the organisation, including the organisation's vision, objectives and strategies, and drives organisational development with respect to change, innovation, and knowledge, to achieve desired strategic business goals. He/She drives the performance of the organisation by setting business goals and performance indicators, and ensuring profitable revenue growth. He develops the organisation by shaping culture, values and behaviour, and leads networking with key strategic stakeholders.

He promotes a strong Workplace Safety and Health (WSH) culture in the organisation, and oversees the setting of WSH policies and measures for the conduct of safe operations. He champions continuous improvement and promotes innovation within the organisation, while balancing risks and opportunities.

He is a calculated risk-taker and strategic thinker with excellent business acumen. He is decisive, results-driven and demonstrates exceptional leadership and communication abilities.

TECHNICAL SKILLS AND COMPETENCIES			
Business Planning Management	Level 6	Organisational Resource Management	Level 6
Business Stakeholder Management	Level 6	Risk and Compliance Management	Level 6
Business-to-Business Customer Relationship Management	Level 6	Safe System of Work Development and Implementation	Level 5
Continuous Improvement Management	Level 6	Sales and Business Development	Level 6
Crisis Management	Level 6	Technology Road Mapping	Level 6
Emergency Response Management	Level 5	Workplace Safety and Health Framework Development and Implementation	Level 5
GENERIC SKILLS AND COMPETENCIES (TOP 5)			
Problem Solving	Advanced	Sense Making	Advanced
Communication	Advanced	Leadership	Advanced
Decision Making	Advanced		

## Supporting Organisations and Acknowledgements

## Notes

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**Sembcorp Industries Ltd**

**Senoko Energy Pte Ltd**

**Singapore LNG Corporation Pte Ltd**

**Singapore Power Group**

**SunSeap Group Pte Ltd**

**Tuas Power Generation Pte Ltd**

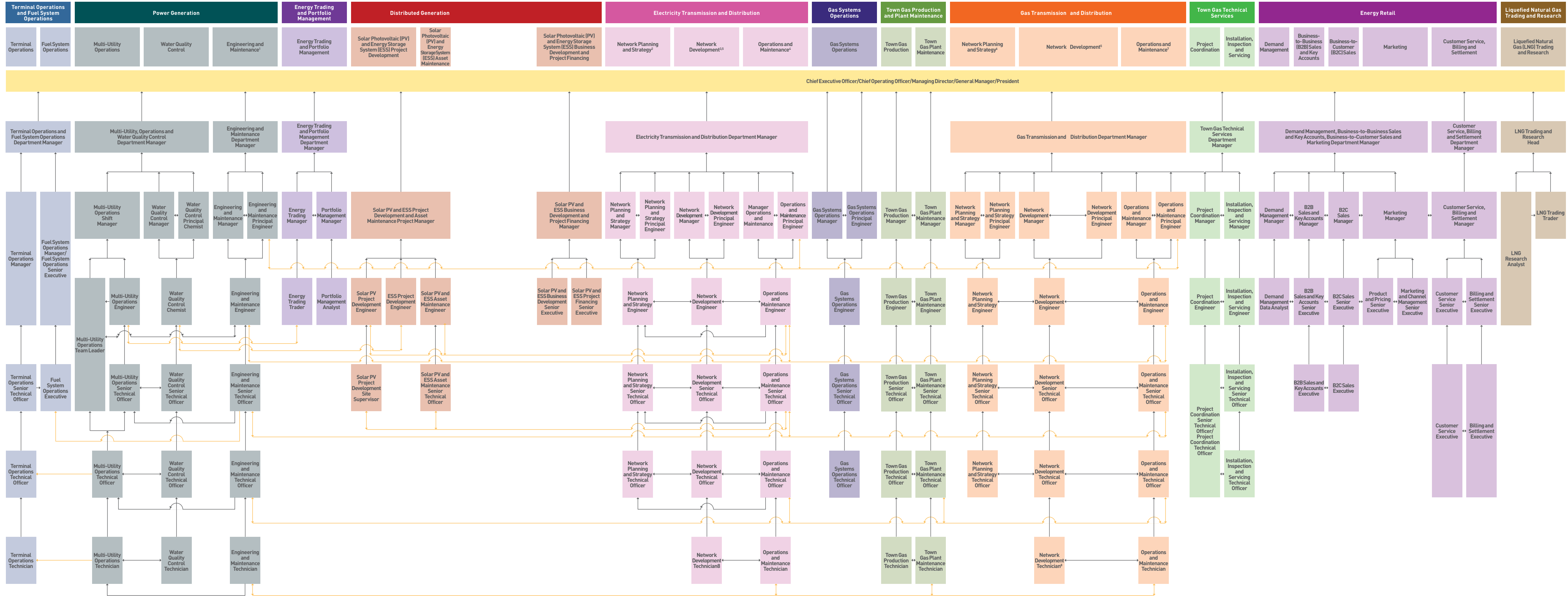
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- Organisations for their contributions in the development and validation of the Skills Framework for Energy and Power

