

## Singapore CA Qualification Examination

7 December 2022

### Business Value, Governance & Risk

#### INSTRUCTIONS TO CANDIDATES:

1. The time allowed for this examination paper is **3 hours 15 minutes**.
2. This examination paper has **FOUR (4)** questions and comprises **NINETEEN (19)** pages (including this instruction sheet). Each question may have **MULTIPLE** parts and **ALL** questions are examinable.
3. This is an open book examination. During the examination, you are allowed to use your laptop and any calculators that comply with the SAC's regulations. Please note that mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.
4. During the examination, videos of you and your computer screen will be recorded for the purpose of ensuring examination integrity and you have consented to these recordings.
5. This examination paper is the property of the Singapore Accountancy Commission.

#### MODULE-SPECIFIC INSTRUCTIONS:

6. This case is hypothetical and has been written exclusively for the purpose of this examination. Names, characters, places and incidents used are imaginary or fictional. Any resemblance to actual events or locales or persons, living or dead, is entirely coincidental. This case is not to be cited without the permission of the Singapore Accountancy Commission.

#### IMPORTANT NOTICE:

**If you are not feeling well, please do not press "Start Assessment". If you have started and leave during the exam, you would be deemed to have attempted the paper.**

**e-Exam  
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**1**

**\*\*VERY IMPORTANT NOTICE\*\***

1. Your question paper is attached under the "**Resources**" tab found at the bottom right of **EACH** question.
2. You may also download the question paper that allows annotation throughout your exam in Question 1 of the e-Exam portal.
3. Please download the relevant required Appendices in Question 1 of the e-Exam portal.

**Other important information:**

4. You will be allowed to access your reference materials but **will not be allowed** to communicate with anyone either physically or through any electronic means.
5. You are **NOT ALLOWED** to access any websites during the exam.
6. You are **NOT ALLOWED** to print the question paper.
7. **Please take note that your screen will be monitored throughout the examination. If you are found to have accessed any websites, or if you cheat or attempt to cheat, you will be liable to severe disciplinary action.**

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8. **You do not need fill in an answer for this question.**

## **SingPower Limited**

SingPower Limited (“SingPower”) is a large engineering company in the energy sector and has been listed on Singapore Exchange for over thirty years.

SingPower is a significant provider of engineering design, procurement, and construction services for energy creation (design and construction of power-plant technology for coal and gas) and energy transmission infrastructure.

SingPower provides a complete design, procurement, construction and installation service for new coal or natural gas-powered generating powerplants, large corporations and the government sector. Once a new powerplant has been successfully engineered and installed, it is handed over to the customer who will operate it and supply electricity to the national power grid in the country where it was built. SingPower has constructed powerplants in Singapore, Malaysia, China, India, Australia, and other countries in Southeast Asia.

### **Recent financial performance**

SingPower’s recent financial performance has been affected by operational challenges caused by the COVID-19 pandemic and external market shift to sustainable energy solutions.

Consequently, SingPower’s Chief Executive Officer (CEO), Stephen Lam, would like an external review of current performance which will include practical suggestions on how future financial performance could be improved.

The Board of SingPower (“the Board”) has provided the management accounts for the year ended 30 September 2022, together with the 2021 comparatives, which sets out SingPower’s recent financial performance and financial position.

## Statement of profit and loss

Year ended 30 September

	2022	2021
	S\$'million	S\$'million
<b>Total revenue</b>	3,691.0	3,847.4
Cost of sales	<u>(3,101.3)</u>	<u>(3,305.8)</u>
<b>Gross profit</b>	589.7	541.6
Selling and administrative expenses	(309.7)	(288.4)
Depreciation amortisation and impairment	(48.6)	(49.1)
Other operating expenses	<u>(55.3)</u>	<u>(44.8)</u>
<b>Operating profit</b>	<b>176.1</b>	<b>159.3</b>
Finance costs	<u>(17.6)</u>	<u>(18.7)</u>
<b>Profit before tax</b>	<b>158.5</b>	<b>140.6</b>
Tax	<u>(26.9)</u>	<u>(23.9)</u>
<b>Profit after tax</b>	<b><u>131.6</u></b>	<b><u>116.7</u></b>

