

PUBLIC VERSION

EMC's NEMS Budget for the Financial Year Ending 30 June 2020

CONTENTS

1. INTRODUCTION

2. NEMS FORECAST AND BUDGET ASSUMPTIONS

3. NEMS BUDGET FOR FY2019/20

4. NEMS CAPITAL EXPENDITURE

Appendix 1 EMC's Obligations with Respect to Rules and Market Licence in the Preparation of Budgets

Appendix 2 EMC'S forecast fees broken down by each EMC service.

BUDGET FOR FY2019/20

1. INTRODUCTION

The Singapore economy grew by 3.2% in 2018, moderately lower than the 3.9% growth recorded in 2017 and is expected to slow down further in 2019 amid the uncertainties in the global economy. The Ministry of Trade and Industry has maintained the 2019 GDP growth forecast at 1.5 to 3.5%, with growth expected slightly below the mid-point of the forecast range.

Amid the challenging global and domestic economic environment, EMC will continue to focus on the following key goals:

- 1.1 To continue to provide its customers a satisfactory level of service as the Singapore Wholesale Electricity Market (SWEM) operator and to play a proactive role in driving market development. In addition to providing reliable and cost effective systems and services, EMC will also continue to provide a consultative rules change process and a credible surveillance and compliance governance structure;
- 1.2 To continue to invest in staff development and engagement and manage its key personnel dependency risk; and
- 1.3 To remain financially resilient and seek opportunities to grow non-NEMS revenues and manage expenses to sustain a satisfactory financial return to its shareholder.

In addition, EMC plans to channel more resources to strengthen its infrastructure against possible cybersecurity attacks and strengthen its data protection capability.

2. NEMS FORECAST AND BUDGET ASSUMPTIONS

2.1 Revenue

Under the revenue regulatory regime for the 5 years from 1 April 2018 to 30 June 2023, EMC is allowed to charge fixed and variable fees.

With effect from 1 July 2018, EMC is allowed to charge the following categories of fixed fees:

- a) Annual market participant fee of \$10,000 per market participant
- b) One-off market participant registration fee of \$5,000 per registration
- c) RSA hardware token fee (from 6th token onwards per MP) of \$350 per token

The variable fees will be calculated as follows:

$$\frac{\text{EMC's Allowed Revenue – Projected Revenue from Fixed Fees}}{\text{Forecast Traded Volume}}$$

The price cap on the variable fees for the period covered in this paper is as follows:

Price Cap (Cents/MWh)	Forecast FY2018/19	Budget FY2019/20
1 July to 30 June	30.16	32.28

A yearly adjustment is made to the price cap for exogenous costs, adjustments under the opex variance scheme and any deviation between the projected and actual revenue collected from fixed and variable fees.

2.2 Manpower Costs

FY18/19 budget was based on 60 staff while FY18/19 forecast was based on the approved 69 permanent staff. The cost of the 9 staff filled during the year will be claimed exogenously (\$0.9M).

FY19/20 budget was based on the approved permanent staff headcount of 69. Please refer to Section 3.2.2.3 for further details.

Based on National Institute of Standards and Technology standards on cybersecurity key functions and major responsibilities, a minimal operating model requires a total of 4 security engineers, headed by 1 Chief Information Security Officer. EMC plans to hire 4 additional Information Security staff progressively and the costs have been included into the manpower costs.

To recognise manpower resources utilised towards the development of capital projects, the practice of capitalising manpower costs will continue. Any additional headcount required to meet new operational requirements arising from EMA-directed rule changes, or to meet regulatory requirements will need to be reviewed and approved by EMA.

In line with Condition 3 of the Electricity Licence for Market Company, EMC shall maintain separate accounts for its authorised business. NEMS manpower supporting allowed activities are charged out from the NEMS accounts.

2.3 Depreciation and Amortisation

All fixed assets are depreciated over three years except for IT servers and photocopiers which are depreciated over five years. Leasehold renovations are depreciated over the life of the lease.

