

Singapore CA Qualification Examination

7 June 2019

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 **EIGHTEEN (18)** 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 watches, mobile phones, tablets, and all other electronic devices **MUST NOT** be used during the examination.
4. This examination paper is the property of the Singapore Accountancy Commission.

MODULE-SPECIFIC INSTRUCTIONS:

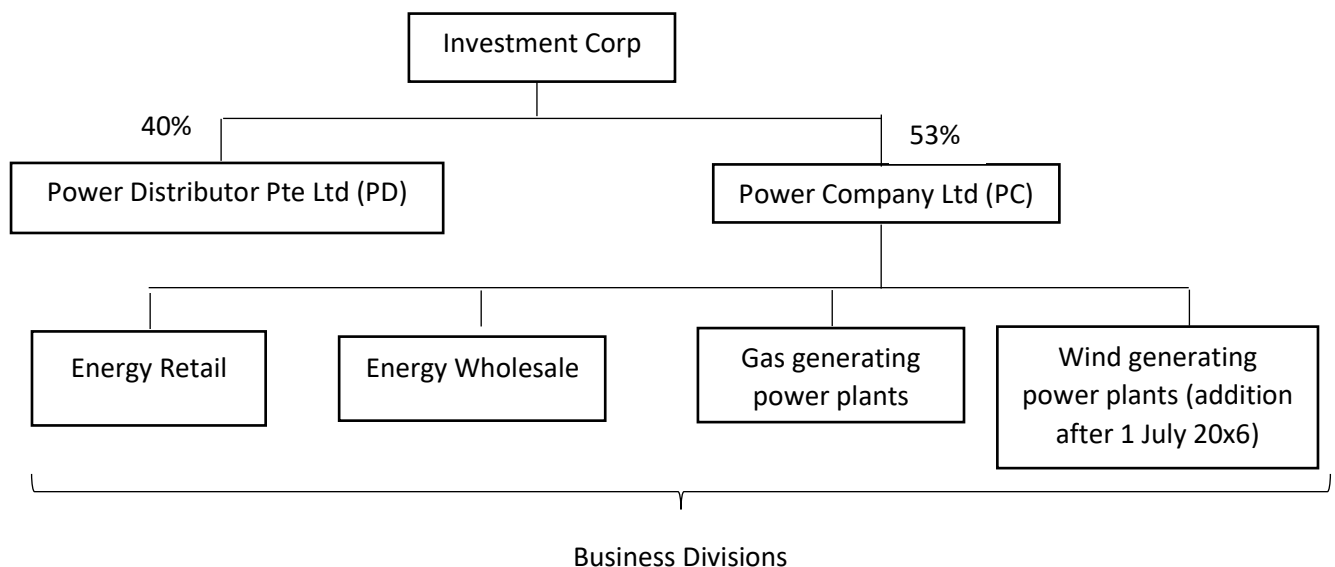
5. This case is hypothetical and has been written exclusively for the purpose of this examination. Names, characters, places and incidents used are imaginary or fictional. Any resemblance to actual events or locales or persons, living or dead, is entirely coincidental. This case is not to be cited without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

Company Background Information

Power Company Ltd (PC) is an energy company listed on the Singapore Exchange (SGX). The company's core business is the generation of electric power and selling it to consumers – retail and wholesale. Retail customers are household users while wholesale customers are business users. Power Distributor Pte Ltd (PD) is a related party to PC as the latter's holding company, Investment Corp, holds a 40% share in PD. Investment Corp owns 53% of shareholdings of PC. Over the years, PD owned a portfolio of small buildings and 30 land parcels to house power distributor units to support their electricity supply grids. PD provides electricity distribution services to PC for its household and business consumers.

PC is very aggressive in its expansion and investment plans. It has expanded quickly in recent years in Asia through acquisition of foreign energy companies and other related businesses.

Below is the summary of the organisation structure of PC and Investment Corp.