## Statement of Financial Position

Year ended 30 September

	2022	2021
	S\$'million	S\$'million
Intangible assets	365.2	380.6
Property plant and equipment	<u>257.7</u>	<u>258.7</u>
<b>Non-current assets</b>	<b>622.9</b>	<b>639.3</b>
Inventories	65.8	64.9
Trade and other receivables	937.6	939.1
Cash and cash equivalents	106.2	70.9
Other current assets	<u>20.9</u>	<u>20.4</u>
<b>Current assets</b>	<b><u>1,130.5</u></b>	<b><u>1,095.3</u></b>
<b>Total assets</b>	<b><u>1,753.4</u></b>	<b><u>1,734.6</u></b>
<b>Equity</b>		
Share capital	150.0	150.0
Retained earnings and other reserves	<u>750.3</u>	<u>618.7</u>
<b>Total Equity</b>	<b><u>900.3</u></b>	<b><u>768.7</u></b>

**Liabilities**

Trade and other payables	529.2	621.4
Other current liabilities	<u>23.9</u>	<u>19.5</u>
<b>Current liabilities</b>	<b>553.1</b>	<b>640.9</b>
Loans and other borrowings	<u>300.0</u>	<u>325.0</u>
<b>Total liabilities</b>	<b><u>853.1</u></b>	<b><u>965.9</u></b>
<b>Total liabilities and Equity</b>	<b><u>1,753.4</u></b>	<b><u>1,734.6</u></b>

No of ongoing projects	98	104
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Stephen Lam has provided the following operating statement to SingPower's investors in a recent communication which explains SingPower financial and operating performance for the year ended 30 September 2022.

“The year ended 30 September 2022 remained a successful financial year for SingPower despite significant ongoing operating challenges resulting from COVID-19 restrictions. SingPower has marginally failed to achieve its annual forecast revenue and profitability. However, the Board admits that the forecast was over-ambitious in hindsight when it was approved before the pandemic.

The impact of SingPower's cost reduction programme has helped to counter adverse pressure on revenue and operating profit. These measures have reduced some non-essential operating costs and overheads. SingPower has also invested in upgrading our IT systems to incorporate cloud-based technology which will result in future operating efficiencies as many of our employees work offsite on our construction and maintenance projects.

SingPower's operating capacity is ready to take advantage of market opportunities in the next financial year as our employees and customers have greater freedom to realise opportunities from unfulfilled demand which has built up during COVID-19 restrictions. To focus our new business bid teams on

growth and recovery, the Board has set a target return on capital employed (measured at book value) of 20%.

In 2022, the overall number of ongoing 'live' engineering projects has fallen as we have completed projects which have not been replaced by new business wins due to COVID-19 related challenges and a fall in customer confidence in high value investment engineering projects. Our powerplant construction projects usually have a long-term lifespan between 3 and 5 years. Our overall number of ongoing projects has fallen only marginally as many started before the pandemic and there have been some new business gains. However, it is now critical that our bid teams focus on building our order book and securing new businesses.

We are now seeing positive signs of recovery with an increase in queries from our client base and potential new customers. We are expecting an increase in requests for tenders for energy creation (powerplant construction), energy distribution infrastructure and other engineering, technology and maintenance projects.

We are seeing growth opportunities in areas in which we have been operating successfully for a long time which include engineering projects to increase energy efficiency and reduce CO<sub>2</sub> emissions in our customers' existing powerplants and hydroelectric power.

Also, growth potential is driving the development of new technologies, for example, in the production and transport of hydrogen, carbon capture and storage, and development of super-effective solar panel technologies. We are also seeing an uplift in nuclear reactor energy enquiries. Therefore, SingPower must be ready to take advantage of increasing interest and market demand for sustainable energy solutions.

To facilitate expected market growth, SingPower's Chief Finance Officer is looking at possible capital raising options to provide a ready pool of investment capital to fund sustainable energy research and development, to invest in our new business bid team, to invest in training our people to develop key skills and to recruit to grow our overall workforce. This is so SingPower is in the best place possible to take advantage of market demand and the shift to sustainable energy generation. To facilitate this, the Board has agreed to a maximum gearing level of 40% (measured by debt/(debt plus book value of equity)) which is in line with other companies operating in the energy sector.

The finance team is also looking to improve our working capital management and the Board has set target receivables days of 75 days and payable days of 75 days to support this.”

The Board would like you to use the following ten financial ratios in your analysis of SingPower's recent financial performance and financial position.