2.4 Other Operating Expenses

Other operating costs (i.e. excluding manpower, depreciation, IT and office rental costs) are generally assumed to increase at an average 2% year-on-year based on the MAS Core Inflation rate.

2.5 Taxes

Capital allowances are assumed to be fully claimed on all IT capital expenditure in the year of its incurrence and over three years for office renovation and equipment.

2.6 Business Development

Business development costs will be accounted for separately from NEMS activities and do not form part of the NEMS revenue determination.

2.7 Capital Expenditure

Capital expenditure is based on regulatory requirements, system replacements and upgrades recommended by IT. A detailed breakdown of the capital expenditure and project justifications is provided in section 4.

2.8 Gearing & Share Capital

It is assumed that no loans will be undertaken, nor will there be any change in share capital.

2.9 Dividend

Actual dividend declarations each year will be subject to the directors' consideration of reasonableness and prudence.

3. NEMS BUDGET FOR FY2019/20

3.1 Summary

EMC's forecasted net operating profit for NEMS for FY2018/19 of \$5.9M will be better than budgeted by \$1.9M mainly due to lower depreciation expenses, IT expenses and lower manpower cost due to staff hired at lower than budgeted cost and higher manpower cost capitalised.

Higher cybersecurity related cost contributed to the \$0.2M decrease in budgeted net operating profit for FY2019/20.

3.2 NEMS Revenue and Expenses

Description	FY19/20	FY18/19	
	Budget S\$'000	Forecast S\$'000	Budget S\$'000
NEMS Fees ¹	32,026	29,166	29,535
Exogenous Item	-	1,342	-
Market Data Subscription	300	295	290
Total NEMS revenue	32,327	30,804	29,825
Manpower	11,270	10,217	9,793
Other Operating Expenses	15,332	14,655	16,035
Total NEMS Operating Expenses	26,602	24,873	25,828
NEMS Operating Profit (before interest and tax)	5,725	5,931	3,997

Note 1 : NEMS fees comprise both fixed and variable fees.

3.2.1 Forecast FY2018/19 vs. Budget FY2018/19

3.2.1.1 Revenue

FY2018/19 revenue forecast is higher than FY2018/19 budget by \$979K mainly due to re-imburement of exogenous costs from the 9 approved headcounts.

3.2.1.2 Salaries & Related Costs

FY2018/19 forecast is \$424K above FY2018/19 budget. Excluding the cost of the 9 headcounts, FY2018/19 forecast is \$515K below FY2018/19 budget mainly due to a gap between attrition and hiring replacements, and higher costs charged to capital projects.

3.2.1.3 Other Operating Expenses

FY2018/19 forecast is lower than FY2018/19 budget by \$1,380K mainly due to the following:

- Lower depreciation by \$1,210K arising from delays in implementation of planned projects such as the Server Hardware and Application Refresh (SHaRP) while Network Refresh and Data Center Facilities Refresh will be deferred to FY19/20.
- Lower IT services cost by \$278K mainly due to lower spending than budgeted and delay in commissioning of managed security services.

3.2.2 Budget FY2019/20 vs Forecast FY2018/19

FY2019/20 NEMS profit before interest and tax is expected to be lower than FY2018/19 forecast by \$206K mainly due to higher cybersecurity related cost budgeted.

3.2.2.1 Revenue

NEMS revenue increased by \$1,523K mainly due to the higher variable fees in line with the higher price cap.