Investment in Wind Farms

South-East Asian countries have been experiencing a rise in energy demand driven by population growth and continued economic growth. Countries, such as Thailand and the Philippines, that are vulnerable to the effects of climate change, particularly rising sea levels and increasing disaster risks, have made commitments to switch to a cleaner energy sources and reduce energy generated from fossil fuel.

Due to the favourable weather conditions, renewable wind energy production has been on a rise in Thailand and the Philippines. For almost two thirds of the year, these countries would experience monsoons and strong winds, while the remaining one third of the year would be dry and hot. Wind farms were being constructed along the shorelines of key coastal communities in these two countries, where power are sometimes unreliable, to support growing local industries.

In Thailand, wind energy would complement other energy sources to spur the growth of seaports and new factories being set up near these ports. In the Philippines, aquaculture (such as the farming of seaweed, oysters and mussels in open coastal waters, and farming of fishes in freshwater lakes) contributes significantly to food security, employment and foreign exchange generation. The wind farms constructed in the coastal areas of the Philippines would support the growth of these fisheries. In recent years, a few world renowned eco-resort chains have also started to acquire lands near the coast with plans to transform some of these sleepy Philippines fishing villages into high-end luxury vacation destinations. Hence, tourism is also in the pipeline of future development of such coastal communities in the Philippines.

Year 20x5

In year 20x5, PC identified that the acquisition of wind farms that generate renewable energy in Thailand and the Philippines was going to be lucrative and it would serve as a good diversification of the energy sources. Specifically, PC identified two potential investment opportunities, or offers, in offshore wind farms off the coast of Thailand and the Philippines.

Offer 1:

To buy into a small wind farm in Thailand with the existing owner, a privately owned Thai energy company, as the local joint venture partner. This small wind farm had been in operation for six years and has been producing below its capacity. One of the reasons for the poor efficiency of this wind farm was due to the length and shape of the wind turbine blades, which resulted in winds blowing from the sea towards the land not being efficiently harnessed.

Offer 2:

To design and build completely new wind farms with a large established listed company in the Philippines as the local joint venture partner. The core business of this large listed company in the Philippines is crop plantation and commodities trading. The large listed company had recently bought long stretches of cheap coastal land. It is looking for a joint venture partner who is in the business of electric power generation to build and develop new wind farms together along the coast. Construction of these wind farms are expected to be awarded to a few privately owned local contractors and would take about two years to be completed.

In view of the two available offers, the Board of PC was concerned about the profitability and risks of the wind farms and therefore commissioned a study on both offers for further evaluation. The study looked at the key assumptions of both offers.

Below is the summary of these **key assumptions**:

- a. Cost of building the new wind farms in the Philippines and the period to build

Key assumptions:

- i. Construction costs (materials and labour)
- ii. Construction timeline

- b. Operating cost (of each of the offer)

Key assumptions:

- i. Labour cost
- ii. Utilities cost
- iii. Equipment depreciation

- iv. Equipment maintenance cost
 - v. Borrowing cost
- c. Production capacity and revenue (of each of the offer)
- Key assumptions:
- i. Selling price of electricity
 - ii. Demand for renewable energy
 - iii. Efficiency of wind turbines
 - iv. Wind speed in the region
- d. Key ratios for performance evaluation (of each of the offer)
- i. Return on investment (ROI)
 - ii. Profit margin

Year 20x6 to 20x8

The Board was satisfied with the study and the recommendations put forth by the management of PC and approved both the two investment offers. Between 1 July 20x6 and 30 June 20x8, PC invested a total of S\$500 million to acquire the existing offshore wind farms in Thailand and construct the wind farms in the Philippines. This has been financed using existing cash reserves and increasing its bank loans from S\$900 million to S\$1,200 million. The new 8.5% loan of \$300 million is repayable in 12 years in 20y8.