1. **2022 revenue growth**
2. **Revenue per project**
3. **Gross profit margin %**
4. **Operating profit margin %**
5. **Liquidity**
6. **Return on capital employed %**
7. **Inventory days**
8. **Receivable days**
9. **Payable days**
10. **Gearing**

**e-Exam  
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**Question 1 required:**

- 2**      **(a)** Calculate the **TEN** financial ratios for SingPower for the year ended 30 September 2022 and the year ended 30 September 2021, as requested by the Board of Directors of SingPower.  
**(10 marks)**
- 3**      **(b)** Interpret the financial performance of SingPower for the year ended 2022 versus 2021 using each of the ten financial ratios calculated in **part (a)** and provide an overall conclusion.  
**(12 marks)**
- 4**      **(c)** In order to improve ROCE at SingPower, recommend **TWO** actions which could improve overall financial performance and **TWO** actions to improve working capital management, both in the short to medium term.  
**(4 marks)**  
**(Total: 26 marks)**



### **New sustainable energy initiative: Solar Farm Pilot Scheme**

The Board, led by its CEO, Stephen Lam, recognises the importance of renewable energy, and is considering diversifying into the design and supply of solar powerplants. Solar powerplants use a large number of photovoltaic panels arranged in an optimum way, the panels collect the energy from the sun, and then convert this thermal energy into electricity. Electricity generated by the solar powerplant technology can be sold directly under a power purchase agreement to an electricity national grid.

The location of the solar powerplant is important. Ideally, the land it is constructed on should be flat and within close proximity to an electricity grid connection point. Any investment will therefore include the cost of electricity pylons and cabling to connect to a national grid.

The Board is proposing to pilot one new solar powerplant in Singapore. For the purposes of testing, the first solar powerplant will be owned and managed by SingPower directly. The Directors have assumed SingPower will sell all electricity generated to the National Grid which will avoid investing in onsite electricity storage units. If the first solar powerplant proves to be successful, then SingPower will use this design as a blueprint and expand and invest in further solar powerplant “farms” to supply power to customers in the countries in which it operates.

The Directors have determined that the pilot solar powerplant must be commercially proven to be viable within a ten-year timeframe.

A suitable 100-acre site has been identified in Singapore for the first solar powerplant as the land is flat and a connection point to the Singapore National Grid is situated close by.

The Board has put together initial, high-level estimates of revenue, costs and capital expenditure required over the expected ten-year timeframe.

The site is available for sale at S\$750 million.

Site preparation costs are expected to be in the region of S\$40 million.

In addition, additional infrastructure costs such as cabling and electrically pylons which are required to connect the solar powerplant to the electrically grid would cost S\$60 million.

A 100-acre site will require the purchase of solar panels at a total estimated cost of S\$200 million, inclusive of all installation costs.

Annual solar powerplant operating and maintenance costs will be incurred from year one which are estimated to be S\$1,450 million per annum. The useful life of the solar panels is expected to be ten years, with zero residual value.

Electricity generated by the new solar powerplant will be sold to the Singapore National Grid at S\$188.10 per Megawatt Hour (MWH). The solar powerplant is forecast to generate on average 24,000 MWH of electricity per day. The solar powerplant will be operational 365 days per year.

It is estimated that the entire solar powerplant could be sold for a minimum of S\$1,000 million at the end of ten years, which is essentially the forecast land value. Plant decommissioning costs of S\$250 million would be expected to be incurred at the end of year ten in order to restore the site to its initial condition so it is ready for alternative use.

All revenues and costs are stated at current values unless otherwise stated. Inflation of 2% per annum is forecast for the next ten-year period.

The Directors have assumed that SingPower will continue to pay corporate tax in Singapore at 17% each year over the entire life of the project. Corporate tax is assumed to be paid in the year in which profits are earned.

As this is a very long-term project, the Directors of SingPower have advised, for simplicity, to assume ten-year straight-line tax allowable depreciation on the investment in the solar panels, including any installation costs. Only site preparation

costs, additional installation costs and solar panels qualify for tax allowable depreciation.

The new solar powerplant is forecast to require working capital each year representing 5% of annual revenue for that year. Working capital is assumed to be in place at the beginning of each year. Working capital will be released in full at the end of year ten when the plant is sold.

SingPower plans to fund all of the initial investment costs through raising of new debt finance. The Singapore Government is willing to support sustainable energy generating initiatives as part of their Green Initiative and commitment to lower carbon emissions. The Singapore Government has offered SingPower a subsidised 10-year loan at 4% for 100% of the initial capital required which is 2.5% cheaper than what SingPower could achieve by funding the project with a loan from an external market provider, such as a bank. One-off loan arrangement fees of 0.5% of the funds borrowed would immediately apply and are deductible for corporate tax.