3.2.2.2 Detailed Expenses

Description	FY19/20	FY18/19	Variance		FY18/19
	Budget	Forecast			Budget
	S\$'000	S\$'000	S\$'000	%	S\$'000
Salaries and employment benefits	11,270	10,217	1,053	10.3%	9,793
Depreciation of plant and equipment	4,547	4,485	62	1.4%	5,695
Market Operator licence fee	3,357	3,108	249	8.0%	3,108
IT service costs	4,142	3,708	433	11.7%	3,986
Office Maintenance/ Rental & Utilities	1,739	1,669	70	4.2%	1,670
Legal and professional fees	211	384	(173)	(45%)	282
Directors' fees	175	220	(45)	(20.5%)	186
Directors' expenses	-	74	(74)	(100.0%)	-
Audit fees	289	238	51	21.3%	301
Communications & PR	218	154	64	41.7%	142
Insurance expenses	99	95	5	5.1%	97
Panel fees and expenses	262	239	23	9.5%	264
Other operating expenses	294	282	12	4.1%	303
Total NEMS expenses	26,602	24,873	1,729	7.0%	25,828

3.2.2.3 Manpower Costs

FY2019/20 budgeted headcount is 73. The breakdown by departments is as follows:

Headcount	FY19/20 Budget	FY18/19 Forecast	FY18/19 Approved	FY18/19 Budget
CEO Office	2	2	1	2
Corporate Services	10	10	11	10
Market Administration	8	8	7	6
Information Technology	21	21	21	18
Information Security	5	3	1	-
Market Operations	18	18	18	14
Market Assessment Unit	5	5	6	6
Communications	2	2	2	2
Human Resources	2	2	2	2
Total	73	71	69	60

3.2.2.4 Manpower costs are broken down as follows:

Manpower Costs	FY19/20 Budget S\$'000	FY18/19 Forecast S\$'000	Variance (FY19/20 Budget vs FY18/19 Forecast)		FY18/19 Budget S\$'000	Variance (FY18/19 Forecast vs FY18/19 Budget)	
			S\$'000	%		S\$'000	%
Salaries	7,689	6,737	953	14.1%	6,552	185	2.8%
13th Month	555	460	95	20.7%	480	(20)	(4.1%)
Performance Bonus	2,004	2,265	(261)	(11.5%)	2,086	179	8.6%
Central Provident Fund	1,071	966	106	10.9%	906	59	6.6%
Training	300	309	(9)	(2.9%)	200	109	54.5%
Staff welfare	152	149	2	1.5%	139	11	7.8%
Other manpower costs	467	355	112	31.6%	245	110	44.8%
Manpower Cost Capitalised/charge out	(969)	(1,024)	55	(5.3%)	(815)	(208)	25.5%
Total Manpower Costs	11,270	10,217	1,053	10.3%	9,793	425	4.3%

Salaries

The variance of \$953K (or 14.1%) between the FY2019/20 budget against the FY2018/19 forecast is mainly due to additional headcount for information security and lower salary costs arising from attrition and time taken to fill vacant roles in FY2018/19. An overall payroll increase of 5% is budgeted for FY2019/20, taking into account promotions and salary adjustments.

Performance Bonus

The performance bonus policy is based on both company and individual staff performance. As it is too early to determine the actual payout for FY2019/20, the performance bonus for the year is budgeted at \$2.0 million (provision for 73 headcounts), which is lower than the FY2018/19 forecast amount of \$2.2 million (provision for 60 headcounts).

Other Manpower Costs

Other manpower costs comprise temporary staff costs, insurance, market standby scheme, business transportation, provision for unutilised leave and SDF contributions. Budgeted costs for FY2019/20 are higher than the FY2018/19 forecast due to higher temporary staff cost for cybersecurity, projects and higher unutilised leave provision, which is in line with higher headcount and salary costs.

Manpower Cost Capitalisation/Charge Out

Budgeted costs for FY2019/20 are lower than the FY2018/19 forecast due to lower allocation of resources to non-NEMS projects in FY2019/20.

3.2.2.5 Depreciation & Amortisation

Depreciation in FY2019/20 increased over the FY2018/19 forecast by \$62K mainly due to the full year depreciation impact of capital assets purchased in the prior year.