Year 20x9

At the most recent quarterly presentation to investors and market analysts, some investors have raised concerns about the high level of gearing and that the original S\$900 million 7% loan is due to be repaid on 30 June 20x9. The directors have communicated that refinancing of the loan is required as there is insufficient cash to repay the loan. Furthermore, due to a change in lending criteria, the company's bank has indicated that they may not be willing to refinance the loan due to its recent risk assessment of the company.

Therefore, the directors of PC are looking for a private investor to refinance the company's debt and lend the company S\$1,000 million repayable in five years. This private loan will be used to repay the existing loan of S\$900 million and to provide

capital of S\$100 million which will be used to implement a turnaround plan which will include company-wide restructuring to gain cost efficiencies and to launch a new marketing and sales plan to promote the company's brand in both retail and wholesale energy markets.

If the loan of S\$900 million is not successfully refinanced before it falls due on 30 June 20x9, the bank is likely to appoint an administrator and the company will be liquidated if a buyer cannot be found.

These factors have resulted in a 25% decline in the traded share price which was quoted on SGX at S\$16.02 per share on 1 June 20x9. PC has 300 million S\$1 shares in issue.

The private investor will be offered 8.5% (a rate higher than the market fixed rate) on the new loan with an option to convert the loan to new equity shares at the end of the loan period in 20y4 at a price of \$12.50 per share. The directors are optimistic that this conversion price will offer a substantial discount on the expected quote share price on 30 June 20y4. A potential new investor who is interested in adding energy to a diversified investment portfolio would be attracted to the higher than market interest rate on the S\$1,000 million loan.

So far, the profitability of the new wind farms acquired in Thailand and the Philippines has been lower than what was forecasted when the investment was initially appraised. This is because the wind farms are currently not achieving the forecasted selling price of renewable electricity and incurring higher than expected costs of running the offshore wind farms. Given the current disappointing wind farm performance and the fall in share price, PC's directors are concerned about the company's future and has requested a net asset valuation to compare with its share value to gain assurance on whether there is sufficient value in the company to support its business operations on a going concern basis and ability to pursue the planned turnaround strategy.

Below is the summary of financial data for the company for 20x9 and 20x8 in **million Singapore dollars**:

Statement of Profit and Loss
For the years ended 30 June

	20x9 (Actual to 1 June and forecasted) S\$ million	20x8 S\$ million	
Revenue:			
Energy wholesale	353.7	341.2	
Energy retail	<u>427.5</u>	<u>408.4</u>	
Total revenue	781.2	749.6	
Changes in inventories of finished goods	(6.1)	(4.3)	
Raw materials and other consumables	(402.7)	(398.2)	
Staff costs	(113.9)	(102.6)	
Depreciation amortisation and impairment	(217.1)	(203.4)	Note 1
Other expenses	(97.3)	(118.5)	
Finance costs	<u>(78.0)</u>	<u>(70.0)</u>	
Losses before tax	(133.9)	(147.4)	
Tax credit	<u>22.8</u>	<u>25.1</u>	
Losses for the year	<u>(111.1)</u>	<u>(122.3)</u>	

Statement of Financial Position
As at 30 June 20x9 (Forecasted)

S\$ million

Assets

Property, plant and equipment	3,359.9	Note 1
Other non-current assets	<u>45.0</u>	
Total non-current assets	<u>3,404.9</u>	

Current assets

Inventories	22.8
Trade and other receivables	538.3
Cash and cash equivalents	<u>60.6</u>
Total current assets	<u>621.7</u>
Total assets	<u>4,026.6</u>

Equity

Share capital (300 million S\$1 shares)	300.0
Retained earning	<u>2,022.9</u>
Total equity	<u>2,322.9</u>

Liabilities

Trade and other payables	503.7
Loans and borrowings at 7%	<u>900.0</u>
Current liabilities	1,403.7

Non-current liabilities

Loans and borrowings at 8.5%	<u>300.0</u>
Total liabilities	<u>1,703.7</u>
Total liabilities + equity	<u>4,026.6</u>