### **Market information**

The Board has identified a similar solar power generating energy company that has a quoted equity beta of 2.15 and a debt:equity ratio of 1:3. The current risk-free rate of return in Singapore is 1.75% and the average market return on equity is 6.5%.

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**Question 2 required:**

**5**                    **(a)** Calculate an ungeared discount rate to evaluate the proposed investment in the pilot solar powerplant.  
**(2 marks)**

**6**                    **(b)** Evaluate the proposed investment in the pilot solar powerplant by calculating its Adjusted Present Value (APV).

**Note:** In doing so, use end-of-year discounting and present your answer in S\$ millions to one decimal place.

**(18 marks)**

**7**                    **(c)** Discuss **TWO** risks and **TWO** benefits for proceeding with the pilot solar powerplant.  
**(4 marks)**

**(Total: 24 marks)**

## **Enhancing sustainability: SingPower sustainability initiatives**

The Chair of the SingPower Board, Kim Yang, has emailed the board members, see below, with a proposal to implement six new initiatives to improve SingPower's sustainability performance.

**To:** SingPower board members  
**From:** Kim Yang, Chair  
**Date:** 15 November 2022  
**Subject:** Sustainability initiatives to improve performance

Dear fellow board members.

Please consider the suitability of the six proposed new sustainability initiatives which I have set out in Appendix 1 below.

For each initiative, I would appreciate your suggestions on how SingPower's performance could be monitored using a new key performance indicator for each sustainability initiative.

Also, I would like your opinions on how the main board and the remuneration, audit and nomination committees can ensure that sustainability targets set by SingPower for each of the six proposed new sustainability initiatives will be met.

Many thanks,

Kim Yang

### **Appendix 1: Six proposed new sustainability initiatives at SingPower**

#### **Environment**

##### ***1. Sustainability initiative: Reduce CO<sub>2</sub> Emissions***

The Board is committed to addressing climate change concerns by reducing SingPower's overall CO<sub>2</sub> emissions. This will be achieved by investing significantly in renewable energy technologies in its own laboratories, fund university research and

work in partnership with other energy companies. Current areas of interest include solar power, hydropower, biofuels and compact nuclear fusion energy reactors.

### **2. Sustainability initiative: Reduce toxic particle emissions**

The Board aims to improve air quality by reducing toxic particle emissions by installing high technology filtration systems which will reduce the release of toxic carbon particles into the atmosphere and reduce sulphur dioxide, nitrogen dioxide and other toxic emissions into powerplants constructed by SingPower in the past. SingPower will work with previous customers of its oil and gas fuelled powerplants, to subsidise the cost of installing new filtration system technology.

## **Social**

### **3. Sustainability initiative: Improve employee welfare at work**

The Board strives to maintain healthy employee relations where dialogue between SingPower management and employees is conducted using employee representative bodies and through a range of formal and informal communication channels, management engages with employees on a regular basis. Each employee will be assigned an employee representative where issues can be discussed. SingPower commits to investigating each complaint swiftly, objectively and transparently.

### **4. Sustainability initiative: Local community project consultations**

The Board acknowledges that its energy engineering projects can impact negatively as well as positively on local communities where it operates. To improve its commitment to local communities, SingPower will conduct a local community consultation and complete an economic, social, environmental impact assessment for every new major project before it commences. SingPower will appoint a local Community Liaison Officer who will be the primary point of contact for local communities throughout the entire duration of the project. SingPower will provide an online portal to receive, track and respond to local community feedback. SingPower will commit to swiftly responding to each query or concern logged by local community members on the portal.

## **Governance**

### ***5. Sustainability objective: Compliance with SingPower's new supply chain code of conduct***

SingPower has updated its supply chain code of conduct to include specific labour and human rights principles and provision for contractors and suppliers to comply with as part of SingPower's contractual terms and conditions. All existing and new suppliers will undergo a process of supplier due diligence where they will need to provide worker welfare plans that include ethical recruitment practices and no use of forced labour as part of the supplier screening process. This initiative will take many years to fully complete. Suppliers who are assessed as in breach of the new supplier code of conduct will be required to develop corrective action plans to resolve each issue. Contracts of supply with SingPower may be terminated by the Board with immediate effect if breaches are deemed to be sufficiently serious.

### ***6. Sustainability objective: Compliance with Singapore Code of Corporate Governance principles, provisions and best practice guidelines***

Currently, there are a number of areas where non-compliance is currently explained in SingPower's corporate governance statement in its annual report. SingPower aims to improve this by implementing full compliance with Singapore Code of Corporate Governance principles, provisions and best practice guidelines which will ensure the highest standard of governance and regulatory compliance is in place for everything that SingPower does.