3.2.2.6 IT Service Costs

The total budget of IT Service Costs comprises the following:

	FY19/20 Budget \$'000	FY18/19 Forecast \$'000	Value to EMC and Industry
Internal IT Opex			
Internal Corporate System & Applications Maintenance	370	215	Support and maintain the corporate IT systems & applications.
Subtotal	370	215	
NEMS Infrastructure Opex			
Data Backup Services	10	8	Offsite storage of NEMS and corporate backup tapes for the purpose of data recovery, data security protection and data retention requirements.
NEMS System Maintenance	747	729	Support and maintain the 24x7 critical NEMS systems
Managed Security Services Subscription	999	903	Subscribe to Managed Security Services to provide 24x7 IT security protection and 24x7 proactive security monitoring, timely alerts and remediation against IT security threats, for both NEMS and corporate systems
Monitoring Systems Maintenance	18	18	Maintain 24x7 real time monitoring systems for the NEMS and corporate services, and be able to proactively provide alerts to the IT and MO teams for prompt resumption of normal business operations
Teleco Lease Lines - Subscription and Maintenance	184	191	Subscribe and maintain telecommunications lease lines for connectivity with the external network and Internet
Data Centres Facilities Maintenance	433	327	Maintain a secured and highly available data centres to house the NEMS and corporate systems
Subtotal	2,391	2,175	

	FY19/20 Budget \$'000	FY18/19 Forecast \$'000	Value to EMC and Industry
NEMS Software / Application Opex			
NEMS Software/Application maintenance	1,021	1,061	Support and maintenance on tools and 3 rd party software necessary for the NEMS (e.g. Oracle database, Oracle Weblogic Suite, Jboss Enterprise Application Platform, IBM CPLEX etc.)
Subtotal	1,021	1,061	
IT Security			
IT Security	359	258	Implementation of Proxy Web Isolation features and advanced network security monitoring tools, additional vulnerability assessment and penetration tests and cybersecurity risk assessment.
Subtotal	359	258	
Total	4,142	3,708	

The overall FY2019/20 IT Service cost budget is higher than the FY2018/19 forecast by \$434K. The key factors contributing to the variance are:

- Increase in NEMS Infrastructure maintenance of \$216K (10%). The increase was attributed to full year impact of managed security service subscription costs and implementation of data leakage protection (\$96K), continuous delivery automation (\$60K) and higher maintenance cost incurred for the parallel run of the network refresh project (\$63K).
- Increase in Internal Corporate Systems and Application System maintenance by \$155K (72%) was mainly due to cost incurred for managed desk side support which enables a standardised management of desktop and laptop golden image and consistent business application delivery and enterprise search which enables a single search interface that provides advanced search capabilities.
- Increase in IT Security by \$101K (39%) for enhancement to security features such as web isolation and advanced network security monitoring system.

3.2.2.7 Office Maintenance/ Rental & Utilities

The budget for FY2019/20 is \$70K higher than the FY2018/19 forecast mainly due to higher office maintenance and utility costs budgeted.

3.2.2.8 Legal & Professional Fees

Legal and professional fees in FY2019/20 are expected to be lower than FY2018/19 forecast by \$173K mainly due to the consultancy cost incurred for the formation of the Market Advisory Panel and cybersecurity assessment in FY2018/19 which is non-recurrent.

3.2.2.9 Directors' Fees & Expenses

With effect from 1 October 2018, EMC's board comprises 3 executive directors. Directors' fees and expenses are expected to be lower than FY2018/19 forecast by \$119K.

3.2.2.10 Audit Fees

The budgeted audit fees in FY2019/20 is higher than FY2018/19 forecast mainly due to lower internal audit fees incurred in FY2018/19 arising from fewer mandays effort required to carry out the audit. The mandays effort is dependent on the nature of the audit carried out.

3.2.2.11 Communications & Public Relations (PR)

The Communications & PR budget for FY2019/20 is higher than FY2018/19 forecast by \$64K. This is mainly because of the costs of organising the biennial event, Singapore Electricity Roundtable in 2019.