Note 1

Property plant and equipment	Gas power generators	Wind power generation	Gas storage	Electricity transmission and distribution	Meters and measuring	Computer systems	Total
Cost	S\$ million	S\$ million	S\$ million	S\$ million	S\$ million	S\$ million	S\$ million
At 1 Jul 20x8	3,824.2	500.0	865.1	1,560.8	194.0	27.5	6,971.6
Additions	0.0	0.0	0.0	50.0	50.0	6.0	106.0
At 30 Jun 20x9	3,824.2	500.0	865.1	1,610.8	244.0	33.5	7,077.6
Depreciation							
At 1 Jul 20x8	(2,266.4)	(25.0)	(442.0)	(673.2)	(81.0)	(13.0)	(3,500.6)
Charge for the year	(95.6)	(12.5)	(21.6)	(62.4)	(19.4)	(5.5)	(217.0)
At 30 Jun 20x9	(2,362.0)	(37.5)	(463.6)	(735.6)	(100.4)	(18.5)	(3,717.6)
Net Book Value							
At 30 Jun 20x9	1,462.2	462.5	401.5	875.2	143.6	15.0	3,360.0
At 30 Jun 20x8	1,557.8	475.0	423.1	887.6	113.0	14.5	3,471.0

Additional information provided by the directors of the company on 1 June 20x9:

The directors expect the realisable value of the company's assets to be the following percentage of their net book values as at 30 June 20x9.

<u>Class of Asset</u>	<u>Asset type</u>	<u>Realisable value as % of book value</u>
Property plant and equipment	Gas power generators	120%
	Wind power generators	100%
	Gas storage	120%
	Electricity transmission and distribution	100%
	Meters and measuring	100%
	Computer systems	0%
Inventories		90%
Trade and other receivables		80%
Cash and cash equivalents		100%

Also, the directors believe the realisable value of non-current assets representing intangible assets and goodwill is S\$200 million due to the brand value of PC.

Additional information and assumptions about the five-year turnaround plan of PC starting from 1 July 20x9 should a new private investor loan S\$1,000 million to PC:

- Energy wholesale revenue is expected to grow at 10% per annum each year for the next five years.
- Energy retail revenue is expected to grow at 15% per annum each year for the next five years.
- Changes in inventories of finished goods are expected to grow at 5% per annum each year for the next five years.
- Raw materials and other consumables are expected to grow at 8% per annum each year for the next five years.
- Due to restructuring, staff costs are expected to decrease by 10% in the year to 30 June 20y0 and remain stable thereafter.
- Other expenses are expected to decrease by 25% in the year to 30 June 20y0 and remain stable thereafter.
- Interest on all loans is expected to be fixed at 8.5% per annum for the next five years.
- Annual capital expenditure of S\$100 million per annum is forecast at the beginning of the year for the next five years. These assets are expected, on average, to have a useful economic life of 10 years. The annual depreciation, amortisation and impairment charge for the next five years is expected to remain the same as 20x9 except for forecast additions.
- Assume there is no difference between accounting depreciation and tax depreciation (capital allowances) for the calculation of corporation tax at 17% per annum on forecast profit. Assume a corporation tax credit of 17% is available on a forecast loss before tax.

If the turnaround plan is successful, the directors are confident the company will have a share market price to earnings ratio of 22. However, the directors are uncertain

whether the company will generate sufficient cumulative cash flows to repay the new investor loan of S\$1,000 million in five years on 30 June 20y4.

Development of smart meter technology

Year 20x9

In year 20x9, PC's marketing team has recently completed extensive research in the regional energy market and the marketing director has completed a presentation to the Board suggesting that the company could benefit from a substantial increase in its retail energy market share if it adopts smart meter technology.

The technology allows consumers to monitor their energy usage via a smart meter which links to an App for smartphones and tablet devices via the consumer's home Wi-Fi. This technology will provide its customers with real time data to reduce energy consumption and lower bills. The App also allows consumers to switch on heating or air conditioning systems and set room temperature remotely using Wi-Fi or 4G connectivity.