# SKILLS FRAMEWORK FOR ENERGY AND POWER

## Career Pathways



The Career Map serves as a reference to reflect the available job roles and possible career pathways in the Energy and Power sector, which may vary depending on each company's structure and business context.

1 Includes specialisations for Mechanical, Electrical, Instrumentation and Control

2 Includes specialisations for Transmission and Distribution Network Planning, Transmission and Distribution Engineering, Network Performance, Asset Strategy and Project Management

3 Includes specialisations for Transmission and Distribution Network Projects, Communication Infrastructure and Customer Projects

4 Includes specialisations for Facilities Management, Earthwork Monitoring and Cable Protection, Power Quality and Transient Management, Expert Systems and Communications Services, SCADA, Distribution Control and Customer Services, Network Protection, Network Support Services, Condition Monitoring and Transmission and Distribution Network Operations and Maintenance

The career progression pathways would depend on individual performance, capability, experience, aspiration, as well as company needs.

5 Includes specialisations for Transmission and Distribution Network Projects and Metering

6 Includes specialisations for Network Planning and Strategy

7 Includes specialisations for Pipeline Operations and Maintenance, Gas Inspection and Leak Survey

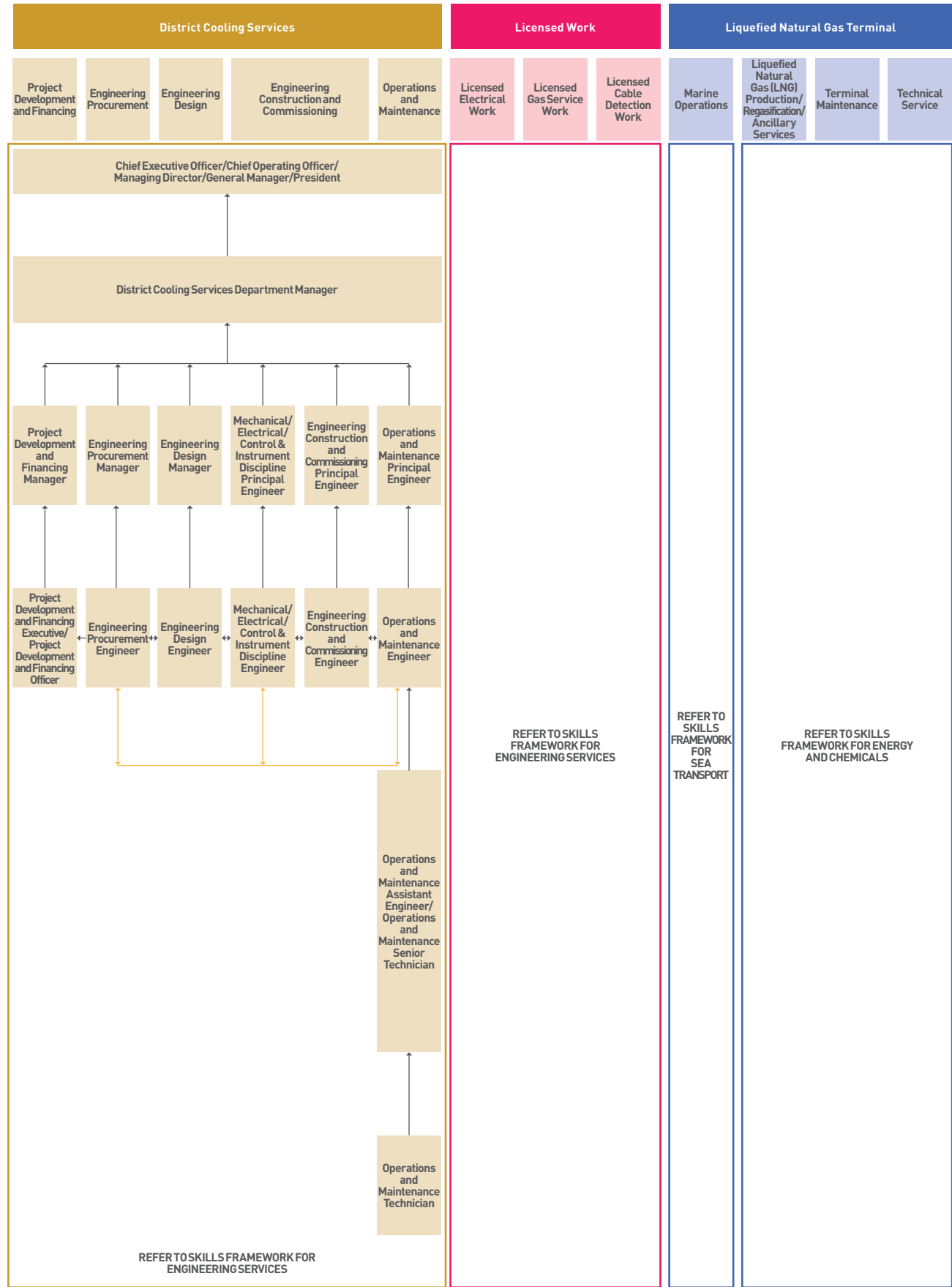
8 Includes Critical Work Functions (CWF), Key Tasks (KTS), Technical Skills and Competencies (TSCs) and Generic Skills Competencies (GSCs) also applicable to meter readers (Electricity, Gas and Water)