3.2.2.12 Insurance Expenses

EMC continues to maintain insurance cover in areas including professional indemnity, public liability and directors' and officers' liability at similar rates to FY2018/19.

3.2.2.13 Panel Fees & Expenses

The budgeted Panel Fees & Expenses for MSCP for FY2019/20 is higher than the FY2018/19 forecast by \$23K as the budget is based on an estimated number of hours that the panel may potentially incur each year. The FY2018/19 forecast reflects a lower-than-budgeted number of hours actually incurred in that year and unanticipated absence of panel members at scheduled meetings.

In the new regulatory period, EMC's budget is based on 10 meetings per year. In the event the actual number of MSCP meetings deviates from the budget, EMC will recover any shortfall from, or return any excess to the market.

3.2.2.14 Other operating expenses

Other operating expenses for FY2019/20 are higher than the FY2018/19 forecast partly due to higher recruitment and telecommunication charges.

4. NEMS CAPITAL EXPENDITURE

EMC's capital expenditure plans are as follows:

	Note	FY 19/20 Budget	FY 18/19 Forecast
		\$'000	\$'000
Furniture Fittings & Equipment/Office Renovation	4.1	30	46
Internal/NEMS Software Application & Infrastructure / IT Security	4.2	8,809	3,831
Provision for RCP Requests	4.3	-	157
Total		8,839	4,034

Appendix 1

EMC's Obligations with Respect to Rules and Market Licence in Preparation of Budgets

Requirements	Action to be taken by
<p>Market Rules Chapter 2 sections 10.1.1.1 and 10.1.1.2</p> <p>No less than 100 days prior to the beginning of each fiscal year EMC is:</p> <p>To submit proposed expenditure and revenue requirements and a schedule of fees for the following fiscal year to the RCP for review; and</p> <p>Publish notice of its proposed expenditure and revenue and schedule of fees</p>	<p>22 March 2019</p>
<p>Market Rules Chapter 2 section 10.1.4</p> <p>The RCP shall submit a written report to the EMC Board indicating the views of the RCP and a summary of any material submissions from interested persons pursuant to Chapter 2 section 10.1.1.2</p> <p>Market Rules Chapter 2 Section 10.1.5</p> <p>The RCP report shall be submitted to the EMC Board no later than 75 days before the beginning of the new fiscal year</p>	<p>16 April 2019</p>
<p>Market Rules Chapter 2 section 11.1.1</p> <p>EMC shall no less than 60 days prior to the beginning of the fiscal year to submit to the EMA for the approval its proposed expenditure and revenue requirements and either:</p> <p>a schedule of fees or</p> <p>a statement of fee methodology</p>	<p>30 April 2019</p>
<p>Market Licence Condition 18</p> <p>“The Licensee shall, no less than 60 days before the beginning of the Licensee’s fiscal year, submit to the Authority the Licensees proposed expenditure and revenue requirements for the following fiscal year to the Authority for review and approval ... in the manner and to the extent ... in the manner and to the extent, if any, required by the market rules.”</p>	<p>30 April 2019</p>

Appendix 2

EMC's cost forecast broken down by service

	FY 19/20 Budget	FY 18/19 Forecast
Service	Fee \$'000	Fee \$'000
Systems	14,693	13,377
Pricing and information	2,432	2,348
Settlement/Ancillary Services	2,302	2,242
Market assessment	1,379	1,339
Rule change process	2,176	2,219
Market Licence	3,357	3,108
Panel Fees	262	239
Total	26,602	24,873
Individual fees to Market Participants	Est. fee (\$)	Est. fee (\$)
Common services (all those listed above)	32.28 cents	30.16 cents
Impact assessed on each class of Market Participant and Market Support Services Licensees as a class	0.28%	0.26%
EMC fee / average actual YTD Feb 2019 USEP		
Average actual July 2018 to February 2019 USEP	\$117	\$117