The development of the App is required and each smart meter is costly to install, as it requires an engineer to visit each household. The marketing director believes the company can add significant value by attracting new customers from competitor energy retailers which will increase market share and future profits.

PC intends to outsource the development of the App to a software company. The Board Audit Committee Chairman, John who is retired, used to specialise in the business of consulting in the technology sector. Other than his role as the Chairman of PC's Audit Committee, he holds 32% stake in Abstract Consulting Pte Ltd, a software consulting company. He told PC's management that he is familiar with the technology and software developing business as he is an investor in several of these firms. He has offered the assistance of Abstract Consulting Pte Ltd to search, identify, negotiate and manage the development project of the App for PC.

Smart meters will be offered to existing customers as the marketing director believes installation will assist with existing customer loyalty. Existing customers will be billed

for the cost of the meter and its installation so the impact of smart meters for existing consumers is considered to be cost neutral.

The CEO of Investment Corp is aware that PC is planning to adopt smart meter technology and suggest to the CEO of PC that PD can assist PC in the supply and installation of the smart meters. CEO of PC said that they could see advantages in keeping business dealing within the Group and he would discuss this with PC's Board.

The directors of PC require project investment appraisal to establish if increased contribution from new retail energy customers will sufficiently outweigh the cost of software development. The project timeframe is four years when the technology is expected to be superseded and requires replacement. Given the uncertainty around the current debt and gearing position and recent share price volatility, the directors consider adjusted present value to be the most appropriate investment appraisal method.

Information and assumptions as of 30 June 20x9 about smart meter project provided by the directors of the company are listed below:

- Software development costs of S\$50 million will be paid on day 1 of the smart meter project and are expected to be 25% allowable for tax on a straight line basis. The first three months will be used to develop the software and market smart meter technology. After which, the market demand is expected to be high.
- Energy retail revenue is expected to grow by 100% over the life of the project. This means incremental project revenue is expected to be as follows:
 - Year 1 - 25% of retail energy revenue for the year ending 30 June 20x9
 - Year 2 - 50% of retail energy revenue for the year ending 30 June 20x9
 - Year 3 - 75% of retail energy revenue for the year ending 30 June 20x9
 - Year 4 - 100% of retail energy revenue for the year ending 30 June 20x9

Additionally, energy price inflation of 4% per annum is expected to apply to revenue in the first year of the project and each year thereafter.

- New customers are expected to generate an annual contribution of 30% over the life of the project.

- For the new customers, incremental fixed costs (which includes all smart meter costs and marketing costs) of S\$15 million are expected in the first year of the project and each year thereafter. Cost inflation of 5% per annum is expected to apply each year from 20y1 to 20y4.
- The smart meter project is expected to require additional working capital of 10% of the incremental project sales revenue for a given year to be in place at the beginning of each year. Working capital will not be realised at the end of the project as smart meters will continue in operation.
- Corporation tax has been payable at 17% per annum and this rate is expected to continue.

Company information on 1 June 20x9

PC is currently listed on the SGX with 300 million shares currently trading at S\$16.02 per share and S\$1,200 million in outstanding bank loans.

PC's most recently quoted equity beta is 1.87. The current risk-free rate of return in Singapore has been estimated by the directors to be 3.0% and the equity market risk premium is 5.75%.

Financing information

The Singapore Government is willing to support energy saving initiatives, such as smart meter technology, as part of their commitment to lower carbon emissions and has offered PC a subsidised 4-year loan at 4% for the S\$50 million required which is 4.5% cheaper than it could achieve by funding the project with a bank loan.

**Exemplify
Question
Number**

Question 1 – (a), (b) and (c):

The following questions relate to ONLY the investment in wind farms.

1

(a) Identify and explain SIX risks that should be considered by the Board of PC for the offer to build new wind farms in the Philippines. Be specific in your answers by stating ONLY the relevant risks with regard to the facts in the case and risks associated to the key assumptions covered in the study commissioned by the Board of PC.