**e-Exam  
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**Question 3 required:**

- 8**                    **(a)** Explain how the **SIX** new sustainability initiatives proposed in Kim Yang's email to the Board, will improve SingPower's sustainability performance. **(9 marks)**
- 9**                    **(b)** Recommend **ONE** new key performance indicator for each of the six new sustainability initiatives proposed by the Chair. In doing so, explain how each KPI will be measured and explain how it will help SingPower to monitor its sustainability performance. **(9 marks)**
- 10**                    **(c)** Explain how each of the following boards will play a different role in ensuring SingPower is meeting its ESG key performance indicator targets.
- Board of Directors **(2 marks)**
  - Remuneration Committee **(2 marks)**
  - Audit Committee **(2 marks)**
  - Nomination Committee **(2 marks)**
- (Total: 26 marks)**



## **Risk management**

SingPower's internal audit department recently completed a risk management audit of its existing and ongoing operations. The scope of this audit excluded all possible future strategic decisions not yet made or undertaken, such as the solar powerplant opportunity.

The issued internal audit report noted that six risks have not been fully documented in SingPower's risk register as risk evaluation and risk control mitigations have not been completed. These six risks are:

1. Pressure from customers to negotiate lower prices
2. Project forecasting risks
3. Lack of adequate personnel and specific skill sets
4. Serious health and safety incident
5. IT systems outage
6. Legal dispute with customer or supplier

The audit committee has requested that the risk register be updated as soon as possible, as part of the initiative to improve governance at SingPower.

The risk manager at SingPower has explained each of the six risks further below.

### **1. Pressure from customers to negotiate lower prices**

SingPower is smaller than most of its customers. There is evidence that some competitors are willing to heavily discount in order to gain market share.

### **2. Project forecasting risks**

SingPower construction projects include the design, procurement, construction and testing of new power production facilities or major powerplant overhauls which contain many complex variables. The complexity of project forecasting to accurately determine costs and contract price is immense.

### **3. Lack of adequate personnel and specific skill sets**

The market for technically skilled labour in the energy sector remains challenging due to high global demand. Many engineering companies in Southeast Asia, Europe, and North America are finding themselves having to compete for people resources. Employee retention is a particular risk as SingPower's qualified and motivated personnel are tempted to join a competitor due to a promise of promotion or higher rewards.

#### **4. Serious Health and Safety Incident**

A serious health and safety incident at a powerplant construction site can result in severe injury or death to a SingPower employee or supplier. Customers will be required to sign-up to SingPower's new 'Zero Accident' charter which will set out the highest level of safety measures which will be required during the construction period at a customer owned site.

#### **5. IT system outage caused by a cyber-attack**

The network of SingPower computer systems accessed from SingPower premises and project sites makes it difficult to protect SingPower data and information from abuse, manipulation, espionage, or theft. Whilst this risk is increasing, SingPower has not suffered a cyber-attack which has seriously disrupted its operations or degrade the integrity of its data.

#### **6. Legal dispute with customers or suppliers**

Legal disputes can arise from SingPower's provision of construction services which mainly relate to claims of defects in its delivery of engineering products services, delays in project completion or incomplete delivery of the agreed scope of a project. In such cases, there is often also a similar "back-to-back" legal dispute with SingPower's suppliers and subcontractors which adds complexity and legal costs.

#### **Enterprise Risk Management (ERM) framework**

The external auditors have recommended that SingPower's approach to risk management for a listed company of its size, should be more aligned to COSO's Enterprise Risk Management (ERM) framework. The Board has requested further information as to the main benefits and challenges of implementing ERM at SingPower.

**e-Exam  
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**Question 4 required:**

- 11** (a) Evaluate each of the **SIX** risks identified in the internal audit report by applying the following criteria:
- Likelihood (High/Low); and
  - Impact (High/Low).
- (12 marks)**
- 12** (b) Explain how SingPower can implement a control strategy to mitigate the potential impact of each risk identified by the internal audit committee.
- (6 marks)**
- 13** (c) Advise on **FOUR** potential benefits which SingPower will gain when implementing Enterprise Risk Management (ERM).
- (4 marks)**
- 14** (d) Explain **TWO** expected challenges which SingPower are likely to encounter when implementing Enterprise Risk Management (ERM).
- (2 marks)**
- (Total: 24 marks)**

**END OF PAPER**