Legends:

↑ Vertical Progression

↔ Lateral Progression within the same functional track

→ Lateral Progression across functional tracks





# Wage Information

Table 1: Monthly Gross Wage of Selected Occupations in Power Sector, Jun 2016

Occupations	Gross Wage	
	25th Percentile (\$)	75th Percentile (\$)
Engineer	4,800	7,200
Technical officer	3,400	5,500
Technician	2,500	4,200

Source: Power Sector Labour Market Study (PSLMS) 2016, Energy Market Authority

Table 2: Monthly Gross Wage of Selected Occupations in Manufacturing, Jun 2017

Occupations	Gross Wage	
	25th Percentile (\$)	75th Percentile (\$)
Managing director/Chief executive officer	5,000	16,674
Fund/Portfolio manager (including asset allocator)	7,050	19,200
Business development manager	5,907	12,131
Technical/Engineering services manager (eg shipyard manager)	5,783	10,250
Wholesale trade manager	5,383	11,621
Sales and marketing manager	5,200	10,565
Customer service manager	4,947	9,699
Administration manager	4,721	10,000
Call centre manager	4,028	8,686
Market research analyst	3,967	6,783
Technical sales professional	3,581	6,192
Chemist	3,473	6,474
Business development executive	3,220	5,240
Supervisor/General foreman (metal, machinery and related trades)	3,089	4,509
Supervisor/General foreman (electrical and electronic trades)	3,000	4,185
Receptionist, customer service and information clerk	2,150	3,168

Source: Occupational Wage Survey, Manpower Research & Statistics Department, Ministry of Manpower

Notes:

- 1) Data pertain to full-time resident employees in the private sector establishments each with at least 25 employees.
- 2) Monthly Gross Wage refers to the sum of the basic wage, overtime payments, commissions, allowances, and other regular cash payments. It is before deduction of employee CPF contributions and personal income tax, and excludes employer CPF contributions, bonuses, stock options, other lump sum payments and payments-in-kind.
- 3) 25th Percentile Wage refers to the wage level which divides the bottom 25% of wage earners from the rest.
- 4) 75th Percentile Wage refers to the wage level which divides the top 25% of wage earners from the rest.

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