(12 marks)

2

(b) For EACH risk identified in part (a) above, provide ONE suggestion on how the Board of PC can mitigate and manage the risk of building new wind farms in the Philippines.

(12 marks)

3

(c) Discuss THREE advantages and THREE disadvantages of which the Board of PC should consider and evaluate for **Offer 1**, which is to buy into a small wind farm in Thailand.

(6 marks)

(Total: 30 marks)

Exemplify Question Number	<p>Question 2 – (a), (b) and (c):</p> <p>The following questions relate to ONLY the development of smart meter technology.</p>
4	<p>(a) Advise on FOUR areas of essential due diligence which the directors of PC should complete prior to proceeding with the new smart meter technology. (4 marks)</p>
5	<p>(b) In relation to the outsourcing of App development for smart meter and in the appointment of Abstract Consulting Pte Ltd,</p> <p>(i) Identify the relevant principles or provisions of the <i>Singapore Code of Corporate Governance 2018</i>; and (2 marks)</p> <p>(ii) Describe how the management of PC should demonstrate the compliance of these principles or provisions. (6 marks)</p>
6	<p>(c) Discuss whether it is appropriate for Investment Corp to offer assistance to PC in the supply and installation of smart meters, and how the Board of PC should deal with Investment Corp’s offer. (8 marks)</p> <p>(Total: 20 marks)</p>

**Exemplify
Question
Number**

Question 3 – (a), (b), (c) and (d):

The following questions relate to ONLY the investment in wind farms.

For all calculations, present all workings and answers in **million Singapore dollars** to the nearest **ONE** decimal point.

7

- (a)** Using the directors' assumptions, determine a net asset valuation for PC using its 30 June 20x9 book values adjusted to realisable value. Comment on whether the directors should pursue the refinancing strategy by comparing the realisable value to the company's current share price.

(5 marks)

8

Assume that the new investor loan offer is accepted.

- (b)** Prepare a five-year profit after tax forecast for PC by applying the financial information and assumptions provided by the directors.

(9 marks)

9

- (c)** Determine a five-year cash flow forecast by adjusting part (b) for depreciation and forecast annual capital expenditure. Analyse if PC's forecast is able to generate sufficient cumulative cash flows to repay the new investor loan by calculating a net cash surplus or deficit as at 30 June 20y4 (Year 5) and comment on the result.

(5 marks)

Exemplify Question Number	(d) Assume that a private investor loan of S\$1,000 million to PC has been arranged and the turnaround plan is implemented.
10	<p>(i) Estimate a future earnings valuation of PC at 30 June 20y4 using forecast year profit after tax in 20y4 calculated in part (b) and the directors' assumptions regarding the price to earnings ratio. Also, provide a value per share assuming the new loan is converted into shares at 30 June 20y4. (2 marks)</p>
11	<p>(ii) Using appropriate calculations, comment on whether a new investor is likely to accept the new loan offer and whether the existing shareholders are likely to approve the offer of a new loan. (4 marks)</p> <p>(Total: 25 marks)</p>

**Exemplify
Question
Number**

Question 4 – (a), (b) and (c):

The following questions relate to ONLY the development of smart meter technology.

12

(a) Calculate the cost of equity ungeared using CAPM.

(3 marks)

13

(b) Using Adjusted Present Value (APV) methodology, evaluate whether PC should proceed with the new smart meter technology for its retail energy customers by computing the following amounts:

(i) Net present value of the **incremental** new revenue;

(11 marks)

(ii) Present value of the tax shield and the present value of the annual subsidy benefit; and

(5 marks)

(iii) Adjusted Present Value of the proposed development.

(1 mark)

14

(c) Comment on the appropriateness and limitations of using Adjusted Present Value (APV) methodology in part (b).

(5 marks)

(Total: 25 marks)

END OF PAPER